Drawing Time
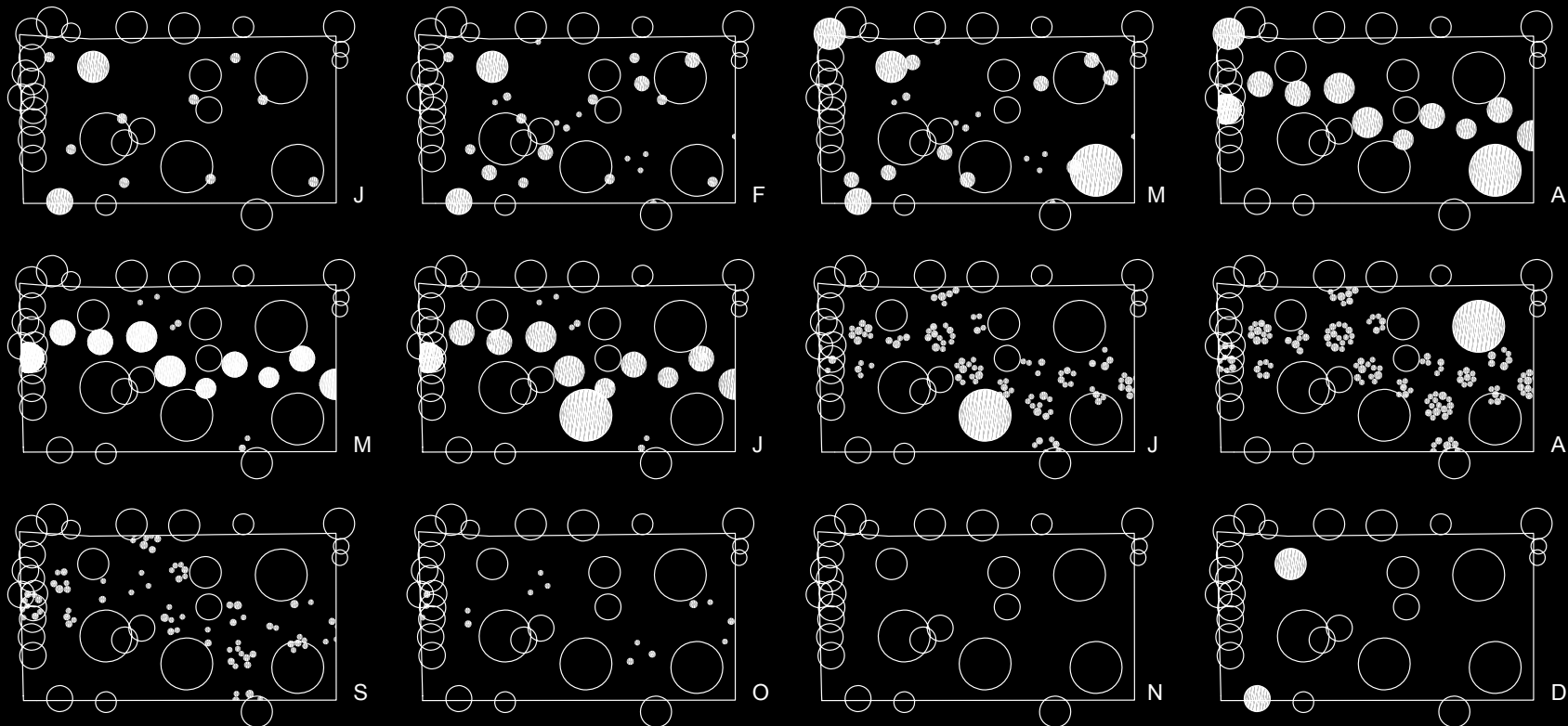## The representation of growth, change and dynamics in Dutch landscape architectural practice after 1985

Noël van Dooren

DRAWING TIME

THE REPRESENTATION OF CHANGE AND DYNAMICS IN DUTCH LANDSCAPE ARCHITECTURAL PRACTICE AFTER 1985

ACADEMISCH PROEFSCHRIFT

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Promotor:	**Prof. dr. E. A. de Jong**	**Universiteit van Amsterdam**
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Faculteit: Geesteswetenschappen

Preface

Some fifteen years ago, I co-authored a book on the Dutch landscape architect Alle Hosper, who died, far too early, in 1997. One chapter I particularly enjoyed writing gave an overview of how his ways of drawing had evolved over thirty years - a stunning evolution. This further stimulated my interest in the drawing as an artefact, independent of the park or public space represented in it. From 2004 to 2009, as head of the landscape architecture department of the Academy of Architecture Amsterdam, I developed, with my colleague Harma Horlings, a lecture series on design methods. In this series we tried to stay as close as possible to the actual design process in the studio, for example in discussing drawings made by the students. One of my questions was: Can students help their own design process by being precise in how to draw, when to draw and what to draw? At this same academy, choreographer Krisztina de Chatel was the artist in residence in 2006-2007. A choreographer may be understood to be an artist that designs a performance. If such performances are preceded by drawings, are these drawings comparable to the representations normally used in landscape architecture? And if that is the case, how then can dance as an act in space and time be drawn? Our vibrant discussions on the role of drawings in dance, and an understanding of drawings as notations, influenced this study substantially.

When, in 2009, I was offered the chance to do PhD research as research fellow of the Amsterdam School of Arts, of which the Academy of Architecture is part, the three experiences described above were my inspiration for looking in a very specific way at my own profession, landscape architecture. In my professional practice, starting at the office of H+N+S landschapsarchitecten in the early nineties, I experienced how much patience is needed,

in many ways, to arrive at a mature landscape. Dealing often with designs in which water had to be addressed, for example in the form of large water catchment basis in the German river Emscher, I was confronted with the dynamics of landscape and its different performance over time. How should this be conveyed to the client and the public? More important, is it possible for a designer to get a grip on that changing landscape? This professional background and the essential experiences as described led to my interest in the role of drawings in exploring this very typical aspect of landscape: its slow yet sometimes very quick, expected and unexpected, regular and irregular change over time. This interest was very practical, as it related directly to my own profession, but also to my teaching at the Academy. It was also an interest of a theoretical nature, as I felt there were inconsistencies on a theoretical level. Drawings, in general, and also my own drawings, did not seem to engage in this issue of time that is so evident in landscape.

In 2008 landscape historian Prof. Erik de Jong presented *Landscapes of the Imagination*, offering an overview of 400 years of drawing in landscape architecture, and an analysis of how to read these drawings. Here, I recognized a vocabulary that would facilitate discussions on drawings per se, and I am very glad Erik de Jong was willing to supervise this research. Formally, as a dissertation, this work is affiliated to the Humanities department of the University of Amsterdam (UvA). Even though the University of Amsterdam does not include a landscape architecture department, the environment proved to be relevant, not only because De Jong's chair explores the relationship between culture, landscape and nature, but also because a focus on the drawing as an object fits into an art history perspective. Furthermore, thinking about drawings as

images, their meaning and their dissemination is typically a topic for cultural studies and media studies. Pondering the very nature of a drawing and its relation to reality, we enter the domain of philosophy. To conclude, interviewing my fellow colleagues for their considerations on drawing and time, led me to use ethnographic research techniques.

My years at H+N+S landschapsarchitecten were very formative for developing an interest in a very Dutch approach to landscape and landscape architecture - a physical as well as a cultural condition. The office celebrated its 25 years of existence in 2015, and I was delighted to be able to write an essay titled *Gardening the delta. A Dutch approach to landscape architecture.* There is a fascinating tension between an on-going globalization in which landscape design produces the same products all over the world and a stubborn regional identity. This study dives deeply into that typically Dutch answer and acknowledges at the same time that the question of how to represent time in drawings is by no means exclusively Dutch. For that reason, I appreciated Prof. Udo Weilacher, Technische Universität München, accepting the invitation to become co-supervisor and to provide an international perspective.

I decided to study the issue of time, landscape and its representation in a theoretical mode, but also in and via practice. Leaders of offices were interviewed in long but inspiring sessions and huge numbers of drawings were collected as 'evidence'. The practical side also involved the Academy of Architecture. Students cooperated in design experiments, and in that sense the research was also explorative. This provided me with a wide array of answers and drawings to the question of the role time plays in current landscape architecture and how it is represented, or could be represented. Looking back, it gave a kaleidoscopic image of a young, developing profession with competing interests. Landscape architecture is a creative practice with a rather high degree of idealism, but at the same time economic units called offices usually form the basis of its organization. Drawing is done within constraints, such as deadlines and budgets. The issue of time in landscape confronts landscape architects with the limits of representational conventions. Stepping over these borders needs dedication, and in daily life clients do not ask for this. Therefore, innovation should come from the profession itself. By performing this research I hope to stimulate this innovation. I wish to give an insight into how landscape architects of today think about their profession, representation, time and landscape. The awareness of these related issues is timely and I hope the material I present here will contribute to a fruitful debate amongst practitioners, students and theoreticians.

Today six years later, I am extremely happy that although it was hard work, I never lost my love and dedication for the particular subject. As it was also exhausting, for me but certainly also for my loved ones, it is now time to finalize this study. However, as in landscape, there is growth and decay, but it never stops. In this case, I guess my professional life will not last long enough to engage in all the fascinating questions I could not answer here. But I certainly will continue trying to answer them in view of my fascination and my conviction that this work contributes to landscape architecture, a profession that is relevant to our world today.

Utrecht, November 2016

Contents

1. Landscape architect's drawings and the landscape through time

1.1 A perfect imperfect landscape

Let us start with a drawing for Højstrup Parken, Odense by the Danish landscape architect C. Th. Sørensen, designed and built between 1948 and 1954. [1] [2] [Fig. 1.1; 1.2] It is the main plan drawing, 1:400, signed by Sørensen, but undated. Drawn by hand with fine black ink lines, it shows Sørensen's design for the public space between a series of apartment blocks. Height lines reveal that this neighbourhood was built on a gentle slope. On the upper left of the drawing we see a detail of the construction of the hard surface. Close to the housing both graphically and with the word *buske*, hedges appear on the plan. The main part of the plan appears to be an open space of grass and large trees. Drawing conventions tell us to read such a plan as representing the projected situation, and to understand that the drawing indicates adult trees. The word *træer* on the street side indeed stands for tree. This drawing, however, shows the initial situation, consisting of 32 beds of oak whips. Sørensen described it in his 1975 *Haver. Tanker og arbejder* [Gardens. Thoughts and works], but it is also indicated by the word *plantnings*, Danish for plant beds, in the centre of the drawing. It is known that Sørensen often consciously started with small trees or even with acorns. [3] He was convinced that the necessary process of thinning over the years would result in the most beautiful and healthy oaks. In the case of Højstrup Parken, this realization process including the thinning is not documented in drawings or texts. as was done in other cases. [4] Here, Sørensen relied on the client's gardener.

Højstrup Parken is a part of the city's post-war extensions of Odense, Denmark. Now 60 years old, we find the park more or less as imagined. Today, Højstrup Parken for most people is probably barely recognisable as a piece of landscape architecture, but that

Fig. 1.1   Højstrup Parken seen from above in 1973.

[1] Following the list of projects in Andersson and Høyer (163) design and execution are dated as 1948-1952.

[2] For this piece of research I was kindly supported by Sonja Poll, daughter of C. Th. Sørensen; Thomas Norskov Kristensen, city archive of Arhus; Palle Lykke, historian at Arhus University; Frans Borgman Hansen, C. F. Møller Architects; Claus M. Smidt, Samlingen af Arkitekturtegninger, National Art Library; Anders Busse Nielsen and Ellen Braae, Copenhagen University. See also Andersson and Høyer 2001: 160-163.

[3] See Sørensen 1931, Sørensen 1975, Andersson and Høyer 2001.

[4] In the archives, for several projects written notes and drawings can be found that address the later actions to be done. The role of the gardener in this was also mentioned by Sonja Poll, who worked for years in the office of her father, starting in 1953. (Interview from June 2012).

Fig. 1.2   Plan drawing for Højstrup Parken by C. Th. Sørensen, undated, design 1948-1952.
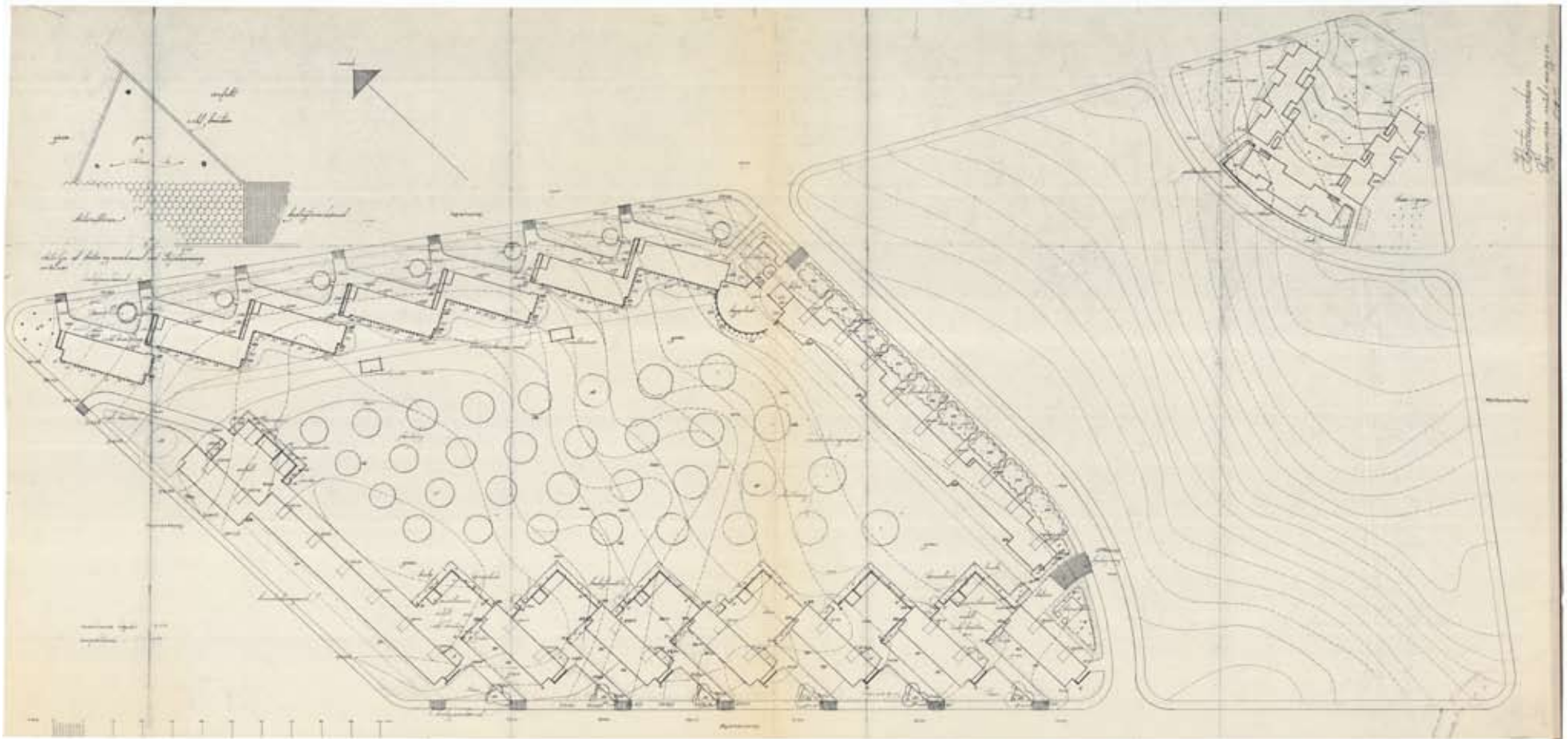
wouldn't have bothered Sørensen. He appreciated plain design. Robust ingredients like oaks and grass, common to the Danish landscape, are recurrent motifs in his work. [5] Sørensen envisioned a *lund*, a grove of oaks on a meadow. [6] In order to one day reach this matured grove, hundreds of oak whips in round beds were planted - 20 to 30 per bed. These beds had to be thinned out over the following decades. An aerial photograph of 1973 shows us what the area looked like, almost 20 years after planting. The round beds are clearly visible. [7] [See Fig. 1.1] At that time each bed contained 5 to 8 trees. The idea of circular beds was going to be lost shortly after this, which was exactly what Sørensen wanted. [Fig. 1.3] The extensive planting of the beds with young trees was a solution for the early years, giving the trees the chance to grow well. Ultimately, the circles were of no importance for the design and in the end only 32 large trees should remain. [8]

It is a radical solution: It is a transformation from one design for the first few years, towards a very different one, which we encounter today. And yet they must be understood as one and the same design. Sørensen suggested 32 trees as the end goal, but his biographers interpret it as an on-going process - a 'beautiful, slow play': 'The trees grow. The thinning out will continue. One day there will only be a few, enormous trees left. Like the oak tree in Thomas Havning's drawing, the one that hung over Sørensen's bed. By then 400 to 500 years will have passed.' [9] Even if the approach could be seen as radical, Sørensen himself, with a background in nursery gardening, considered this common practice. He took a rather pragmatic stance towards the project. Revisiting Højstrup Parken in 1975 he counted some 5 trees per circle. [10] That was far away from the end goal of one tree per circle, but he was quite satisfied,

and observed that it might even be better than the original idea of leaving only 32 trees. [11] Of some 800 oak whips planted initially in Højstrup Parken, the large majority was taken out, the latest ones being mature themselves. Today we find 29 trees, which is 3 less than the 32 oaks as envisioned by Sørensen, raising challenging questions about the park's management. [12] Perhaps in the end the biographers are right, assuming that in the far future only a few enormous trees will remain. [Fig. 1.4]

Fig. 1.3   Højstrup Parken in 1974.

[5] Spirn in Andersson and Høyer 2001: 10.

[6] Sørensen (1975: 126) uses *lundagtigt*; like a grove. Andersson and Høyer write 'the whole appears as one large oak grove' (2001: 85).

[7] See Sørensen 1975: 124 and Andersson and Høyer 2001: 84. A photo in Andersson and Høyer 2001: 83 shows another perspective from the same period.

[8] Sørensen 1975: 124.

[9] Andersson and Høyer 2001: 85.

[10] Sørensen 1975: 123-126.

[11] Sørensen 1975: 125-126.

[12] Busse Nielsen and Van Dooren: to be published. As mentioned by Sonja Poll, who worked for years in the office of her father, starting in 1953. (Interview from June 2012).

Fig. 1.4 Højstrup Parken in 2012.

To begin with a drawing underlines the observation that motivated this research: the complex relation between a landscape on paper and a landscape in reality as a consequence of time at work. To understand landscape, and more particularly designed landscape and its drawings, time is crucial. One of the most obvious manifestations of time in landscape is the growth of trees, in this case oak. [Fig. 1.5] Even if the growth of a tree is a matter of course, in the context of landscape architecture this fact forces us to notice that the ideation and the realisation of landscape via design drawings are not as unambiguous as one would think. Højstrup Parken did mature and is well documented. It illustrates a profound ambiguity in landscape architecture: drawings are both essential and limited in their operational capacity towards the complex character of landscape. It is through the imperfectness that the example of Højstrup Parken is instructive. It reveals how we ascribe values to the controlled space of ideas on paper while, referring to Donald Schön, the reality of the landscape evolving in time is messy. That is what comes under scrutiny in this research. [13]

1.2   A complex relation and a problem of today

Drawing, time and landscape architecture are the key words here. The complex relation between a drawing and the realized landscape over time is by no means a problem that is specific to Sørensen's work. It is a problem that concerns today's landscape architecture practice just as much, and perhaps even more so. The capacity of landscape architecture to deal with time in its drawings is under scrutiny. This means to set out on a walk in areas that were so far, at least from the perspective of landscape

Fig. 1.5   Arhus University in 2012. View from the north with amphitheatre.

architecture, only incidentally explored. However, if we broaden the scope towards disciplines such as architecture, cartography or graphic design, we find theoretical starting points for studying the drawing as a medium, and investigating ways in which time becomes manifest in both drawing and writing. For landscape architecture, there is a gap in the literature on the topic of time being present in drawings. To bridge that gap, drawing(s), time and landscape architecture should be connected. Is it, in abstract terms, possible to evoke aspects of time in drawings? And are there other ways of displaying aspects of time in landscape architecture drawings, so far not developed, by expanding on ideas as found in literature, applying techniques as used in adjacent disciplines, or creating autonomous inventions?

[13] See Schön 1983.

Fig. 1.6ab Two photographs from the Rijsterborghpark in Deventer. Situation in 1890, a few years after completion, and in 2010.

Studies of drawings in landscape architecture and more specifically the aspect of time in such drawings are rare, but recent literature confirms the need to expand on this topic. One of the most recent publications on the topic is *Drawing and Reinventing Landscape* by Diana Balmori (2014). Connecting representation to landscape architecture and time, Balmori delivers a concise summary of the problem. As she puts it, 'it is curious that for a discipline in which everything is in constant change, there is so little in landscape representation that reflects time'. [14] 'Constant change' must be understood as one of the manifestations of time at work. A few years earlier, in 2009, Cesar Torres wrote an article in the Australian landscape architecture magazine *Kerb*. The title 'Crisis in Landscape Representation' leaves little to the imagination. Torres took the 1992 essay 'Representation and Landscape' by James Corner as his point of departure; an essential piece that will be referred to many times in the research at hand. In this essay Corner contributes to the theory on representation in landscape architecture, and as he considers the aspect of time crucial for landscape, this essay is fundamental to any study on the area of landscape architecture, time and representation. Torres in his article observes a growth of 'flexible operations that address fluidity, non-linearity, open-endedness and indeterminacy'. In terms of representation, this asks that 'the in-between and the unexpected' are taken into account. [15] Corner declared the need for this in 1992, but, as Torres puts it, 'few responses to Corner's call have been advanced within the landscape discourse', implicitly asking to finally do so. Corner's essay barely speaks about professional practice. He approaches the topic in theoretical terms. It is exactly for that reason that his essay is fundamental. Lived landscape is a rich phenomenon, and in Corner's eyes it is unique in three aspects: its spatiality, its temporality, and its materiality. We have to understand temporality as one of the many words addressing time, and thus time in Corner's essay is seen as one of the three unique qualities of landscape. He links this to representation: these three unique qualities 'evade reproduction in other art forms and pose the greatest difficulty for landscape architectural drawing'. [16] Thus, Corner too poses the representation of time in landscape architecture drawing as a problem, and we can observe an increase in attention paid to this issue in the period 1992-2014. As both practitioner and researcher, I posit that the issue of 'drawing time' in landscape architecture deserves our attention. It is both a timeless and a timely issue. Timeless, as it explores the position of drawing in landscape architecture in the context of the centuries-long development of architectural drawing, revealing a gap in the disciplinary theory when it comes to the role of time. And timely, as it seems to fit perfectly in the current development of the discipline, in which aspects of time are of growing importance.

1.3 Where landscape architecture, time and representation meet

'Nature shall join you; time shall make it grow', wrote Alexander Pope in the fourth of his *Moral Essays* (1731). [17] This deceivingly simple line puts forward a crucial idea on the nature of landscape and landscape architecture. Any design by a landscape architect will be helped by the forces of nature, and in due time even the smallest twig will mature to a robust tree. But it must also be understood the other way around: To arrive at the desired mature landscape we have to wait, and we cannot do it without the forces

[14] Balmori 2014: 173.

[15] Torres 2009: 53.

[16] Corner 1992: 146.

[17] Hardyment 2014: 80.
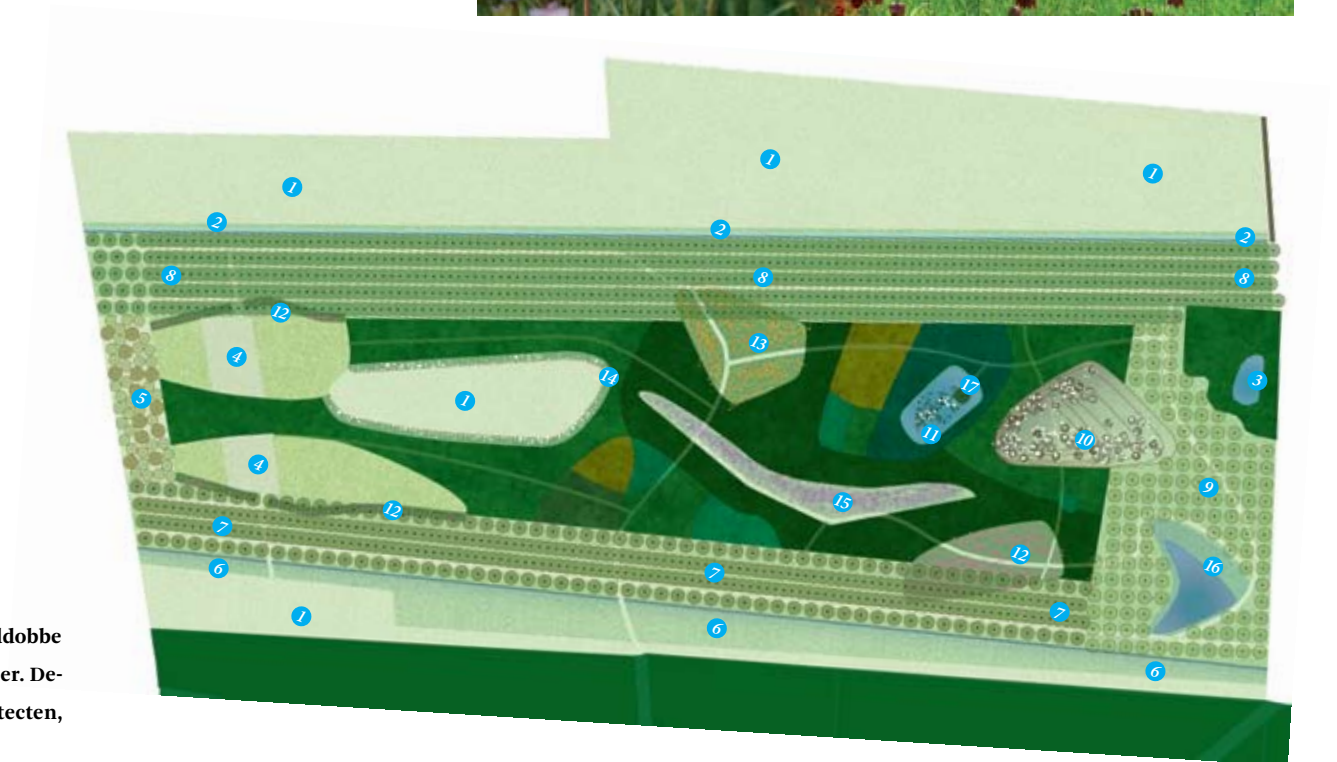
Fig. 1.7a-c Plan, visualization, and photograph of the new estate De Wilddobbe in Grolloo, Drenthe. Evaluating the realization together with the owner. Designed 2008, completed 2009. Design by Strootman Landschapsarchitecten, Amsterdam.

· VERGELIJKINGS SCHETS ·

"KROONBOOM" ~ 5 JAAR GEKWEEKT ·
STAMOMTREK OP 100M · 14-16 CM ·
SOORT: POPULUS BALSAMIFERA
HOOGTE EN KROONBREEDTE GETE-
KEND · ÉÉN JAAR NA HET PLANTEN ·

"SPIL" ~ 2 JAAR GEKWEEKT ·
HOOGTE ± 2·00 M ·
SOORT : POPULUS BALSAMIFERA
HOOGTE EN BREEDTE GETE-
KEND. EEN JAAR NA HET PLANTEN ·

WERKNR. 1125 · BLAD 38 · 14·7·1977·

P.A·M· BUYS ~ B· VAN DER VLIET TUINEN LANDSCHAPS ARCHITEKTEN · B·N·T·

Fig. 1.8 Drawing by Buys & Van der Vliet, 1977, to compare a two-year-old tree and one of five years old, to answer a client's question.

Fig. 1.9 Working drawing by Hubert de Boer for the entrance to De Schothorst, Lelystad, 1979.

of nature. 'Time shall make it grow' is illustrated by two photos of the same park. [Fig. 1.6ab] The first was taken some years after the construction, and the other quite recently. It is the latter that shows the park as a park generally is expected to perform, but it is the first photo that depicts the reality of any young park. How do drawings, or landscape architectural design in general, deal with this? Tim Ingold, in an essay titled 'The temporality of landscape', takes a tree in a Brueghel painting to discuss aspects of time: 'At one extreme, represented by the solid trunk, it presides immobile over the passage of human generations; at the other, represented by the frondescent shoots, it resonates with the life-cycles of insects, the seasonal migrations of birds, and the regular round of human agricultural activities.' [18] Even if relating to a much broader context than that landscape architecture drawing, this points to a crucial aspect that is at stake in this research: How to represent the aspect of time in drawings? And are we capable of reading and understanding time in drawings, or in landscape itself? To what extent we are aware of processes of growth is in an ironic way commented on in the Asterix and Obelix comic book *Le Domaine des Dieux*. [19] The druid provides Asterix with enchanted acorns. Once thrown in earth, a mature oak materializes immediately. The baffled Asterix cannot believe his eyes; Obelix however, is not impressed. It is an oak as every oak, and why would he know how quickly an oak grows?

Thinking about landscape architecture and time
When it comes to the role of time in landscape architecture, in different periods in the past we find very relevant sources, such as gardening handbooks from the 17th century onwards. The 1683

The Scots Gardn'r by John Reid is a rich example. This handbook speaks in an implicit but instructive way about time, presenting an approach towards landscape in which processes of growth and change are carefully addressed. [20] Mark Laird, studying the role of flowers and shrubs in *The Flowering of the Landscape Garden. English Pleasure Grounds 1720-1800* reveals that time, here understood as the presence of seasons, became to be appreciated explicitly in this period. Authors, such as Clemens Wimmer in an overview of writings on gardening, confirm that an interest in aspects of time certainly was not continuously present. [21] Treatises from Dezaillier d'Argenville, in French, 1709, or Hirschfeld, in German, 1782, put forward aspects of time as very relevant, and new. [22] Departing from the idea that a beautiful garden should follow the principles as found in nature, several aspects of time become important for design, leading Hirschfeld to spend paragraphs on gardens 'according to the seasons' and gardens 'according to the times of the day'. On one hand he recommends enhancing the strengths of these specific moments in time, on the other hand 'to alleviate the discomforts', referring to harsh midday conditions. [23] We can trace the evolution of such ideas in literature to reveal that in some periods they were very present, and in other periods they are less present, or even suppressed.

Representation and time
As soon as a drawing is made, it represents a frozen moment in time, and most often that moment is unspecified. A design by the Dutch office of Strootman can be taken as an example. This office designed a new estate in the northern province of Drenthe. [Fig. 1.7a-c] We see a plan drawing, a visualization of the same

[18] Ingold 1993: 168. The mentioned painting is *De oogsters* [The harvesters], 1565, by Pieter Breughel de Oude.

[19] Goscinny and Uderzo 1999: 15.

[20] See for example Reid 1683, further discussed in Chapter 3.

[21] See Wimmer 1987.

[22] See Dezaillier d'Argenville 1709/1972 and Hirschfeld 1779/2001.

[23] Hirschfeld 2001: 384. Original German text: '[..] die Anwendung der Mittel, um die Unbequemlichkeit der Tageszeit zu mildern'.

Fig. 1.10 Typical working drawing in art installation *1/20/1* **by Tom Frantzen. Photograph, De Overslag, Eindhoven, 1998.**

plan, as is standardly done today (or, in this case, in 2011), and a photograph a year after the design was realized. The photograph is interesting in more ways than one, as the drawing is part of the photographed scene. Plan drawing and visualization 'promise' what we expect from a lush estate. The photo shows the reality, and it will obviously take quite some time to arrive at what we generally consider a 'finished' estate landscape. Different fields of expertise have contributed to the development of landscape architecture over time. Drawing experience from cartographers, engineers and painters influenced landscape architectural representation, but it is mainly architecture that shaped a tradition of drawing. In architecture, however, the relation between a drawing and that what is built is more direct and unambiguous, even if in architecture time obviously also plays its part. Perhaps because of this amalgam of traditions we are today confronted with an unsolved tension. Landscape grows and changes. That very specificity of landscape is not anticipated in the adopted system of representation. Landscape architect Bob van der Vliet felt it necessary to inform architects that a tree as projected and as planted differs from its later mature state. [24] [Fig. 1.8] That may seem evident, but the seeming simplicity of the drawing is deceiving. If we look at this rather ordinary drawing by landscape architect Hubert de Boer, showing an arrangement of trees, do we know what year it is for? [Fig. 1.9] Generally, such a question is not asked, and most certainly it is not answered by the drawing itself. But the question is relevant. We could read this drawing as being very explicit on the aspect of time. We see trees of a certain dimension. Does that imply they are planted at that size? If so, what size will they reach in due time? Or does it mean that young trees are planted (the dot in the middle) and that they are expected to reach a mature state

(the circle) in some years? Certainly, this one drawing is part of a project, and in that context there may be no doubt about what the drawing communicates. But is that indeed the case? In the architectural tradition this drawing is a plan. As a type of representation, the plan presupposes certain conventions that facilitate its reading without additional explanation. 'Notational systems', as Goodman calls them, function if their reading is not hindered by ambiguity. [25] Drawings are the intermediaries between a landscape architectural design and the making of a landscape. Different types of drawings, such as plans, sections, and visualizations are made to test ideas in the early stages of design, to communicate the ripened proposals and to prepare for construction. Both the words drawing and representation are often used in this context. In practice, these meanings are rather close, and they often overlap. Neil Levine understands representations rather straightforwardly as 'the two- and three-dimensional means employed by architects to convey their ideas on paper, in models, or in digital form'. [26] In philosophical terms however, the word representation is rather complex, implying that an image stands for something else. In terms of (landscape) architecture it is even more complex; in this domain drawings stand for something not yet there. In an art project, architect Tom Frantzen played beautifully with the philosophical difficulty of representation and reality. Frantzen drew a 1:1-drawing of a stairs and mounted that drawing on the existing stairs. [Fig. 1.10] The effect was striking: Most visitors did not dare to take the stairs! The relation between drawings and reality in that sense is not only difficult in technical terms, but also in rhetoric - implicitly or explicitly the artist takes a stance on this.

[24] Drawing for Haagse Beemden, an extension of the city of Breda. The design, guided by urban planner L. Tummers and landscape architect F. Maas started in 1975.

[25] See Goodman 1976.

[26] Levine 2009: 2.

Fig. 1.11 Lawrence Halprin, Score for the *Seminary South* **shopping center fountain, Forth Worth, 1961.**

Time, representation and landscape
One of the first instances in which an interest in both the issues of time and representation is laid down in writings, is the work of Humphry Repton (1752-1818). [27] In his so-called Red Books he addresses issues of time in relation to the realisation of new designs, and the representation of time. He introduced 'slides' that show the situation *before* and *after* the intervention. Even if that may sound very basic for our current understanding, it was not done before, and therefore revolutionary - in his writings he also reflects on this drawing experiment. It can be considered a first attempt at defining a landscape architecture approach in which aspects of time are central, and at establishing a specific landscape architectural tradition of representation - in text and images. *Capturing Music. The Story of Notation* by Thomas Forrest Kelly describes how musicians in the Middle Ages figured out how to notate music on parchment. Kelly qualifies this as 'an extraordinary conceptual leap'. [28] It meant music could be recorded, but also played back and conceptualized. One of the less obvious aspects of the progress in this domain is the ability to make and to print books, so that notations could be disseminated. However, the crucial aspect is the graphical 'invention' of a system that indeed *captures* music, and an agreement on how to understand such a notation. A section or a plan in architecture works similarly: It is founded on an agreement on how to understand the notation. When it comes to the aspect of time, landscape architecture still struggles with an effective notation. So far, it is not a generally accepted part of the representation of landscape. What then is the precise role of drawings in conceptualizing and making landscape? An important but isolated example that strictly focuses on the representation of time is given by the American landscape architect Lawrence Halprin (1916-2009). He explicitly addressed the issue of time and representation in his 1969 *The RSVP Cycles. Creative Processes in the Human Environment*. Inspired by his wife Ann Halprin, a choreographer, Halprin started to test the use of scores in landscape architectural representation. [29] [Fig. 1.11] Such a drawing type until then did not exist in landscape architecture. Halprin's fascination with scores questions the system of types of representation: When it concerns the representation of time, does the system of plan, section, perspective come up to the mark? The assumption in this research is that the system does not, today, but that the system can be modified to do so.

Towards a landscape architecture tradition?
Due to its strong tie to the architectural tradition, gardening and landscape architecture were affected by the intellectual development of architecture and the arts, especially at the start of the twentieth century. From an art historical point of view Sigfried Giedion in *Space, time & architecture* marks the start of the twentieth century as a turning point, as Cubism broke with the tradition of Renaissance perspective. 'Thus', as Giedion puts it, 'to the three dimensions of the Renaissance which have held good as constituent facts throughout so many centuries, there is added a fourth one – time.' [30] Indeed Cubism, and Futurism even more so, engaged in ways in which to depict movement, as for example Giacomo Balla did in a painting titled *Dynamism of a Dog on a Leash* from 1912. [31] This evolution suggests a strong support for a landscape perspective on the issue of time in drawings. At the same time however, Giedion's remark refers to the upcoming Modernism époque. How exactly landscape architecture relates to

[27] See Loudon 1840. The writings of Repton will be discussed in Chapter 3.

[28] See Kelly 2015.
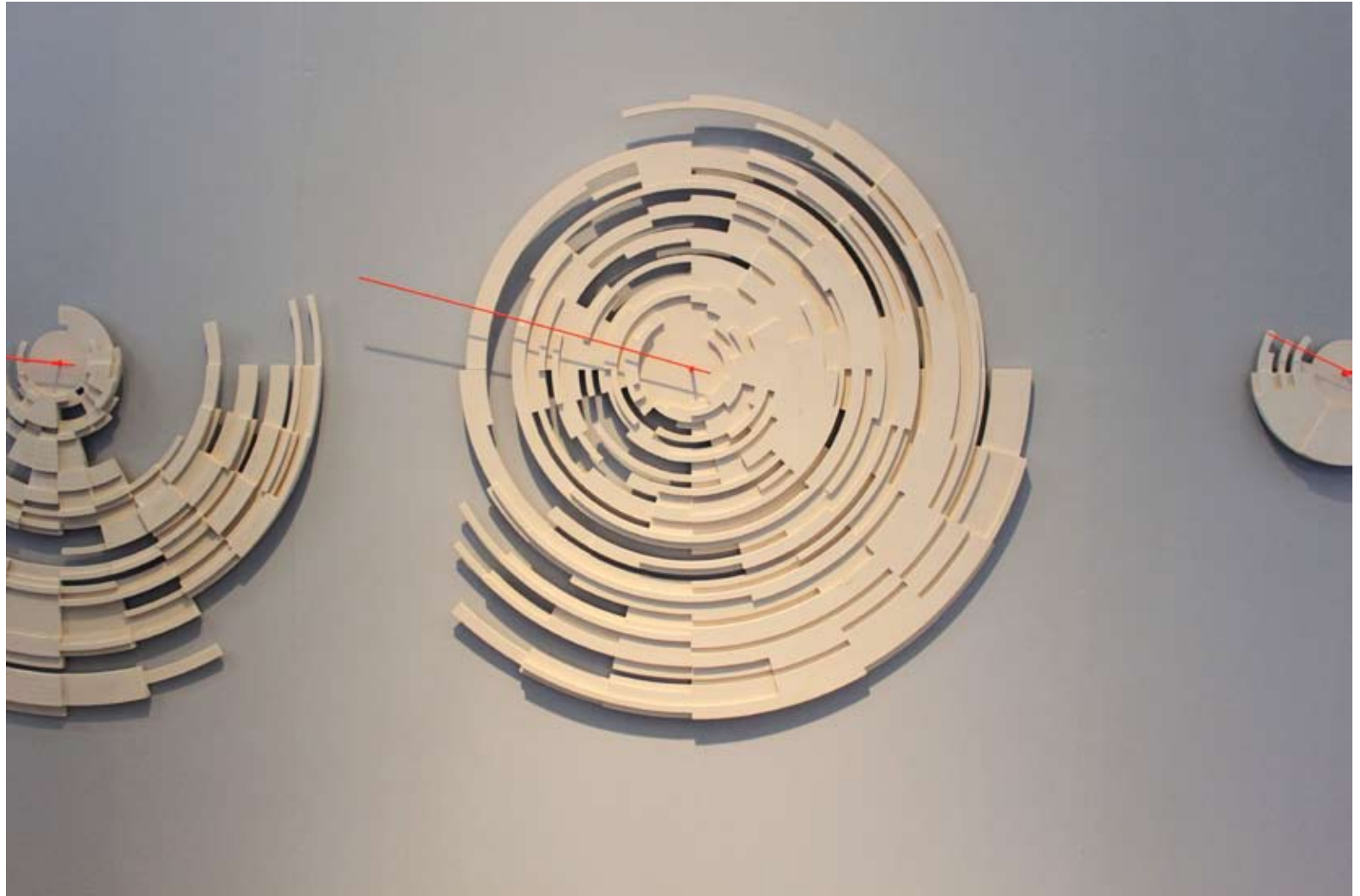
[29] See Halprin 1969.

[30] Giedion 2008: 436.

[31] See http://www.wikiart.org/en/giacomo-balla/dynamism-of-a-dog-on-a-leash-1912

Fig. 1.12 *The Biological Clock*. **Research project by Studio 1:1 in collaboration with DS, 2013.**

Modernism is a debate in itself, but given that Modernism strived for pure and abstract form and that time in landscape implies uncertain, unpredictable and uncontrollable forces, the consideration of time was certainly not an obvious aspect in drawings of that period. In *Modern landscape architecture: A critical review* Marc Treib quotes the American landscape architect James Rose, who expressed this ambiguous feeling in an ironic statement: 'A tree is a tree, and always will be a tree; therefore we can have no modern landscape design'. [32] Being the dominant frame for decades, the relation between the practice of landscape architecture and the issue of time became more complex. Especially when it comes to the representation of time, a standstill can be noted. But Modernism lost terrain, and that made way for several important publications that speak about issues of time in relation to landscape architecture. In 1972, Kevin Lynch with *What time is this place* went to the heart of the matter. One year later, a Dutch contribution was given by Louis le Roy in *Natuur uitschakelen. Natuur inschakelen* [Switch off nature. Switch on nature]. Time is essential in the approach of Le Roy: 'It is precisely the factor of time that plays such an important role'. [33] The work of Le Roy fits in the expansion of theories in the field of ecology, a development very influential for landscape architecture. Alan Ruff in *Holland and the ecological landscapes* (1979) studied how this thinking affected Dutch design of cities and landscapes. In a recent dissertation on the development of 'Naturgärten' Anja Löbbecke traced how this 'new ecology', as she puts it, via several contributions, such as Ian McHarg's *Design with Nature*, influenced garden and landscape design. [34] The perfect example in which this becomes manifest is the so-called *Plan Ooievaar* from 1985. [35] The influence of new ecological theories in landscape architecture materialize in this strategic plan, which, by means of its interventions, aims to invite the black stork to settle again in the Rhine valley. The drawings are not explicit on the issue of time, but, as happens more often, the combination with text is essential to convey ideas on how the plan should develop over time, and an interest in the growth process itself is encouraged - the dynamics of landscape are no longer a means but a goal in itself. The plan opened a door, and now this door is open, both thinking about and representing time seem to have found steady ground.

Intervening in the landscape
Introducing huge areas such as time, representation and landscape, this research risks being extremely broad. It could fit in what Umberto Eco refers to as 'brief notes on the universe'. [36] But this is not a general study of time, or drawing, or landscape. Here, by examining these three aspects in the context of the making of landscape architecture designs the understanding of these aspects is restricted. Barbara Bender, working from an archaeological perspective, gives a beautiful example of a restricted understanding of landscape. She makes a strong link between landscape and time: 'Landscape is time materialized. Or, better, landscape is time materializing: landscapes, like time, never stand still.' [37] Bender bridges manifestations of time in landscape ranging from geology to anthropology, moving from the 'granite landscape' that speaks of evolutionary time to the ceremonial time of the church bell. In itself, however, landscape is taken into account in its broadest range when it comes to landscape architecture. John Dixon Hunt, in *Greater Perfections*, proposes a deceivingly simple definition for landscape architecture: 'I would provisionally define

[32] Treib 1993: 55.

[33] Le Roy 1973: Italics in Dutch text by Le Roy: 'Het is juist de factor *tijd*, die een belangrijke rol speelt'.

[34] See Löbbecke 2014.

[35] *Plan Ooievaar* was the winning entry of the 1985 Eo Wijers Foundation *Nederland Rivierenland* competition.

[36] Eco 1977: 14

[37] Bender 2002: 103.

Fig. 1.13   The office of karres + brands, Hilversum, 2015.

landscape architecture as exterior place-making; at that simplest level, place-making is to landscape architecture what building is to architecture.' [38] Historically, the discipline struggled with its origins, with gardening being one, and in contrast the making of large-scale landscapes being the other, as reflected in the often-used collocation 'garden- and landscape architecture'. In this research, both the garden and the large scale are essential. Both the Dutch polder and the private garden fall within this understanding of landscape architecture. In between these poles, we find common categories such as parks, squares and cemeteries but also the less common river dike, industrial zone, urban extension, and parking lot. Such categories are understood here as the physical outcome of a design; however, landscape architecture equally concerns studies that explore options and, especially in the Netherlands, such studies may investigate the distant future of extremely large landscapes. These instances all contain an element of time in the design process, its realisation and its further development. How have drawings help to manage this, or how have designers addressed this without help of drawings?

In this research, the words drawing and representation will be used many times, and often they stand for the same thing. I already mentioned Neil Levine, who spoke about representation as referring to the two- and three-dimensional means employed by architects to convey their ideas on paper, in models or in digital form. [39] The addition 'on paper, in models or in digital form' is often what confuses a conversation on drawing. The word drawing as used in common speech is related to something done by hand, on paper. In the context of this research it is best understood in a more abstract way. Lipstadt suggests that drawings by architects differ from other drawings in the sense that they are operative in the production of architecture. [40] It is against that background that the word drawing also includes models, mock-ups, installations, two-dimensional or three-dimensional works, on paper or digital, as long as they are produced to imagine, disseminate and build landscapes. Such drawings are by definition representations: they project something that is not there yet; they are a stand-in for the imagined landscape.

In *Big Book of Time*, the phenomenon of time is introduced to children by paraphrasing Augustine: I know what time is, but if one asks me, I don't know what to say. [41] As a consequence of this tension between the evident and the unexplainable, the notion of time in relation to landscape is a catchall term embracing words such as change, growth, movement, dynamics, and process. One could demur that this is a rather imprecise way of speaking about time, but that is exactly what is observed here. The works of landscape architects refer to or speak about time in a very implicit way, and in rather diverse modes. The aim is not to frame landscape architecture within a well-defined perspective on time, but to collect thoughts, drawings and designs that express certain manifestations of time. Time, then, covers the growth of plants and trees, the use of public space over the seasons and the years, the development of forests, the realisation of urban extensions and other large landscape works over the decades, and strategic designerly thinking about the future of landscapes. [Fig. 1.12]

Landscape architecture could be understood as the (academic) discipline studying landscape and the design of landscape. Here, the focus is on landscape architecture as a professional practice.

[38] Hunt 2000: I

[39] See Levine 2009. Ironically, Levine proposes this as one of the possible definitions of representation, followed by the comment that .he will not use the word in that sense.

[40] Lipstadt in Blau and Kaufman 1989: 110. Lipstadt speaks about the concept of figuration, 'according to which the psycho-social conditions governing the production of the object are used to differentiate representations by architects from other representations of architecture'.

[41] See Edmonds *Wat is tijd?* 1995 or *Big Book of Time* 1994. For *Confessions* see Augustine ca. 420/1995, translated by Outler: 'For what is time? Who can easily and briefly explain it? Who can even comprehend it in thought or put the answer into words? Yet is it not true that in conversation we refer to nothing more familiarly or knowingly than time?'
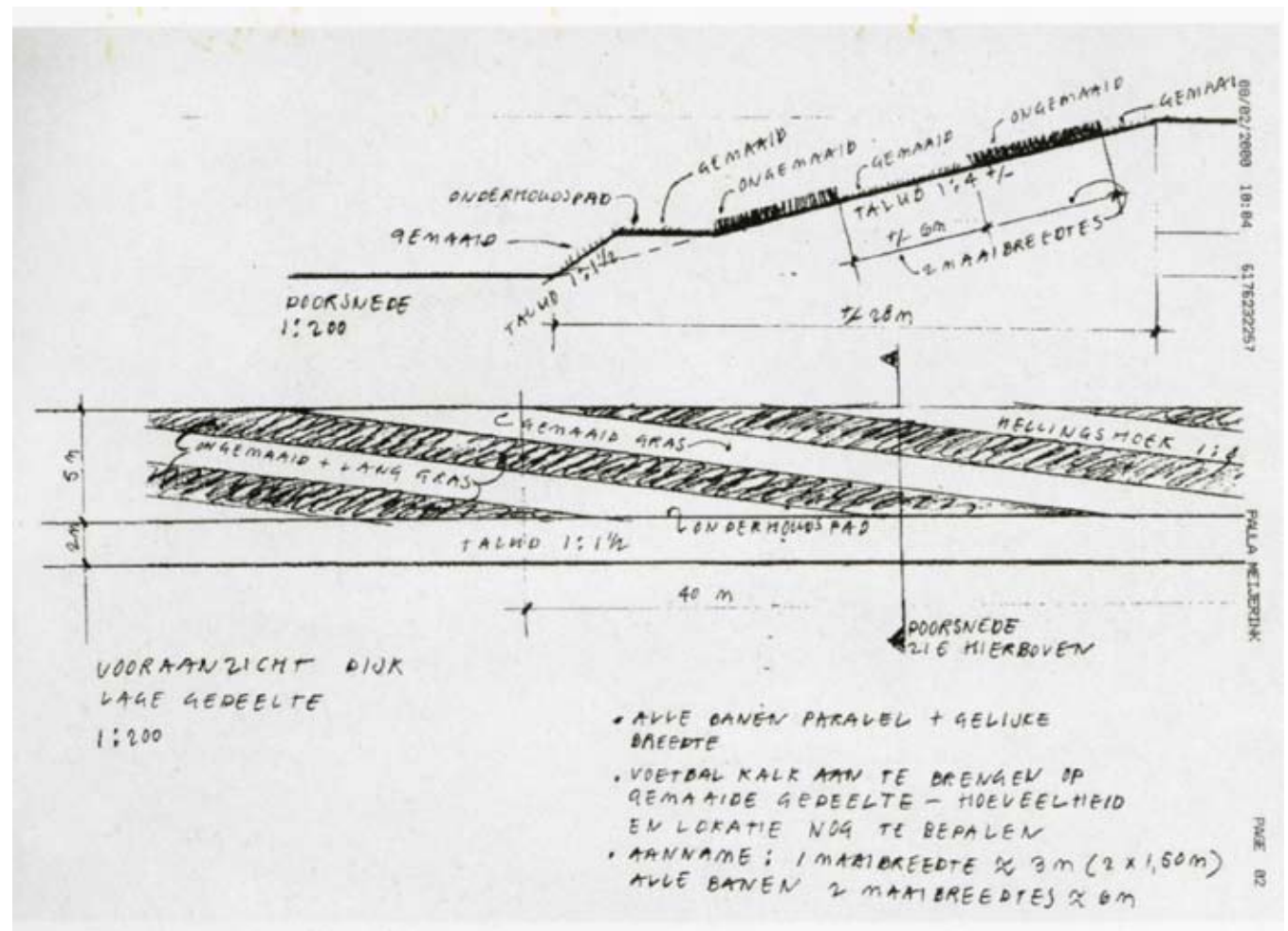
Fig. 1.14 Working drawing for *Mow Job* **as sent by fax. Design for SAIL 2000 on Nauerna dump. Paula Meijerink and Noël van Dooren, 2000.**

The aspect of time and its presence in drawings is questioned against the background of professional practice and its culture, condensed in the *office*. Being a seemingly evident phenomenon, the office is crucial if we question representation, and especially if we are interested in its innovation. The office stands for a perspective on landscape architecture as a professional practice. [Fig. 1.13] Professional practice also is a cultural concept that changed over time. It implies an outer world of presentations, talks, neat drawings, expectations, names and fame. It also includes an inner world of sketches, ideas, workshops, in-between products, thrown-away drawings and files to be sent to the graphic designer. [Fig. 1.14] Landscape today is made in a complex environment of clients, users, society, public authorities, and designers. In such environments, landscape architects execute projects, starting with an assignment and ending in a final product. Even if that sounds obvious, this creates specific conditions for the making and reading of drawings. One of such conditions is that a drawing is generally part of a larger set of drawings and accompanied by text, as a service to the client and the public. In this research, drawings are disconnected from 'their' project and are read as objects with their own meaning. In that sense this research takes an art historical approach. A section, as an example, is studied within the tradition of section drawing, more than as a part of a project for a park or a square. It is the office that became the dominant organizational unit in Dutch landscape architecture since around 1985. Dutch practice also is part of a larger international scene, but, at the same time, is known for its specific tradition. A remarkable aspect of Dutch practice is its surprising evolution in the years around 1985. It is because of this evolution that the research primarily focuses on contemporary Dutch practice.

1.4 About Time

In *About Time. Narrative, Fiction and the Philosophy of Time* Mark Currie, a professor of contemporary literature, plays with the double meaning of his title, distinguishing between tales that are about time, and tales of time: 'Time is a universal feature of narrative, but it is the topic of only a few.' [42] Rephrased: Time is a universal feature of landscape, but in landscape architectural drawings it is the topic of only a few. This dissertation is in the double sense 'about time'. Historically, the garden and the park were the realms of landscape architectural design. Later engagement in city extensions and rural transformation changed the field of operation. In recent decades the field expanded even more. New challenges arose, such as transformation of former industrial sites, new approaches for food and energy production, or the changing climate. These new challenges require an intense engagement with issues of time. This is not exactly news: Dutch landscape architecture has been moving towards such an interpretation of the discipline for three decades already, and the more recent phenomenon of *landscape urbanism*, preceded by Corner's essay 'Representation and Landscape', points in the same direction. [43] Yet, with regard to these challenges the representation of time must be taken into account, both in practical and in theoretical terms, and landscape architecture is behind when it comes to that. This research aims to fill in that gap. Such an undertaking will strongly contribute to the theory of landscape architecture in general and more specifically, it will contribute to the theory on representation in landscape architecture. Alongside that, it certainly enriches the debate on the future of landscape architecture, as it is believed here that a more explicit presence of aspects of time would strengthen the profile of landscape architecture as a discipline. As an undertaking, this

[42] See Currie 2007: 2.

[43] Corner 1992; see Waldheim 2006 on landscape urbanism.

Fig. 15a-e   Five growth stages of designed forest. Series of photographs of sprouting cress seeds. Annelies Bloemendaal, Academy of Architecture Amsterdam 2011.

research seems timely. The economic crisis we experienced in recent years not only delayed many initiatives already on course, but also stressed the need for flexibility in time. More than that, expectations with regard to sustainability seem to put a growing weight on the performance of landscape over time. If this is true, should we not see this appearing in landscape architecture thinking and in its drawings too? For such reasons, this study is relevant for researchers reflecting on landscape architecture, but also certainly for practitioners concerning their daily work. This is not to suggest that only a relatively small audience is addressed. Landscape architecture is a modest discipline, in numbers. As a discourse, however, the argument relates to much wider circles. Both the issues of drawing and of time are important for architecture and urbanism. Questions of how to represent time have been studied in the arts, in cartography, and in information design. This has influenced this study, and vice versa this study adds to the body of thinking in these areas.

Conversations with students
Perhaps the most important motive to pursue this study is to be found in my conversations with students. [44] Through these conversations I learned that already today students consciously choose to represent time in innovative ways. Consider this representation of the growth of a forest with help of sprouting cress seeds. [Fig. 1.15a-e] Over time, the drawing (indeed, I consider it a drawing) acquires a third dimension, until the small plants die. In the end, the dry remains again act as a two-dimensional drawing. It is therefore a rich example: the drawing not only represents change, but changes in itself. A second example shows how an

unfinished and now decaying building complex could become landscape again, if the eroding powers of climate and nature are helped a bit. A triptych of drawings represents the argument. [Fig. 1.16a-c] The hand drawing throws light on the specific building parts where cracks enable seeds to sprout, on removed glass plates that allow water to come in and on small corners where animals find hiding places. This drawing rests on a firm awareness of the processes going on over time. The third example, a watercolour drawing in three parts, shows the initial state as an ordered pattern, and the evolution of that pattern to a rather spontaneous state. [Fig. 1.17] The different stages are presented as equal in their importance: There is not one intended final stage. Both in terms of theory of representation and theory of landscape design, that is an important statement. These three examples seem to underline that it is, in abstract terms, possible to display aspects of time in landscape architecture drawings. They are, however, isolated examples. They are coincidences, merely revealing the lack of a theoretical framework and the need for a collection of best practice in our time.

Aims and questions
Drawing is not only a means to communicate design ideas to the outer world, it also helps to explore, to generate and to test these ideas in design processes. The awareness of issues of time in landscape, the exploration of these issues while drawing (as a verb) and the communication of these issues to a larger audience via drawings (as a noun) is of vital importance for the discipline of landscape architecture, and hence the education of landscape architects should respond to this. The context of this research,

[44] I refer to my roles as tutor (since 2001) and as head of department (2004-2009) at the Amsterdam Academy of Architecture.

Fig. 1.16a-c *Second Nature*. **Making landscape out of a modern ruin. Situation after five years without intervention and with intervention, and explanatory drawing of processes at work. Final work, Hannah Schubert, Academy of Architecture Amsterdam 2014.**
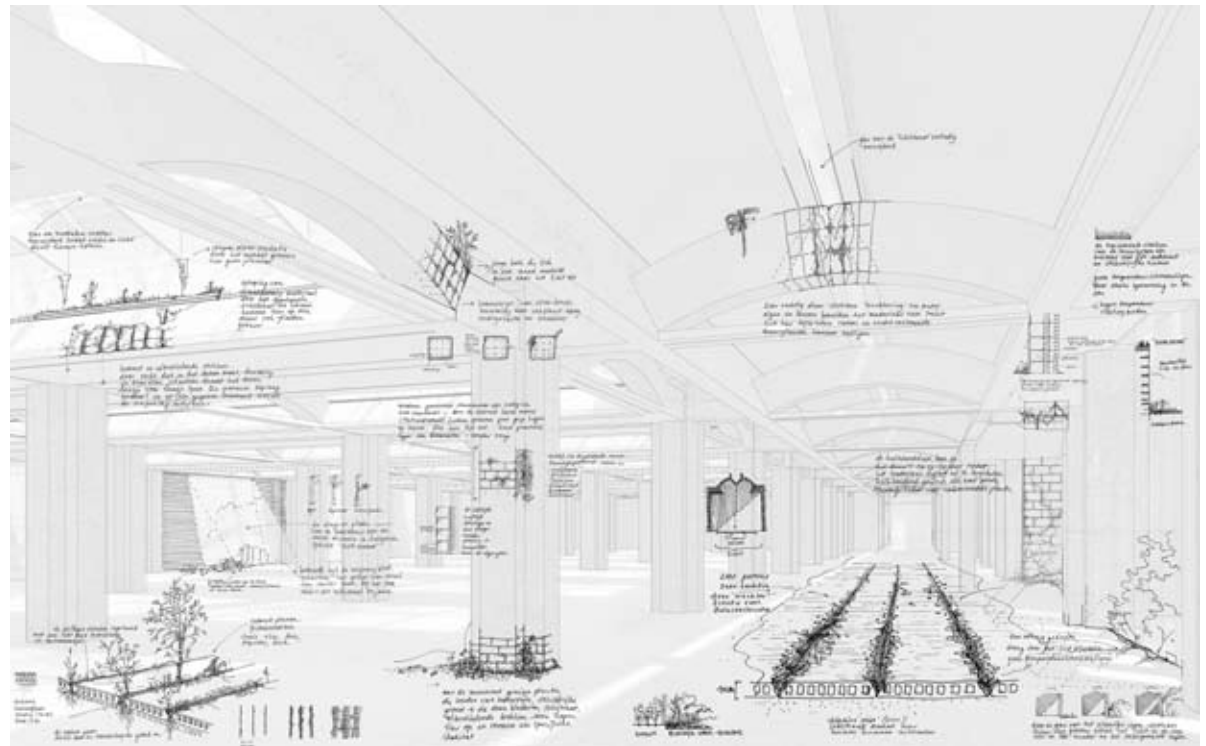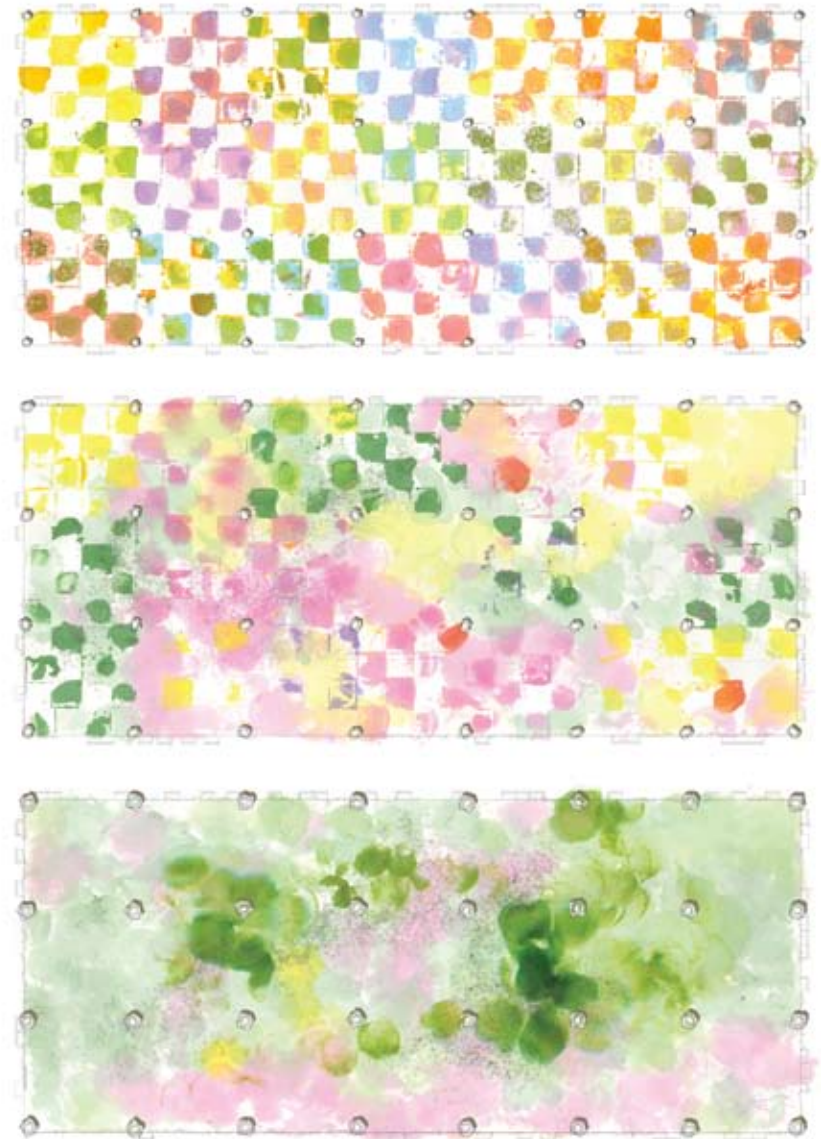
Fig. 1.17 *Green Warriors.* **Drawing for a temporary public garden at three points in time. Marijne Beenhakker, Academy of Architecture Amsterdam 2010.**

therefore, is professional practice, or more concrete, the landscape architecture office, and educational programs training new professionals. The aim of this research is to contribute to a coherent body of theory that supports the representation of time. An overview of thinking and writing in the last two centuries and an evaluation of current drawing practice will help to construct a tentative theory. A range of design experiments in which drawings are produced will show how such a theory could be applied in practice.

Two sets of questions guide this research. One set addresses landscape architecture in general: What exactly is the role of time in landscape architectural design, what is the nature of drawings in landscape architecture, and can aspects of time be conveyed via such drawings? The other set relates to today's practice: Are aspects of time present in drawing in today's landscape architecture practice, and in what way? And if they are not, then why not?

Structure of the argument
Chapter 2 elaborates on the methodological aspects of this research. Chapter 3 reports on the body of literature used to construct the argument, in three perspectives: 'Time, Landscape and Intervention', 'Drawing, Drawings and the Design Process' and 'Profession, Practice and Project'. These titles deliberately state that the large issues of time, landscape and representation are not addressed individually, but in their mutual relationship. Linking these three issues, substantial in themselves, with words such as intervention, design process and project positions the argument within the field of the design disciplines and more particularly landscape architecture. Chapter 4 presents the data as derived from collected drawings and interviews. It also shows how this data informed 'design experiments' in which theory and practice expand towards a new understanding of representing time. Chapter 5 positions this in a wider perspective. A series of different lenses or frames enable us to understand the significance of individual drawings for the argument that is built up here, and to understand drawings as materialised thinking on the main topics time, representation and landscape design. In the concluding Chapter 6 our current position in time is addressed as meaningful, the outcome of this research is summarized and an overview of the many challenging questions it leaves open is given.

2. Studying landscape architectural thinking and drawing in a methodical way

2.1 Research questions, research strategy and aim

How does landscape architectural design address aspects of time, how should we understand the role of drawings in this discipline and is it, in general, possible to consider time in such drawings? Which types of representation are suited to do so? Are aspects of time taken into account in today's practice, and if so, how? If not, why not? Either way, what is the role of drawings in this? These are the central questions that shape the research before us, and guide its 'research design'. [1] These questions invite us to explore the phenomenon of time in landscape and in landscape architecture, and the phenomenon of drawing as a means to invoke new landscapes. This undertaking has its own challenges. As John Dixon Hunt in *Greater Perfections* states: 'The subject of landscape architecture has no clear intellectual tradition of its own, either as a history, a theory, or even a practice.' [2] That means it is indeed an exploration, with the aim to build theory. The three main components in the research question are time, drawing and landscape architecture, and these components are looked at in the context of professional practice. From the central question, a number of secondary questions on these main components and their interrelations arise. How is the phenomenon of time understood in relation to landscape architecture, and what exactly is the role of time in landscape architectural design? How are words like drawing and representation understood, and what is the specific nature of drawings in landscape architecture? And what then is a representation of time? Does a drawing by itself tell that it represents time? How are aspects of time transported via drawings? The question in what way aspects of time can be part of landscape architecture drawings implies an interest in landscape architecture drawings in general, exploring if in abstract terms it is possible to evoke aspects of time in such drawings. This also introduced a form of research by design into the work; there may be other ways of displaying aspects of time in landscape architecture drawings, so far not explored.

This research rests on a few basic assumptions. It departs from the idea that in design disciplines drawings are key. Drawings are made to represent future situations. Landscape architecture fits into that tradition. Drawings are assumed to reflect the central issues landscape architecture design deals with, and aspects of time are considered one of these central issues. Even if Hunt is very right in his comment on the intellectual tradition of landscape architecture, and even if this research therefore is explorative, it still draws upon earlier work. Existing texts, both academic and professional, contribute fragments for a theory to be built. Alongside texts, realized designs, designs on paper and individual drawings are artefacts that help to describe a state of affairs.

Research strategy
Four different strands of activities shape this research. The first is a 'history of ideas', based on texts and additionally designs and
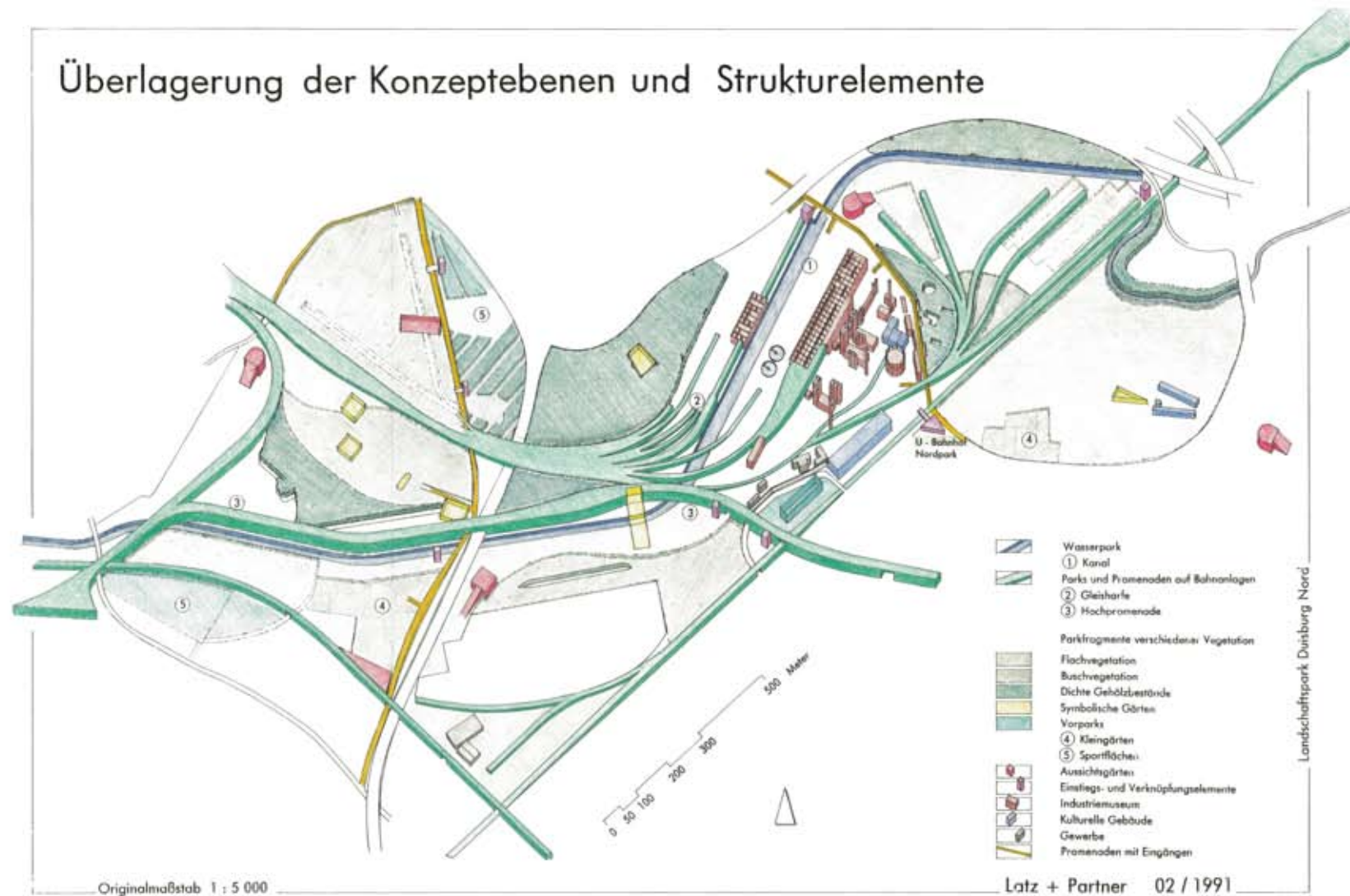
[1] Groat and Wang 2002: 11.

[2] Hunt 2000: 6.

Fig. 2.1 An example of 'data' in this research: Drawing for *Landschaftspark Duisburg Nord*. **Latz + Partner, original scale 1:50.000, 1991. Diagram.**

drawings. [3] This is more than a background; it helps to construct an argument. Sources from very different fields show how much this research is inspired by other disciplines, and reveal at the same time the potential relevance it can have for these other disciplines. The second and third strands are strongly related. A large set of drawings has been collected from different landscape architecture offices. This collection is used to explore of all aspects of drawing that are relevant for the research question, and to register how aspects of time are manifest in these drawings. Therefore, these drawings are not a mere illustration - they are 'data' in themselves. Drawings alone, however, are not enough. What did the designers want to explore or express in these drawings, and what were their drawings expected to communicate? If time played a role in their considerations, were drawings the preferred medium to perform this? Therefore, the third strand of activities concerns interviewing, resulting in a collection of oral statements on time, representation and landscape architectural practice. It is in the combination of the two, that much insight is gained. How do landscape architects operate, and how do they reflect on these operations? How do collected drawings fit into specific inherited traditions? Do today's landscape architecture drawings display time efficiently, and in all its aspects? If not, what does that tell about the role of time in landscape architectural design and about the role of drawings? What do designers themselves think of that? Is time perhaps communicated in other ways, or not at all? A fourth strand of activities in this research concerns design experiments: experimental drawing exercises in landscape architecture schools which were designed to test the research questions, to explore the propositions deriving from the earlier strands, and to generate new options for drawing. To some extent, these experiments verify the conclusions as drawn from the collected drawings and the interviews.

Context

The main site for this research is landscape architectural practice, and more precisely, the landscape architectural office. The focus is on Dutch offices, against the background of the specific history of Dutch landscape architecture. Having said so, the importance of Corner's essay 'Representation and Landscape' makes immediately clear that the Dutch scene has something to do with the international discourse. Design offices are the locations in which designers make drawings. [4] This research focuses on drawings, not on the projects which they are part of, even if in some cases projects help to verify findings with regard to the drawings and the issue of time. In general terms, drawings are easily found: in magazines, on websites, or at expositions we encounter drawings made by landscape architects. These drawings, however, do not speak for themselves when it comes to the considerations in their making. Neither do they answer unambiguously the question if and in what way time is represented - that often is an act of interpretation. To solve this, the office must be part of the interrogation. Due to the chosen context of professional practice, this research has qualities that Umberto Eco perhaps would qualify as 'journalistic': professional practice to some extent is an 'unscholarly topic, devoid of critical literature'. [5] Yet an argument can be constructed, using sources from other fields such as in this case anthropology and archaeology, and through that a scholarly position can be taken even if professional practice is 'messy', as Donald Schön puts it. [6]

[3] The term was coined by historian Arthur Lovejoy. For the German variant see 'Ideengeschichte' Andreas Dorschel, 2010 as referred to in Löbbecke 2012.

[4] Obviously, the office is not the only site where drawings are made. Chapter 3 will address this.

[5] Eco 2015: 42.

[6] See Schön 1983.

[7] See Groat and Wang 2002 and Swaffield and Deming 2011.

[8] See Creswell 2014; Denzil and Lincoln 2005.

[9] Van Schaik and Johnson 2011: 20. For landscape architecture see Van den Brink 2010, and Lenzholzer, Duchhart, and Koh 2013: 120-127. These authors prefer research through designing. The gerund points at the activity through which the research is done.

Aim

Given the lack of 'a clear intellectual tradition' as Hunt puts it, landscape architecture did not develop a sufficient disciplinary theory on the role of time and the ways in which it can be present in drawings. This body of work is a contribution to such a theory. It intends to show the possible applications this expanded theory can have for representation in landscape architecture. Its aim is to influence education and practice, in several ways. Firstly, I want to show that despite the lack of adequate theory in landscape architecture itself, a relevant and insightful argument can be constructed with help of theory and sources in other disciplines. This should help us rethink the position of landscape architecture, its theory on representation and the implicit or explicit role of time in landscape architecture design. Secondly, I want to map how landscape architects think about the issue. Concerning the technique of interviewing to explore this thinking, there may be doubt if the registered oral statements are true, or logical. However, this is not so relevant here, as this is *apparently* the way landscape architects think about the issue, or want to discuss it. The profession is confronted with its own implicit considerations. Thirdly, I make a plea for the representation of aspects of time, arguing that it is a central characteristic of landscape architecture. I strive to update the theory on landscape architecture representation and to develop best practice to make the representation of time happen. To conclude, I intend to influence landscape architecture education. Both the thinking about and the representation of time should be more present in education. This research develops arguments for that, and more importantly, contributes to a framework for a new approach.

2.2   Notes on method

Although landscape architectural research developed specific disciplinary strategies, for the large part it makes use of knowledge and methods from an array of other disciplines. Recently Swaffield and Deming gave an overview. [7] Handbooks such as those written by Creswell or Denzil and Lincoln provide information on research design in general, and are followed here, as far as they are applicable. [8] Groat and Wang specify research strategies for architecture. Such books show how tactics taken from other domains can be applied, but also how design itself can be a means of research. The arts, and applied arts like landscape architecture, in recent years became their own research domain, with research strategies ranging from research on design to research for design to research by design. As a consequence an applied art, such as landscape architecture, can be an object of study for other disciplines such as art history, but also for designers themselves, like in this case. Studying drawings and conducting interviews is typically research on design. This is important, as it is a specific position not taken very often by designers. It means that the research is primarily reflective; the practice of others is the object of study. However, being a researcher and a designer has given me a lived and critical engagement with the design process, and helps me to guide drawing experiments. These are typical research by design. This is a valid research approach about which RMIT professor in architecture Van Schaik states: '[My motive was] to inculcate an approach to research that was not 'about' design, but that was *research in the medium of design itself*.' [9] Hunt was already quoted, stating that the subject of landscape architecture has no clear intellectual tradition of its own. But to change that, we should not orient ourselves 'entirely if at all' towards Freud, Lacan,

Derrida, Foucault or Barthes; it is within landscape architecture itself that we must find 'the grounds for an adequate theory'. [10] This research reflects on the drawing and thinking of landscape architects, and in doing that contributes to theory.

Drawings and oral statements, retrieved from interviews, are the basic sources of data in this research. [Fig. 2.1] Drawings as concrete objects in which time and its meaning for landscape can become manifest, and the thinking about time, drawing and landscape architecture are seen here as strongly interrelated. This is not that evident - as architecture historian Adrian Forty observed, 'it is striking how little discussed language has been compared to architecture's other principal medium, drawing'. [11] Drawings can be studied in several ways. A theoretical perspective from architecture, art history and semiology could make sense, but certainly also a perspective from ethnography or anthropology. In that perspective the process of the making and the maker become very relevant, and hence the interview as a 'research tactic', to again use the vocabulary of Groat and Wang, comes in. [12] Due to this amalgam of research tactics, it is evident that this research has to be categorized as a mixed method approach, and its system of enquiry is predominantly qualitative. As Leavy puts it, 'qualitative researchers do not simply gather and write; they *compose*, *orchestrate*, and *weave*'. [13] Starting with the intention to collect drawings, on the road interviews were 'weaved in' as a crucial tactic. Experiments were part of the research from the start, as a means of sharpening the questions and with the objective to generate new results. Their scope changed over time from rather intuitive explorations to more precise narrowly focussed experiments.

The interview as a research tactic, and in particular the qualitative interview, is a known technique in the domain of anthropology and ethnography, and is extensively covered in literature. Rubin and Rubin's *Qualitative Interviewing. The Art of Hearing Data* counts as one of the standard books on the topic. [14] Oral statements matter in a scholarly context, as long as they can be related to actions, are part of a culture, and give insight into thinking. In the context of this research the coherence between spoken statements and drawings is essential. Rubin and Rubin outline how to avoid the pitfalls of the journalist's approach, and to make it a reliable research tactic. They extensively discuss the choice of interview partners, the design of questionnaires, practicalities of recording and reporting, and the subsequent steps of interview analysis, such as coding the material. Rubin and Rubin refer to Clifford Geertz who coined the term 'thick description' [15]. As Groat and Wang put it, a thick description of the wink of an eye 'is one that describes not only the wink, but also what that wink can mean within the semantic systems of the culture in which it happens'. [16] Thick description implicates very precise and detailed interviewing, based on a great interest in (the environment of) the interviewee. In terms of drawing this could refer to seemingly banal aspects such as the use of certain drawing materials, or choosing certain colours. Architectural historian Robert Proctor critically assessed a series of interviews with Modernist architects to reflect on the effectiveness and reliability of the interview -or 'oral history'- in the specific context of architecture. As Proctor puts it, 'the significance of an oral history of architecture is in what it can tell us about the values and myths within a design culture, the images and stories to which its members hold, and their attitudes across an intervening time' [17]. Both Dana Cuff, who announces herself

[10] Hunt 2000: 8.

[11] Forty 2004: 14.

[12] See Groat and Wang 2002: 11.

[13] Leavy 2009: 10.

[14] See Rubin and Rubin 2005.

[15] Rubin and Rubin 2005: 12. The original source is Geertz 1973: 3-30.

[16] Groat and Wang 2002: 188.

[17] Proctor 2006: 305

[18] See Cuff 1991 or Yaneva 2009.

[19] See http://en.wikipedia.org/wiki/ Visual_anthropology. Also Harper 2002 or Beilin 2005.

[20] A standard is Sturken and Cartwright 2009.

[21] See Panofsky 1955; Berger 1972 and Mitchell 2005.

[22] Rose 2012: 105.

as a social scientist in architecture, and anthropologist Albena Yaneva contributed substantially to research on architectural design. As a form of participatory research, staying for months in the architect's office, they employed the tactic of interviewing to arrive at innovative descriptions of the discipline. [18] Such approaches informed the research at hand.

The objects of study (drawings) and the chosen tactics (interviewing) relate this research to the fields of art history, anthropology and ethnography. In the domain of anthropology and ethnography there is a lively debate on the role of images, also in relation to interviews. 'Visual anthropology' even became a subdomain. [19] Although the word 'visual' in this case does not refer to architectural drawings, and certainly not to landscape architectural ones, it

suggests a link between the areas of drawing and oral statements. In recent years quite a lot has been written on 'visual methodologies'. [20] The central thought in this is that visual material always has factual aspects (its making, its size, and its materiality), and at the same time needs an interpretative action. Such an interpretative action is necessarily related to the researcher and his background. Erwin Panofsky and John Berger discuss the broader art historical and cultural frame for such interpretations, just as William Mitchell does in his book with the tempting title *What Do Pictures Want?* [21] Cultural geographer Gillian Rose argued that research strategies concerning images range from more objective approaches, registering what we exactly see in the image, to a semiotic interpretation, or, as Rose puts it 'laying bare the prejudices beneath the smooth surface of the beautiful'. [22] The architect's

Fig. 2.2   Collage for Rottenrow Gardens, Glasgow, by GROSS. MAX., 2003.
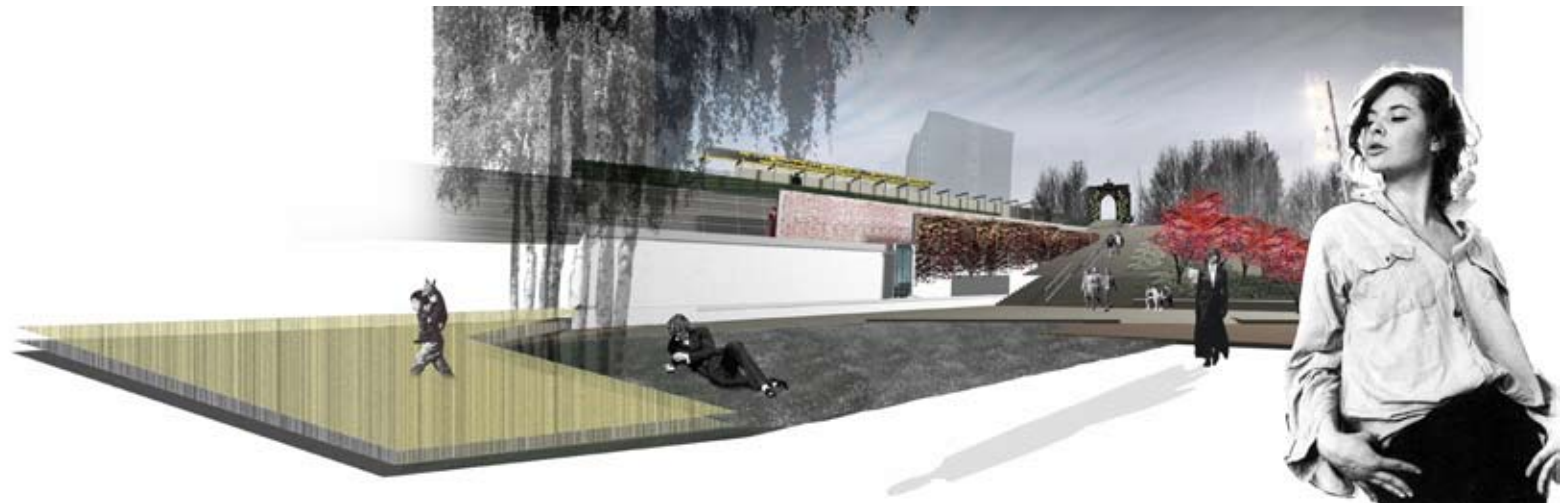
drawing, and moreover the landscape architectural drawing, is absent in such studies on visual culture. But in methodological terms architectural drawings fit in the broad scope of visual media, ranging from photography to painting to advertisement, discussed for example in the studies of Sturken and Cartwright. This broader view on images makes sense in discussing particular aspects of drawings, such as why a drawing was made by hand, and what expectations on its appreciation guided that. How relevant such a broader view is for landscape architecture drawings, is illustrated by a drawing from GROSS. MAX., clearly hinting at advertisement. [23] [Fig. 2.2] Interviews, and an interpretation within this broader scope of theories, can lay bare what sort of considerations are at stake. That these considerations may range from very philosophical to merely pragmatic in landscape architecture is not relevant. We have to accept that such considerations exist and apparently influence how landscape architects make their drawings. The way in which aspects of time are represented, or not, will also be guided by an array of such considerations.

2.3   Reading about time, drawing and landscape architecture

This research studies the area where the phenomenon of time, the making of drawings and landscape architecture -both as a discipline and a profession- meet. That area has not been explored extensively. Therefore, this study cannot rest on a stable body of literature. That is not to say there are no relevant texts - we have to take only one step outside this narrowly defined area to find a huge collection of texts that comment on certain aspects of it. Chapter 3 reports on the exploration of this collection and con-

structs an argument. How can the problematic be understood? To which areas can we trace its roots? What is the discourse that is revealed in this exploration?

Due to the nature of the topic at hand, texts are to be found in very different realms. Academic texts, journalistic articles and writings by designers are taken into account, just as very specific texts such as handbooks on gardening are. This study does not aim to give a complete historic overview. The focus is on the period starting around 1985, and it traces the subject back in time to, roughly, 1700: the era of gardening handbooks, revealing a perspective on gardening that explicitly includes issues of time. [24] Obviously, the issue of drawing in relation to architecture can be traced back to much earlier periods in history, but in the context of this study it only matters when this architecture perspective becomes manifest in gardening. With this it is implicitly said that gardening is considered here as a domain in which embryonic thoughts on landscape architecture are to be found. Humphry Repton (1752-1818) is the perfect start for this: he was an active writer, helped to shape the identity of the (future) profession, had strong opinions on issues of time and communicated innovative ideas on representation. [25] As landscape architecture has certainly not only roots in gardening, another very relevant starting point is the École Nationale des Ponts et des Chaussées, founded in 1747. Current writers such as De Jong and Picon revealed the importance of this engineering school, and helps us to understand its meaning in the context of this study. [26]

The exploration of literature, therefore, spans a period of time starting in 1683 and ending in 2014, if we take Diana Balmori's

23] See Sturken and Cartwright 2009.

[24] See Reid 1683.

[25] See Loudon 1840.

[26] See De Jong 2008, Picon 1992.

[27] See Balmori 2014.

[28] See Halprin 1969, Corner 1992, and De Bruin et al 1987.

[29] See Zerubavel 2003.

[30] See Fraser and Henmi 1994.

[31] See Goodman 1976.

[32] See Bender 2002, Leatherbarrow 2009, Ingold 2013, and Hunt 2004.

[33] See Bijhouwer and Doorenbos in *De Boomkweekerij* 1945.

[34] See Gomart in Hajer, Sijmons and Feddes 2006.

Drawing and Reinventing Landscape as the most recent substantial contribution. [27] This long stretch of time is structured by periods in which there was a rather vital exchange, and silent periods, such as the first half of the 20th century. It is also structured by certain persons, texts or even projects which are key for the development of the discourse. These are, to mention three examples, Lawrence Halprin's *The RSVP cycles* from 1969, James Corner's 'Representation and Landscape' from 1992, and the Dutch *Plan Ooievaar* from 1985, as a materialization of the debate on ecology after 1960 and its meaning for landscape architecture. [28]. These three are examples of the primary sources that are used. Individual drawings, plans as sets of drawings and text, and written arguments are also used as primary sources. De Jong and to some extent also Balmori are typically secondary literature: these sources reflect on drawings by different authors, and look back.

Without aiming to cover the separate areas of time, drawing and landscape architecture individually, certain sources must be addressed, as they are foundational. That can be said for *Time Maps* by Eviatar Zerubavel (2003), proposing ways of categorizing aspects of time. [29] Texts about drawings that specifically address landscape architecture are scarce. Some of them will be discussed, such as Elke Mertens' *Visualizing landscape architecture: Functions-Concepts-Strategies* from 2010. For a more elaborated exploration of roles, functions and types of drawings we have to look to the field of architecture, such as *Envisioning Architecture. An Analysis of Drawing* by Fraser and Henmi (1994). [30] Nelson Goodman in Languages of Art contributed with introducing the issue of notation, thereby opening a door between architectural drawing and other areas of representation, such as choreography. [31]

Concerning landscape and landscape architecture, of the many available texts, I choose to mention authors such as Bender, Leatherbarrow, Ingold and Hunt, as they throw light on the specificities of landscape and landscape architecture in this context - often from other fields, such as archaeology, architecture and history. [32] And as this study focuses on Dutch landscape architecture after 1985, yearbooks on Dutch landscape architecture are taken into account, as are texts from professional magazines - even if sometimes very fragmented, such as a crucial debate between Bijhouwer and Doorenbos via short texts in *De Boomkweekerij* in 1946. [33] This automatically puts specific designs, designers and offices on the stage.

The research itself must also be designed, and that shifts the focus to other domains, such as texts on research, and more specifically reflections on the nature of design, or on research by design. Reflections on the nature of design also include texts on the world of designers and their culture. Of the many sources I mention here Emilie Gomart's article in the Dutch publication Een plan dat werkt [A plan that works] from 2006 as one of the scarce attempts to apply such thinking specifically to the profession of landscape architecture, and moreover, to address a specific Dutch culture of landscape architecture. [34]

2.4 Collecting drawings and conducting interviews

Choices and framework
As a starting point for conducting interviews and collecting draw-

ings offices were selected. This included a core group, and three other groups to test and compare findings. The core group consists of 10 Dutch landscape architecture offices founded between 1985-1995. [35] This study focusses on their work as made until 2014. These offices are: Bosch Slabbers, DS, H+N+S, Hosper, karres + brands, Lubbers, OKRA, Quadrat, Vista and West 8. The years around 1985 were foundational for today's landscape architecture and the start of a coherent era, as will be shown in Chapter 3. Having been founded in more or less the same years, these offices may have a comparable understanding of their profession. Obviously, a larger number of offices are available. These 10 offices however cover the main positions in terms of themes, scales, approaches, and ways of producing, and more importantly, they are present in writings on this period. Offices were not chosen for their known interest in issues of time and drawing - this had to be found out. The selection took place on the basis of more general criteria so as to have an adequate representation of the profession. To be selected, offices had to have a leading role, in terms of being published, winning prizes and being present in the debate. The assumption is that such offices are outspoken in their imagery and their thinking about the issues of representation and time. They care for their presence in all sorts of media. Yearbooks, competitions and other comparable competitive environments were important in identifying these leading offices.

To understand the work of these offices in a broader context, both offices that started more recently and offices that started much earlier were taken into account. Examples of these younger offices are Anouk Vogel, Lola, RAAAF and van Paridon & de Groot. 'Young' is defined in this case as founded after 1995, a period in which

drawing changed substantially, mainly due to the breakthrough of the computer. However, these offices did start before 2005, to ensure that for this research they would have had enough time to arrive at built projects. Such built projects allow for the comparison of drawings, and the considerations in their making, with the actual project, if needed.

Offices that were founded long before 1985 are for many reasons of a different kind. There were less offices, many of them ceased to exist and their approach to landscape architecture was more narrow, such as being focussed on gardens and parks. Two examples of these offices are relevant as they still exist, even if under a different name. These are Buys & Van der Vliet (today MTD) and Copijn. Obviously, the firms as they exist today are guided by different persons and also different beliefs. To record this, current staff were also interviewed. In this period before 1985 the office as such was less dominant. Therefore, one state institution, DLG, has also been taken into account. There are, however, clear difficulties in doing this. Such organizations are often of considerable size, and due to reorganization or changing visions on governance the exact positions of landscape architecture groups in such departments (and their names!) are somewhat fickle, as is the case also for DLG. Evolved from parts of Staatsbosbeheer, Landinrichtingsdienst and Dienst der Zuiderzeewerken, DLG underwent various changes over the years, and ceased to exist in 2015. Both the secondary group of young offices and the offices founded before 1985 act as a check to verify findings in the core group.

To position the findings in a larger context, Northwest Europe has been taken as the area of study - time, landscape and represen-

[36] See for example Rubin and Rubin 2005: 201-246. Tagging a drawing is different from tagging text. However, just as a feature of a drawing could be spoken about in an interview, it can be observed as a feature of a drawing itself. To code it implies that the feature has a conceptual meaning.

tation are issues by no means limited to the Netherlands alone. Looking abroad was intended as a control mechanism: Are certain 'design cultures' distinguishable, and are such cultures of influence on the issues at stake here? For its landscape architecture history Northwest Europe is a rather coherent area. France, Great Britain, Scandinavia and Germany were identified as relevant countries and, more important, relevant landscape architecture cultures. Switzerland was added later, as it became apparent that it could not be seen as part of the adjacent design cultures, but as an important and autonomous area. Michel Desvigne (FR), Vogt (CH), Grant (GB) and atelier le balto (DE) are four examples of the offices studied to map these different cultures. To compensate for the practical constraints of the total number of offices manageable one 'informant' has been interviewed from each of the non-Dutch countries. The word informant is appropriate as this person is not questioned as designer, but as an expert closely related to the local landscape architecture culture. Informants were chosen for their evident overview and reflective position on the topic, as demonstrated in their writings and academic or professional positions.

Landscape architecture is also practised within local authorities, or national bodies, or within larger engineer firms. It certainly makes sense to also study landscape architecture within the very different context of city planning agencies, to look at the drawings that are produced, and the role of time in these drawings. For very practical reasons this was not possible within this study. I encourage other scholars to expand on this. The same goes for the study of other very relevant geographical areas of study, such as American or Australian landscape architecture. In terms of

literature, these areas are integral to this study, but the actual practice deserves closer attention.

Tagging
Working with drawings and interviews necessitates specific tactics to retrieve information, and procedures to control and verify what has been done. This will be elaborated more in depth in relation to the interviews. To some extent however, drawings and interviews can be discussed in a comparable way. In fact this resembles the basic technique of archiving, in which items are filed in certain categories, and can be related at the same time to other categories. A flower may be of the genus Rosa, be pink and display a certain fragrance. Being pink would fit under the tag 'colour'. In this research a system of tags has been built to order, categorize and interpret findings. In the tag system four main categories reflect the key subjects in this research: time, drawing, landscape architecture, and the context of professional practice. This system serves both the reading of the collection of drawings and the interviews. Related to interviews however it is also closely connected to the sociological theory on analysing interviews, mostly addressed as coding. [36] Tagging a drawing is different from tagging text such as in an interview report. However, just as a feature of a drawing could be spoken about in an interview, it can be observed as a feature of a drawing itself. To code or tag it implies that the feature has a conceptual meaning - water color is a technique, but at the same time a conceptual choice to which meaning is attributed.

In itself, drawings could have been archived already by the office, and in some cases indeed this was done. If that happened, they

Fig. 2.3a   Three examples of the conscious use of black and white. Drawing for the *City Tunes* project by Lola landscape architects, 2010.
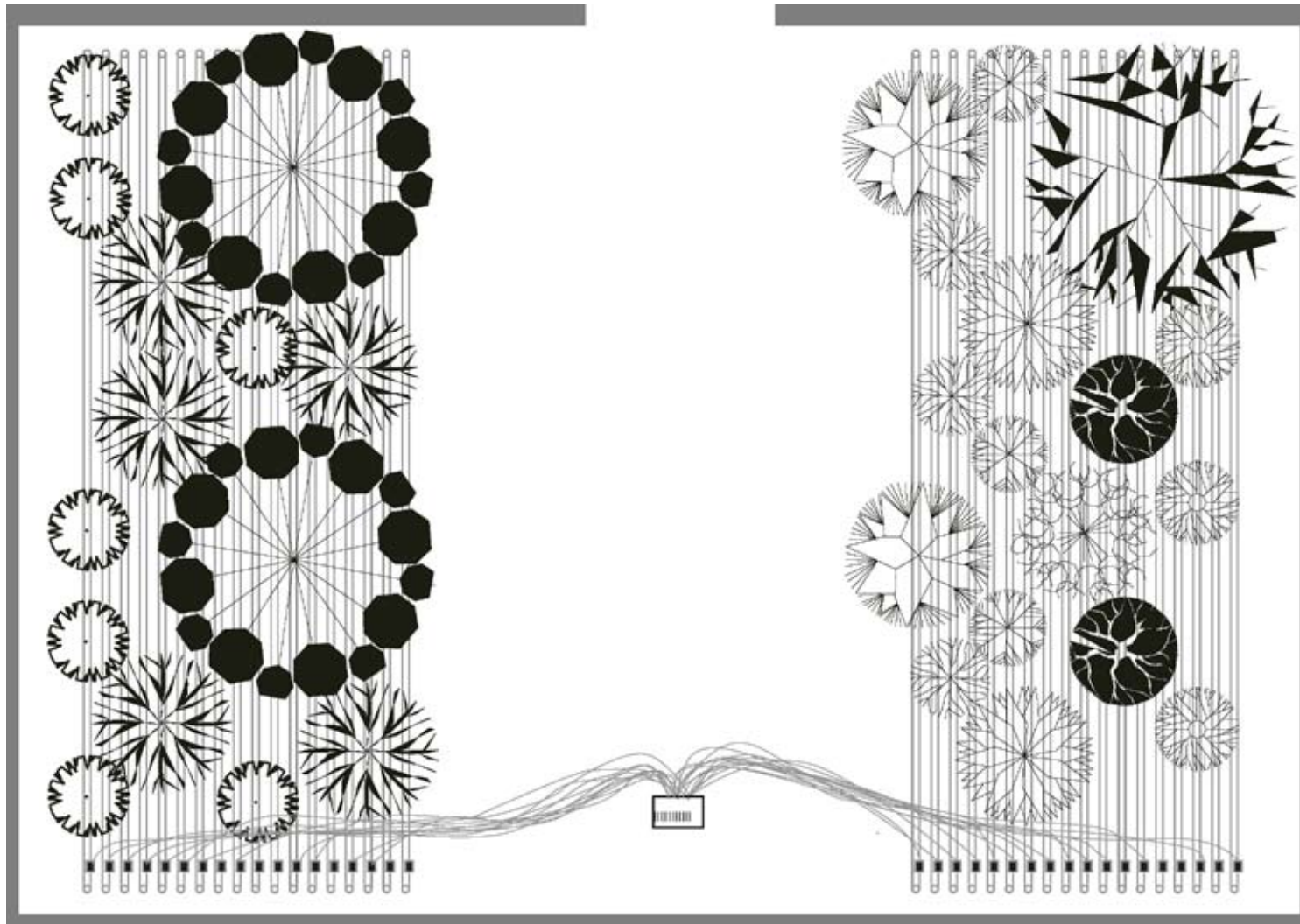
[37] This book from August 2012 is part of the author's archive.

may have been attributed tags. However, such tags most often serve goals different from the goals here. Apart from that, archiving in Dutch landscape architecture offices in most cases only fulfills the basic internal needs, and addresses no further needs as articulated from a theoretical point of view.

Collecting drawings
In general, landscape architecture is approached via its drawn or built projects. Here I want to put emphasis on the drawing itself. From this perspective it is not so important if a beautiful park results, but it is essential to be able to read the drawing as

part of a drawing tradition, and to evaluate how it operated in the design process.

Drawings were either proposed by these offices, as a response to my questions, or suggested by me while preparing or processing the interviews. 10-15 drawings were chosen per office, clearly relating to issues of time, drawing and landscape as revealed in Chapter 3. One such issue, for example, was to clarify the specific meaning of black and white in drawings. Reasons for using black and white, as made explicit in interviews, vary from cheap reproduction to their value in abstraction and reduction to having an alleged *cool-ness*. [Fig. 2.3a-c] These images were put together in a book as an
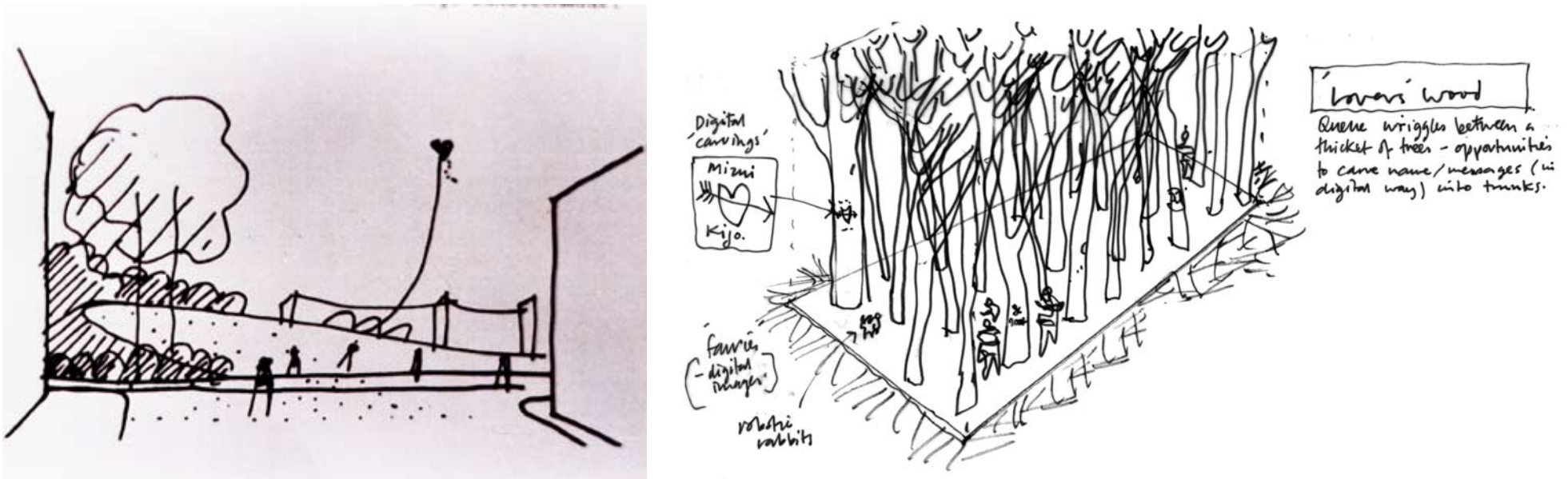

Fig. 2.3bc   Three examples of the conscious use of black and white. Study drawing by Hubert de Boer, year unspecified. Drawing for the Japan Expo by Grant associates, 2005.

internal research product. [37] In this book, drawings were given a caption explaining why they were taken into the collection. This image collection was updated several times, as offices suggested the addition of new images, or as new information came to light, making it relevant to ask for other images. All in all more then 500 images became part of the final research data. Some of the collected drawings have been created directly on paper. In such cases, I acquired a digital copy, be it a scan or a photo. Many other drawings have been produced digitally. The original may be an Illustrator or Photoshop file with several layers. In such cases the drawing as used here is probably only one of the many possible combinations of layers. A small fraction of the drawings were never used outside the office, or never developed from a rough sketch into a neat drawing. Most drawings however were at some point rendered neatly to present them to a client or the public. Often it is not known in which specific context they were made originally. Many drawings start as a sketch, and develop as both a drawing and as an idea, and arrive at a neat drawing that is put in a book or slideshow presentation. In that sense, the valid art historian question by what drawing technique and from what material has an image been created, is often not to be answered - just as the exact year a drawing was made. This is even more so the case, as it is often rather ambiguous what can be defined as the 'real' original. This also points to the fact that drawings have a context: They often are part of an argument. In some cases documents and reports were requested so as to reconstruct a drawing's history and to determine its position within the larger argument. Websites of offices are problematic in this respect: Here, a small number of drawings and a short text stand for the larger argument in a project - considerations that guided the project and the drawings

are not accessible.

A collection of 500 drawings may seem like a lot, but the number of 500 is only a tiny percentage of the substantial amount of images made in each office. The group of offices present in this research together produced about half a million 'official' drawings, as in drawings that were part of project documentation. [38] The number of sketch drawings is impossible to estimate, but one can safely say that my collection of drawings is far less than 0,1% of all drawings available from the selected group of offices. As the number of drawings with a focus on aspects of time was known to be small beforehand, reasons for selecting a drawing were found in a broader circle: landscape architecture drawing characteristics in general. This concerns for example types of drawings, meanings of drawings, moments in history, or more specifically the use of a new software tool. On closer study, only a small group of drawings indeed displays aspects of time. Out of the large collection of 500 drawings, some 100 represent time in one or another way, and only half of them do so in a coherent and convincing way. The representation of time is sometimes very explicit, or even a fact. This is the case when the drawing title refers to the aspect of time, or when the drawing contains unmistakable references to time, such as a timeline. In most cases however a reading from the viewpoint of time is optional. The representation of time is implicit, so the drawing could be understood in that way. These cases have been either suggested by the office, or interpreted in that way by the researcher, as in the case of a drawing by Grant that explains how a water purification system works, and by that implicitly refers to temporal aspects of the design. [Fig. 2.4] If the implicit considerations revealed a coherent idea on time and land-

[38] A moderate size office will run about 20 design projects each year. Per project about 50 drawings are made. Offices in my research exist for about 20 years, and almost 30 offices participated. This sums up to an estimated half a million drawings.
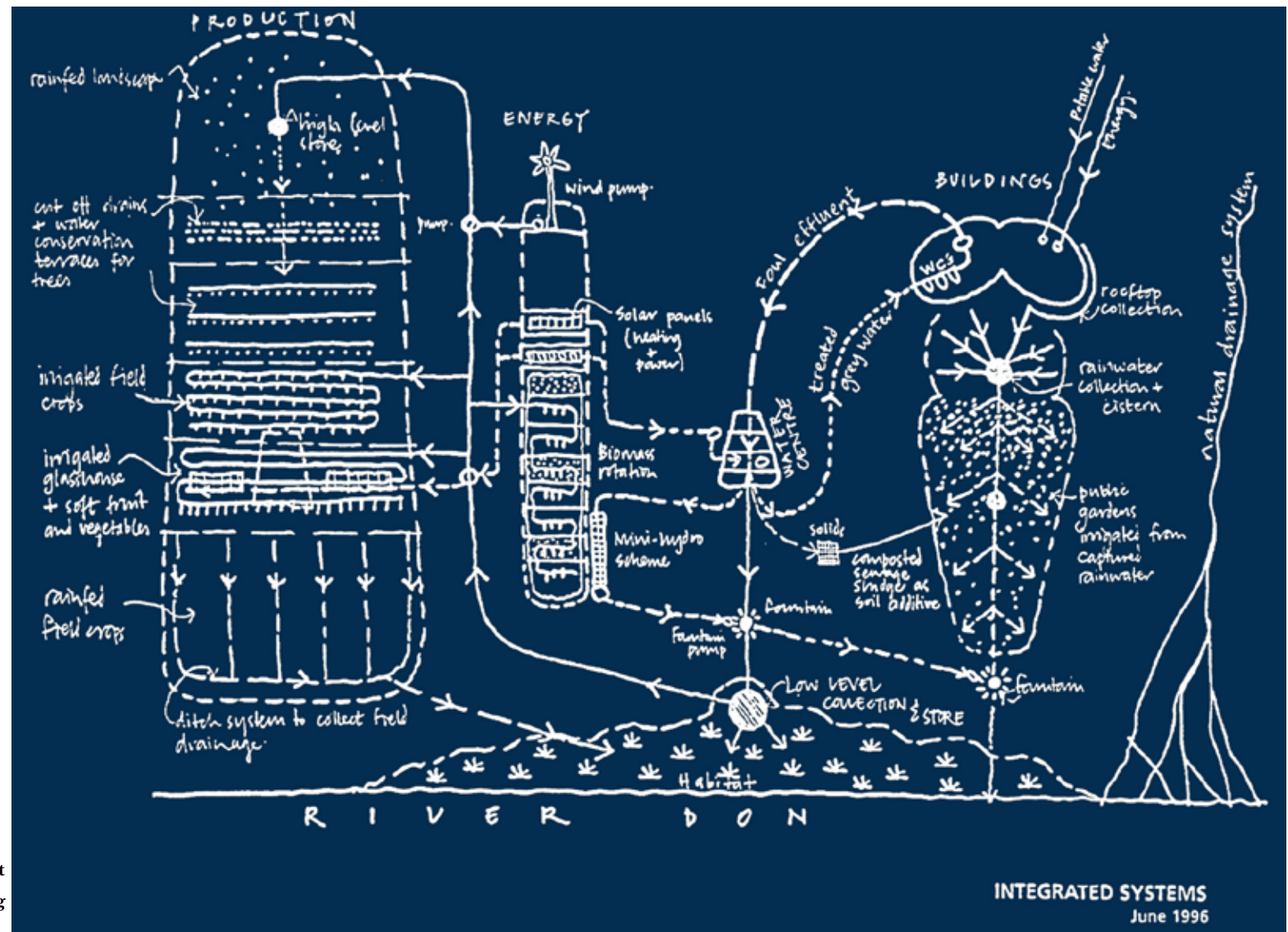
Fig. 2.4 Diagram for the *Mr Earth* project by Grant associates, implicitly representing aspects of time, 1999.

scape, these drawings were taken into account. Being notations in the way Goodman describes, drawings hand over information in a prescribed mode, yet at the same time they can be given other meanings if viewed in a particular context. A drawing can, even if aspects of time are not displayed, support a crucial step in an argument about time, or be the outcome of a set of considerations with regard to time. Interviews laid bare these implicit time aspects. If interpretations were too ambiguous, the drawing was set aside. Alongside that, a number of drawings represent time in the same way, technically. In this case, the most convincing drawings were taken into account. In the end, 40 drawings were selected as representing implicitly or explicitly in a relevant and unique way the aspect of time. These are presented in Chapter 4.

Conducting interviews

Drawings are at the same time informative and limited in their capacity to inform. Interviews intend to position drawing in relation to written or spoken text, and not to forget, the actual making of landscape itself. Especially today, drawings are very important in professional practice, and they are given layered meanings. Some meanings are hidden, others are obvious. In that sense drawings are often in themselves rhetoric. As landscape historian De Jong puts it, 'drawings must come across as splendid and convincing, so that every drawn design gets its own rhetoric.' [39] They are part of a game; they operate within a set of transactions to reach certain goals. How can the reaction of the client or the public be steered in the right direction? This happens most often in an implicit way. The interview as a method of inquiry intends to lay bare the meanings given to drawings. A drawing by OKRA demonstrates

the ambiguity in this. In a reliable simulation of a future reality purple onions attract attention, but these are certainly not part of the proposed reality, as revealed by interviewing the office. [40] They have to be seen as a filler, and are in fact a signature feature of a typical OKRA drawing. [Fig. 2.5]

In 2011 and 2012 38 interviews were held with the 26 chosen offices and 5 informants. A list of names and dates is added in Appendix 1. The character of the interviews was qualitative and semi-structured. As an interviewer I was engaged in the conversation and actively made use of my knowledge to obtain precise and detailed information. Interviews took three to four hours. They were recorded and notes were taken. Reports were made immediately after interviewing, based on the notes and, if necessary, the recordings. These reports are not exact transcripts. The material has been cleaned up and slightly edited to arrive at a coherent text. Reports have a length of 4,000 to 6,000 words. They were sent back to the conversational partners and were amended, if necessary. In 2012 the reports of interviews and the selected images were put together in a book (available in the author's archive).

Interviews were preferably held with two members of the office. Conversational partners received a questionnaire beforehand. An example is given in Appendix 2. The length of three hours proved to be a practical compromise between the number of questions, the conversational partners' availability, and the general concentration span. In most cases three hours was not enough to deal with all questions, but the nature of the conversation was such that the main topics were identified (or covered). Questionnaires were not always followed in their given sequence, but used as a reference

[39] De Jong 2008: 17.

[40] Interview with OKRA, January 2010.

Fig. 2.5 Visualization for 'green spine' Wellesley Road and Park Lane, Croydon, London. OKRA landschapsarchitecten, 2009.

during the conversation. At some offices further interviews were conducted, to speak with people who were either in a different position or representing the office in different time frames. Such choices were made during the process, as a reaction to the outcome of preceding interviews. Inevitably, interviews have practical constraints. All offices generously participated, but some interviews were a bit shorter or less concentrated than others as urgent matters had to be dealt with, and two interviews lasted significantly shorter than most. [41] Not all participants took the time to do the critical correction. Those offices that took the time to correct the reports often came up with interesting additions, resulting in a second version of the report. [42] The interview project started in March 2011, and exactly one year later it was finished.

The coding technique as given by Rubin and Rubin was used to analyse the interviews, but I adapted it so that it could be applied to both the interview reports and the drawings. [43] The coding system resembles the tagging system used for databases or archives. In order to locate the main patterns the material was reorganized using a system of 150 tags. A part of the tag system is displayed in Appendix 3. Coding as a technique means that small pieces of interviews, like sentences, are labelled as addressing a certain issue, concept or opinion. These labelled pieces are regrouped into narratives or arguments. In literature we find several examples of the combination of photographs and interviews. Architectural drawings and interviews are seldom combined in scholarly work. As argued before, drawings have material qualities, which are more or less objective. These can be read and interpreted strictly on the basis of the drawing. Often however, the necessary context had to be retrieved via interviews.

Reordering, tagging, interpreting
It is a common habit in ethnography to make transcripts of interviews, and to do so as literally as possible, including 'uhmms and ahhs'. [44] Specific groups have their own codes and languages. From an ethnographical perspective the interviewer is expected to let the interviewee speak in their own vocabulary, as a way of 'giving a voice'. In the case of design offices this is a bit different, and therefore I use the word *reports*, rather than *transcripts*. I look at the office as a community of individual designers. My reports attempt to let the office speak as one body, more than as individual people, and to combine statements of individuals in a clear account of the office's considerations. The issues discussed are not part of daily business. Quite often it happened that the interviewees, on reading back over the report, considered a statement as too bold and without context, to the point where they felt it as against their (commercial) interest to have it published. This shows that speaking about ideas and motives underlying design activity is a complex issue for designers. It also reveals a lack of consistent theory or controllable set of ideas and concepts in professional practice. Due to that fact, I choose to use a more neutral tone and a third person perspective in the report. Statements are condensed, grouped if necessary, and formulated in complete and correct sentences. Recordings and written notes that capture the original conversations are in the author's archive, along with the digital files that contain the edited and corrected versions. Most of the interviews and reports are in the Dutch language. When necessary, parts of the material were translated. To give an example, a literal transcript of a small passage about a drawing is shown here, which is taken from the interview with two members of the office of Quadrat. [45] [Fig. 2.6]:

[41] This is the case for West 8 and UK informant Kathryn Moore.

[42] I received comments and additions for 23 interviews. In one case an additional interview was necessary.

[43] Rubin and Rubin 2005: 208-244.

[44] Rubin and Rubin 2005: 204.

Fig. 2.6   Visualization (aerial view). Watercolour. First sketch for *Kop van de Staart* and Eneco-area *De Cultuurwerf*, Drierivierenpunt Dordrecht, Atelier Quadrat 2001.
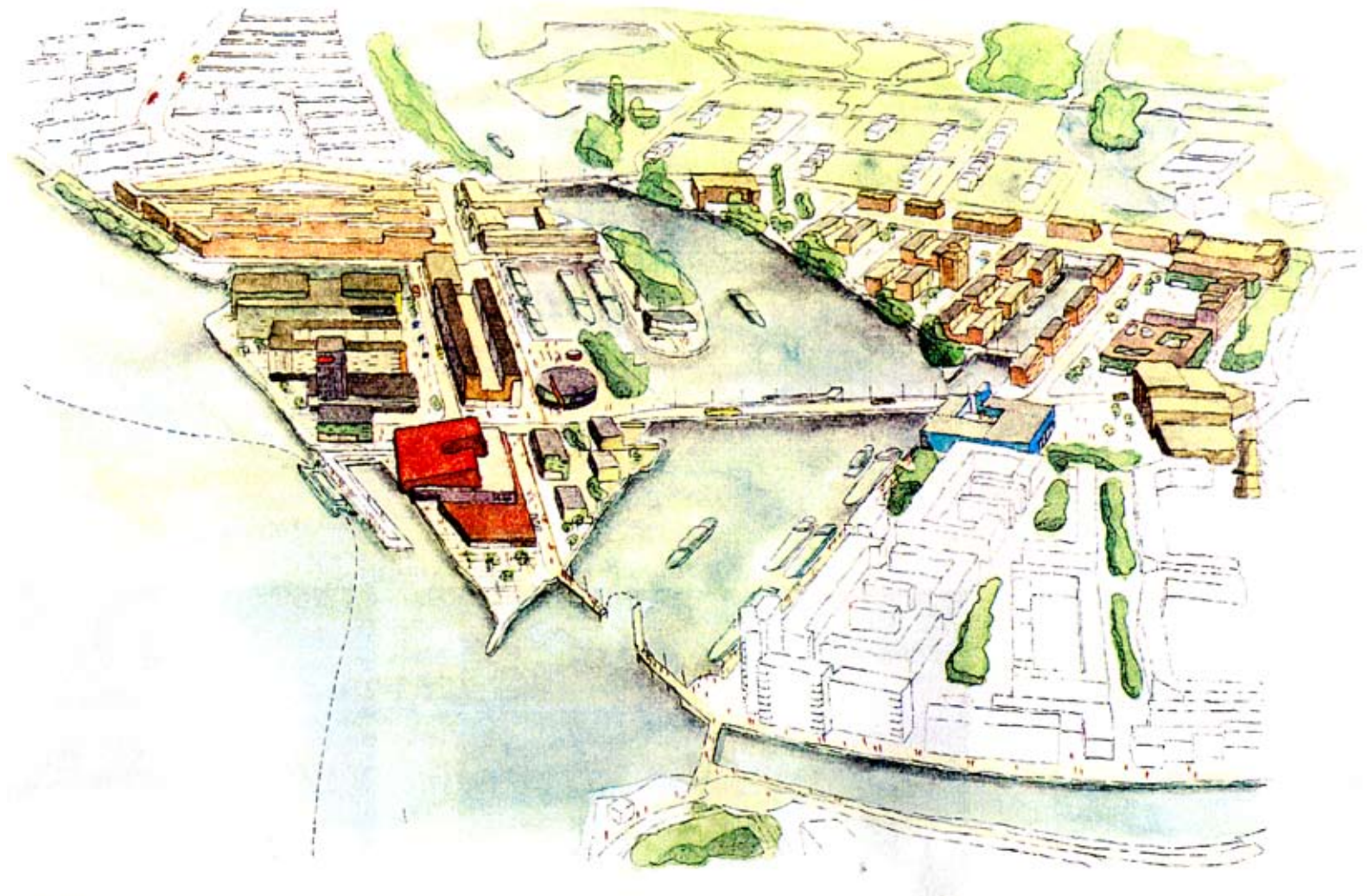
```
[pa]: I prefer to use watercolours without a back-
ground, without a plan, and without any further re-
sources.. so you really just..
[nvd]: But I assume.. in such cases you need to have
a plan background?
[pa]: Yes, of course..
[nvd]: Otherwise you wouldn't be able to do it.. but
do you also prefer to work without a background in a
drawing with perspective?
[pa]: .. Er, yes.. that you freely.. but in fact
that's real landscape painting, so you paint a land-
scape in situ without a prep.. Is preparatory sketch
the right term?
[nvd]: Yes.. but I also assume you choose to do that
because.. err.. you don't want to give your customer
the idea that all other routes have been closed off..
It's..
[pa]: ..Correct.. yes, that's correct..
```

In the report this comes back as: PA prefers to use watercolours without a background, a plan, and any further resources when he makes a perspective drawing. In fact, that's real landscape painting in situ, done without any preparatory sketches. PA agreed that he chose watercolours on purpose, so his customers will not get the idea that all other routes have been closed off.

Evidently, shifting from first to third person and condensing the text changes the character of the piece. But the importance is to read the interview as an exploration of the thinking of these designers in relation to specific aspects of their work, like in this case, where the material aspect of a drawing -watercolour- was addressed.

This paragraph could be tagged with the tag 'Watercolour', as part of 'Drawing Means', and then in the main category 'Drawing'. This is one of the four main categories, alongside time, landscape architecture, and profession, representing the main issues in this research. Tagging this fragment with the tag 'Watercolour', numbered 2.2.4 in the tag system, is factual, as the word is mentioned literally. The categorization can also be interpretative, when it is evident the text refers to a theme or concept. For example, the same excerpt can be interpreted as a thought about drawing processes. Therefore the same piece is also stored under that tag. The system of tags is derived from literature and general knowledge. At the same time, tags are added if the interviews reveal a relevant topic. The word 'client' was indicated as a subcategory within the larger category 'Profession'. In the interviews the word showed up surprisingly often, and in very different contexts. Therefore it was also added to the broader category 'Drawing' in subcategory 'Professional Context', as tag '2.14.2 The Client'. The excerpt above from the Quadrat interview was also obviously tagged with this, as the designers clearly relate a drawing means to an idea of the client. In some cases, the relation between a drawing and the interview is very direct. In this piece of a transcript a drawing by Buys & Van der Vliet was spoken about explicitly: [46] [Fig. 2.7]

```
[nvd]: I'd like to hear what you feel, if we look
at one of those drawings, about how.. how techniques
used in the drawing arose; where they came from. For
example, I was intrigued by the trees in that
```

[45] Interview with Quadrat, June 2011.
[pa] is Paul Achterberg, [sg] Stefan Gall.

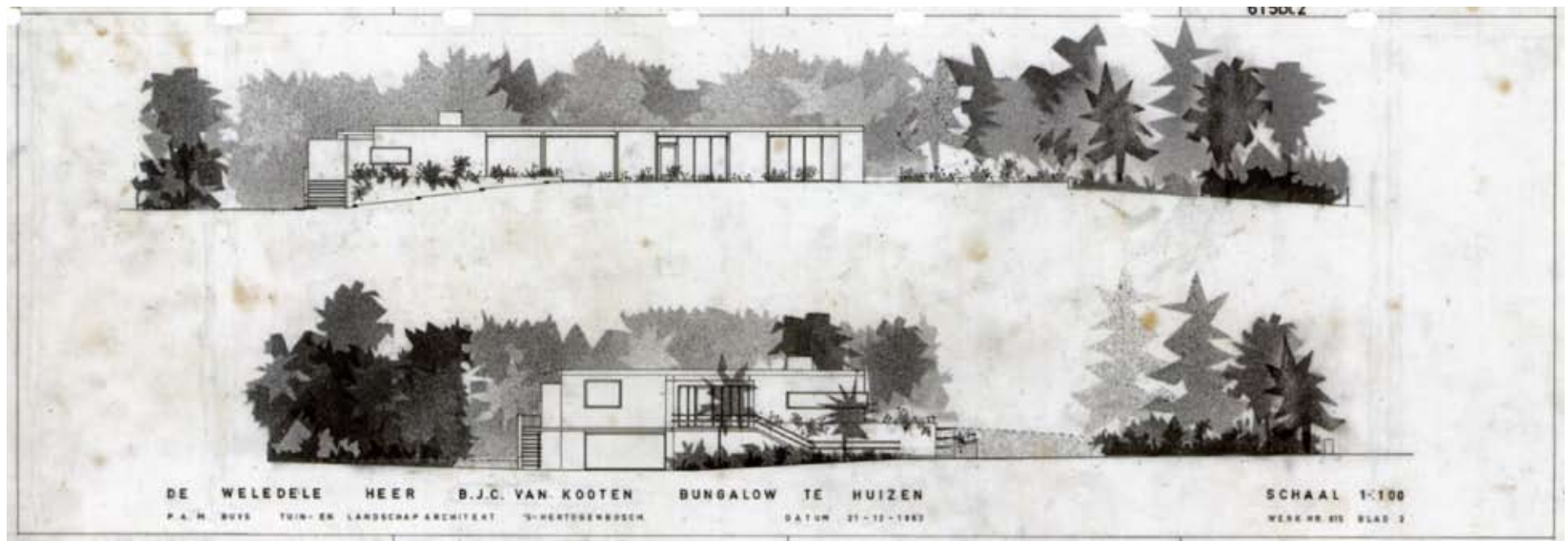[46] Interview with Pieter Buys, June 2011.
[pb] is Pieter Buys.

Fig. 2.7   Garden by Buys & Van der Vliet, 1962. Drawing by Bob van der Vliet. Section, ink on transparent paper.

```
sectional view..
[pb]: Just cut-outs..[laughing]..
[nvd]: I thought you'd used rubber stamps, I have to
admit..
[pb]: No..no, it just looks like that..[laughing]..
[nvd]: I thought perhaps you'd made your own
stamps..
[pb]: No.. this is quite different..
[nvd]: ..so you just cut them out of..of..
[pb]: ..no, we don't have any stamps..
[nvd]: ..did you cut them out of coloured paper? No,
```

```
those trees have been splashed on, haven't they?
[pb]: Yes..
[nvd): So you cut them out of white paper and then
splashed ink on them?
[pb]: ..yes.. splashed.. and then um.. [silence]..
goodness.. yeah.. it is actually quite a good atmo-
sphere, this above, and then all dark..
```

In the report this comes back as: The drawings for Van Kooten's garden, published in the book, have been discussed. The tree shapes in the sectional drawing turned out to be made not with

rubber stamps, but from cutout paper in various sorts and tints, and then given ink splashes. [47]

Superficially seen, this is a trivial conversation. But it is not. It reveals a particular approach to the making of drawings in a certain era, including specific techniques - in this case a rather innovative use of common utensils such as toothbrushes. This drawing practice is gone today. Therefore, the conversation refers implicitly to the organization of an office, the division of labour, inspiration taken from other fields of expertise, ways of reproducing drawings and so on. This evokes Geertz' earlier mentioned concept of thick description and Groat and Wang's wink of an eye example of its use: It is about 'the semantic systems of the culture in which it happens'. [48] In Chapter 4 an interpretation of interviews will be given, including several examples of such 'thick descriptions'.

Concerning the issue of time, an example from the office of DS -commencing in 1997 and delivered in 2007- is insightful. It is related to a drawing for the Poelgeest project. [Fig. 2.8] A (shortened) excerpt from the report runs as follows: 'Aspects of time are very present in the Poelgeest design, but not in its drawings. [...] Ecologically important habitats were designed which also looked interesting. [...] The various changes the designer had in mind or had expected were not drawn. In fact, the drawing only gives an idea of the final stage. However, that was normal then; now you would approach it differently. Nowadays, the emphasis is on processes – what is this leading to? The reason for this is partly the crisis; a phased introduction has become more important'. [49] Here the interview helped to clarify why a certain drawing did *not* show aspects of time, although seen from a later

Fig. 2.8   Plan drawing for Poelgeest, Leiden, DS. Started in 1997, finished in 2007.

[47] 'The book' refers to Steenhuis 2008: 200-201.

[48] Groat and Wang 2002: 18

[49] Interview with DS, November, 2011.

Fig 2.9 *Etude de cartes*. **Drawing made by student at École Nationale des Ponts et Chaussées, around 1790, showing the student's ability to represent landscape.**

perspective one would expect it to do so. This seemingly practical remark transforms to a meaningful statement, as it suggests that the representation of time evolved due to developments outside of the domain of drawing, such as aspects of the profession that were given more accent in certain periods.

Today, coding is often done with specialist software, such as Orbis. It can also be done 'by hand'. To have full control, I tagged by hand, with help of Scrivener software. [50] See, for an example, Appendix 4. The result is a categorization - nothing more, nothing less. It is an in-between step that opens up the data in a way that larger themes can be deduced from it, and that is the actual analysis. The material then transforms from a set of seeming anecdotes into comments with a specific meaning in the context of a theme or argument. Chapter 4 presents five examples of such larger narratives.

2.5 Design experiments

This research takes an actionist position. It wants to contribute to professional practice by bringing the issue of time and its notation back on the agenda, and by providing examples that can stimulate the debate amongst practitioners. For that reason not only offices are of central importance, but landscape architecture education too. The Amsterdam Academy of Architecture functioned as a laboratory in which theoretical ideas were formed and tested for the purposes of this research. [51] The Academy today offers Masters in landscape architecture, urbanism, and architecture, and consciously positions itself as a training institute for professional

practice. Architecture schools today often aim at training students by simulating practice, as advanced in the work of Donald Schön for example. [52] However, schools can have a position that is more independent from practice, or can even act as laboratories for practice, as can be seen in the case of the École Nationale des Ponts et Chaussées, founded in 1747 in Paris as an program for engineers. [53] [Fig. 2.9] The issue of the representation of time may again ask schools to be a laboratory for practice. This research aims to contribute to that by expanding on the theory and testing new ways of drawing.

In philosophical terms the role of the school as laboratory must be positioned in the domain of pragmatism. Charles Sanders Peirce (1839-1914), William James (1842-1910) and John Dewey (1859-1952) argued that theory should be instrumental. As John Dewey puts it, pragmatism 'insists not upon antecedental phenomena; not on precedents but upon the possibilities of action'. [54] The intention of this work is to study the drawing and thinking of practitioners in landscape architecture, and by doing that to influence practice where relevant. Remarkably, the way in which Dewey speaks about testing theories to some extent fit in the vocabulary of this research: 'The doctrine of the value of consequences leads us to take the future into consideration. And this taking into consideration of the future leads us to the conception of a universe whose evolution is not finished, of a universe which is still, in James's terms, "in the making", "in the process of becoming" of a universe up to a certain point still plastic'. [55] If we speak about time in the context of landscape architecture, it often concerns the fact that landscape is 'in the making'. Design schools offer numerous 'possibilities of action', which introduces a research

[50] Scrivener 2.4.1 was used.

[51] See Wendt 2008 on the Academy of Architecture Amsterdam.

[52] See Schön 1983.

[53] See Picon 1992 and De Jong, Lafaille and Bertram 2008.

[54] Thayer 1982: 32.

[55] Ibid.: 33.

Fig. 2.10a   Impressions of experiments. Workshop at Ecole Nationale Supérieure de Paysage, Versailles 2008 and 2010.

Fig. 2.10b-d Design experiment *Wachsen Lassen* **[Let it grow], Technische Universität Stuttgart 2011; Design experiment** *Drawing Time Now!,* **Amsterdam Academy of Architecture, 2013;** *Højstrup Parken revisited***, Copenhagen University, 2015.**

by design character into this dissertation.

Swaffield and Deming consider a design workshop, or design in itself, as a tricky part of a scholarly research. That design can be a research strategy is acknowledged more and more, but often it is applied insufficiently. [56] To be a reliable strategy, it should fulfil certain requirements. A main requirement is that 'it tests or builds theory and uses a protocol that satisfies the fundamentals of research quality'. [57] In this research representational innovation is developed and tested in a systematic way. An interpretative survey via interviews helps to formulate hypotheses that can be tested in a design environment. [Fig. 2.10a-d] A design experiment must follow a clear protocol to allow for transparent observation of the process, the outcomes and the comparison of outcomes. Vital in this is the awareness of the limitation of one experiment, or to put it differently, it is vital to define an experiment as one step in

[56] Swaffield and Deming 2011: 205

[57] Ibid.

[58] Blau and Kaufman 1989: 110.

a series. To do so, it is important to describe the restrictions and the variables very precisely, such as the number of participants, the available time, and the organization: Group work or individual work? What is the participant's knowledge on the issue? Did he or she work on the issue before? By describing these variables, setting up a protocol and processing the experiments in a systematic manner, design experiments as a research tactic can be valid. With the series of experiments in this research I aimed to find out if, when the conditions are right, time is represented, and if so, how that is done. And: What are the consequences? Is it merely a different way of presenting solutions, or could it lead to different designs, in which aspects of time have a greater influence.

The work of offices reveals the 'messy' nature of design processes as they happen in reality, whereas design experiments in schools are consciously placed outside daily reality, and operate within a smaller and controlled set of conditions. Due to this setting, they can generate new ideas, and enable the study of how certain options, identified as potential innovations, can be applied. In that sense, design experiments are closely related to workshops or competitions, to use two more general terms. In fact, there is a longstanding and specific tradition of innovation, particularly in the forms of both the competition and the workshop. Such settings consciously invite deviant thinking, as brilliant and new ideas are rewarded, and as workshops or competitions also offer a 'free zone' to leave everyday routine aside. Lipstadt speaks about competitions as important 'spaces' for architects to publish ideas independent from the direct influence of clients. [58] Competitions and workshops are not restricted to professionals - they also invite students to participate - and being anonymous, they give

the known and the unknown a level playing field. That fact that I do not use the more general word *workshop* in this thesis, but *design experiments,* is to stress the fact that they conform to a clear research protocol. In the context of this research, 14 experiments were done. Most of them were organized as part of modules already existing on the curriculum. For that reason they were each of a very different nature to the other. They varied from very short (one day) to substantial (seven days), from small groups (8 students) to moderately sized groups (40 students), and from very specific exercises to broader design assignments. My role was sometimes leading, and in other cases secondary, but I always brought in the same question: Can we depict time in drawings, and if so, can representation in landscape architecture be renewed?

3. Drawing landscape; drawing time. History, theory and current state

3.1 Introduction

Time, drawing, and landscape architecture are the major terms that structure this research. In this chapter primary and secondary sources are explored, focusing on the areas in which these words meet and interact. The first of three parts is titled 'Time, landscape and intervention'. Time is in question, but only in so far as this is relevant to the way we look at, or think about, landscape. This is again restricted by the word intervention, which brings human beings in, and the notion of planning, design, and landscape architecture. Via texts from throughout the history of landscape architecture and affiliated disciplines we arrive at a vocabulary with regard to time. The second part is titled 'Drawing, drawings and the design process', which is about the drawing as an object, and about the process of drawing. Looking at drawings we see material objects, but we also read, consciously or unconsciously, meaning and messages. The notion of representation is discussed: What is it that a drawing represents? A key topic is the taxonomic system of drawings. How can we think in a systematic way about types of drawings, and where do drawings depicting time fit in? And to what extent is drawing in landscape architecture different? The last part is titled 'Profession, practice and project'. This is about the daily reality of offices producing designs and pursuing their realization. Firstly design processes are explored from an anthropological viewpoint. The setting in which today's offices are working is then studied, arguing that the last three decades can be understood as a coherent era.

3.2 Time, landscape and intervention

Time and drawing in early landscape architectural thinking
Landscape architectural thinking about time, drawing or the profession becomes manifest in writing – both in primary sources, such as gardening handbooks, and secondary sources, contributing to a history of ideas. If we search texts about landscape, garden design and landscape architecture for the issue of time, and go back as far as the 16th century, highly valuable contributions can be found. One could even consider it a lens through which a specific reading of the history of landscape architecture is possible, a reading that regards the issue of time, its links with drawing and its position in landscape architecture as a profession. We can trace important steps in the development of the idea of landscape as a time-based medium. Different drawing techniques, and how they contribute to the understanding of landscape, are noted. We encounter opinions on the use of drawings and their role in communication with clients. Ideas on the issue of time are followed as they develop with regard to planting, realization and the strategic long-term perspective a landscape architect must have.

The perspective of gardening
One such secondary source on the topic is Clemens Wimmer's *Geschichte der Gartentheorie* from 1987. Wimmer consciously concentrates on texts about gardens, instead of physical gardens, as

[1] See Wimmer 1987.

[2] Wimmer 1987: Vorwort [Foreword]. Original text: 'Historische Gärten sind kaum je unverändert erhalten. Viele haben überhaupt den von ihren Schöpfern beabsichtigten Zustand nie erreicht. Die Gartenhistoriker muss also Beschreibungen und Abbildungen aus der Entstehungszeit des Gartens sammeln, interpretieren und auf dieser Grundlage seinem Leser, Hörer oder Zuschauer eine Vorstellung von diesem selbst unerreichbaren Garten zu vermitteln suchen.'

[3] Ibid.: 461. Original text: 'Das Gartenleben ist selbstverständlich immer auf die warme Jahreszeit und die helle Tageszeit konzentriert.'

[4] See Reid 1683.

the most reliable source for information on their original states. [1] His introductory statement immediately brings in the notion of time, arguing that 'historic gardens are hardly ever preserved in unaltered condition. Many even have never reached the condition intended by their creators. A garden historian thus has to collect descriptions and illustrations from the time of the garden's creation, has to interpret, and on this basis seek to communicate to his readers, or his audience, an idea of this per se unreachable garden.' [2] With this, Wimmer implicitly addresses a large problem in garden and landscape architecture: the discrepancy between drawings, intentions and the actual state. His chronological overview of writings about gardening shows when and how the issue of time became important. Wimmer's collection of texts suggests that the issue has been interpreted in two ways: the interchange of seasons, and the time it takes to build a garden and to see it mature. In the chapter 'Zeit, Licht und Farbe' [Time, light and colour] Wimmer suggests that time has mainly been understood in relation to seasons, as 'life in the garden obviously always focusses on the warm season and on the light part of the day.' [3] Gardeners have had for many ages '*ein unrealisierbare Wünschstraum vom ewigen Frühling*', an unrealizable dream of eternal spring. In that sense, gardening has always had a dialectical relationship with time. Over the ages, the main goal had been to rule out the influence of time -to reach an eternal spring- but in order to do so, very precise knowledge was needed about plant species and their behaviour over time, for example their presence in winter. [Fig.3.1]

From the 17th century onwards, handbooks on gardening became a genre of their own, illustrating that gardening took new roads

Fig. 3.1 Pages as taken from Winterflora, Dirk Slagter, 2014.
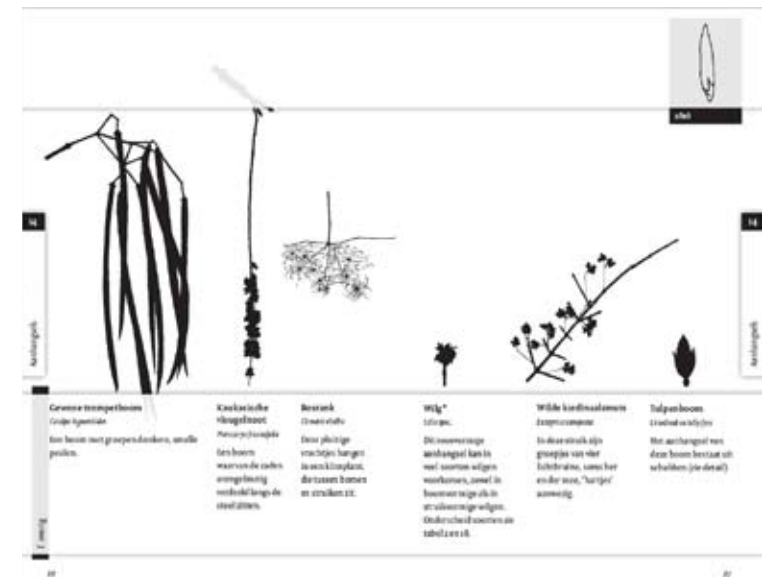
and that ideas were exchanged internationally, via such handbooks. These books are a rich primary source of thinking about time, landscape and drawing. In fact, they put into words a body of knowledge on gardening. Applied and tested in the garden itself, such knowledge quickly became implicit, integrated into the operation of gardening and handed-down traditions. A striking early example is the 1683 *The Scots Gard'ner* that speaks, among other aspects, about the practice of planting trees. [4] As the best trees are raised from seeds, *The Scots Gard'ner* suggests that a garden design should provide space for a nursery, and as trees have to be planted at greater distances over the years, a long-term perspective is needed: 'When they have stood 3 years at most in this nurserie,

replant them at wider distance in Spad-bit trenches, 3 foot one way and two the other, where they may stand till they be ready for planting out in your Avenues, Parks, Groves &c. Which will be in 3 years, if Rules are observed.' [5] The relevance of this statement is that it shows how aspects of time have been integrated in the design and the management of that design over time. [Fig. 3.2]

The 18th century saw an emerging interest in aspects related to time, such as night and winter, surprise, dynamics, and decay - a sign of changing styles, but also of a broadening of garden theory. In *The Flowering of the Landscape Garden*, landscape architecture historian Mark Laird concentrates on bulbs, flowers, and shrubs, which he claims to be a neglected category in conventional garden history. [6] This is, in an implicit way, a history of the thinking about seasonality. The 18th century was a dynamic period of time for that topic. Just as in Wimmer's overview, essayist and gardener Joseph Addison is quoted: 'But I have often wondered that those who are like my self, and love to live in Gardens, have never thought of contriving a Winter Garden, which should consist of such Trees only as never cast their leaves.' [7] Quoting the writer Thomas Whately for a broader perspective on time and change in landscape, Laird points to the important though neglected concept of decay: 'Maturity is always immediately succeeded by decay; flowers bloom and fade; fruits ripen and rot; the grass springs and withers; and the foliage of the woods shoots, thickens and falls.' [8]

C. Hirschfeld (1742-1792) helped to establish a clear German gardening tradition with his *Theorie der Gartenkunst* in 5 volumes. [9] Fitting in the approach of time as discussed by Mark Laird, Hirschfeld concentrates on how different sensations can be de-

Fig. 3.2 **Page as taken from** *The Scots Gard'ner* **by John Read, 1683/1988, addressing ways of planting and management over time.**
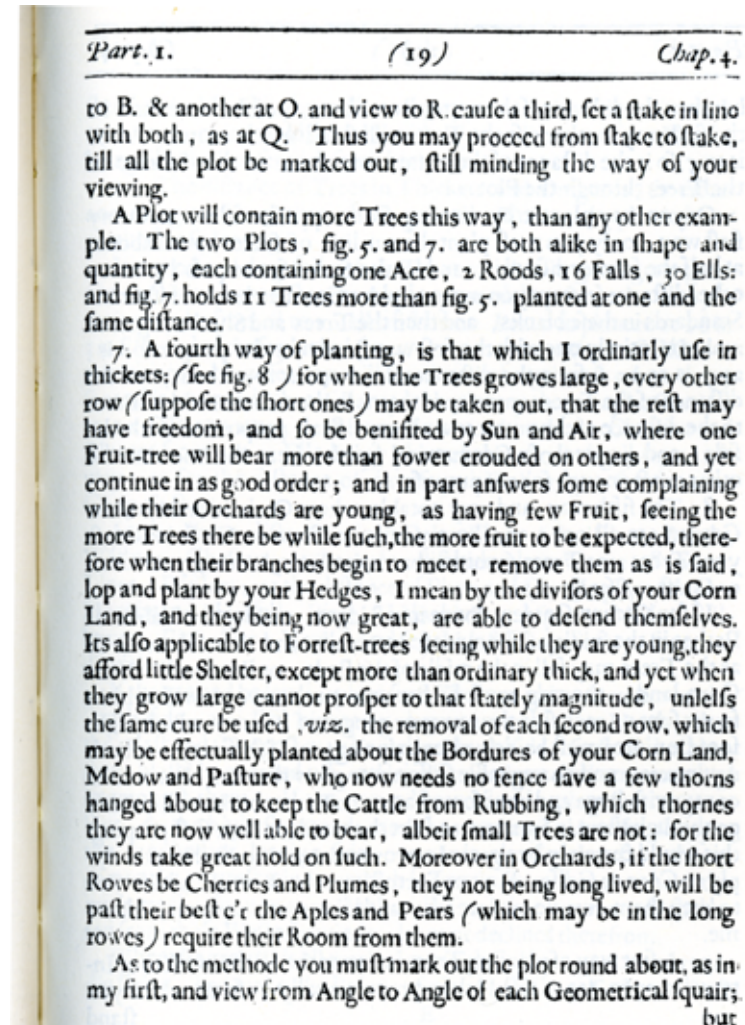
[5] Reid 1683: 75.

[6] Laird 1999.

[7] Addison in Laird 1999: 35. Original source *The Spectator* September 6, 1712.

[8] Whately in Laird 1999: 260. Original source Whately, *Observations on Modern Gardening*.

[9] See Hirschfeld 2001.

[10] Hirschfeld 1779/2001: 380. Original text: 'Die Natur verbindet mit jedem Theil des Tages eine Menge von Erscheinungen, die ihm eigenthühmlich zugehören, und die Gegenstände der Landschaft zeigen sich unter den Abwechselungen der Beleuchtung in immer neuen Gestalten. Es lassen sich demnach Szenen anordnen, wo die Eigenthümlichkeiten von jedem Theil des Tages nicht bloss wahrgenommen, sondern auch, von ihren Beschwerlichkeiten befreit, unter einem erhöhten Reize genossen werden.' (Hirschfeld 1985, Volume 5: 3)

[11] Ibid.: 349.

[12] Ibid.: 149. Original text: 'Sie gibt selbst ein längeres und dauerhafteres Vergnügen, als Statuen, Gemälde und Gebäude; denn ein Garten erhält durch den Fortgang des Wachstums, durch die Veränderugen des Jahreszeiten und der Witterung, durch die Bewegungen der Wolken und des Wassers, durch die Dazwischenkunft von Vögel und Insekten, durch tausend kleine Zufälligkeiten den Gegenden und Aussichten - immer eine Mannigfaltigkeit der Erscheinungen, die weder an Belustigung leer werden, noch ermüden.' (Hirschfeld 1985, Volume 1: 157)

[13] See Parshall in Mauch 2004: 48-73.

[14] Parshall in Mauch 2004: 61

[15] Ibid.: 66.

[16] Mauch in Mauch 2004: 5.

signed related to the light, the time of day and the season. As he puts it, 'nature connects a host of distinctive phenomena to each time of the day' and this 'makes it possible to design scenes in which the peculiarities of each part of the day are not just perceptible but, freed of their inconveniences, can also be enjoyed with increased delight'. [10] Sections of his work are dedicated to gardens or 'scenes according to times of the day', and the same goes for the seasons. But Hirschfeld, among others, also contributed to a discourse that is very relevant here: how is design related to nature? Hirschfeld takes a seemingly modest position in stating that 'this art learns from nature in order to be her assistant' - seemingly, as Hirschfeld just like his contemporaries, was hardly interested in the real dynamics of nature: it was about an image of nature. [11] However, Hirschfeld contributed to a more important role of aspects of time, and put that in a broader frame: '[Gardening] offers longer and more enduring pleasure than do statues, paintings, and buildings; for through the process of growth, through the changes of seasons and storms, through the movements of clouds and water, through the passing presence of birds and insects, through thousands of small happenstances affecting regions and views, a garden boasts a multiplicity of phenomena that can never become tedious, can never fail to delight.' [12] In that same German tradition we find Hermann Fürst von Pückler-Muskau (1785-1871). An interesting description of Pückler is given by Linda Parshall in *Nature in German history* (2004). [13] Pückler was interested in the dynamism of nature. 'Careful human intervention' in that dynamic system could strengthen the effect of natural beauty. As Parshall points out, Pückler was very aware of the time that a designed landscape must be given to mature: 'Pückler's vision was long and grandiose; his gardens

were intended, like his forests, to reach maturity only after more than a century - that is, he embraced the rhythms of nature rather than of a human generation'. [14] That has an important consequence: his gardens were a state of always becoming, '*das immer Werdende*'. [15] [Fig. 3.3] Editor Christof Mauch positions Nature in German history quite precisely within the line of thinking of the research at hand: 'All the essays in this volume are informed by three fundamental insights: first, that nature is in constant change; second, that our ideas of nature change over time, and third, that these ideas shape our relation with nature and thereby the natural environment itself'. [16]

Repton, Olmsted and Springer
Humphry Repton (1752-1818) spoke about himself as 'landscape gardener', but if we see him as part of the history of today's landscape architecture, he was probably one of the first landscape architects to deliver his designs in books. In doing so, he attached as much importance to drawing as to writing - both were carriers of his ideas. These so-called 'Red Books' were unique copies for his clients. His writings on gardening, as collected by his colleague J. C. Loudon in *The landscape gardening and landscape architecture of the late Humphrey Repton Esq.*, 1848, are of interest here - Loudon, by the way, in this case added an 'e' to Humphry. They reveal an astonishing interest in the themes of representation, time and the role of the client. In fact, these texts contribute an explicit set of ideas to an evolving theory of landscape architecture, strongly related to Repton's work in practice. An example of how writing supported his emerging ideas on theory can be seen in his deliberation on the topic of the representation of landscape. In 'Some

Fig. 3.3 Learning from nature. Study drawing, final work Thijs de Zeeuw, Academy of Architecture Amsterdam, 2009.

remarks on the affinity betwixt painting and gardening' he argues that 'real landscape, or that which my art professes to improve, is not always capable of being represented on paper or canvas'. [17] One of the reasons is the problem of scale. Therefore, Repton's sketches do not attempt to describe the landscape in detail, but focus on the general effects. [18] This can be seen in a tradition of texts on gardening that, next to planting, explain how to *draw* landscape as a craft in itself.

Repton's interest in time comes back in 'On planting for immediate and for future effect', discussing planting strategies that deal with development over time. Speaking about the formation of groups of trees, he addresses himself to his public, referring to viewpoints he wants to oppose. It is nonsense that one would need an 'odd number such as five, seven, or nine', but trees should never be planted in regular patterns, as groups only will appear natural when trees of different age, size and character are combined. [19] Repton contemplates the future of his own designs, which more often 'may not, perhaps, have been finished according to my suggestions.' [20] He is also very aware that the landscape architect always operates in an existing landscape, and reacts to existing designs that perhaps are the 'false taste of former times'. [21] However, as long as the mature trees provide shade, they have to be accepted as part of the new design. For such reasons, Repton's work offers a rich perspective on the issues of drawings, time, and the conditions of professional practice. Therefore, he will show up repeatedly in this study. Repton is perhaps the first gardener or landscape architect *avant la lettre* to take an explicit stand towards these three topics as related issues. As such, his work invites us to reconsider the early history of landscape architecture, and to give

[17] See Loudon (ed.) 1840/1988.

[18] Humphrey Repton in Loudon 1840/1988: 90.

[19] Ibid.: 171.

[20] Ibid.: 126.

[21] Ibid.: 65.

[22] See Beveridge and Hoffman (Eds.) 1997.

[23] Beveridge and Hoffman 1997: 234.

[24] Ibid.: 106.

[25] Ibid.: 158.

Repton a more prominent role in that history.

Frederick Law Olmsted (1822-1903), designer of famous parks such as New York's Central Park, produced numerous interesting articles and lectures. [22] Olmsted represents an emerging American tradition that, as will become clear, plays a specific role in the discourse on time, landscape and representation. Drawings do not come to the forefront in these writings, while at the same time they have a role, as his texts implicitly speak about the different realms of words and of drawings. Olmsted often explicitly addressed his assumed public, or his client. It is easy to think that drawings are the major, if not only, source for learning about designs. But that is untrue, and it is for this reason that the work of Olmsted is relevant, as it allows for a balanced discussion about text and drawings, and their relationship to each other. Olmsted's drawings generally suggest a clear final situation, and drawing itself is not a topic in Olmsted's writing. The implicit message of Olmsted is, however, that drawings on their own are not enough, and especially not enough to keep a design idea alive over time. Olmsted often explicitly addressed his assumed public, or his client. Both the client and the public may change their minds, if the realization of a park does not result in the desired park scenes soon enough, or if changing circumstances necessitate re-evaluating the strategy. Olmsted in 1871 addressed his client, the Chicago South Park Commission, to raise awareness of the aspect of time: 'It is not to be expected that a plan will be made at the outset so complete, that no additions to it or modifications of it in detail will be admissible, but it is of the utmost consequence that the essential ends should be clearly seen before the work is organized, and that from the moment it begins to the end, be that five or fifty years hence, and under whatever changes of administration and changes of fashion, these great ruling ends should be pursued with absolute consistency.' [23] It is in such words that we see his awareness of the process of being realized, of maturation, and of the restricted influence of drawings in this. [Fig. 3.4] As his main preoccupation concerned the time it takes to realize a large park, and the potential discrepancy with the needs of society at that time, Olmsted took the far future into account. To stress the need to add a second parkway to Boston's Prospect Park in the future, he addressed his commissioners directly in his 1866 report. A second parkway was not part of the plan and 'may seem premature, but there can be but little danger of too extended a prevision with reference to future improvements which may grow out of so important a work as that upon which your Commission is engaged […].' [24] A landscape architect should not only focus on the demands of users in the immediate future but also dedicate himself to a larger perspective - 'a long series of years must elapse before the ends of the design will begin to be fully realized'. [25] With such perspectives far outside the immediate planning process Olmsted discussed a new element in landscape architecture: that of a future to be understood as a scenario, with probabilities and uncertainties.

The Dutch L.A. Springer (1855-1940) has a comparable position as a 'writing designer'. A garden architect and expert in dendrology, and interested in the history of gardening, Springer wrote numerous articles, primarily in Dutch. A recurrent issue is the profession itself. Is the garden architect a craftsman closely related to the world of nurseries and the making of gardens? Or is he an independent advisor who is not involved in commercially raising plants

Fig. 3.4   Winter view of Olmsted's Central Park in New York. Photograph by Ricky Rijckenberg, 2015.

[26] See Moes 2002: 31.

[27] Ibid.: 73. Original text: 'Een levende boom is geen steen-, hout- of ijzermassa, die men maar verplaatst, en eenmaal op zijn plaats dan blijft zoals hij was. Als er een park wordt aangelegd moet de ontwerper een enorm voorstellingsvermogen hebben. Hij moet de toekomst kunnen overzien tot over verre jaren. Hij heeft rekening te houden met klimaat, bodem en omgeving; met de natuurlijke geaardheid van elke boom of struik. [...] Welke vorm zij zullen verkrijgen; welke kleur van blad in voor- of najaar; welke bloemen en wanneer.'

[28] De Jong and Dominicus-Van Soest 1999: 179.

[29] Ibid.: 82.

[30] Moes 2002: 31.

[31] Wolschke-Bulmahn in Mauch 2004: 82.

[32] See Steenhuis (Ed.) 2009. The debate in *De Boomkweekerij* is also mentioned in Kamphuis 2014.

and trees? For some years Springer tried to promote the name 'tuinbouw-architect', probably best translated as 'horticultural architect', in an attempt to emphasize the difference between his role and that of nurseryman or gardener. [26] Later he stuck to garden architect. Signing his plans with 'architect' was an expression of his independent services. At the same time, Springer trained in the profession of gardening in nurseries and became very skilled in dendrology. The worlds of nursery and design practice overlap in the case of Springer, as was the case for many landscape designers of his time. It was a fertile soil for implicit or explicit thinking about aspects of time - but it also invoked fights on the demarcation of the profession. Not only with his fellow gardeners did Springer debate the limits of the profession; he engaged in fierce debates with architects too. Their influence on garden design inspired him to make this plea, originally in Dutch: 'A living tree is not a mass of stone, wood or iron which can be moved around and, once positioned, remains as it is. To lay a new park a designer needs a fertile imagination. He needs to be able to see many years into the future. [...] What sort of shape will [trees and shrubs] have eventually; what colour will the leaves be in the spring or autumn; which ones flower, and when?' [27] Via Springer we can see that not only drawing as such is of relevance, but also that particular drawing techniques contribute to the evolution of the profession. Springer was very interested in drawing techniques. His father taught him how to render drawings, and Springer became known for his watercolours. Individual drawings received international prizes. [28] The particular watercolour technique suited his intention to create atmosphere in landscape. As de Jong and Dominicus-Van Soest put it, the 'painted reality has to coincide with the picturesque quality of the landscape'. [29] In his

time, garden expositions were popular, and they thus presented a way to build professional recognition and reputation. However, in Springer's eyes professional garden designs were neglected in such exhibitions. He initiated his own competition in 1884, in which contributors had to draw all drawings in plain colours so that they would not be 'regarded as a beautiful picture, and the mark of the creator would not be recognizable'. [30]. The tension with the profession of architecture was not only seen by Springer. Wolschke-Buhmann suggests that the 'wild garden' as promoted by the German Willy Lange (1864-1941) and the Englishman William Robinson (1838-1935) also helped to claim an area of exclusive competence for the garden architect, as opposed to an architect's view in which the garden was part of an all-embracing design. [31] As Wolschke-Buhmann notes, the contradictory effect is a weaker position for the garden designer, as the wild garden neither required too much design nor a gardener's maintenance.

Time and representation in landscape architecture thinking in the 20th century

Even if the exact point in time may vary, landscape architecture established itself under that name in all Northern European countries in the course of the 20th century, including the emergence of proper curricula at universities and of professional organizations. In the Netherlands, this can be situated shortly after the Second World War, when a landscape architecture programme was created in Wageningen. In the same years, the Dutch professional journal *De Boomkweekerij* [The Tree Nursery] was the main venue for garden architects to publish their ideas. [32] This reveals a battle between the independent advisor and the gardener-

nurseryman, as also mentioned in relation to Springer. A short article by S. Doorenbos, director of the Parks Department of The Hague, bears the provocative title 'Een tuinarchitect moet een eigen kwekerij hebben!' [A garden architect should have his own nursery!]. This article in Dutch is very relevant here. Doorenbos states: 'The biggest difficulty for a garden architect is the fact that he cannot immediately demonstrate the final result of his creation. […] When will one wish to see the park completed; fully grown and with great beauty? Within five years, ten years, twenty-five or fifty years? A large number of plants have reached the end of their life after ten years, while others are only just beginning to show their characteristics. Until then, they have only played a subordinate role. One therefore has to thoroughly understand one's plant material in order to be able to put the right plant in the right place.' [33] Gardening should not be confused with architecture, as the problems are different because of the living materials that require many years to mature. [34] A photograph shows Doorenbos's engagement with the issue of planting and time. [Fig. 3.5] In the same volume of *De Boomkwekerij*, Bijhouwer reacted furiously to the article: 'The dendrologist Doorenbos may well be able to use such argumentation; the garden architect Doorenbos should have silenced him.' [35] It is a revealing discussion, also for its intensity. Gardening as an activity related to nurseries and engaged in issues of making, growing and maintaining, is confronted with modern (and Modern, for that matter) landscape architecture. As other contributions in *De Boomkwekerij* show, many of the newly educated post-war landscape architects, such as Wim Boer, wanted to be free of these gardening roots; to be closer to architecture and the arts. [36]

Drie jaar na het planten, begon het park reeds aantrekkelijk te w

Fig. 3.5   Photograph and caption as taken from Groen en Bloemen in Den Haag, 1936. It concerns a chapter written by Doorenbos.

The Modernist struggle
Therefore, the post-war development of the professions of architecture and landscape architecture was largely influenced by the discourse on Modernism. Even if Modernism has been discussed extensively by numerous authors, what Modernism exactly means in landscape architecture is surprisingly unclear, and the discipline struggles to position itself in the rather ideological debates on Modernism. One can also put it this way: Landscape archi-

[33] Doorenbos in *De Boomkwekerij* 1945: 36. Original text: 'De grootste moeilijkheid voor den tuinarchitect is gelegen in het feit dat hij niet direct het eindresultaat van zijn schepping toonen kan, doch dat de boom, de struik en zelfs de vaste plant zich eerst moet ontwikkelen. Een tuin, park, laan, enz., welke kort na het planten volgroeid is, komt na enkele jaren ruimte tekort. Wanneer wil men het park voltooid zien; uitgegroeid en in volle schoonheid? Na vijf jaar, tien jaar, vijf en twintig of vijftig jaar? Een groot aantal planten is na tien jaar uitgeleefd, terwijl andere dan eerst karakter gaan toonen en vóórdien een ondergeschikte rol speelden. Men moet het plantmateriaal dus door en door kennen om het juiste op elke plaats te kunnen zetten.'

[34] Ibid.: 36.

[35] Bijhouwer in *De Boomkwekerij* 1945: 44. Original text: 'De dendroloog Doorenbos mag in staat zijn tot een dergelijke redeneering, de tuinarchitect Doorenbos hoorde hem het zwijgen op te leggen.'

[36] See Boer in *De Boomkwekerij* 1946: 103.

[37] See Toulmin 1999.

[38] *Modern Times* by Charlie Chaplin had its premiere in 1936.

[39] See Treib (Ed.) 1993.

[40] Treib 1993: 32.

[41] As cited in Treib 1993: 32.

[42] Treib 1993: 39

[43] Ibid.: 50.

[44] Ibid.: 55.

[45] Ibid.: 55.

[46] Ibid.: 72.

tecture was always a bit outside of that debate; it had a relatively relaxed position. Steven Toulmin in *Cosmopolis* draws a larger circle: that of modernity. [37] The idea of modernity motivated the famous Charlie Chaplin film *Modern Times*. [38] The title of Charlie Chaplin's film, and even more the iconic image of the protagonist struggling with the wheels of a clock, seems to suggest that modernity had a particular relationship to time issues. In Chaplin's interpretation, it is all about control. When it comes to the category of growth and change in landscape, Modernism took a different road compared to the decades before. Aspects of time, such as the understanding of growth and an interest in change, played a less important role. They certainly did not disappear, but in so far as they had a role, this became implicit. If we follow statements made by pioneers of Modernism in landscape architecture, we must conclude that they mainly position themselves in relation to architecture, and to the arts - the debate is inherently tied to considerations on what landscape architecture is, or should be.

Treib in *Modern landscape architecture. A critical review* collected such texts, and he notes that 'space became the central element of modern landscape thinking'. [39] Designers like Guevrekian, Noguchi and Burle-Marx 'created a "modern" landscape by giving primacy to compositional and pictorial values, in a manner not very different from the seventeenth-century French formalist imperative "forcer la nature"'. [40] But even if Christopher Tunnard (1910-1979) took the bold position that 'the right style for the twentieth century was no style at all', Treib observes that his designs are an awkward blending of traditional elements and biomorphic forms. [41] Modernist landscape architects still had

to cope with horticulture and ecology, and therefore were not as free as the arts and architecture were. Probably Guevrekian came closest to the arts, and as a consequence, his famous 1925 garden was created out of 'inert rather than living material', and focussed on the ground plane as a composition of forms. The drawing is as remarkable as the garden, and drawings like this one clearly influenced drawing in landscape architecture. [42] At the same time, Modern landscape architects such as Dan Kiley (1912-2004), James Rose (1913-1991), and Garreth Eckbo (1910-2000) had a clear understanding of ecology and the greater landscape. But their interest in ecology and nature often took on a formal language that *resembles* nature, without losing its connection to architecture: 'Conceptually the amoeba had a particular appropriateness for landscape because as a formal motif it looked "natural", far more natural than the axis or the topiary bush of traditional gardens.' [43] Garret Eckbo had a particular view on plants: 'People, not plants, are the important things in the gardens. Every garden is a stage, every occupant a player.' [44] Even if this seems to downgrade plants to mere decor, plants had an ambiguous position. James Rose expressed this ambiguous feeling in a statement that could be read as ironic, but mainly expresses landscape architecture's very own position: 'A tree is a tree, and always will be a tree; therefore we can have no modern landscape design'. [45] At the same time, these landscape architects were very well aware of the individual qualities of plants, which must include growth and change, as they strove to distance themselves from the picturesque mass plantings seen in the decades before. Therefore, Rose stated that intelligent landscape design could evolve only from a profound knowledge of materials. [46] This certainly referred to plants, as 'the inherent quality of plants will inevitably express

itself'. Plants are the saving grace of the landscaper, Eckbo puts it, as they are a 'construction in space'. [47] The work of Tunnard also reveals the ambiguity towards living materials. Plants in particular were a sensitive topic. In Tunnard's well-known *Gardens in the Modern Landscape* of 1948 he spoke of 'architect's plants', as shown in drawings by Frank Clark. Not only the role of time in landscape was ambiguous, but also the role of time in drawings. The typical black and white line drawings of this time contained hardly any information on time aspects, yet some Modernist, such as Christopher Tunnard, did. As Jacques and Woudstra show, Tunnard experimented with representation and its communicative power towards clients and the larger public. [48] Some of his drawings embody an idea about time, for example in explaining how a garden could evolve over time. [49] Also his 'The man-made landscape' diagram is of interest. Here he connects instruments in the making of landscape -'By this means'- to an intended final product: 'To this end'. [50] [Fig. 3.6]

It all illustrates the ambiguous position of landscape architecture in the Modernist era, as is also the case with the Hoge Devel park of the Dutch landscape architect Hans Warnau (1922-1995). A typical orthogonal pattern had to be adapted to a former river arm. [Fig. 3.7] Controlled forms and stable compositions were striven for, but these had to be established with the help of plants, trees, and other inevitably changing materials. Therefore, the topics discussed in the preceding paragraph were never far away. We only have to look at C. Th. Sørensen's design for Højstrup Parken in Odense, as described in the introduction: even if Sørensen could be understood as a Modernist -the title of the English version of his biography *C. Th. Sørensen. Landscape modernist* is a case
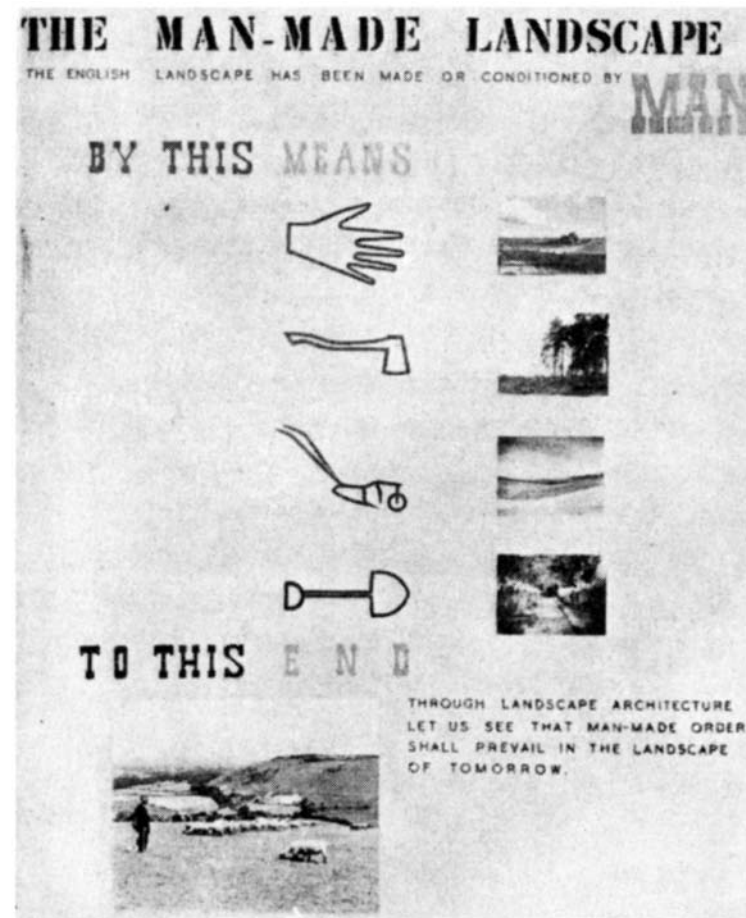
[47] Ibid.: 57.

[48] Jacques and Woudstra 2009: 35.

[49] Jacques and Woudstra 2009: 39.

[50] Jacques and Woudstra 2009: 41.

Fig. 3.6 Christopher Tunnard, *The Man-Made Landscape*, **1939, diagram. Part of a series of panels designed for the Institute of Landscape Architects exhibition of 1939.**

Fig. 3.7   Aerial photograph of Hans Warnau's Park De Hoge Devel in Zwijndrecht, around 1960.

in point- he was very aware of the slow realization of landscape ideas over time. With Højstrup Parken he produced a landscape design relying on the knowledge of aspects of time in the making of landscape. [51]

Halprin and the RSVP Cycles
Of great importance for the history of ideas I am exploring here is Lawrence Halprin (1916-2009), for his own work and for his implicit comment on modernity. His 1969 *RSVP Cycles: Creative Processes in the Human Environment* addressed the issue of the representation of aspects of time. [52] Even if not very well known in European landscape architecture today, this book is a milestone in the history of landscape architecture. After his death in 2009, attention to his legacy revived. [53] He proposed considering aspects of time by introducing the score as a particular drawing type in landscape architecture, and as a contribution to the thinking about design processes. The first page of the book defines scores as 'symbolizations of processes which extend over time'. Halprin proposed to use scores for many aspects of landscape architecture - a score could even guide the exploration of an entire city. [Fig. 3.8] With this, Halprin applied a notation technique from choreography to landscape architecture and introduced a type of representation with qualities not to be found in the existing types of representation. Inspired by his wife, the choreographer Ann Halprin, Lawrence Halprin looked at landscape architecture from a performance perspective. As Merriman describes, gardens in Halprin's view 'had to be thought of as stage sets'; landscape architects had to design environments with 'pleasant movement patterns', 'giving our lives a continuous sense of dance'. [54] *RSVP*

Cycles 'started as an exploration of "scores" and the interrelationships between scoring in the various fields of art'. [55] Ann's wish to give her dancers freedom to improvise required a specific type of score: They did not so much notate what must happen at a given moment, they mainly organized who has to take initiative, and how. In this way, scores could incorporate the momentary improvisation of the performers. Lawrence followed this line of thinking. Hirsch argues that although Halprin described himself as a Modernist, due to his Bauhaus schooling, his approach was clearly different, especially as he had an opposing view on control and order, two words so characteristic of the architectural Modernist perspective. [56] From my point of view, I see the score as a type of drawing, or at least having the potential to be a one, in the same way (landscape) architects think of a section as a representational type. However, as the score is not currently an accepted part of the representational system of landscape architecture, and as the notation of time in general is not an evident part of landscape architectural drawing, Halprin's plea for introducing the score it seems was not heard. However his contribution to the debate in this research is revolutionary. The current revival of interest in Halprin does not particularly focus on the role of the score, but this drawing type certainly deserves a renewed exploration.

Ecology
To some extent, Halprin's work seems to be an isolated incident, and it is true that especially his manifesto for the representation of time, although it had its followers, did not change the course of the discipline. But in a larger perspective we have to situate Halprin in between other persons and other developments that

[51] See Andersson and Høyer 1993.

[52] See Halprin 1969.

[53] See for example Hirsch 2006; Hirsch 2011; Merriman 2010; Olin 2012.

[54] Merriman 2010: 433.

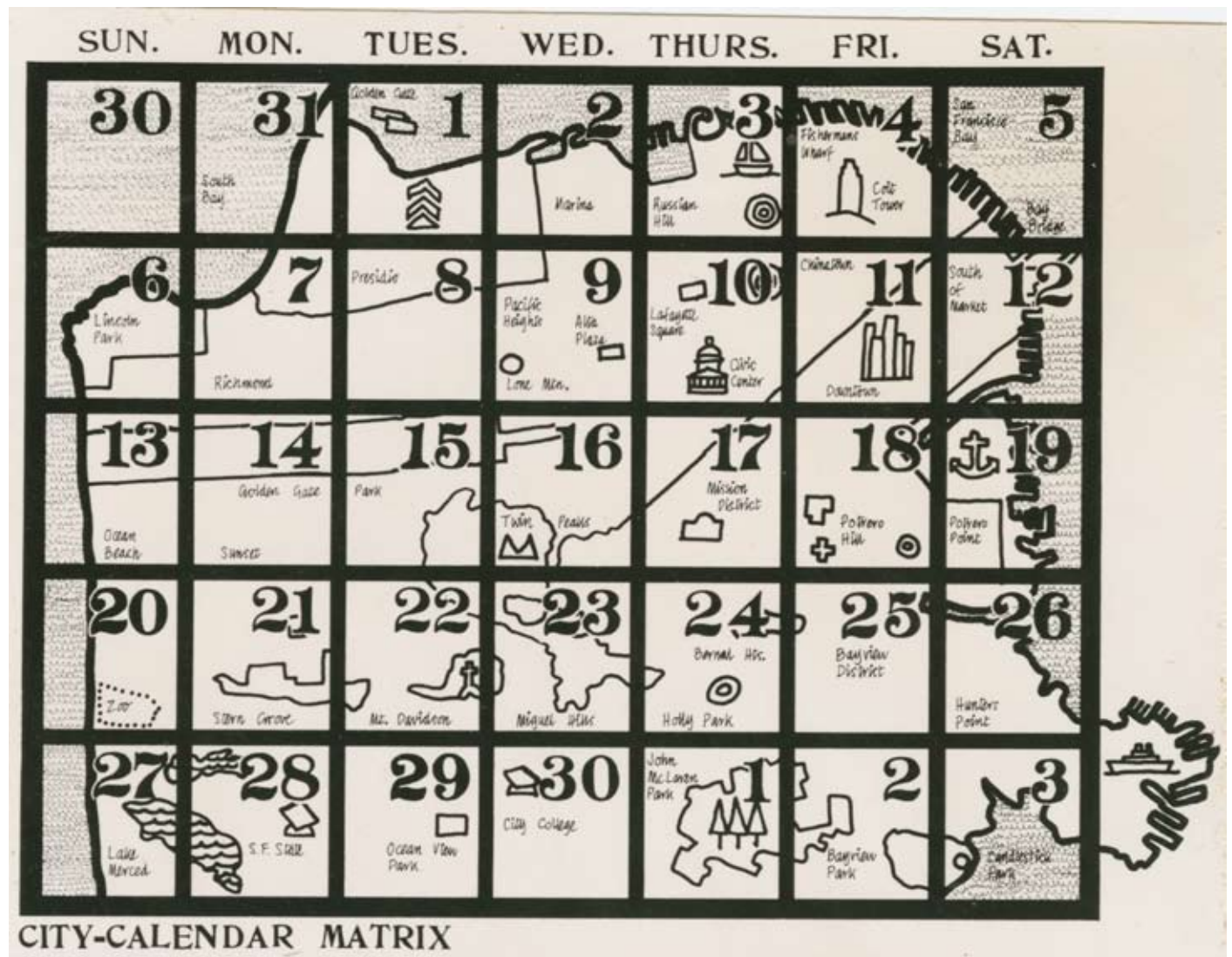[55] Halprin 1969: 1.

[56] Hirsch 2011: 139.

Fig. 3.8 Score of 'related urban events' as taken from Halprin's *RSVP Cycles. Creative processes in the human environment*, **1969.**

together stand for a substantial change of approach to which Modernism gave way. First of all Halprin is part of a larger change in thinking about nature, ecology and landscape. Secondly, he is part of a movement in which planning, architecture and landscape architecture started to actively involve the people that were affected by it. On this second line of thinking, the Dutch Louis le Roy is a good example. Just like Halprin's work, Le Roy's 1973 classic *Natuur uitschakelen. Natuur inschakelen* [Switch off nature. Switch on nature] is an implicit comment on Modernism. [57] This book, meant to flutter the dovecotes, is a strong statement against monocultures, pollution and a separation of culture and nature. Given qualities of the soil and vegetation should be used as much as possible. As Le Roy puts it, 'it is precisely the factor of time that plays such an important role'. [58] In Le Roy's vision, time should be available in large quantities, to enable all organisms to adapt to new circumstances. It was this thinking that he applied in the creation of the famous *Ecokathedraal* [Eco Cathedral] project in Heerenveen, started in 1965. It involved the development of a wild wooded area on a former meadow, exclusively using discarded building materials that were salvaged and stacked into larger structures. The Eco Cathedral is fascinating in the context of this research, as the project was consciously developed *without* drawings - drawings were considered a means of control not beneficial for slow, adaptive development, as can be seen in a comment on gardens: 'If we are going to focus more on the growth process that shapes the whole garden, then we need to continually change the shape and direction of the paths as well. Generally speaking, that doesn't ever happen!' [59] [Fig. 3.9] Le Roy for several reasons was controversial, and his position in the development of landscape architecture is unclear. Not being educated as landscape architect,

and consciously distancing himself from being part of a formal discipline, Le Roy is left outside the history of recent landscape architecture by many, and included by some. In the context of this study, we might want to consider his position, and acknowledge the important theoretical contribution he delivered. It confirms the complexity of the discourse on representation, time, and the nature of the discipline.

In *Holland and the ecological landscapes. A study of recent developments in the approach to urban landscapes* the Englishman Alan Ruff puts this changed thinking about nature and landscape in the spotlight, and connects it to the design of cities and landscape. [Fig. 3.10] Written in 1979, this incorporates the work of Le Roy. The relevance for the exploration at hand is immediately clear in Ruff's goal that 'it must be possible to restore a meaningful con-

Fig. 3.9   View during a walk in Louis le Roy's Eco Cathedral, situation 2015.

[57] Le Roy 1973.

[58] Le Roy 1973: 14. Italics in Dutch text. Original text: 'Het is juist de factor tijd, die een belangrijke rol speelt.'

[59] Ibid.: 170. Original text: 'Gaan we ons meer richten naar het groeiproces waardoor de gehele tuin gevormd wordt, dan moeten paden ook voortdurend van vorm en richting kunnen veranderen. Over het algemeen gebeurt dat nooit!'

[60] Ruff 1979: ix.

[61] Ibid.: 12.

[62] Ibid.: 39.

[63] Woudstra in Dunnet and Hitchmough 2008: 23-57.

[64] Ibid.: 30.

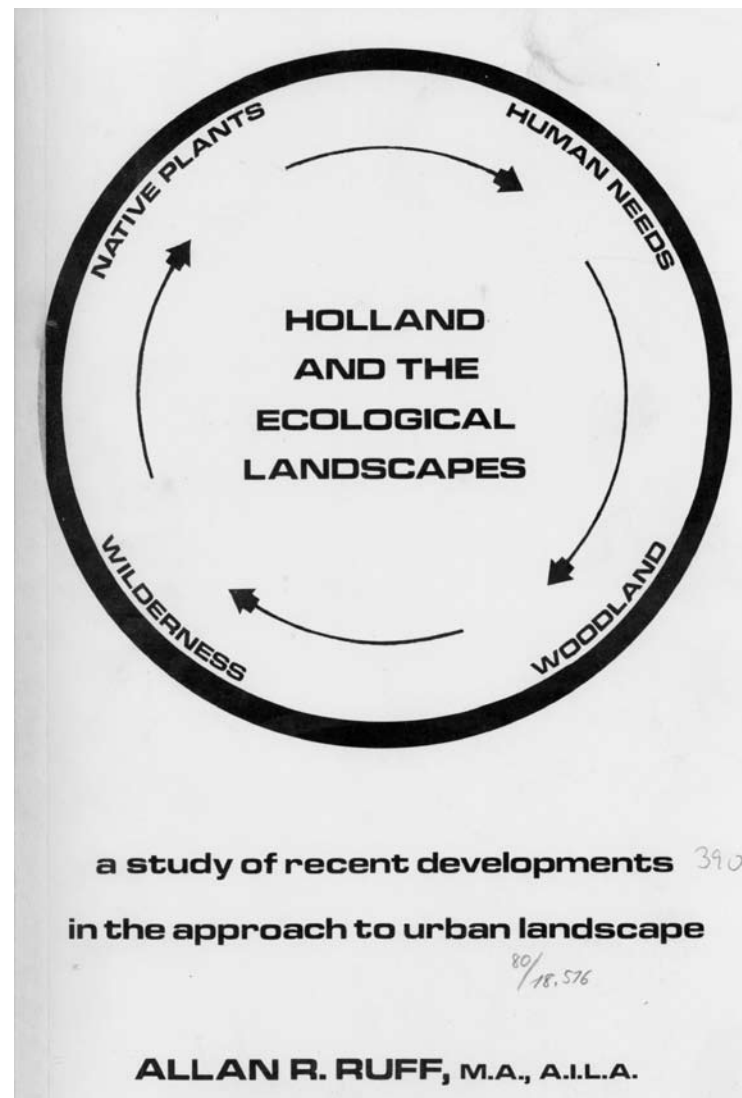[65] Dunnet in Dunnet and Hitchmough 2008: 99.

Fig. 3.10   Title page of Ruff's *Holland and the Ecological Landscapes*, **1979.**

tact with the natural world, in which it is possible [...] to observe the passing of the seasons'. [60] Ruff interprets characters such as Thijsse or Landwehr and designs such as the Amsterdamse Bos as important - they contributed to techniques for 'artificially establishing natural communities'. This meant, as happened in the Amsterdamse Bos, Dutch designers arrived at an 'aesthetic based upon nature rather than on art'. [61] Ruff discusses several designs of which 'the idea was to assist nature' - a formula that brings Hirschfeld to mind. [62]. Jan Woudstra puts this in a wider frame, already visible in the title of his essay 'The changing nature of ecology: a history of ecological planting (1900-1980)'. [63] The essay highlights the links between the development of 'ecology', after the term was coined by Ernst Haeckel in 1866, and gardening, or later landscape architecture. Gardener William Robinson became influenced by ecology in his concept for the 'wild garden' for example, but this was primarily based on aesthetic or pictorial criteria - that is to say, there was no real interest in dynamics or development over time, and hence little need to spend time on the representation of change. In the case of the German gardener Willy Lange, known for his book *Gartengestaltung der Neuzeit* (1907), it was a bit different. As Woudstra puts it, 'Lange saw the purpose of a biologically designed garden, not as imitating nature but as advancing the intent of nature'. [64] Both Ruff and Woudstra see Dutch gardeners, biologists and vegetation experts such as Thijsse, Westhof and Landwehr as having made small steps towards integrating natural dynamics in the design. Nigel Dunnet points out Alex Watt's book *Pattern and Process in the Plant Community* of 1947 as the first instance of theorising about dynamics. Plant communities show 'patterns in time: they are dynamic and change over a range of timescales, as a result of ecological processes'. [65]

For landscape architects this is instructive: Any acceptance of an ecologically-informed approach to planting must fully embrace the 'concept of change' because 'change is fundamental to the processes that operate within semi-natural plant communities'. [66] However, these theoretical steps forward hardly affected drawing.

It is perhaps in the Eo Wijers *Nederland Rivierland* competition entry *Plan Ooievaar* (1985), mentioned already in the Introduction, that the real living landscape with all its dynamics and surprises is incorporated. For that reason, this plan, aiming at landscape interventions that would invite the black stork to settle again in the Dutch river landscape, is a milestone in the development of landscape architecture, and especially as a decisive moment in the influence of ecological thinking on landscape design and vice versa. In the case of *Plan Ooievaar* there is no preferential aesthetic outcome other than what nature produces, once certain conditions are offered. Woudstra formulates the importance of this plan in another way: 'This project represented one of the first holistic large-scale applications of ecological ideas to the repair of a large-scale cultural landscape'. [67] When it comes to representation, however, the aspect of time is hardly visible: only the text unmistakably addresses dynamics. In fact, the precise role of design in *Plan Ooievaar* is complex. A process of change is set in motion, but it remains to be seen what the precise effect will be on the landscape. And yet it is because of this complexity that *Plan Ooievaar* can be regarded as a conceptual innovation in landscape architecture.

Representation and Landscape

In 1992 James Corner wrote 'Representation and Landscape'. [68] This text must be considered an essential contribution to landscape architecture theory in general. It is also crucial for the specific argument being made here. As has been mentioned, landscape as a phenomenon and landscape architecture as an intervention in the landscape are closely connected. Corner speaks primarily about landscape. Landscape in itself is an 'ambiguous term'. [69] The viewpoint of a painter is very different to how a geographer perceives landscape, and as a consequence the diverse professions that engage in landscape have different ideas about its character, its definition and its representation. Landscape architecture, in between such professions, has its own role, as it not only describes existing landscapes, but also creates *new* landscapes. To do that, effective representations are needed. However, in Corner's view most drawings of landscape are 'radically dissimilar from the medium that constitutes the lived landscape'. [70] The lived landscape is a rich phenomenon, and unique in three aspects: landscape spatiality, landscape temporality, and landscape materiality. These aspects have consequences, as they 'evade reproduction in other art forms and pose the greatest difficulty for landscape architectural drawing'. [71] In the eyes of Corner, the aspect of time is thus one of the three unique qualities of landscape. In fact, he doesn't speak about time, but about 'temporality'. His interpretation is strongly linked to phenomenology, and focusses on experience. The experience of landscape has a certain 'duration' and there exists 'an unfolding flow of befores and afters'. [72] Landscape cannot be spatially reduced to a single point of view, nor can it be frozen as a single moment in time. To experience landscape, we have to move through it, and that takes time - it is 'an accumula-

[66] Ibid.: 98.

[67] Woudstra in Dunnet and Hitchmough 2008: 42.

[68] Corner 1992: 243-275.

[69] Corner 1992: 144.

[70] Ibid.: 145.

[71] Ibid.: 146.

[72] Ibid.: 147.

[73] Ibid.: 148.

[74] Ibid.: 148.

[75] Ibid.: 148.

[76] Ibid.: 152.

[77] Waldheim 2006: 39.

[78] See http://www.gsd.harvard.edu/cgi-bin/courses/details.cgi?term=201420&course=VIS-02241-00.

tion of often distracted events and everyday encounters'. [73] Seen from the perspective of temporality, we can distinguish landscape from buildings; it is a 'living biome' and subject to 'flux and change by natural processes operating over time'. [74] It is exactly this characteristic that complicates the representation of landscape. Elaborating on this point, Corner lists the very diverse operations that relate to time and landscape: 'The dynamic action of erosion, deposition and the effects of growth and weather continually transform the structure and pattern of the shifting landscape. Not only does this dynamism challenge the art and intentionality of landscape architectural meaning (because of the impermanence of a medium caught in flux), but it also makes it difficult, if not impossible, to represent and experience it externally, as through a drawing for example.' [75] Many drawings in landscape architecture can be considered notations, in the way Goodman and Tufte use this word, and relevant here is the specific meaning of notations in relation to time. The link to Halprin is easy to see: 'Notation systems in landscape architectural design are not only useful for their communicative and translatory status, but also because they enable one to consider the simultaneity of different layers of experience, including movement and time.' [76] We could say that writings by Repton, Halprin and Corner are cornerstones in the development of the thinking about landscape, landscape architecture, time and representation over 150 years.

In *The Landscape Urbanism Reader* of 2006 Charles Waldheim refers to Corner and to the phenomenon of time: 'Landscape is a medium, it has been recalled by Corner, Allen and others, uniquely capable of responding to temporal change, transformation, adaptation, and succession. These qualities recommend landscape

as an analog to contemporary processes of urbanization and as a medium uniquely suited to the open-endedness, indeterminacy, and change demanded by contemporary urban conditions.' [77] Remarkably, at first sight, the discourse is primarily about landscape and not landscape architecture. 'Representation and Landscape' mainly uses the word landscape –admittedly from the viewpoint of design– but Corner is not very explicit about landscape architecture and, in fact, he might just as well have been talking about work done by artists or architects. Waldheim's reader also begins with the topic of landscape. However, later in his essay, he talks explicitly about landscape architecture and about a way of approaching design problems. A group of American offices has taken possession of this ideology, and in some design courses, such as at the Harvard Graduate School of Design, landscape urbanism is an unquestioned topic, in which time and representation are explicitly linked. In the 2012 study guide we find Harvard course VIS-02241-00: 'Course topics are organized thematically and range from mapping ecological systems to illustrating time-based processes, from manipulating and extracting topographical datasets to generating intelligent terrain models, from synthesizing geological, ecological, and hydrological processes to depicting the flows, flux, and ephemera of floral and faunal communities'. [78] This course description is interesting because aspects of time and representation are explicitly included - as far as I could find out, this is one of the only programs doing so presently.

A variety of perspectives
Introductory books on landscape architecture do not pay much attention to the related issues of time, landscape and represen-

tation. Only one such book, Motloch's *Introduction to Landscape Design* of 2001, dedicates a chapter to the issue. [79] The title of this chapter, 'Temporal aspects of perception', is slightly bewildering, as if seeing and moving through landscape is what counts. But in fact the chapter is rich and touches on many aspects including, although very briefly, the aspect of drawing. The first sentence is telling: 'The landscape can be understood as the point-in-time expression of the forces that have affected it. It can also be understood as an ephemeral expression. The nature of nature is change; and the natural and cultural landscape is continually evolving. Landscape change is one of the primary considerations of landscape design.' [80] Motloch observes that the issue of time presents us with a paradox; change may be the essence of natural systems, but what we build is primarily static.

Two recent dissertations, both by landscape architects, address the topic of time in landscape. *Eine Pflanze ist kein Stein* [A plant is not a stone] by Lucia Grosse-Bächle discusses the role of plants in process-oriented contemporary landscape architecture. She suggests a special role for Dutch landscape architecture in this, locating the subject of time in 'processual thinking': 'The influence of processual thinking on landscape architecture can be found back very well in a number of Dutch projects, which engage in water management.' [81] *Novelty in the Entropic Landscape: Landscape architecture, gardening and change* by Julian Raxworthy speaks about the recent 'fascination with change and time, expressed in terms such as "dynamism", "mobility", "process" and "flexibility" [...], a body of thinking and practice I identify as the "Process Discourse"'. [82] By this, he confirms the wide range of words and phenomena in which we can see manifestations of time. The relevance of his

work, which will be elaborated on later in this study, is its focus on dynamics as a process more than the landscape it produces. A third dissertation, Anja Löbbeke's *Über Naturgärten. Eine Ideengeschichte und kritische Retrospektive sowie zu ihrer Bedeutung für die heutige Landschaftsarchitektur* (2012), discusses the history of the idea of 'Naturgärten', which is translated as 'gardens according to nature', and provides a critical retrospective, to find out their meaning for today's landscape architecture. [83] This text does not speak explicitly about time and drawing, but following the development of the idea of 'gardens according to nature' implies that it considers aspects of time. Such gardens are by definition dynamic, and therefore for a researcher a difficult medium: the actual gardens do not verify ideas in text or on paper - as they change. For the same reason, drawings have a marginal role. Gardeners in this field do not favour drawings, as 'the dynamics and not a fixed state is strived for'. [84] Löbbeke's dissertation describes a history of ideas. In this history of ideas she links the role of time to the 'Verzeitlichung' of science, meaning that science became time-based, for which Darwin could be held responsible. The relevance of Löbbecke's work is that this history of an idea about gardens and gardening is also a history of the influence of ecology on landscape architecture. Löbbecke comments on the earlier mentioned dissertation of Grosse-Bächle. This opens a discussion on the precise meaning of words like dynamics and processuality. Without entering this discussion, one can say that it reveals an important problem for landscape architecture. As Löbbecke puts it, it is quite understandable that landscape architect Peter Latz in his well known 1991 competition entry for Duisburg-Nord did not want to draw a plan - 'for which state should he show?' But conventional ideas about how to hand in a competition, forced

[79] See Motloch 2001.

[80] Motloch 2001: 122.

[81] Grosse-Bächle 2003: 12. Original text: 'Der Einfluss prozessualen Denkens auf die Landschaftsarchitektur lässt sich exemplarisch an einigen niederländischen Projekten erörtern, die sich mit Fragen des Wassermanagements auseinandersetzen.'

[82] Raxworthy 2013: 17.

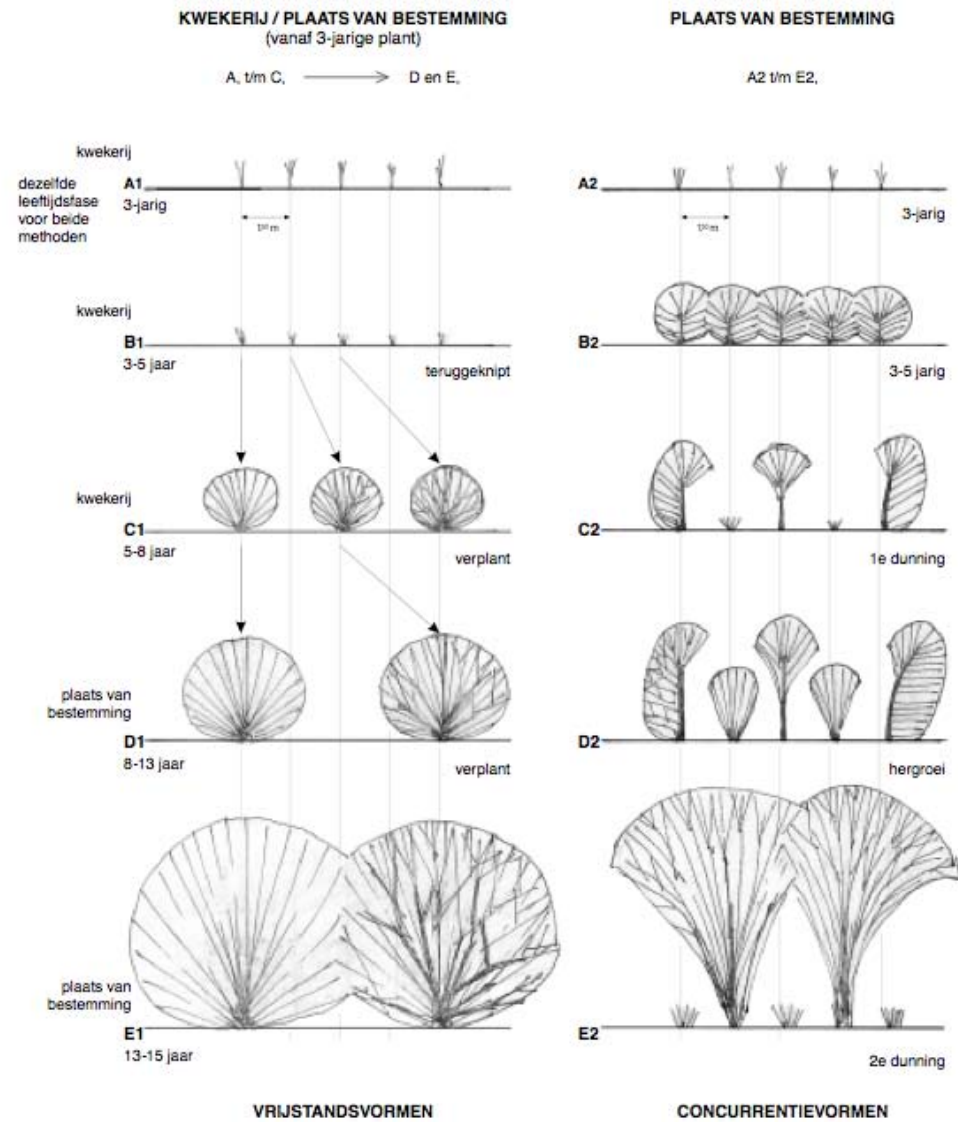[83] Löbbecke 2012: xiii

[84] Ibid.: 6.

KWEKERIJ / PLAATS VAN BESTEMMING
(vanaf 3-jarige plant)

A, t/m C, ⟶ D en E,

PLAATS VAN BESTEMMING

A2 t/m E2,

kwekerij

dezelfde
leeftijdsfase
voor beide
methoden

A1 3-jarig

A2 3-jarig

kwekerij

B1 3-5 jaar

teruggeknipt

B2 3-5 jarig

kwekerij

C1 5-8 jaar

verplant

C2 1e dunning

plaats van
bestemming

D1 8-13 jaar

verplant

D2 hergroei

plaats van
bestemming

E1 13-15 jaar

E2 2e dunning

VRIJSTANDSVORMEN

CONCURRENTIEVORMEN

**Fig. 3.11   Development of trees over time in relation to planting
schemes and management. Diagram by Frits Ruyten, 2006.**

him to draw a plan. It points out the dilemma landscape architects have to face: how to integrate the dynamics of nature in the rules of a design process? [85]

A 2006 Dutch contribution by landscape architect Frits Ruyten, also a dissertation, and an 2004 American piece by Niall Kirkwood approach the debate from a practical point of view, addressing the durability of a project over time, and the management of it. [86] Ruyten presents a method of planting that efficiently realizes the architectural goals and matures without a high level of intervention. [Fig. 3.11] Interestingly, this work combines drawing, landscape and time, as can be read in this rather practical statement: 'The planting plan shows the size of a plant at a certain point. As a result there is a problem with the size of the plant as it becomes old, and with the graphical representation of a single plant or all the vegetation at various stages.' [87] Kirkwood raises the aspect of time in the introduction: 'Simply stated, the difference between landscape architecture and architecture is the dimension of time as realized through the medium of their respective built work.' [88] Ruyten proposes film as a technical solution to this. [89] His work focusses on weathering, but one could say that this phenomenon mirrors a more general discussion on time. The vocabulary of Kirkwood has a striking similarity to terms I will discuss later, such as a distinction between 'cyclical' and 'linear weathering'. Landscape historian John Dixon Hunt in his *The Afterlife of Gardens* (2004) presents a view less practical but very relevant. [90] Hunt consciously distances himself from the field of design. To be more precise: Hunt wants to take the garden as a realized object independent from the designed garden. 'Both journalistic and academic approaches privilege creators and designers', states Hunt. It is the

category of visitors he wants to address. They give new readings of the design throughout time, and these new readings matter. [91] Every design consists of various stages: a design, a construction, a growth, and a mature stage, and perhaps we ought to add to this the stage of decline. The design and construction stages are normally not meant to be publicly visible, but we could look at them from another angle. In a recent article, Roncken, Stremke and Pulselli make a plea for understanding landscape designs in terms of clearly defined stages. They did so for a specific category that they call 'landscape machines', meaning designs with 'the extremely large ambition to design a living system.' [92] The authors suggest 'a new, initially even artificial landscape system that will nevertheless develop into a self-sustaining system.' [93] They describe an 'initial stage' in which the landscape machine is laid out, a 'growth stage' covering the succession undergone by the newly designed landscape, and a 'yield stage' in which the design has reached the level where it 'entirely regulates itself' and supplies 'a maximum amount of ecosystem services and goods'. The 'steady-state' describes a long-lasting existence including constant amendments that eventually can lead to decline. Their approach comes from the theory of ecological systems. Roncken et al suggest that designed landscapes should also be understood on the basis of these stages. One consequence of this is 'the inclusion of a possible alternative ending of the intended design.' [94] A second consequence is that such differing stages will also be experienced in different ways by the users of the landscape and that may mean that 'the people involved' do not consent to the development of the landscape even if that is what the design proposes. The reverse is also true: 'Initially unwanted results may turn out to become desirable products.' The authors call for this

[85] Ibid.: 263. Original text: 'Dass Latz bei seinem Entwurf für Duisburg-Nord eigentlich keinen Plan zeichnen wollte - denn welchen Zustand sollte er zeigen? - und doch zur Teilnahme am Wettbewerb einen zu zeichnen gezwungen war, beschreibt das Dilemma der Landschaftsarchitektur recht deutlich: Latz wollte Dynamik in Ansatz, doch daraus musste ein Prozess werden um zu gewinnen.'

[86] See Ruyten 2006 and Kirkwood 2004.

[87] Ruyten 2006: 11. Original text: 'Het beplantingsplan geeft op een bepaald moment de omvang van de plant weer. Hierdoor ontstaat een probleem in de omvang, die een plant in de ouderdomsfase aanneemt en de grafische weergave van de plant of beplanting op enig moment.'

[88] See Ruyten 2006.

[89] Kirkwood 2004: XVI.

[90] See Hunt 2004.

[91] Hunt 2004: 11.

[92] Roncken et al: 93.
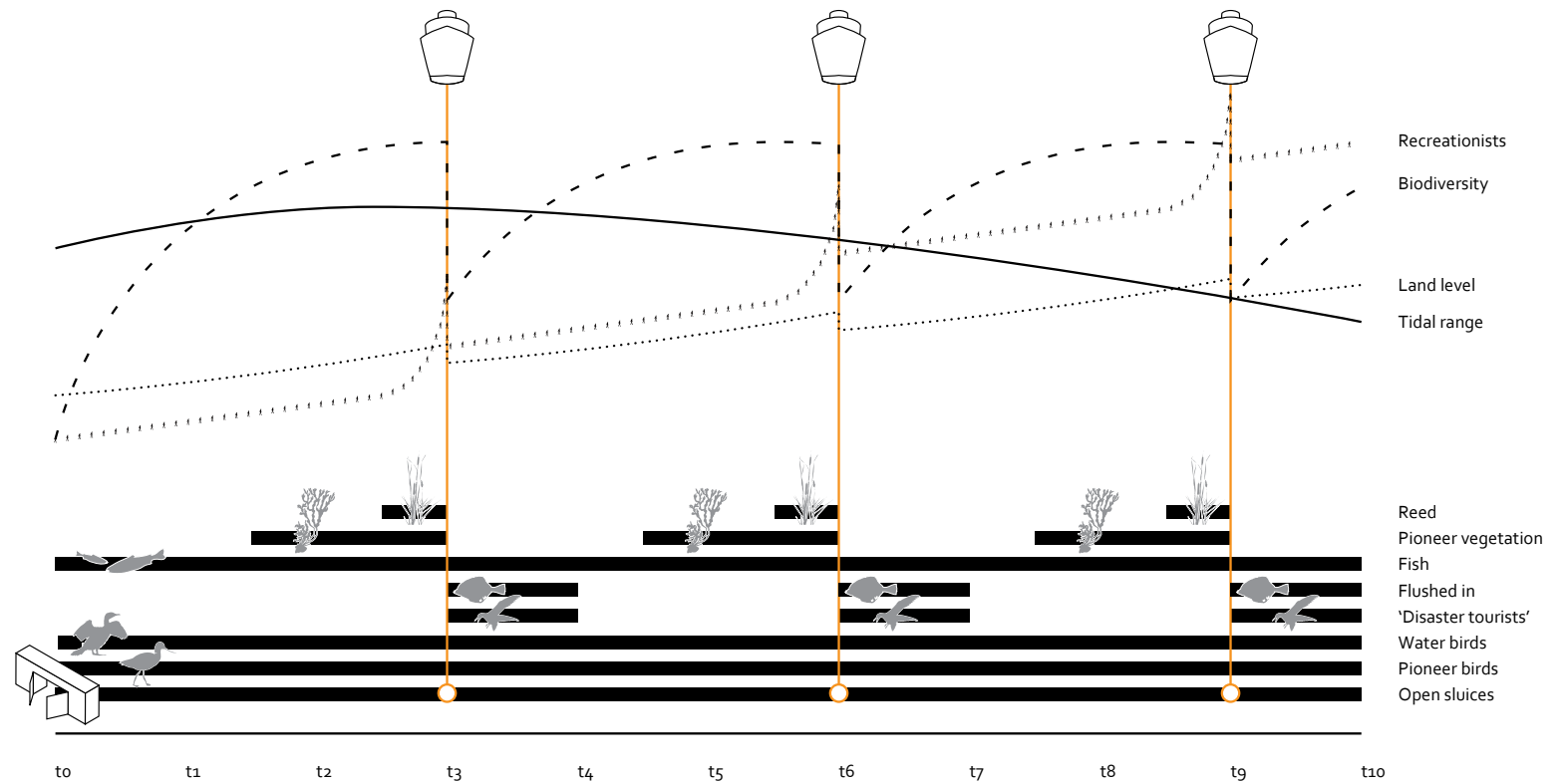
[93] Ibid.: 93.

[94] Ibid.: 95.

Recreationists
Biodiversity

Land level
Tidal range

Reed
Pioneer vegetation
Fish
Flushed in
'Disaster tourists'
Water birds
Pioneer birds
Open sluices

t0 t1 t2 t3 t4 t5 t6 t7 t8 t9 t10

Fig. 3.12 **Diagram of 'landscape machine'.** *Full Hybrid*, **Jonas Papenborg and Remco van der Togt. Wageningen University, 2012.**

to be included 'in the design and modelling of living systems', and experiment with that in their own teaching. [95] [Fig. 3.12]

Recent contributions
One of the most recent contributions to the discussion was made by Diana Balmori in her 2014 *Drawing and Reinventing Landscape.* While accentuating the role of drawing in current landscape architecture, Balmori also discusses time. [96] As Michel Conan suggests in the introduction, Balmori sees our views of nature as undergoing a radical change. Because of that, landscape architecture is being called upon to reinvent itself. Time is a key issue in this, both from a historical perspective and as a contemporary debate. This historical perspective provokes the cry from Balmori that 'it is curious that for a discipline in which everything is in constant change, there is so little in landscape representation that reflects time'. [97] Change, as Balmori states, is the major word with which the immediate future of landscape architecture has to be described, and as a consequence there is 'the need to be able to work accordingly, accepting constant change, and to be able to represent it'. [98] In fact, these words by Balmori perfectly summarize the exploration in this paragraph of landscape architectural thinking in relation to time and representation. It shows that, in the history of landscape architecture (and its preceding professions), a substantial and continuous body of thinking can be found, especially in earlier centuries, i.e. before the Modernist era. However, as pointed out by Balmori, time and the representation of time in landscape architecture are not as present as one would expect them to be, confirming the basic assumptions that guided this research, and highlighting that it is timely.

Before moving to connected fields such as urbanism, we can conclude that the issue of time in relation to landscape and design merits its own historic overview, or better said, it merits being compiled in a history of ideas, for which a start has been made here. In this history of ideas we find many interesting contributions of which a few stand out as fundamental, such as those of Repton, Halprin and Corner, as they connect issues of time with landscape, design, and drawing. As overviews such as those of Wimmer and Löbbecke show, there is no continuous and gradual development in the thinking about time, landscape and intervention. Particularly during the Modernist era attention to these issues was low and ambiguous. This more or less coincides with the 'official' start of landscape architecture as a discipline, so that the richer episodes in this history of ideas are to be found earlier. Therefore, there is an interesting relation between these issues and the emerging ideas about landscape architecture, as becomes visible in the work of Repton, Olmsted and Springer, and in the debates on the garden architect as an independent advisor or a nurseryman. Texts by Halprin, Le Roy and Corner represent the fading dominance of Modernism, and the growing influence of ecological thinking, bringing in its own concepts about time. Perhaps Balmori stands for the final act of this change - that is to say for the definitive integration of aspects of time in landscape architectural thinking and drawing. If this is indeed the case, remains to be seen.

Connected fields
Several fields close to landscape architecture have provided important contributions to a history of ideas on time, landscape

[95] Ibid.: 95.

[96] See Balmori 2014.

[97] Balmori 2014: 173.

[98] Balmori 2014: 181.

[99] Bender 2002: 103.

[100] See Ingold 2013 and Ingold 1993: 152-174.

[101] Ingold 1993: 168.

[102] Ibid.: 162.

and design, such as archaeology. With the statement 'Landscape is time materialized. Or, better, landscape is time materializing: landscapes, like time, never stand still' Barbara Bender gave an adequate time-related definition of landscape. A background in archaeology brought her to think of landscape as 'always in a process of being shaped and reshaped'. [99] Conceptual thinking about the nature of time in landscape can be found in the works of several authors in fields such as archaeology and anthropology – see, for example, Tim Ingold and his book *Making* (2013) or the article 'The Temporality of Landscape', already mentioned and quoted in the introduction for its vocabulary, including 'temporal rhythms, ranging from the long cycle of its own germination, growth and eventual decay to the short, annual cycle of flowering, fruiting and foliation'. [100] By contrasting 'human generations' with the 'life-cycles of insects, the seasonal migrations of birds, and the regular round of human agricultural activities' Ingold shows the wide span of time that we should take into account. [101] In Ingold's view of landscape, time and change are central, as 'the landscape is never complete: neither "built" nor "unbuilt", it is perpetually under construction'. [102] In *Making* Ingold connects art, architecture and anthropology with archaeology. In fact, drawing and time are both notably present in archaeology, revealing and registering layers in the historic landscape. [Fig. 3.13ab]

Cartography

Cartography is also of interest here. In an essay on mapping, Dennis Cosgrove speaks about the 'apparent stability' of maps, to conclude that all maps are 'provisional', in spite of the fact that cartographic representation often seems very closed and final.

Fig. 3.13ab Photograph of archaeological site in Utrecht, revealing the aspect of drawing.

[103] The suggestion that maps represent or aim to achieve stability must be questioned, especially today: 'In a world of radically unstable spaces and structures, it is unsurprising that the idea of mapping should require rethinking.' Apart from the philosophical discussions on aspects of time that are raised by maps in general, time in and of itself has also been a subject of mapping, as can be seen in Rosenberg and Grafton's *Cartographies of Time* and in Tufte's *Envisioning Information*. [104] How to represent time? Rosenberg and Grafton argue that our understanding of time is deeply connected with a line: 'In the graphic arts, the same holds true: from the most ancient images to the most modern, the line serves as a central figure in the representation of time.' [105] Nevertheless, *timelines* as representations are a rather young phenomenon. Chronological notation before was generally done in the form of a table, on the basis of the invention of Eusebius in the fourth century. This Eusebian model 'provided a single structure capable of absorbing nearly any kind of data'. [106] Progression in astronomy made chronological representations more reliable, and also had an influence on graphical representation. It is the invention of photography and film, and their sequential nature, that supported the idea of an objective depiction of historical events. A chart made by Charles Joseph Minard in 1860, depicting the Napoleonic march on Russia related to the expedition of Hannibal through the Alps, shows the potential of merging cartography, infographics and timelines. [107] [Fig. 3.14] In that sense, timetables can be considered a rather established concept for thinking about and depicting time.

With regard to types of representation, Corner believes maps are extremely important. It is not easy to distinguish between a plan

and a map as types of representation. From a geographical point of view, a map is essentially a descriptive and interpretive document, but not a design. The term 'plan' often focusses on objects that are to be built. To avoid confusion, in Dutch landscape architecture the word '*plankaart*', literally 'plan map' is often used for plans on a large scale. However, there is no equivalent in English. Corner refers to *Mappings*, a collection of cartographic essays including an intriguing text by Paul Carter on coastlines. [108] Carter's essay covers a wide field but demonstrates how unstable maps are,
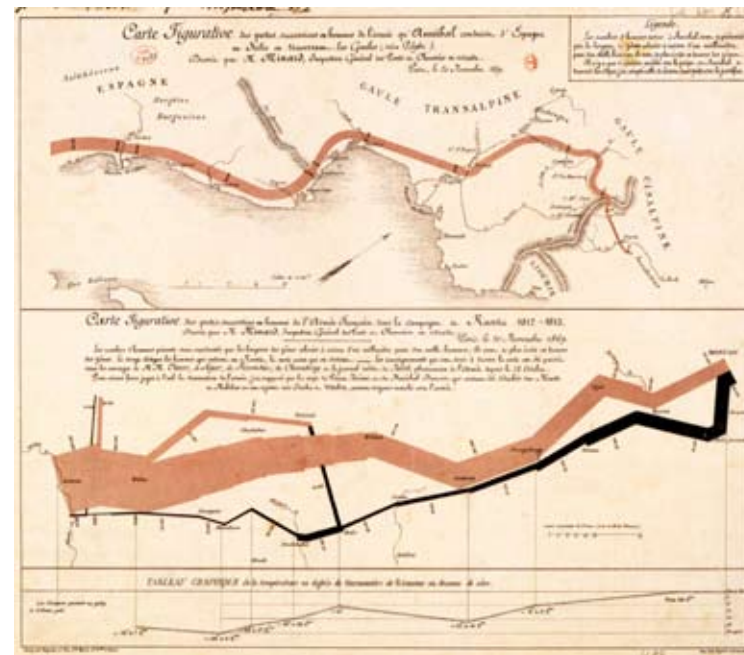

Fig. 3.14   Map by Charles Minard, 1869, titled *Carte figurative des pertes successives en hommes de l'armée française dans la campagne de Russie 1812-1813 comparés a celle d'Hannibal durant la deuxième Guerre Punique.*

[103] Cosgrove 1999: 2.

[104] See Rosenberg and Grafton 2010.

[105] Rosenberg and Grafton 2010: 14.

[106] Ibid.: 16.

[107] See Rosenberg and Grafton: 22.

[108] See Carter in Cosgrove (Ed.) 1999.

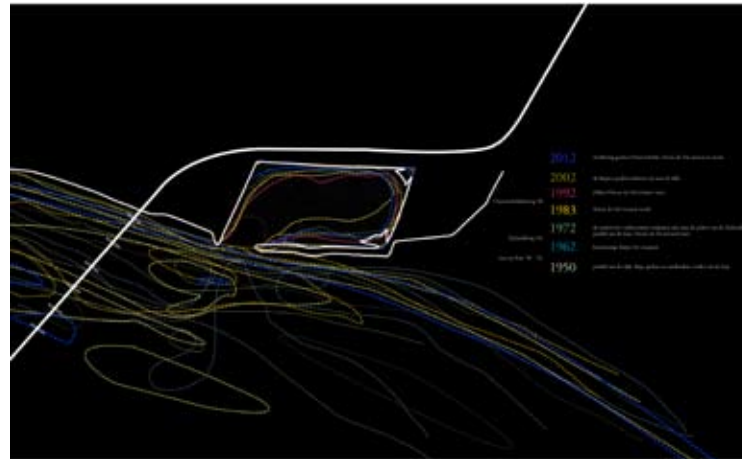[109] Carter in Cosgrove 1999: 2.

[110] Ibid.: 7.

[111] See Evelyn 1664.

[112] See Reid 1683/1988.

[113] Evelyn 1664/2009: 56.

[114] Ibid.: 85.

Fig. 3.15   Diagrammatic map of dynamic Dutch coastline near Zierikzee. Marit Janse, final work Academy of Architecture Amsterdam, 2013.

and how much they are at the mercy of time. Cosgrove, referring to Carter's text on maps, uses the term 'troubling': 'Their apparent stability and their aesthetics of closure and finality dissolve with but a little reflection into recognition of their partiality and provisionality, [...].' [109] Coastlines are a splendid example, as can also be seen in a drawing by Marit Janse. [Fig. 3.15] As Cosgrove puts it, 'not only are all coasts in fact zones rather than lines – the unstable space between high and low water in tidal zones, for example – which the cartographer has to "fix" according to criteria which are inevitably arbitrary, but their linearity is mapped by determining a finite set of points which are then joined by a sweep of the cartographer's hand to create a coast*line*.' [110]

Forestry

Close to landscape architecture, but in another direction, we find forestry. Probably because of its obvious long-term thinking, forestry is a valuable source of information on the subject of time. One of the early authors writing about forestry was John Evelyn, with his 1664 *Sylva: A discourse of forest trees & the propagation of timber*. [111] As was the case with gardening, forestry was for a long time an implicit practice that didn't require text. The treatise by Evelyn, also considered a gardener and a writer, must be seen in relation to the same evolution that prompted gardening handbooks, including the 1683 The Scots Gard'ner, mentioned earlier. [112] The British navy desperately needed timber, and this book was written as an encouragement for landowners to plant trees. Evelyn addresses those who want to serve their generation: 'To these my earnest and humble Advice should be, That at their very first coming to their Estates, and as soon as they get Children, they would seriously think of this work of Propagation [...] (and to) begin Planting betimes, without which, they can expect neither Fruit, Ornament or Delight from their Labour.' [113] Improving the soil is a necessary preparation, and after that, a nursery can be started, as growing trees starts with sowing acorns: 'And when by this husbandry a few acorns shall have peopl'd the neighbouring regions with young stocks and trees; the residue will become groves and copses of infinite delight and satisfaction to the planters.' [114] After discussing how to raise and to transplant the young trees, and after a brief explanation of the nomenclature of trees, Evelyn presents all relevant species, starting with a long expose on the characteristics of the oak, so important for timber, and the specific difficulties planters have to overcome.

Fig. 3.16 Screenshot of webpage of *Stiftung 7000 Eichen* **displaying one layer of interactive map of Kassel with locations of the Joseph Beuys oaks.**

The arts

The arts are an important source both in terms of thinking and drawing. Important here is the Futurist period, in which both the phenomenon of time as well as its representation were debated. The oeuvres of land art artists from 1960 onwards could be discussed. For example Richard Long's project *A line made by walking* of 1967 is strongly connected with the issue of time - the work results from slow change over time. [115] Andy Goldsworthy not only created pieces of art that relate to time, but also wrote about it in his book *Time*. The introduction reveals a whole vocabulary on the issue, but the main argument Goldsworthy puts forward is about the difference between being a spectator, and working with time: 'I was always interested in seeing work change and decay,

but usually as a spectator. Lately the challenge has been not simply to wait for things to decay, but to make change an integral part of the work's purpose so that, if anything, it becomes stronger and more complete as it falls apart and disappears.' [116] This is an important point: Not only the representation of time as a natural aspect of landscape is at stake, but apparently time is also seen here as a specific impulse for the creative process. For several reasons, the *7000 Eichen* [7000 oaks] project by Joseph Beuys as conceived for the Kassel art exhibition *Documenta* 1982 is an interesting example. [117] In the city of Kassel over a period of five years, an indeed huge number of trees were planted -not all of them oaks- as a social work of art: The people of Kassel had to decide on their exact locations. Every tree was to be accompanied by a piece of basalt. The oak 'as a slow-growing tree clarifies the effects of time'. [118] The basalt stones, roughly hewn, offered protection but were also part of the project. As 'a visual manifestation of time', all basalt blocks were heaped up into a mountain of stone that diminished over the years as every newly-planted tree was given one block. [119] In the way Beuys conceived this project, it was consciously non-designed, and therefore included no drawings that we can associate with designed interventions. Consciously non-designed, and therefore not laid down in design drawings, it is ironic that three decades later, the work was nevertheless represented in the form of an interactive map. This was done by the Stiftung 7000 Eichen, founded in 2002 to care for the trees as pieces of art, or, as the founders put it, a 'Raum-Zeit-Skulptur' - a space-time-sculpture. [120] [Fig. 3.16]

In some cases art itself is essentially time-based: Theatre, dance and especially (animated) film work with notational systems orga-

[115] See Roelstraete 2010.

[116] See Goldsworthy 2000: 7.

[117] On the 7000 Eichen project numerous sources can be found. I refer to the Foundation7000 Eichen at http://www.7000eichen.de/index.php?id=2. This foundation has been caring for the trees - also an act in time.

[118] See Körner and Bellin-Harder 2009: 7

[119] Ibid.: 7.

[120] See http://www.7000eichen.de/index.php?id=20. A screen shot of this interactive map is given as illustration.

[121] As defined at http://en.wikipedia.org/wiki/Storyboard

[122] Truong et al 2006: 12.

[123] Ibid.: 18.

[124] See Girot and Truniger 2012.

[125] See Wells 1998.

[126] Solomon, as quoted in Wells 1998: 10.

[127] Wells 1998: 17.

[128] See McCloud, S. (1993) *Understanding comics* (New York: HarperCollins).

nized in time. They use scores or storyboards, 'graphic organizers in the form of illustrations or images displayed in sequence for the purpose of pre-visualizing a motion picture, animation, motion graphic or interactive media sequence'. [121] The storyboard is a technique that has received wider recognition. Storyboarding is also used in engineering and software design. In that context it was defined as 'a short graphical depiction of a narrative'. Specifically in the context of software design, it can be used as an 'illustration of how an application feature works'. [122] In an article on storyboarding, Truong et al discuss the need to depict time. Their first conclusion is also of consequence to this research, as apparently the representation of time is a matter of choice: 'Explicit references to time passing are only necessary when time is a significant element in a story.' [123] The most promising time-based arts are animated film and comics. The objection could be that both are not really representations as they do not precede the performance, whereas representations in landscape architecture indeed precede the making and growing, animation and comics are final products in and of themselves. Even if this is true, they can become representations once they are given that function in landscape architecture. That happens if they start to become ways of depicting a future. Animated film, rather than film in general, is mentioned very consciously here. Film certainly is in itself a promising category in landscape architecture, as explored for example by landscape architect Christoph Girot at the ETH, Zürich [124]. However, animation implies the creation of images, more than the registration of an existing reality. This aspect of creating images brings it quite close to how drawings function in architecture. Animation in technical terms should be understood as a series of individual frames, in large numbers. To suggest movement by static pictures at least 12 frames per second are needed, and to please the human eye and have smooth movement, 24 or more. One could look at animated film as a series of visualizations - the decor of a story. Paul Well's seminal work on animated film is particularly interesting in this context. [125] He sets animated film apart from other film exactly because of its ambiguous relation to reality. The time aspect is deeply embedded in the idea of animation: 'Animation is not the art of drawings that move, but rather the art of movements that are drawn. What happens between each frame is more important than what happens in each frame.' [126] Time in animation -and film, for that matter- is approached in fundamentally different ways. A film can, as an example, take 4 minutes and 22 seconds to see it. In this film a story can unfold that spans seconds, weeks or decades, and use different techniques including flashback and flash-forward to jump over large chunks of time – the narrative time may be very different from the real time it takes to see the film. In so far as animations are stories –often told with voices, sounds and music in the background- they are constructed with narrative strategies, including for example the technique of condensation, by which large jumps over periods of time can be brought in only a few images, taking perhaps a few seconds to watch. Comics, sometimes also described as cartoons, are both close to animation and rather different. Wells touches upon this closeness between comics and animations: '*Soda jerks* (1920) by Hurd and Barre serves as an interesting example of the early cartoon form in the sense that it represents how the comic strip creates a vocabulary for the animated short'. [127] *Understanding comics* by Scott McCloud reflects on the phenomenon of comics, but is actually at the same time written and drawn in the form of a comic. [128] Despite this unusual presentation format,

Fig. 3.17 Part of McCloud's reflection on comics: 'One could say that a film, if not projected, is a very, very slow comic.'

it is a very serious and well-informed piece. McCloud speaks about comics as 'sequential art', immediately positioning the comic as a time-based medium. [129] We could look at the individual images in a comic as the frames of an animated film spread on a page. [Fig. 3.17]

Architecture and urbanism

Even if in architecture in general design processes resulting in a stable final situation are more obvious, in this discipline too we can find interesting contributions to the exploration here, such as the book *ritual house* by Ralph Knowles on houses that change over the seasons, and Stewart Brand's *How Buildings Learn*. Brand wants to understand 'building' as the present continuous: 'Whereas "architecture" may strive to be permanent, a "building" is always building and rebuilding.' [130] His ultimate goal is to define forms of design that anticipate, or even invite, change. The most important contributions have been made by Leatherbarrow and Mostafavi in *On Weathering*, and in Leatherbarrow's recent *Architecture oriented otherwise*. [131] In this book, he proposes that we understand buildings in time and introduces the crucial concept of actuality, pointing at the actual building at one moment in time. Leatherbarrow looks at buildings as less static and less durable than we usually think. Diverse forces 'attack' buildings, and it is essential to note the building's ability to resist: 'The building's labour is quite simply the amount of effort it takes to sustain this economy, to keep up or play its part.' [132] In fact, Leatherbarrow introduces a perspective on buildings that resembles landscape architecture. Buildings have a 'provisional finality'. [133] An experimental 'building' by Ferdinand Ludwig il-

[129] McCloud 2001: 13.

[130] See Knowles 2006 and Brand 1994: 2.

[131] See Mostafavi and Leatherbarrow 1993 and Leatherbarrow 2009.

[132] Leatherbarrow 2009: 57.

[133] Leatherbarrow 2009: 60.

Fig. 3.18 Photograph of part of 'growing installation' *Plane Tree Cube* Nagold, design ludwig.schönle, 2012.

lustrates architecture as a temporary business: Growing structures over the years become strong enough to take over the provisional steel frame. [Fig. 3.18]

Literature in urban planning or urbanism may be close to landscape architecture, but reveals itself to be more explicit on the issue of time. A clear account of its relation to time is given in *Het ontwerp van de stadsplattegrond* [The design of the urban lay-out] published in 2002 – now a standard in Dutch urbanism education. [134] One of the headings is 'De factor tijd: de duurzaamheid van de stadsplattegrond' [The factor of time: the sustainability of the urban lay-out]. [135] Here it is argued that the 'city plan' is essential to urbanism because of the time factor. Urbanism is considered a profession that facilitates the basic conditions for building, and therefore always thinks in large time scales. Once the design of a city plan has been approved, the layout shows a considerable durability, even if buildings change dramatically. The authors refer to the notion of the *longue durée* as introduced by Ferdinand Braudel. [136] Braudel argued that history comes in different layers that all have their own dynamics and time frames. At the University of Delft, this notion stimulated a 'morphological' approach in which the very persistent structures in city and landscape were taken as a point of departure. Kevin Lynch gives a concise account of the importance of time in *What Time Is This Place?* Written shortly after Halprin's *RSVP cycles* in 1972, its back flap is rather explicit: 'Time - call it change, growth, development - is the missing dimension of place, and Kevin Lynch, a provider of missing links, supplies it in this provocative book.' [137] The statement on the back flap is particularly interesting as it confirms the definitional problem of time in this context: 'call it growth, change, development'. One

possible explanation for the explicit role of time in urbanism is that the operation of making a city relies on preparatory drawings, formal discussions, and public decision-making before the long process of building starts, and all the while necessarily taking change of circumstances into account. The designed infrastructure system of roads, but also sewers, per definition collides with the former irregular landscape. For that reason there is always a meeting of the (regular) new and the (irregular) old. *Rotterdam, verstedelijkt landschap* [Rotterdam urbanized landscape] by Frits Palmboom (1987) was immediately a classic. It opened the eyes of urban planners (and landscape architects) to this meeting of old and new and the substantial influence of the 'old' landscape on the seemingly very rational pattern of Rotterdam. [138] Recently, Palmboom with *Drawing the Ground* published a book that ties the links between drawing, landscape, and time even tighter. Together with Lynch's *What Time Is This Place?*, this is a strong contribution to the argument from the side of urbanism, and Palmboom also engages in drawing. The office seeks to make 'the operation of time visible' in drawings. As urbanism often has to deal with uncertainty these drawings 'practice the art of determining things minimally and leaving as much as possible open'. [139]

It follows from this discussion that connected fields such as archaeology, cartography, the arts and urbanism and writers such as Lynch, Bender, Ingold and Leatherbarrow contribute essential arguments and concepts to the exploration of time, landscape and intervention. Kevin Lynch in particular points out the difficulty of speaking about time. In elaborating on this difficulty, he in fact makes perfectly clear which viewpoints have to be considered, just as for example historian Eviatar Zerubavel does.

[134] See Heeling, Meyer and Westrik 2002.

[135] Heeling, Meyer and Westrik 2002: 16.

[136] Ibid.: 119.

[137] See Lynch 1972.

[138] See Palmboom 1990.

[139] Palmboom (Ed.) 2010: 41.

[140] Lynch 1972: 65.

[141] Ibid.: 66.

[142] ibid.: 70.

[143] Ibid.: 76,77.

[144] Denbigh 1981: 1.

Speaking about time

Augustine's famous cry 'I know what time is, but if one asks me, I don't know what to say' was already mentioned in the introduction. The work of Augustine has been discussed by numerous authors, and does not need to be repeated here. But referring to him helps us to see that due to this fundamental tension between the evident and the unexplainable, the notion of time in relation to landscape includes words such as change, growth, movement, dynamics, and process. Here, I try to shed light on possible ways of speaking about time in relation to landscape architecture.

Different views

'We have two kinds of evidence of the passage of time. One is rhythmic repetition –the heartbeat, breathing, sleeping and waking, hunger, the cycles of sun and moon, the seasons, waves, tides, clocks. The other is progressive and irreversible change - growth and decay, not recurrence but alteration.' [140] With these words, Kevin Lynch in *What Time Is This Place?* gave both a rich and a practical approach to time. His contribution links the thinking about time in adjacent fields to the vocabulary as proposed here. Lynch's sentences barely reveals that an urban planner wrote them. Lynch comes closer to urbanism and even landscape architecture with the remark that 'environment is the clock we read to tell real time' and a statement about parks: 'One of the great values of the city park or garden is the way in which its plants and surfaces convey the passage of the year.' [141] Plans, however, rarely 'refer to desired or expected timing'. [142] In fact, Lynch develops quite an elaborated vocabulary by listing a set of terms that structure the phenomenon of time from the perspective of urbanism: 'One can think of several

dimensions along which time structure can vary: a) its grain, or the size and precision of the chunks into which it is divided; b) its period, or the length of time within which events recur; c) its amplitude, or the degree of change within a cycle; d) its rate, or the speed with which changes occur; e) its synchronization, or the degree to which the cycles and changes are in phase, or begin and end together; f) its regularity, or the degree to which the preceding characteristics themselves remain stable and unchanging, and g) (in the human case and more subjectively) its orientation, or the degree to which attention is focussed on past, present or future.' [143] This quote by Lynch is very useful because it creates, from the perspective of designers of cities and landscapes, a frame for speaking about time, and for ordering the wide range of possible interpretations that comes with it.

Evidently, in other fields numerous attempts have been made to speak about time in a systematic way. Many such attempts operate on a level of abstraction that is above that of this research. However, *Three concepts of time* by philosopher of science Kenneth Denbigh gives a helping hand. 'The great value of the time concept is that it provides a systematization', Denbigh states, and he connects time to change, which in relation to landscape is certainly a useful designation: 'No doubt [the concept of time] was first created by the ancients to enable them to cope with the fact that things are changing: the clouds are moving and changing their shapes; plants are growing and withering; the positions of the heavenly bodies are slowly shifting; and men themselves progress inevitably from birth to death. [...] all such events and processes of change can be treated as elements within a unique serial order.' [144] Denbigh distinguishes three concepts of time; it is his third

time concept that is relevant here, a time concept residing in our conscious awareness. It is structured with words like 'now', 'earlier' and 'later', and assumes an on-going movement of time in the direction of 'the future'. The implication is that every moment is a unique moment that can never happen again. [145]

We find literature on time in very different fields. A very basic and recurring distinction is that of *linear* time and *cyclic* time. Linear time is seen as the simple progression of time in between two moments involving now and then, earlier and later, past and future, and the conviction that time moves in one direction, coined the 'arrow of time' by Arthur Eddington in 1929. [146] The symbolic meaning is evident: Time is progressing in one direction. This can be contrasted to cyclic time. As Lippincott states in *The Story of Time*, 'the sun and the moon are the two great timekeepers in the heaven', marking the cyclic return of day and night, the rhythm of the months, the passage of the year and the larger cycles, defining both the cyclic occurrence of phenomena and linear growth measured against such cycles. [147]

A very different realm of time concepts is found in text, story and film. A film can span hours, generations, and ages of history in a logical sequence of happenings, but just as easily with jumps in time, by flashing back or flashing forward. Seymour Chatham looks at narratives as having a double time structure: the time of the events in the plot (story time), and the time in which the events are presented (discourse time). [148] Film, books and theatre offer various approaches to construct a story. In books, 'time can be frozen for a moment' as Chatham puts it, to describe the landscape around us. Film can give in one shot an almost end-

less amount of detail, though presented without any order, with no time to linger, as film has too much 'narrative pressure'. [149] Essential, however, is that time in narratives can be experienced in different ways, as was the main issue in question in the work of Henri Bergson. Time is a flow with 'durations of different tensions'. Bergson distinguished 'spatialized time' being the abstracted clock time, and 'real time' or 'duration' being the flowing, indivisible time. [150]

When speaking about landscape, it is typical to consider short time spans like a day or a season, the time it takes for an oak to mature, and very long time spans like ice ages – or even much longer, such as the geological concept of deep time. [151] Regarding (very) long and (very) short timescales, Dutch physicians Gerard 't Hooft and Stefan Vandoren offer a systematic approach. They rigidly think in timescales defined in powers of ten. [152] Ranging from 10^{-44} to 10^{26}, 't Hooft and Vandoren explore which phenomena operate on the diverse time scales, like the circulation of the planet Saturn, or the half-life of an atom. Every phenomenon we could think of related to landscape still fits in only a small part of their scale! In fact, this scale to measure time perfectly matches the second category of Lynch, who spoke about 'its period, or the length of time within which events occur'.

Zerabuvel's contribution
Time Maps: Collective Memory and the Social Shape of the Past by historian Eviatar Zerubavel covers topics such as religion, ancestry and commemoration. [153] That may seem off topic here, but in fact it provides a rather effective framework to speak about time

[145] Denbigh 1981: 5.

[146] Overton 1994: 215-237.

[147] See Lippincott 1999:38.

[148] Chatham 1980: 121-140: 122.

[149] Chatham, 1980: 123.

[150] Kozin 2009.

[151] As developed by James Hutton. See https://en.wikipedia.org/wiki/Deep_time.

[152] See 't Hooft and Vandoren 2011.

[153] Zerubavel 2003.

[154] Zerubavel 2003: preface.

[155] Ibid.: 7.

[156] Ibid.: 15.

[157] Ibid.: 17.

[158] Ibid.: 20.

concepts. The aim of the book is 'to depict how we actually map the way time flows in our mind'- in itself interesting for the graphical connotation of the word map. [154] Zerabuvel distinguishes 'patterns along which we normally envision time flowing (linear versus circular, straight versus zigzag, legato versus staccato, unilinear versus multilinear), as quite explicitly evident in the general plots ("progress", "decline", "rise and fall") and subplots ("again and again") of the stories to which we usually come to narrate its passage'. [155] Most of these notions are quite helpful in categorizing time concepts in landscape architecture. Zerubavel discusses a series of 'formal patterns' in which time is mapped. The first is the notion of progress. This is illustrated with popular perceptions of social rising ('rags to riches'), perspectives on past and future ('later is better') and common phrases like 'development' and 'progress report'. However, the main manifestation is in the idea of evolution, represented as a ladder, or an upward pointing arrow. It is strongly associated with the word optimism, not as an individual notion, but as 'an unmistakably schematic "style" of remembering shared by entire communities'. [156] The opposite formal pattern is that of decline, graphically represented in an arrow pointing down. This suggests a better past that is lost, after which 'things usually get worse with time'. It is interesting to observe that such a downward concept of time is almost impossible in the context of plans, as they generally aim to improve. However, often a nostalgic and pessimistic view of the past is a strong motivation for making plans. Particularly in landscape, the deterioration of our environment has motivated many plans. As Zerubavel says, 'historical plotlines are often extrapolated to imply anticipated trajectories'. [157] Both progress and decline suggests a linear unfolding of time, but linearity is often not the case. Many narratives are based

Fig. 3.19 Diagram in which circular and forward-oriented time movement merge, as taken from Zerabuvel 2003.
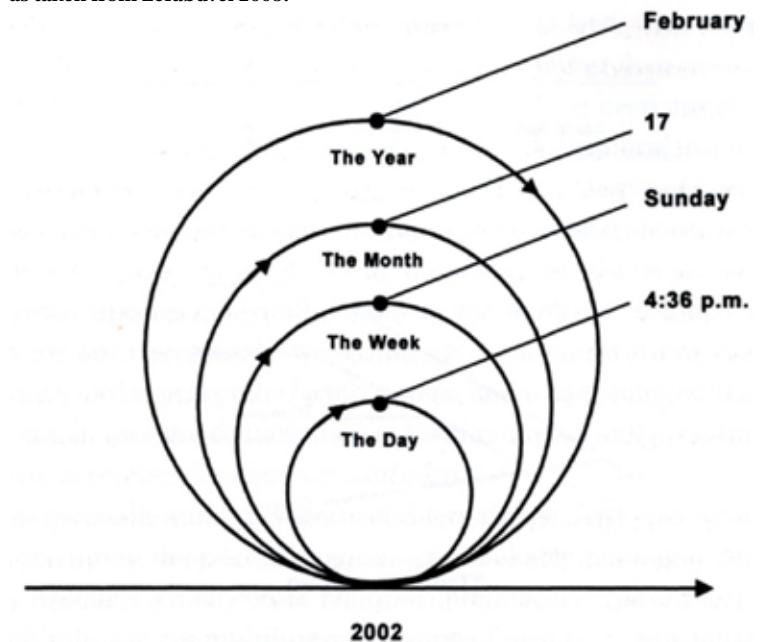
on 'zigzag narratives': a rise-and-fall narrative, as was the fate of the Roman Empire; or a fall-and-rise narrative, denoted as the 'Cinderella-scheme'. In any such narrative the idea of a turning point is crucial. But linear or zigzag, these time concepts are unilinear, or 'a serial progression of unmistakably successive episodes'. [158] Such schemes are associated with a purposeful enfolding of history - or, probably, if related to design, the purposeful act of making a plan. Zerubavel speaks about 'stories of becoming'. The opposing concept is that of a multilinear narrative illustrated by *cladograms*. The branching structure of a cladogram represents

the different paths of evolution. Again, this is not so far away from the practice of making plans, as reality often forces us to think in scenarios, and to cope with unexpected happenings.

Is time always moving forward? No – Zerubavel also describes formal patterns departing from the idea that time moves in circles. An obvious manifestation of this circular concept is the phenomenon of the seasons. Circularity does not contradict forward-oriented patterns – it can happen at the same time. [Fig. 3.19] Independent of circular or forward understandings, 'historical narratives vary considerably in their perceived density'. [159] Density is a highly personal experience, but Zerubavel looks at it as a social way of understanding time. We construct our past in 'eventful' and 'uneventful' periods. With a metaphor again close to cartography and landscape, Zerubavel adds that history thus takes the form of a relief map with 'mnemonic' hills and dales. [160] There are 'two basic modes of envisioning the actual progression of time' in historical narratives: legato and staccato. Time can flow gradually and smoothly (legato), or confront us with abrupt changes (staccato). Such perceptions of time express the desire to construct the past as continuity, or a discontinuity. The present is 'largely a cumulative, multilayered collage of past residues continually deposited through the cultural equivalent of the geological process of sedimentation'. [161]

This overview of concepts of time started with Lynch, and ended with Zerabuvel. They share similarities, but also bear an important difference, which is the accent Zerabuvel puts on the narrative aspect in understanding time. Zerubavel reflects on concepts of time in experiencing, re-telling and constructing history. The fact that

he also takes 'constructed narratives' into account establishes an important link to the themes in question here. Landscape architectural plans are most certainly constructed narratives, although the narratives are often implicit, with strong ideas about (un)desirable pasts and futures. Zerubavel speaks about our ability to mentally transform essentially unstructured series of events into seemingly coherent historical narratives. This describes, in a surprisingly apt way, an important feature of landscape architectural plans and their rhetoric. Even if the word is absent in landscape architectural theory, it makes sense to think about plans as plotlines. With such notions, Zerabuvel, Lynch and others offer a vocabulary that helps us to 'read' landscape architectural thinking and draw drawings in a more systematic way. This commences with the obvious division into cyclic and progressive time. It includes words like change, growth and dynamics. It expands towards dimensions of time, such as its length, amplitude and regularity, its direction, its narrative aspects, and the linearity of the episode, bringing in the option of different scenarios.

This section has underlined and elaborated what the introduction put already forward: the complex relation between a landscape on paper and a landscape in reality as a consequence of time at work, with a focus here on the diverse understandings of time at work. 'What exactly is the role of time in landscape architectural design?' was asked in the introduction, and at least a start has been made in answering that question. The account given here suggests that we can construct a history and a theory of time, landscape and intervention, and connect that in the next section to the representation of time. With Hunt as cited in 3.2, we should not orient ourselves 'entirely if at all' on Freud, Lacan, Derrida,

[159] Ibid.: 25.
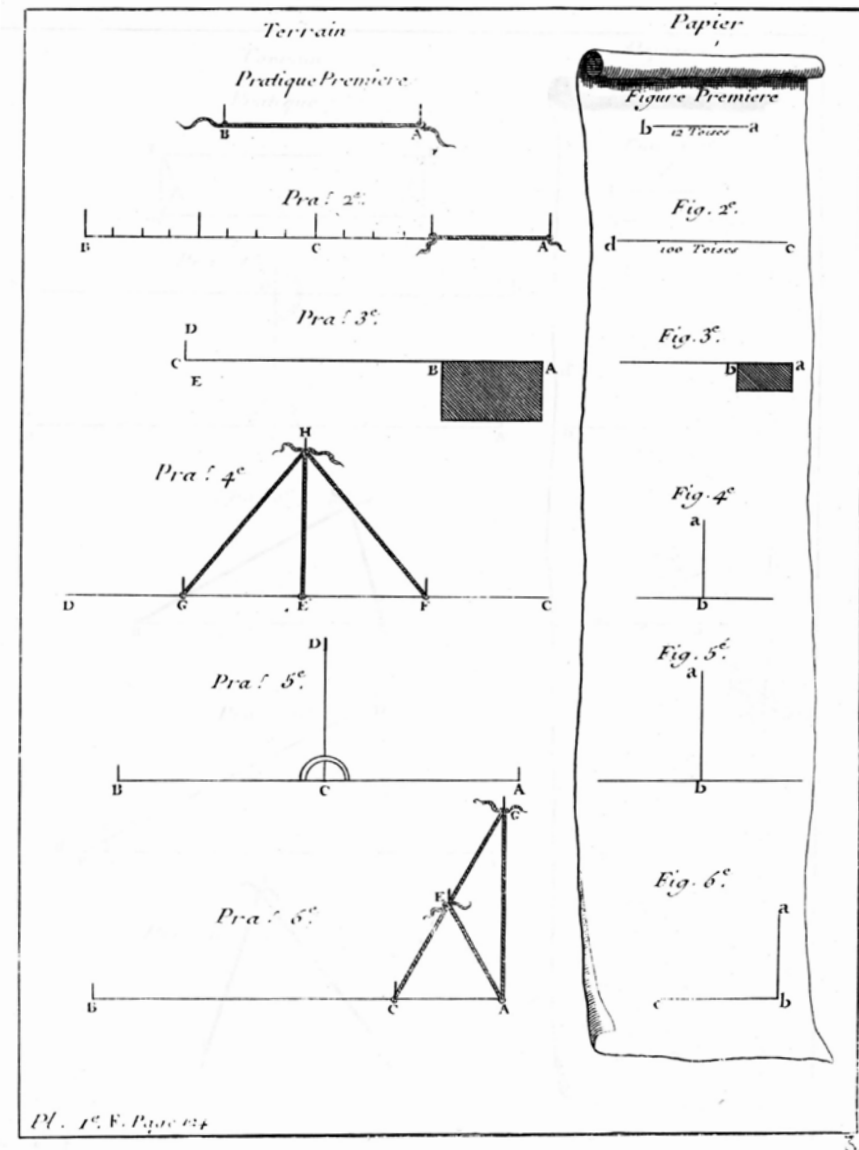
[160] Ibid.: 27.

[161] Ibid.: 37.

Fig. 3.20 Page as taken from Dezaillier d'Argenville, 1709/1972. The diagram shows how drawings on paper can be transported to the garden, as the first of twenty 'exercises': *Parallele du papier avec le terrein, en ce qui regarde la maniére de tracer, réduìt à vingt Pratique.*

Foucault or Barthes; it is within landscape architecture itself that we must find 'the grounds for an adequate theory'. This section widens up Hunt's statement towards connected disciplines, but indeed an adequate theory is at hand.

3.3 Drawing, drawings and the design process

Introduction
In the preceding section, drawings (as a noun) and drawing (as a verb), and design processes in which they are deployed, had a modest role. This section will take drawing as its starting point. It explores the drawing as an object: a product of craftsmanship with physical characteristics, but also a vehicle in professional transactions, carrying embedded messages. It discusses 'representation', and the rhetoric aspects of speaking about what is not yet there. It positions drawings in the process of designing, and speaks about ways of categorizing drawings, to arrive at the specificity of drawing in landscape architecture and the way time is an element of images in various disciplines.

The making of drawings seems so obvious for landscape architects that, in the practice of design, the drawing as a phenomenon is hardly questioned. This contrasts with architecture, where drawing is a topic in theoretical discussions. An obvious reason is the smaller number of theoretical texts, but a more important reason is the restrained role of drawings in the practice of gardening, a predecessor of landscape architecture. Until relatively recently, gardening happened without drawings; it happened in the field.

To some extent that also happened on the larger scale, for example in the making of polders. As De Jong notes, land surveyors were important in landscape architecture: One could say that they drew 'on the spot'. [162] Many drawings from gardens and landscapes as we find them in books, are not so much designs as artistic depictions: (idealized) accounts of existing situations or executed works. Even if such drawings do not reveal the design process, they do show how landscape can be visualized on paper, closely connected to the painterly traditions, and cartographic knowledge of measuring and depicting landscape. We can find them from the end of the 16th century onwards. In *Aardse Paradijzen* and *Landscapes of the Imagination* De Jong et al discuss important emancipatory steps in the development of landscape architecture, and more specifically the development of drawing in and for landscape architecture. [163] An example of this is the work of Hans Puechfelder. In the 1593 *Nützliches Khünstbüech der Gartnereij* he presented some 50 ink drawings of gardens. Puechfelder as a gardener wanted to show that he understood the emerging theory on perspective – an emancipation from 'gardener to garden artist'. [164] The technique of perspective drawing in particular established a tradition in which the design of gardens was closely related to the depiction of gardens. Many garden designers, among them André Le Nôtre (1613-1700), were educated as painters - and in Le Nôtre's case also as architect, as is visible in his very skilful plan drawings with careful attention to built structures in garden designs. In Le Nôtre's drawings, as De Jong comments on the 1694 design for the Grand Trianon in Versailles, 'word and image belong together', an important development in drawing that is particularly relevant for landscape architecture, given the complexity of landscape. [165] This connection to the

[162] De Jong, Lafaille and Bertram 2008: 16.

[163] See De Jong and Dominicus-Van Soest 1996; De Jong, Lafaille and Bertram 2008.

[164] De Jong in De Jong, Lafaille and Bertram: 40.

[165] De Jong and Dominicus-Van Soest 1996: 42; De Jong in De Jong, Lafaille and Bertram: 50.

Fig. 3.21 Visualization of *City Life Park* **Milan, partially completed 2014, Gustafson Porter.**

technique of drawing, and more particularly to painting, deeply influenced new landscape design as it emerged in England in the early 18th century. In the work of William Kent (1684-1748) for example, painting inspired landscape design, and vice versa. Kent was also educated as stage designer, visible in the presence of people in his design drawings. [166] Treatises or garden handbooks such as *La Theorie et la Pratique du Jardinage* (first version 1709) or *The Scots Gard'ner* (1683) reveal the apparent need for information and the evolution in thinking about gardening. [167] These text-oriented books provide some instructive drawings concerning the technique of measuring the garden. An important step forward is the very clear relation between working 'in situ' and drawing on paper. [Fig. 3.20] In the vocabulary we use today we would probably call them diagrams. An early 18th century design drawing for the Groot Terhorne estate in Beetgum explores a particularity of landscape architecture. [168] The design shows that an existing road is integrated in the otherwise very orderly design. Landscape often confronts the landscape architect with *faits accomplis* – designs are almost never made on a 'white sheet'. For that reason, cartography as a means of mapping the existing landscape was closely related to garden design. Nicolaas Bidloo (1673-1735) as a gardener also wrote about his garden, and about the significance of drawings. Bidloo argues that drawings serves as memory, to keep the garden in mind, pointing at the important informational facility drawings offer. [169] The title page of the manuscript depicts Bidloo himself with devices to measure and to draw, such as a compass. At his feet, garden utensils -pruning scissors, a rake and a watering can- connect gardening as an outside practice with geometry and representation on paper.

Obviously, this is not the place for an overview of the history of drawing in gardening and landscape architecture - the introductory remarks only point to some of the themes that will be part of this section. What should be kept in mind is the complex relationship between the making of landscape, the need for drawings to do so and the development of the profession: emerging drawing techniques and an emerging discourse on drawing helped the discipline to establish itself. That is very well illustrated by an 1809 text passage by Goethe. He describes a couple and their friend the captain, walking in a park and discussing changes in the design of the park. The captain observes that the project would benefit from a survey of the park and the landscape. He is able to do so, thanks to his military background. It is precisely through drawing the landscape that comparisons with other parks can be made, and that it becomes possible to speak about the park in designerly ways. As De Jong argues, this marks a turning point in the practice of landscape design: From then on, interventions were generally preceded by drawings, often combined with text, reinforcing the emergence of landscape architecture as a profession distinct from gardening. [170] In other words, the drawing starts to be an autonomous object and an autonomous space of invention.

Studying the drawing for its own sake
Once we really start to think about drawings they become strikingly complex objects. If we look at drawings as individual objects, many questions can be posed. Do we know for what moment, in terms of years, the drawing is drawn? Do we know what was already there, as there is always something before the intervention? Contemporary visualizations especially tend towards the very happy

[166] De Jong, Lafaille and Bertram 2008: 66.

[167] See Dezaillier d'Argenville 1709/1972; Reid 1683/1988.

[168] De Jong and Dominicus-Van Soest 1996: 70.

[169] Ibid.: 27-31.

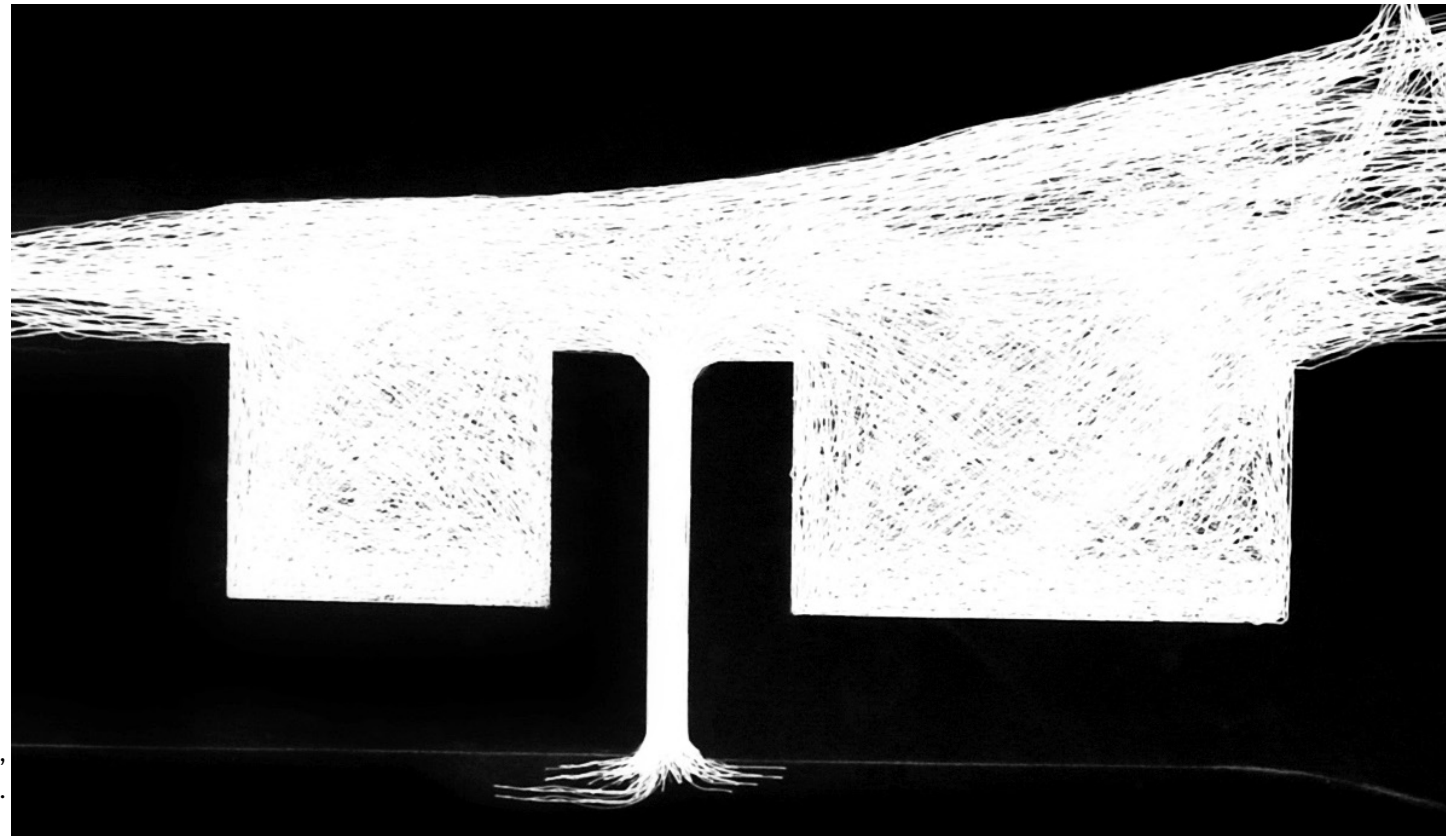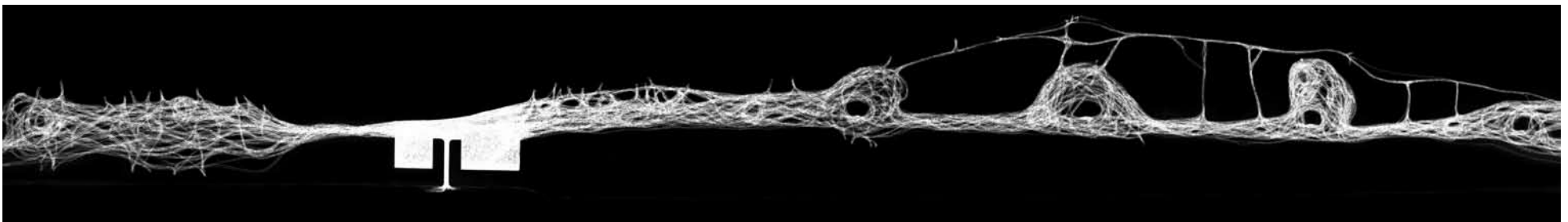[170] De Jong, Lafaille and Bertram 2013: 9-10.

Fig. 3.22ab   Freezone in *Port of Rotterdam* by RAAAF, 2014. *Celebrate Mobility* drawing by Kasper Jacobs, 2013. Entire drawing (175X25 cm) and 1:1 detail.

side of life: We are always offered sunny panoramas of a mature landscape, in which well-to-do people are enjoying their lives, in clean spaces without disturbing elements. [Fig. 3.21] What should such drawings communicate? What is their rhetoric? How should we understand them, as phenomena?

Materiality and context

Most drawings nowadays begin on a sheet of tracing paper or, for that matter, in certain software. A high quality negative or a high-resolution scan enables reproduction to a size that matches the medium of a book or an exposition. Although this may seem to be a practicality, it is quite essential. The specific contexts in which we see drawings, shape our understanding of them. In making such a remark, we enter the domain of art history, or media studies. An important concept in art history is the *materiality* of drawings; another is the *context* or *site* in which drawings are seen; the third, the *meanings* attributed to drawings. Materiality -a drawing can be made with chalk or ink, to mention but some materials - is obvious, and a fact – or not? We can speak about colour, drawing media, or size. But size as an example reveals the critical aspect of what seems a fact. Drawings in landscape architecture often have considerable dimensions, as they address large areas and must be readable. A reproduction in a journal can never match that size. This inevitably influences how we read such a drawing in reproduced form, as is illustrated by a drawing of the RAAAF office, of which a detail is reproduced matching the original scale of the drawing. [Fig. 3.22ab] Materiality in our digital age is even more difficult to grasp. A file may refer to a material original, but more often it has been built digitally. 'Size' in that case is often only specified in a specific context, such as an exhibition. For such reasons, both drawing media and size are only given in the captions in this study when relevant and crystal clear. Digital 'material' qualities are, for example, a drawing's resolution, its compression mode, and its software. Do we have to consider software -like AutoCAD- to be a drawing media? Is a line, formerly made with pencil on paper, the same as a trace with help of pixels? These are questions for other pieces of research. Here it is relevant that drawings are very infrequently seen as original, unique objects. We see them as reproductions, as images, or, in semiotic terms, as 'signs'. [171] Many of these reproductions probably do not even exist as an original anymore, due to the modest standards of archiving. [172] More importantly, they are most often part of a bigger whole. Blau and Kaufman state in *Architecture and Its Image* that representations 'whether in the form of drawings, prints, photographs, illustrations in books or magazines, or the transient images of film, video, or computer screen, are usually produced and used in groups'. [173] An individual project in an office offers a range of 'media' and drawing types. These are presented as 'packages'. As Houdart puts it, 'at one point or another in the design development stage, an architectural project takes the form of a package, an A3 size booklet made up of the various representation techniques or graphic steps – concept drawings, perspective drawings, ground plans, elevations or sections, engineering details and so on.' [174] Project presentations most often contain between 50 to 200 drawings. [175] These are presented in a project book, or a slide show presentation. Different from websites -another important source for viewing drawings- a book also presents an argument or narrative, explaining the project and providing information on its origins and performance. This is

[171] Rose 2012: 106.

[172] See http://www.architectuurgeschiedenis.nl/projecten/p_01_nl.html for the report on archiving in Dutch landscape architecture Papier en Landschap [Paper and landscape].

[173] Blau and Kaufman 1989: 13.

[174] Houdart 2008: 50.

[175] In the context of this study Wageningen University student Romy Zwiers in 2012 studied projects from landscape architecture office Feddes Olthof for their presence in diverse media. The number of images in these projects ranged from 70 to 130. A short comparison with some other offices suggested, very much depending on the nature of the work, a range of 50 to 200 as being adequate.
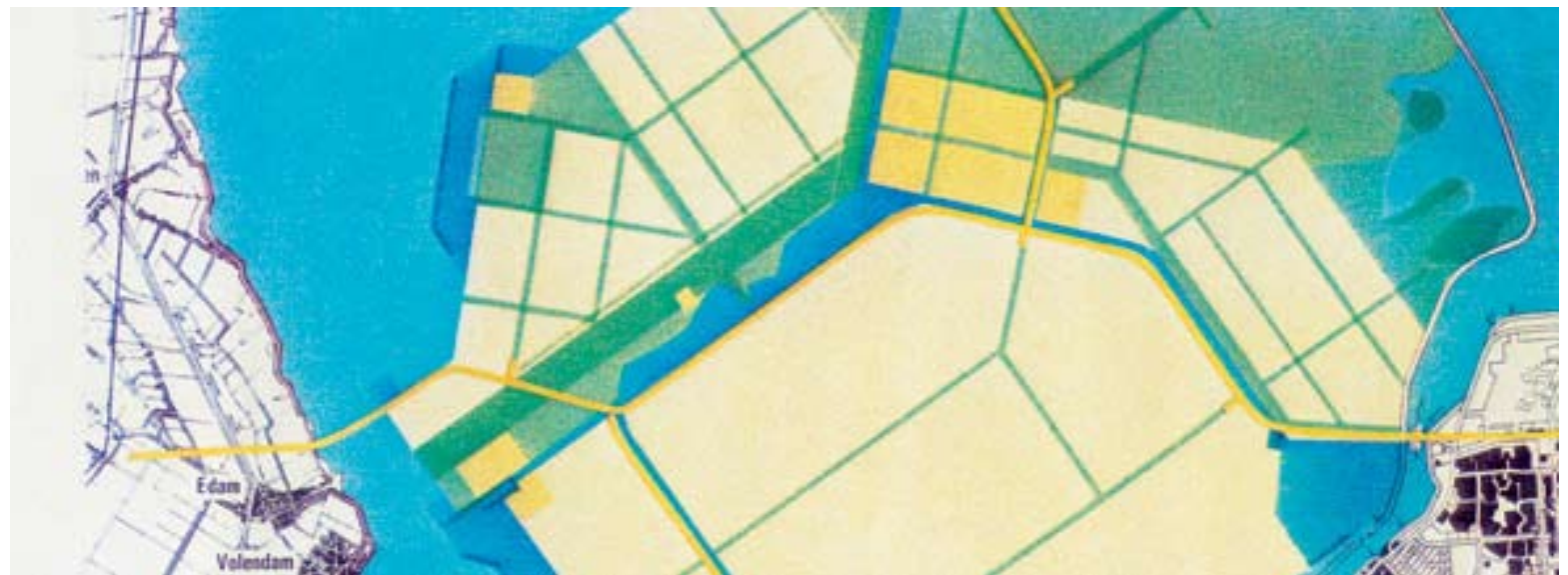
Fig. 3.23   Plan drawing for Markerwaard polder. Competition entry by Alle Hosper and Lodewijk Baljon, 1983.

relevant, because any reflection on the representation of time may refer to projects, but certainly also takes into account individual drawings. Although most drawings are not meant to be studied in isolation, if we do so, specific aspects come to the fore, such as their meaning, their artistry and the techniques invested in the drawing. We can try to understand the aspect of time in drawings as part of a tradition, or as an innovation.

Drawings made by a landscape architect may become part of a project book and archived in the office, or thrown away, for that matter, but drawings can be disseminated by reproductions and publications. As MIT professor Hélène Lipstadt argues, they can 'escape from [the design] process into the world of architectural culture, achieving, either permanently or momentarily, the status of (relatively) independent cultural goods, […].' [176] Lipstadt uses the word 'escape' consciously, to indicate the role of exhibitions, books, journals and websites as sites where drawings are shown for their own sake. The Internet especially has made it possible for drawings to travel around the world, to be copied and to be taken as references, often without knowing what the drawing led to in reality. [177] Drawings and buildings have multiple relations to each other. Architecture theoretician Wolfgang Sonne states that the production and the reception of buildings depend on 'a set of media, in which buildings are anticipated and interpreted.' [178] Each of these mediums has specific relations with the built thing: 'Which characteristics of a building, the other way around, can be transported by which medium - what can a plan communicate differently to a perspective drawing?' [179] Sonne points at two aspects that are very important in the context of this research: It is assumed that a certain type of representation has certain qualities,

different from others, by default; and it is implied that a drawing is only one among many other media, such as film, photography, the Internet, books, and cartography.

Technique and invention

The material qualities of drawings obviously relate to technique, craftsmanship, creativity and invention. One could speak about the invention of utensils, such as the eraser, and consider drawing techniques such as watercolour. Just as important are techniques that support the making, reproducing and presenting of drawings, ranging from a CAD station to a colour copier to an iPad. Does it matter that Dutch landscape architect Alle Hosper and colleagues in 1983 handed in an entry for a competition on the new Markerwaard polder with the plan drawing copied on the one and only colour copier that was to be found in the Netherlands at that time, the early eighties? [180] [Fig. 3.23] Yes it matters, because they consciously took advantage of the blurred copies this brand new machine produced. It was exactly this failure they were looking for, as it softened the somewhat technocratic feel of the straight polder design. This anecdote confirms a process of innovation, documents the immediate application of a new technique, and reveals why such an application was seen as relevant. Dutch landscape architect Pieter Buys (1923) was admired for his artistry and skilful drawing, and, as his biographer Marinke Steenhuis puts it, this certainly helped his reputation. [181] His drawing was influenced by his stay in Denmark in the early fifties, which inspired a very minimalistic approach with black ink. Apart from plain ink drawings, the office Buys & Van der Vliet explored the use of chalk, and common utensils such as a toothbrush and

[176] Lipstadt in Blau and Kaufman 1989: 111.

[177] See also Adams 2011.

[178] Sonne (Ed.) 2011: 7. Original German text: 'Produktion und Rezeption von Gebäuden sind von zahlreichen Medien abhängig, in denen Bauten antizipiert und interpretiert werden.'

[179] Sonne 2011: 8. Original German text: 'Welche besonderen Charakteristika des Baus wiederum werden durch bestimmte Medien transportiert - was etwa kann ein Plan im Unterschied zur Perspektive vermitteln?'

[180] Van Dooren and Van Leeuwen 2003: 13 and preparatory interviews.

[181] See Steenhuis 2008.

[182] De Jong, Lafaille and Bertram 2008: 17.

[183] See De Jong 2008 and Picon 1992.

a sieve. Implementing such 'tools' to when working with ink, they strived for a strong identity in their drawings. As De Jong argues, drawings are not solely intended to contribute to the solution of a problem. They are a space to experiment; they are given an artistic quality, and very often they are used in a rhetoric way. [182] The fact that garden architect Springer was a master of watercolour not only means that he wanted to stand out as a draughtsman, but also that he considered watercolour to be very appropriate for his design intentions, in which colours, the seasons and atmosphere were very important. In that sense drawings and the deployment of specific drawing techniques must be seen in strong relation to the emerging definition of what landscape architecture is.

Concerning the drawing as a space to experiment, De Jong and also Picon discuss the École Nationale des Ponts et Chaussées. [183] This school, training engineers and founded in 1747, was highly influential for drawing in landscape architecture. In the late 18th century, a modernization of the French infrastructural system was required, and this involved a new conception of roads and canals on a national scale. Large interventions in the landscape were prepared, and mapping had an important role in this. The École contributed to a systematization of the mapping of landscape. Many of the conventions in today's representation in maps and plans were developed here. Landscape maps now started to be drawn in a codified language as specified in a legend. Such codes enable professionals to communicate their idea, they enable other parties, like contractors, to read the drawings in a protocol led way, and they enable students to get acculturated into a professional way of working. Students of the École were invited to participate in a yearly map drawing competition, challenging them to show their

Fig. 3.24a-c   Detail of plan drawing for Valkenbergpark, Breda, B+B, 1992. Three versions as drawn by Adelaida Larrain and Sue Hanover to test specific ways of coloured pencil drawing.

craftsmanship by drawing a map on a basis provided by the school. The student's map had to show all ingredients a landscape could have, from swamps to cities to rural landscape. Not the beauty of the landscape design was rewarded, but the craftsmanship of drawing a map. Picon notes that the student maps 'had a disturbing resemblance to the art of gardens'. [184] In their attempt to show all landscape categories, they strived for dramatic contrasts between the untamed and the tamed, designed landscape. For such reasons, the École functioned as a laboratory and without doubt stimulated innovation in landscape representation. This was not restricted to representation either: the École contributed to the introduction of the word '*paysagiste*', expressing a new understanding of this emerging discipline. [185]

Meaning
A drawing cannot only be understood by its materiality or by what we immediately see. Looking at drawings is an interpretative act, in which the drawing is considered as an artefact in a social, cultural and economic context, or even as an actor. [186] Art historian W. J. T. Mitchell goes as far as to ask 'what pictures want', which is for him an appropriate question, as pictures are 'worldmaking, not just mirroring': 'Images are like living organisms; living organisms are best described as things that have desires […]; therefore, the question what pictures want is inevitable.' [187] Drawings in that sense are transactions between those making and those reading the drawing. It means that we understand a landscape architect's drawing as part of a transaction between a design office and a client. It also implies seeing the office as a social entity in which a group of people work; hardly any drawing is made by only one person. The drawing is a design in itself that has to be tested out, and it has to be drawn in the most skillful way. The office of B+B, founded in 1977, used coloured pencils extensively for many years, in fact using two different colours with one hand, and developed an extremely skilled technique of doing so. [Fig. 3.24a-c] Authorship of a drawing is therefore a fragile concept. [188] The public, or the professional community, will see the drawing in a magazine, on a screen, or at an exhibition. In all these cases, drawings are part of a play. On one side we find the designer's intentions in the drawing, on the other side the diverse readings the public may have. Art historian Erwin Panofsky distinguishes three 'strata': firstly the formal presence of an image or the 'primary subject matter' by which the image can be described; secondly the understanding that the image consists of several motives and themes; and thirdly the intrinsic meaning of the image rooted in the traditions of a nation, a period, a class, or a religion. As Panofsky adds, this is about symbolic values 'which are often unknown to the artist himself and may even emphatically differ from what he consciously intended to express'. [189] It is not perhaps the way (landscape) architects generally think about their plans, but in terms of visual culture, drawings must be understood more broadly than as only communicating landscape or buildings, and interpreted in a way close to our reading of advertisement, imagery on the world wide web, video clips, billboards, and games. In fact, (landscape) architects consciously or unconsciously adopted techniques from films, games and advertisement to give their drawings a seductive quality in many ways. Surprisingly enough, architects' drawings are hardly ever mentioned in literature deriving from social studies, and considerably less than other 'visual cultures'. [190] There is something to say for not mentioning a CAD-drawing in the same

[184] Picon 1992: 217.

[185] See Disponzio 2002 and De Jong 2008: 24.

[186] See De Jong 2008: 8-25, or Nerdinger 1986 for architectural drawings. If enlarging the domain to images in general see Mitchell 2005.

[187] Mitchell 2005: 11.

[188] See for example Van Dooren in Steenhuis (Ed.) 2010: 376-425. As the work of B+B is excellently archived, such distinctions in some cases were possible. Generally there is no written account, and authorship claims in retrospective are often contradictory.

[189] Panofsky 1955: 31.

[190] For example Sturken and Cartwright 2009 can easily be applied for (landscape) architectural drawings.

[191] Kress and Van Leeuwen 1996: 7 and 16.

[192] Kress and Van Leeuwen 1996: 42.

[193] Rose 2012: 113.

category as a video clip, but today's visualizations certainly fit into broader visual categories.

Kress and Van Leeuwen speak about 'the semiotic landscape'. 'Semiotic' refers to the fact that images and text have a grammar and transport meaning. As Kress and Van Leeuwen stress, there are different schools in semiotics, related to the likes of De Saussure, Peirce, or Halliday, but a common notion is the 'sign'. In semiotic terms, images contain signs, or better said, following Kress and Van Leeuwen, they are 'sign-making'. [191] Rose in *Visual Methodologies* prefers the word 'meaning'. Signs, or meanings, function if they operate between the producer and the receiver. [192] In the theory of semiology this is problematized, as there is no unambiguous relation between the 'signifier and the signified'. [193] Context, convention and the image itself are important. Landscape architecture drawings obviously are a very specific category of images. But given that they function as instruments to make something happen -the approval and realization of a plan,

Fig. 3.25 Drawing by Melanie Koning, 2012, Van Hall Larenstein. Collage-style visualization.

for example- they certainly transport meaning, meant to influence the reader. In the professional world of (landscape) architecture, designers often embed, or presuppose, 'messages' in their drawings - and this also could concern aspects of time. The exact way in which these messages are received is mainly assumed by practitioners, but theoretical interest in this starts to grow. [194] A striking example of implicit messages in landscape architecture drawing is the use of the colour green. Even if a forest in winter is not green, and even if several tree species are red, brown and yellowish instead of green, the colour green radiates more than the supposed reality alone. Green comes with associations about nature, about friendly, or wild, or beautiful landscapes. [195] [Fig. 3.25] The public may be more positive towards a plan if it reads it with such associations. Architects' drawings are part of 'visual culture', as claimed by Sturken and Cartwright in *Practices of Looking*. That means that images, including drawings, are inevitably part of an array of visual material, and that their meaning and appreciation is formed by relationships existing between modes of imagery. [196] John Berger, in his famous essay 'Ways of Seeing', suggests that images 'invite' one to look at them in a certain way. [197] Just as Sturken and Cartwright do, he asserts that images never only exist as produced by the maker. They exist in relation to the spectator: 'Yet, although every image embodies a way of seeing, our perception or appreciation of an image depends also upon our own way of seeing.' Berger connects this to the issue of reproduction. Seeing an image in another context inevitably changes the image, as 'the meaning of the image is changed according to what one sees immediately besides it or what comes immediately after it'. [198]

The representation of what is not yet there

'I made this park' is easily said by a landscape architect - but is in fact a bewildering statement, as the landscape architect in general did not shape the earth or plant the trees. A 1:1 'drawing' on the actual site is perhaps as far as a landscape architect gets to a real intervention in the landscape. [Fig 3.26] We have to understand this statement in a different way: It is probably an act of mental appropriation, it certainly seeks to underline authorship, and it tries to position landscape architecture as closely related to 'real' making. It also suggests that 'designing' is used as a substitute for 'making'. What role do drawings have in this? How do drawings represent a (future) reality? The word drawing is deceivingly simple. The French word for drawing, *dessin*, reveals some of the difficulties of this seemingly simple word, as it implies the drawing, the act of drawing, a pattern and the design or plan. In that sense, the practice of drawing is connected with the thinking about landscape and design. Consider also the question of whether a model is a drawing, or if an AutoCAD file is just as much a drawing as the one made by pencil on paper. In both cases the answer is yes. Some may say that a model is not a drawing, but as a model certainly contributes to the same goal, I share Tieskens' view that a model is indeed a drawing, even if it is a three-dimensional one. In the same way an installation, a mock up and in some cases a text can be a drawing. [199] As Lipstadt puts it, the main criterion is that they are part of an architectural production, and they contribute to our understanding of what will be built. It is exactly in this way of putting it that drawing and text are closely connected in 'design productions'. [200] Seen like this, the word drawing comes rather close to the word representation, and that mirrors daily habits of speaking. However, the phenomenon of repre-

[194] It is in professional design practice that messages are assumed, but not tested. In the social studies there is a clear interest in how drawings are understood.

[195] Van Dooren 2013a: 98-110.

[196] Sturken and Cartwright 2009: 2.

[197] See Berger 1972.

[198] Berger 1972: 29.

[199] See Tieskens 1983.

[200] See Lipstadt in Blau and Kaufman 1989.

Fig. 3.26   's Graveland project by karres + brands landschapsarchitecten. Testing the effect of an intervention by 'drawing' the plan in reality. Design 2010-2012.

sentation is even more complex. In a wider context, the word can refer to our potential to influence political processes, or 'a stock of values, ideas, beliefs, and practices that are shared among the members of groups and communities', to only point out two very different meanings. [201] Even if we stick to arts and architecture, though, the word is highly complex. Neil Levine speaks in *Modern architecture. Representation and reality* about representation as concerning 'the form and structure of rhetoric rather than simply its outward effects. It describes an essentially theatrical situation in which a virtual or ideal set of recognizable figures is perceived as standing for, that is to say, representing, an absent set of real ones to which they are meant and believed to correspond.' [202] He starts by explaining what sort of interpretations of representation he will not deal with: 'To begin with, I am not using the word in the technical sense of referring to the two- and three-dimensional means employed by architects to convey their ideas on paper, in models or in digital form. [...] Nor am I using the term simply as an equivalent for the concept of sign or symbol. Such uses are common to any semiological system and have no special relevance to the problem of representation as means or mode of architectural expression.' [203] Ironically, this rejected meaning fits here. Paraphrasing Levine, I will use the word in the technical sense, 'referring to the two- and three-dimensional means employed by architects to convey their ideas on paper, in models or in digital form'. The fact that I want to use the word in the more technical sense does not oppose the other meanings Levine proposes. His use of the word 'rhetoric' is also important, and has been mentioned before. My interest in his 'technical' definition derives from the closeness of the words representation and drawing as used in practice.

Rhetorical aspects

It is essential to perceive the drawing as both a material object and a meaningful image. Helmreich and O'Malley show how the material aspects and the rhetorical aspect meet: 'Presentation drawings, which were intended for the client or the public, were often highly finished, employing perspective views that, according to James Ackerman, tended toward rhetorical exposition'. [204] Concerning representation, landscape architecture and architecture have a shared history, but landscape architecture is also a bit different, and probably exactly because of the issue of time. It is inevitable that most drawings in landscape architecture refer to a landscape, or stand for a landscape, *at a certain moment in time*. If this moment in time is not specified, which it usually is not, the drawing in fact is highly rhetorical, as it presents this moment in time as evident, which it certainly is not. Helmreich and O'Malley point at specific issues that have influenced drawing in landscape architecture. Maps, especially in America, were crucial as records of exploration and settlement, and disseminated as individual prints or in magazines, 'they played a formative role in shaping public perceptions of the use of design'. [205] A stunning example of the complexity of representation in landscape architecture is a bird's eye view by Peter Gordon. [Fig. 3.27] In our general understanding, this drawing hardly makes sense in the context of landscape architectural design, as it shows the landscape unfinished, at a moment that seems randomly chosen. But Helmreich and O'Malley argue that representing the unfinished state was a very conscious act, as these 'topographical views were shaped by the desire to show the New World as prosperous'. It is exactly this state of *being transformed* that must be communicated: 'It portrays a world being transformed, controlled and tamed

[201] See http://en.wikipedia.org/wiki/Representation

[202] Levine 2009: 2.

[203] Ibid: 2.

[204] Helmreich and O'Malley in O'Malley 2010: 54.
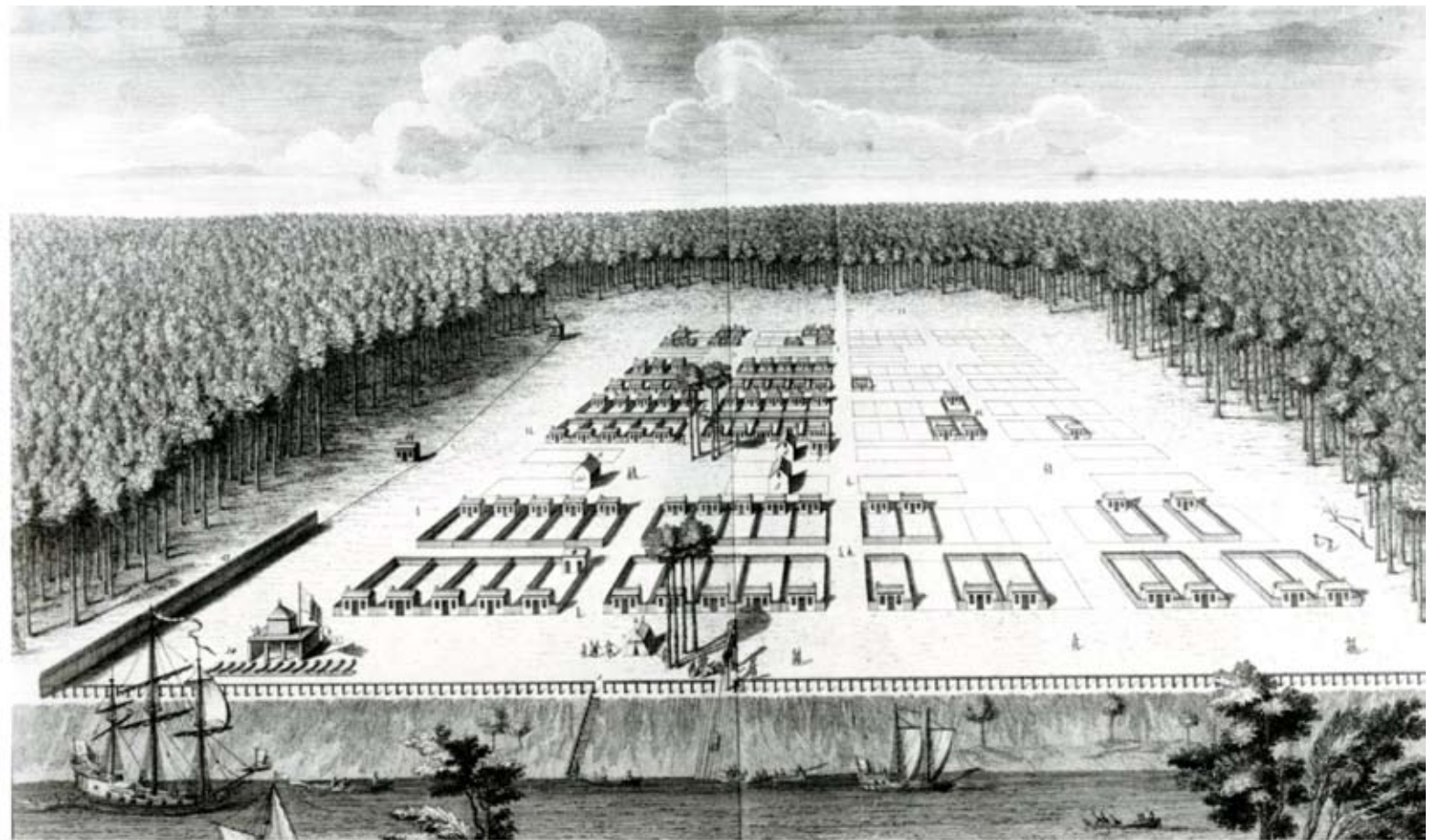
[205] Ibid.: 55.

Fig. 3.27 'View of Savannah as it stood the 29th of March, 1734' by Peter Gordon as published in Helmreich and O'Malley.

by European civilization', an interesting instance in which time becomes highly manifest. [206]

Representation here is spoken about in relation to drawings and designs, in the context of landscape architecture. I understand representation as the faculty of a drawing to describe something that does not exist, yet – a *projected* future. Generally, however, a landscape architect makes many drawings and delivers a product with text and images, so this immediately raises questions: Can one individual drawing represent a park, and if not, should we not speak about the set of drawings and text as representing the park? But if that is true, how then does an individual drawing relate to the object it refers to? As any drawing in the context of a landscape architectural project refers to a certain aspect of the proposed intervention, I conclude that both the individual drawing and the set of drawings can be spoken about as representations, but in different ways: A new park is probably best represented by a presentation book, including text and dozens of different types of drawings, whereas a bridge in the same park is probably represented very effectively by an individual drawing.

Ways of speaking
Both Marc Treib and Nadia Amoroso use 'representing' in the title of their books on drawing in landscape architecture, but in very different ways. [207] Amoroso's title, *Representing Landscapes. A Visual Collection of Landscape Architectural Drawings*, immediately links drawing and representation. We must understand the word as 'depicting', or 'showing'. Amoroso presents some interesting drawings in the context of the argument in this study, such as a

diorama by Getch Clark and Schneider. Dioramas can 'manipulate rapidly changing conditions of temporality, contingency, movement, multiplicity, sensation, and affect in order to prompt potentialities particular to the landscape medium'. [208] This can also be linked to a fascinating 'living model' produced by the office of B+B in their contribution to the *Vrijstaat* competition. [209] [Fig. 3.28] Drawings in these cases not only depict change, but change in themselves. The introduction presented a drawing by student Annelies Bloemendaal performing in the same way. Treib uses *Representing Landscape Architecture* as a title. In this case, we should read it as 'what do landscape architectural drawings tell us about views on, or perceptions of, landscape architecture?' This is confirmed in the introduction, in which Treib announces 'a broad investigation of how landscape architecture has been, is currently, and may be represented in the future: for its design study, for presentation, for criticism, and even for its realization.' [210] The drawing tells us something about the state of the profession. Alberto Perez-Gomez and Louise Pelletier in *Architectural*

Fig. 3.28   'Living' model for *Vrijstaat* competition. B+B, 2012.

[206] Ibid.: 62.

[207] See Treib (Ed.) 2008b and Amoroso (ed.) 2012.

[208] Amoroso 2012: 92.

[209] *Vrijstaat Amsterdam* was part of the fourth International Biennale on Architecture. Nine design offices speculated on the future of Amsterdam.
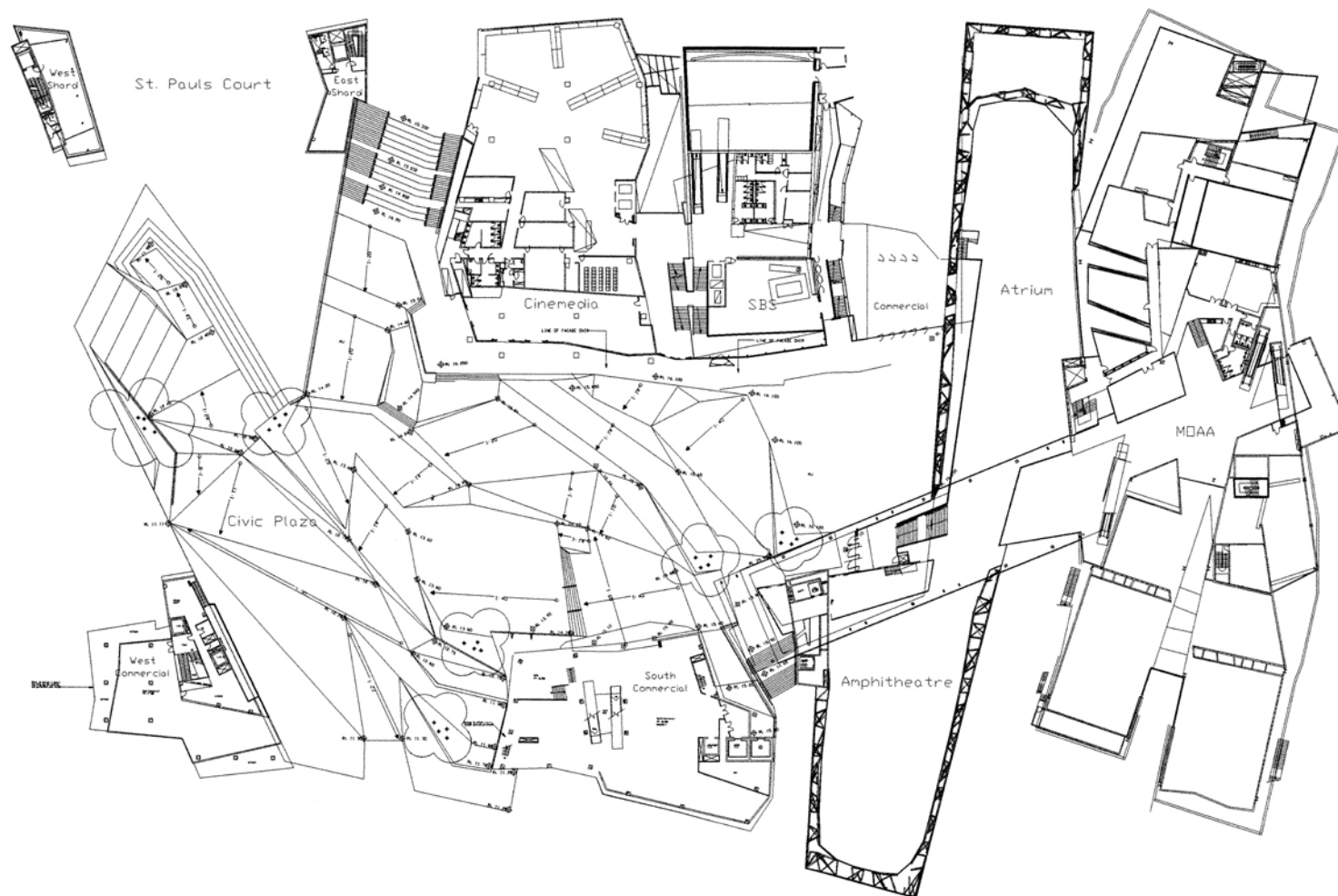
[210] Treib 2008: xviii.

Fig. 3.29 Plan drawing addressing the storm water concept for Federation Square, Melbourne. LAB and karres + brands landschapsarchitecten 2000.

Representation and the Perspective Hinge start at a high level of abstraction and speak about the relationship of representation to our ways of knowing the world around us. [211] This implies both a philosophical, historical and practical understanding of how sight functions, how we construct perspective, and how we can create mental images of reality. Even if I will not touch these wider areas here, it is important to note that authors such as Perez-Gomez and also Robin Evans have contributed substantially to our current understanding of the different 'modes of representation', such as the plan drawing, of which an example is shown, the axonometric projection and the diagram. [212] [Fig. 3.29] It is in this phrase of 'modes of representation' that the words drawing and representation come very close, and at the same time have very different meanings. If we discuss drawings and also think of them as physical objects, a categorisation along 'drawing types' is adequate. If we are more interested in the more abstract way in which a future reality is projected on a sheet of paper, or on a screen, 'types of representation' is more precise. Here I am interested both in the physical aspect of a section on paper, and the abstract notion of how time can be represented in a score. Therefore, both terms are used here, especially as in literature and handbooks on architectural education this is the case. *La representation du projet. Approache pratique et critique* [The representation of a project. A practical and critical approach] by J. P. Durand uses 'modes of representation', whereas *Envisioning Architecture. An Analysis of Drawing* by Fraser and Henmi speaks about 'drawing types'. [213] An orthographic projection from a purist point of view is a mode of representation, but at the same time Fraser and Henmi discuss it as drawing type, and speak about an orthographic drawing. Books like the one by Durand inform us about a possible taxonomy by listing 'les modes de représentation' - including 'la maquette', the model. [214] This latter category supports my earlier statement that the model is part of (landscape) architectural drawings. I used 'possible' in relation to Durand and his drawing system as there are numerous small and big differences in proposals for a taxonomy from various different authors.

Notation

Important here is the approach of art theorist Nelson Goodman. He links architecture to music and dance, as both make use of *notational systems*. [215] The iconic example of a notational system is the score as played by a musician, but notational systems are also used in architecture, and in this case they relate to representation, and more precisely towards codification in drawings. Very often drawings do not attempt to reproduce reality as we see it outside, but intend to hand over a set of codes that stand for certain actions or objects. A map with its legend is an example of a notational system, as is the representational type of the diagram. In architecture and landscape architecture, the abstract notations (plan, section, diagram) are most often accompanied by what I want to refer to as visualizations, as a specific drawing type. The fact that architecture and landscape architecture combine abstract notations with very concrete images is due to the social context, speaking with colleagues, clients, and the larger public. In the end, a landscape architectural drawing (or better said, set of drawings) represents a future landscape. And here the roads of architecture and landscape architecture, often being very close, diverge, because of the time it takes for a landscape to mature, in contrast to the relative immediacy of architecture.

[211] See Pérez-Gómez and Pelletier 1997.

[212] See Evans 1995.

[213] Durand 2003; Fraser and Henmi 1994.

[214] Durand 2003: 9.

[215] See Goodman 1976.

[216] Bafna 2008: 536.

[217] See Goodman 1976.

[218] Bafna 2008: 539.

[219] See Fraser and Henmi 1994.

[220] Goldschmidt 2003: 72.

[221] Ibid.: 79.

[222] Ibid.: 80.

Drawings in the design process

Drawings are never only an artistic product – drawings and the activity of drawing have a specific function in the subsequent stages of a design process. Bafna speaks about 'uses' of drawings: 'The most direct use of architectural drawings is to specify their subject matter. This is how most construction drawings are used, as are drawings submitted for approval of construction permits'. [216] Such a drawing is 'notational', referring to Goodman. [217] The notational drawing is distinguished from the 'imaginative' drawing - the second use. Such drawings function as 'a proxy to the building that they represent, allowing observers to make judgements about the building in its absence'. [218] In this study, I distinguish three main functions. In early stages, drawings create a space for testing ideas. Often this comes with rough drawings –sketches-, but just as often with precise drawings, which test if a solution fits. Throughout the process, but certainly at the end, drawings support exchange and communication on the design - the second use of Bafna. If they are made specifically for that goal, for example neatly rendered, we speak about presentation drawings, but almost any drawing can contribute when discussing ideas with the client and the public. If indeed they are presentation drawings, they show in the best way how smart and beautiful the solution is, with the clear goal of being chosen, being executed or (in case of the student in a design studio) getting a good grade. Drawings, in a third role, also function as a preparation for the building process. Working drawings supervise that process. [Fig. 3.30] Other authors such as Fraser and Henmi speak of roles or applications instead of uses, but this is mainly a variation on the same theme. [219]

Fig. 3.30 Photograph of working drawings in Zecc architects office, Utrecht.

An aid to thinking

When drawing, unexpected new perspectives are opened up, by mistakes, but just as often by simply looking at what you do. Several authors stress the importance of sketching. Sketching, as Goldschmidt puts it, is vital, as 'it is not clear at the outset where the process is leading to, and what the end result might be'. [220] New graphical relations are created and may be given meaning. This is very supportive for a design process, argues Goldschmidt: 'The ability to infer information from the self-generated sketch and to use it in order to enhance the sketcher's ability to deal with a task or problem at hand may be seen as an expansion of the problem space within which the individual is working.' [221] Sketches are 'an aid to thinking', or, put even stronger, 'their making is thinking itself'. [222] Sketches help generate ideas, and drive design

Fig. 3.31 Sketch for plan drawing. Entry in Korean competition 'Central open Space in multifunctional administrative City', H+N+S landschaps-architecten, 2007. Drawing by Lodewijk van Nieuwenhuijze. Coloured pencil, pencil, coloured felt tip on transparent paper.

[223] Goldschmidt 2003: 81 and Balmori 2012: 57.

[224] Goldschmidt 2003: 85.

[225] See Schön 1983; Schön 1990 and http://hci.stanford.edu/publications/bds/9-schon.html for the quote.

[226] Cross and Dorst 2001: 435.

[227] See Cross 2011.

[228] Lawson and Loke 1997: 174.

[229] See Pallasmaa 2009: 95.

processes - they even can be a form of research. For some the word sketch refers to a type of drawing, but I agree with Goldschmidt that it primarily is a drawing manner: 'Freehand sketching is rapid and direct and therefore cognitively economical, and provides instant feedback: the sketcher can enter into conversation with his or her materials', or, as Balmori puts it, 'capturing an idea in a freehand drawing [...] is much like thinking out loud'. [223] [Fig. 3.31] It is for that reason that sketching, also in this digital era, is still done most often by hand. The sketch, materially present in the atelier, becomes a 'self generated display that serves as a potential source for visual information'. [224] Goldschmidt speaks about sketching as building up an archive of 'design moves', a phrase that was also used by Donald Schön: 'As you work a problem, you are continually in the process of developing a path into it, forming new appreciations and understandings as you make new moves. The designer evaluates a move by asking a variety of questions, such as "Are the consequences desirable?" "Does the current state of the design conform to implications set up by earlier moves?" "What new problems or potentials have been created?"' [225] Dorst and Cross speak about a 'creative leap' that has to happen, but will only happen if the designer recognizes the road to a solution. [226] Cross also puts forward the notion of 'bridging', which means to establish a link between the problem space and the solution space. [227] Remarkably, this article does not use the word drawing at all, but evidently the conclusions derive from observing designers at work, drawing and talking. It confirms the intricate relation between drawing, talking and writing in discussing design ideas and considering design inventions.

Debates on the differences between digital drawing and drawing by hand relate to the evolution of drawing techniques. Today's software, and devices like the iPad, allow for more free ways of drawing, and that is important. Lawson argues that in sketching there are parallel lines of thought that so far in the design process were not linked. Such retardation is useful for design processes, but in CAD-systems this is hardly possible. Studying sketches made by Robert Venturi, Lawson notices that 'he is not, at this stage, concerned to relate these two parallel lines of thought and is unsure how they will eventually be resolved, although this must happen eventually'. [228] When working in CAD there is a tendency 'to concentrate on ways of ensuring the resolution'. Obviously, this article from 1997 cannot take into account later developments, but many other authors reflect on the issue. Pallasmaa in 2009 wrote *The Thinking Hand*, which also addresses the role of the computer: 'The problems of fully computerized design are evident particularly in the most sensitive and vulnerable early phases of the design process when the architectural essence of the building is conceived and determined. The hand with a charcoal, pencil or pen creates a direct haptic connection between the object, its representation and the designer's mind.' [229] Authors such as Balmori and Palmboom make a plea for hand drawing and its craftsmanship. Just as Pallasmaa, they suggest that hand drawing enables the designer to reflect on emerging design ideas. In the context of this study, this addresses the aspect of time: if indeed 'drawing time' questions conventional ways of drawing, then an opportunity to experiment and reflect is very welcome.

Types and applications
If I mention the word section, I am referring to a type of repre-

sentation. [230] In daily conversations, drawings are approached with many different words and categories. Consider the word 'presentational drawing'. This can be any type of representation, but it certainly refers to a specific stage in a design process, or a certain role in the social system of design. More complex is as mentioned the word 'sketch'. For some this could refer to an embryonic perspective drawing, and in that sense to a specific drawing type. Generally, however, 'sketch' implies a drawing that is made quickly, with a rough character, indicating an idea in an abstract way, focusing on what are considered the main qualities. As such, the term overlaps with rather complex notions like 'concept', often used to address the ideation of a design. As there is no restrictive definition of 'sketch', diverse interpretations exist. For proper use in this research I propose to speak about roles of drawings, or, as Fraser and Henmi do, *applications*. [231] A sketch, then, fits under this header, as its intention is to show an idea on an abstract level. A drawing can be both a plan (type) and a presentational drawing (role). But we have to consider that many drawings are hard to categorize in the system we have: both their type and their role can be unclear. Seen from the perspective of notational theory this is a problem, as drawings are expected to be self-evident. It is therefore necessary to discuss the representation of time in drawings in connection to their type and role.

Types of representation: an incomplete taxonomy
'Three to five A1 panels which indicate the argumentation behind the concept, but the emphasis lies on a design drawing and the elaboration at the level of detail 1:10 - 1:200 in ground plan and cross-section. Rough models and a final model are required. Digital

Fig. 3.32 Example of plan drawing in third year P6 project (La Paz) at Academy of Architecture Amsterdam. Froukje Nauta, 2004.

[230] See Durand 2003.

[231] See Fraser and Henmi 1994.

[232] *Study guide 2011-2012*. As course elements are regularly updated, the current study guide is different, but the idea is the same. See http://www.studiegids. academievanbouwkunst.nl/en/2014-2015/study-programmes/landscape-architecture/

[233] See for example Carlhian 1979.

[234] See for example Ching 2009; Fraser and Hemni 1994: for the French language Durand 2003 and for the Dutch language Van Haaften 2011.

[235] See for example Blau and Kaufman 1989; Nerdinger 1986 and specifically for landscape architecture De Jong, Lafaille and Bertram 2008.

[236] Numerous authors start with the Vitruvian system. See for example Pérez-Gómez 1982.

[237] Riedijk 2009: 45.

[238] Blau and Kaufman 1989.

[239] Evans in Blau and Kaufman 1989: 18-35.

[240] Ibid.: 22.

presentations are an optional extra, but are not accepted as substitutes for scale models and panels'. These are the requirements for the so-called second year P3b *Public garden* project for the Master in landscape architecture at the Academy of Architecture Amsterdam. [232] The comparable requirements for the third year P6 Vision, plan, detail are '[...] a diagnosis; developmental perspective, and plan in main lines, making attractively and clearly visible what the vision is and where the areas for further elaboration lie', but also 'designs for the different strategic projects [...]'. [Fig. 3.32] The use of the word 'panel' -which also could be 'poster'- refers to what probably is a Beaux-Arts tradition of architecture presentations: groups of drawings assembled on panels so that they can be exhibited. [233] The main point here however, is the range of terms indicating types of drawings. Ground plan, cross section and model derive from the drawing system as evolved in architecture. This long tradition has been appropriated in landscape architecture in its own way. In the description of the requirements of the third year studio, the words plan and perspective could be understood in an architect's tradition, but that would be a mistake. Here, the object is not a garden but an area in a geographic sense, relating the design to planning more than to architecture. Words like diagnosis, developmental perspective and strategy reveal that today's landscape architecture certainly does not fit into a dominant architectural systematization alone. Such words also show the difficulty of defining what landscape architecture is: How does a development perspective relate exactly to the plan, as a type of representation? At the same time, these words suggest a relative freedom to define the borders of the discipline in respect to the local context or the tasks at hand.

Projections

Architectural theory strived for a long time to define a taxonomic system of drawings, and landscape architecture adopted this system for the most part. Handbooks, often also the basis for instruction in architectural programs, hand over this taxonomy in its theoretical and practical dimensions. Frequently mentioned authors are Ching, Yee, Laseau and Fraser/Henmi, and in French the already mentioned Durand. [234] Catalogues in which large numbers of drawings are classified systematically are also helpful in this respect. [235] All these classifications stem from the Vitruvian notion that drawings are *projections*. [236] The physical, three-dimensional object is projected onto a virtual two-dimensional plane, and the drawing records that projection. The main category consists of the *orthographic* projections: plan, elevation and section. Perspective projections and parallel projections like the axonometric complete a basic drawing system. As Riedijk puts it in his inaugural lecture: 'The architect makes drawings of the plan, section and elevation of the design'. [237] *Architecture and its Image* classifies drawings in plan, elevation, axonometric, isometric, perspective drawing (also perspective view or view), model and section. [238] Some categories have several subcategories, like cut-away isometric, computer generated perspective or birds eye view. Other terms used are: design, preparatory drawing, construction drawing, sketch, study and combined terms like competition design or advanced concept sketch. Evans opens the catalogue with a description of the longstanding and coherent tradition in architectural drawing, and at the same time the unsolved taxonomic issues. [239] Of plan, section and elevation Evans states that 'we have come to regard this set of three as fundamental'. [240] Evans stresses that the specific challenges of

orthographic drawing are not only instrumental in architectural design, but also shaped architecture. The use of certain drawings and drawing types relates to styles, opinions, and ideologies. 'The essentials of contemporary architectural drawing were mapped out during the period of classicism', as put forward by Evans, and therefore, one would expect to find Modern architecture 'in mortal combat with these inherited techniques'. [241] But that did not happen - despite all the changes made in Modern architecture, 'no campaign was mounted against orthographic projection'. At the same time Evans observes a growing role for axonometrics and

sketches - introducing two important words relating to a taxonomy. Such new 'members of the family' reveal the lack of clarity of the exact borders of modes of representation, and roles drawings can have. As Evans put it, 'the sketch is a peculiar phenomenon. It is impossible to decide, except by dogmatic means, whether it is a projection or not.' [242]

In the view of Goodman drawings can be understood as part of a *notational* system. Such a system describes the grammar and conventions that help to adequately represent a piece of art. [243]

[241] Ibid.: 33.

[242] Ibid.: 33.

[243] Goodman 1976.
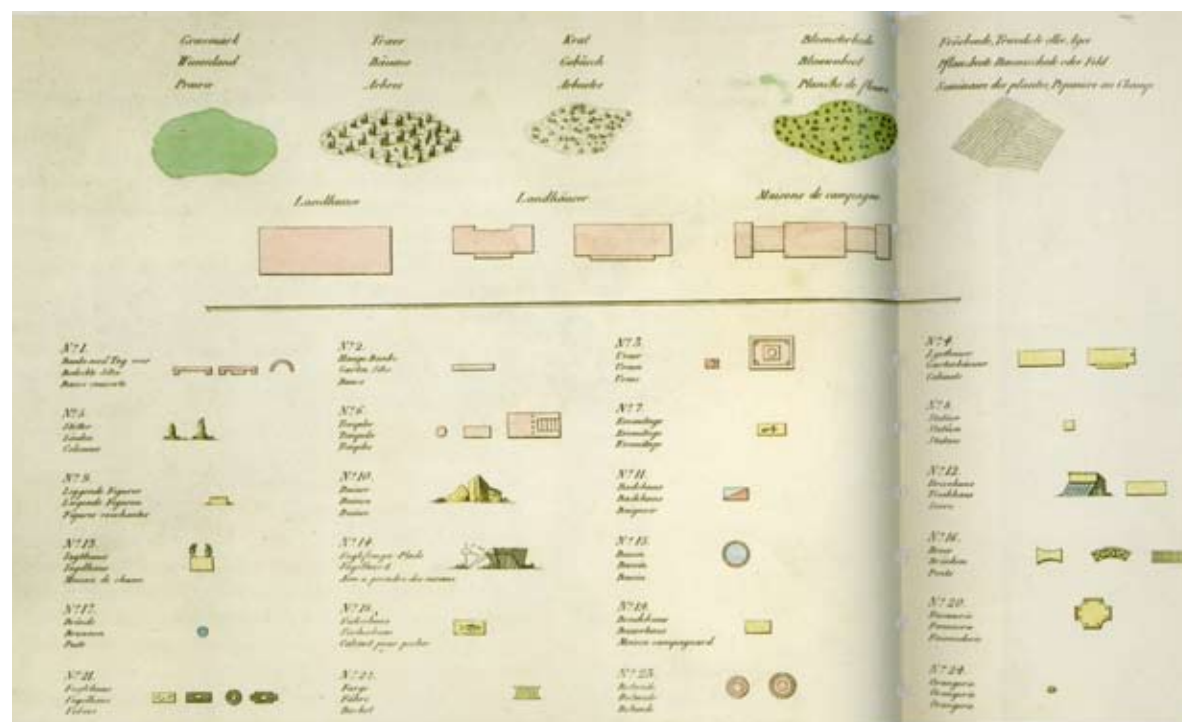
Fig. 3.33 Example of how legends developed over time. *Inventarfortegnelse til Udkast til Hauga-Anlaeg i den engelske Smag samt Anvisning til at inddele og beplante smaae Partier*, **1798 , as taken from** *Danmarks Havekunst* **part 2.**

[244] Goodman 1976: 120.

[245] Hewitt 1985: 6.

[246] See Van Haaften 2011 and Mertens 2010.

[247] See Fraser and Hemni 1994.

Goodman is particularly interested in notations for dance, an arts practice 'without a traditional notation'. Architectural drawings are notations for buildings, and ensure that 'a building conforms to the plans and specifications'. [244] That may seem obvious, but indeed in dance it is not, and even in architecture it is only true in so far as there is a coherent understanding of drawings. A notational system is a shared understanding by those who have to use the notations. A legend accompanying a map makes sense if we understand the codes with which we have to read the map. [Fig. 3.33] Even if daily practice may be messy, a theoretical framework for drawing must clearly describe the modes of representation. If we speak about a section, every student of landscape architecture knows what is meant by that, or should know. The word comprises an idea about the specific nature of the drawing and a set of conventions on how to draw it. Such conventions follow from the very idea of a discipline, which they also help to establish. Therefore it is important to acknowledge the architectural roots of drawing in landscape architecture, to investigate the particularities of that discipline and to see in how far they invite (or should invite) specific ways of drawing.

Taxonomy
A complete system of modes of representation would be a taxonomy, or a classification. A taxonomy, as in a botanical order of plants, presupposes a logic via which individual species can be defined and distinguished from others. Hewitt puts it like this: 'Architectural drawings may be classified according to medium, to the purpose for which they are made, and to the way in which they represent objects'. [245] [Fig. 3.34a-e] The best places to find

something that could be a taxonomy of drawings in landscape architecture are readers, as used in schools, or books, that aim to give an overview. Examples are *Tekentaal. Codificaties en projecties in ontwerptekeningen* [Drawing language. Codifications and projections in design drawings] supporting Dutch landscape architecture students, and *Visualizing Landscape Architecture*. [246] This 2010 book by Elke Mertens does not provide an explicit taxonomy, but her overview of current ways of drawing is on an implicit level a taxonomy. Such books lean heavily towards architecture. Therefore, as a point of reference I take the taxonomy that is presented in *Envisioning Architecture. An Analysis Of Drawing* by Fraser and Henmi. [247] In fact, their system is a matrix combining a division of drawings by *type* and a division by *application*. Here it is put in a table.

Drawing type	3. Perspective drawing
1. Orthographic drawings	3a. Perspective drawing (one point, two point)
1a. Plan (additionally: site plan)	
1b. Section	3b. Section perspective
1c. Elevation	
1d. Combined views	Application
	1. Referential drawings
2. Axonometric drawings	2. Diagrams
2a. Plan oblique	3. Design drawings
2b. Elevation oblique	4. Presentation drawings
2c. Exploded view	5. Visionary drawings
2d. Isometric	
2e. Worm's-eye view or Choisy axonometric	

Fig. 3.34ae Drawings for the Freilager Albisrieden project, Zürich, Office Winhov, 2015. From up, left clockwise: Model of appartment; model of part of facade; visualization of facade; section; plan drawing (original scale 1:750).

Fig. 3.35 **Map-style plan drawing for** *De Noodzaak van Tuinieren* **[The necessity of gardening], H+N+S landschapsarchitecten /Ruut van Paridon, 2002.**
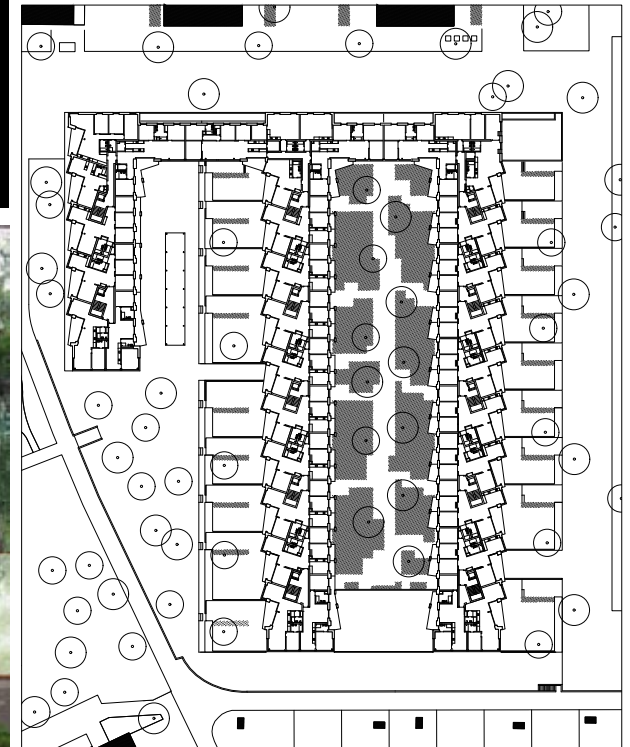
The nature of a taxonomy is to hand over its system as an indisputable arrangement. However, it is very easy to disagree on the proposition of Fraser and Henmi. For architecture as well as for landscape architecture, I would argue that diagrams are a type, not an application, and add collage and model as drawing types. Some applications could also be criticized. This seems reason enough to dismiss Fraser and Henmi, but nevertheless they offer one of the most consistent systems. This starts by the clear distinction between 'type' and 'application'. 'Application' comes close to the word 'role', and relates to 'phase in design process'. This helps to exclude presentational drawings, working drawings and analytical drawings, to mention some, from the category of types, as can be seen by some of the competing systems, and address these as a role or application within a certain phase. That is to say that a plan drawing (as a mode of representation, and also an orthographic projection) can be a sketch in an early phase, a presentational drawing in a later phase and a working drawing in the final phase. But how would a system for landscape architecture drawings differ from a system for architecture drawings?

Classification problems in landscape architecture
For landscape architecture one of the classification problems is that of scale. One can draw a design on the regional scale -at least in a Dutch perspective- but can we speak of a plan, as we do in architecture, or should we use the word map, as in cartography? [Fig. 3.35] Van Haaften aims to solve this by making it dependent of scale, restricting 'plan drawing' [in Dutch plattegrond] for scales 1:50-1:200 and 'view from above' [bovenaanzicht] for scales 1:500-1:2.000, whereas 'map' [kaartbeeld] should be used

for scales 1:10.000-1:50.000. [248] This does not solve, however, how to understand the designerly character of typical large-scale Dutch projects. Van Haaften enlarges the category of 'application' in terms of Fraser and Henmi, by speaking about surveying, interpretation, sketch, scenario and concept – in fact close to stages in a design process. [249] Models obviously have a different position in landscape architecture compared to architecture, as landscapes in general are much bigger, and challenge the relation between the second and the third dimension. Often, the difference between map and model in landscape architecture is not that big. Some offices however, like the Swiss Vogt office, seriously explore the options of models in landscape architecture. [250] Mertens in *Visualizing Landscape Architecture* uses the verb 'visualize' to embrace all landscape architectural drawing. Often the word 'visualization' has a more restricted meaning close to perspective drawing. I prefer this more limited use. Mertens offers a division in two-dimensional, three-dimensional and four-dimensional representations. She does not list the diagram at all; Fraser and Henmi categorize it as an application. [251] I consider the diagram a mode of representation, and a crucial one, as it is the drawing in which the functioning of a project, its organization or its set-up can be expressed. This is supported by the work of Allen, Garcia and Vidler, who published extensively on the diagram. [252] As Allen puts it, 'the primary utility of the diagram is as an abstract means of thinking about *organization*'. [253] The collage too is not present at all in neither Mertens nor Fraser/Henmi. Collages became rather popular via architectural drawing, for example in the work of Archigram, and later in projects of OMA. [254] These days, the collage seems to be extinct, but recent publications show that collage in the visual arts it is as alive as ever. [255] The collage

[248] Van Haaften 2011: 60-62.

[249] Ibid.: 70.

[250] See Foxley 2010.

[251] Mertens 2010: 50-58; Fraser and Hemni 1994: 81, 99-113.

[252] See Allen 1998; Garcia 2010 and Vidler 2000.

[253] Allen 1998: 16.

[254] For Archigram see Sadler 2005; for OMA Sigler 1995.

[255] See Klanten and Gallagher 2011 and Taylor 2004.

"Edinburgh has but partly abdicated, and still wears, in parody, her metropolitan trappings. Half a capital and half a country town, the whole city leads a double existence; it has long trances of the one and flashes of the other; like the king of the Black Isles, it is half alive and half a monumental marble."
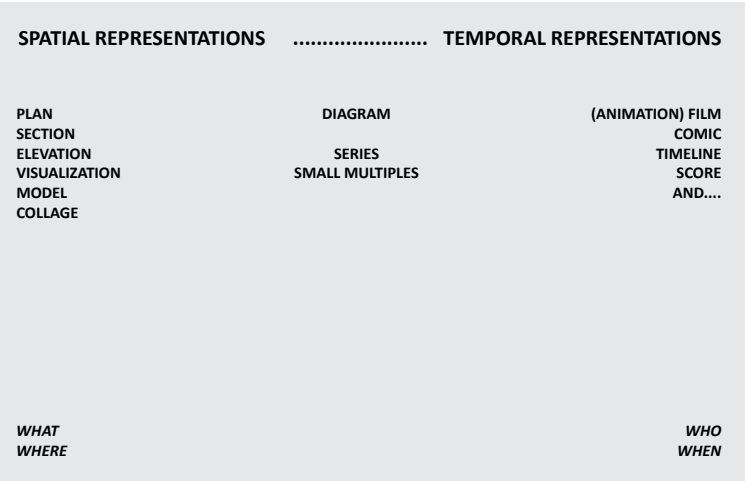
Robert Louis Stevenson

Fig. 3.36 Drawing for *Old Town New Town No Town?*-**project by GROSS. MAX.,** *Northern Cities Exhibition*, **Glasgow, 2006. Collage.**

in my opinion is an essential type, if it's only to solve the tension between the words perspective drawing and visualization. [Fig. 3.36] The perspective drawing is complex as it is an 'objective' drawing, guided by the rules of geometry, and at the same time a 'subjective' drawing: We are forced to see the landscape from one particular viewpoint. Hewitt notes that 'perspective drawings tend to be placed in the subjective/perceptual category', whereas plan, section and axonometric are seen as 'objective drawings [that] are measurable and generally serve to present the building more abstractly'. [256] Today, we can generate very precise, verifiable perspectives using the latest software in a way that 'the model' and 'the perspective' are almost the same. At the same time, software allows us to create high quality impressions of future landscapes. Such images are far away of 'perspective drawings'. Their nature ranges from what I would call 'simulations' -if they aim to construct a future landscape very reliably in terms of space and time- to impressions, or even illusions, if these images are mainly seductive. As Houdart puts it, 'the supposedly peculiar relationship with reality comes second; in order to compose a perspective rendering, to make a new world come to alive, it is first necessary to add and arrange previously homogenised objects, and then putting the composition to the test of reality, in order to make it believable'. [257] For such reasons 'perspective drawing' is no longer an adequate drawing type, and I propose to see the perspective as a subtype of visualizations.

Obviously, a landscape architect could use the exploded view as a drawing type, as was done more often around 1990, for example in the work of the Dutch offices B+B and West 8. If we focus however on those drawing types that seem essential for representa-

tion in landscape architecture, and particularly in the context of this study, I propose the following drawing types: Orthographic drawings (Plan and section); Visualization (Perspective drawing, aerial view, 3D model, simulation and impression); Model; Collage; Diagram; Map. It would look like this:

SPATIAL REPRESENTATIONS	....	TEMPORAL REPRESENTATIONS
PLAN	DIAGRAM	(ANIMATION) FILM
SECTION		COMIC
ELEVATION	SERIES	TIMELINE
VISUALIZATION	SMALL MULTIPLES	SCORE
MODEL		AND....
COLLAGE		
WHAT		*WHO*
WHERE		*WHEN*

In terms of application, the most important distinction concerns the three functions: Testing ideas (Sketches and explorations); Communicating ideas (Design drawings and presentation drawings); Preparing for building: construction details and working drawings.

From the perspective of this study, the crucial step in a landscape taxonomy is however a distinction between two main groups of drawing types: spatial and temporal. This distinction was not made in the classifications as spoken about here, but it is essential for

[256] Hewitt 1985: 6.

[257] Houdart 2008: 53.

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[258] Cosgrove in Cosgrove (Ed.) 1999: 2.

[259] See Disponzio 2002 and De Jong, Lafaille and Bertram 2008: 24.

[260] Picon 1992: 100.

[261] De Jong, Lafaille and Bertram 2008: 15.

[262] De Jong 2008: 15.

[263] Picon 1992: 217.

[264] Loudon 1840: 31.

[265] Ibid.: 30.

the argument in a later stage of this study. Plan, section, visualization, collage and model can be grouped as spatial types. The group of temporal types will be explored in Chapter 4, but in an implicit way we see this group emerge in Mertens' overview. She proposed a category of the fourth dimension. I argue that the counterpart of the spatial types is a group of temporal types. Diagram and map in that case are in-between types, depending on their function in the design and its argument.

The specificity of drawing in landscape architecture
As said, representation in landscape architecture has strong roots in the architectural system. Combined with the influence from cartography, engineering, landscape painting and gardening this has accumulated in what, at least potentially, is a coherent and autonomous tradition. For example the widespread use of the map distinguishes landscape architecture (and urbanism, for that matter) from architecture. Cartography has to face challenges that are also fitting for this study of drawing in landscape architecture. As said earlier, Cosgrove described maps as 'troubling', for their apparent stability dissolves when their provisionality is recognized. [258] Mapping as taught at the École Nationale des Ponts et Chaussées contributed substantially to a reliable and detailed map of France, but also to the representation of landscape, and to the evolution of the profession towards *paysagisme*. [259] As Picon remarks, 'the importance of the engineers of the Ponts et Chaussées is directly linked to the birth of the modern concept of landscape', and that can be said for landscape architecture as well. [260] De Jong argues that the engineers 'attempted to systematize the mapping of a landscape', and to develop a set of indications

for typical landscape features, such as trees, previously depicted in more a personal, painterly manner. [261] But that presupposed an agreement on how landscape should be portrayed, 'to ensure that the representation would be clearly read and understood'. De Jong states that 'the combination of engineering know-how and landscape design and an attempt to systematize the representation of landscape, provided a foundation for the modern landscape architect and his design skill as a separate discipline.' [262] Picon puts it in a different way. In its contrast between the regular and the irregular, between the natural and the artificial, 'the land, having been crossed, conquered and tamed, could be compared to a garden, with the engineer as its foreman' resulting in maps that resembled the way gardens were portrayed. [263]

Particularities of landscape
It is exactly the particularity of landscape that inspires specific drawing approaches. Humphry Repton is probably one of the first to make drawing an explicit part of the innovation in professional practice, by introducing slides. Repton mentions that he 'invented the peculiar kind of slides'. [264] We have to understand such drawings as innovations that react on the nature of landscape, but also as an opinion on representation in landscape architecture, and how to discuss designs with clients. A gardener not skilled in painting 'will seldom be able to form a just idea of effects before they are carried into execution'. [265] In fact, that refers implicitly to one of the basic roles of drawing, distinguished as: the facility to explore and test ideas. The landscape gardener needs 'a correct eye, a ready conception, and a fertility of invention, to which the professor adds practical experience' but also competent knowl-

edge of for example hydraulics, botany and general principles of architecture, to obtain 'the faculty of prejudging effects'. [266] Yet Repton had a clear idea about the limitations of drawings; then writing comes in: 'To make my designs intelligible, I found that a mere map was insufficient; [...]. To remedy this deficiency, I delivered my opinions in writing, that they might not be misconceived or misrepresented'. [267] 'My opinions in writing' obviously refers to the famous Red Books, the unique manuscripts he delivered to his clients. The act of making a booklet for his clients is noteworthy, especially as he reflects on the role of such books in his own texts.

Also specific for landscape is an early nineteenth century drawing made for the surroundings of Potsdam by Peter Joseph Lenné. [268] [Fig. 3.37] A printed map of the existing situation in black and white forms the base, and the interventions are drawn in colour, solving a typical landscape issue: There is always an existing situation, to which any new design must react - but how to depict this? This stepwise innovation goes on in our time. In 1976, Steinitz argued in an essay on overlays that this is a specific drawing 'technique' (as it is not a type) suited to landscape. [269] Landscape confronts us with a huge complexity of data: 'For purposes of clearer graphic presentation as well as analysis, the data had to be mapped as separately combinable components. Overlays may have been a natural result of this graphic dilemma'. [270] The most known application of overlays is in Ian McHarg's *Design with Nature* in which 'transparent prints of light and dark values are superimposed over each other to construct the necessary composite analysis maps'. [271] French landscape architect Jacques Simon contributed to an independent tradition of land-

scape representation with a number of *Livres* around 1980 which disseminated drawing techniques and drawing styles of a choice of designers. In *Livre 6. L'Art de connaître et dessiner les arbres* [The art of recognizing and drawing trees] he proposed how to draw trees. [272] [Fig. 3.38] Such *Livres* imply that there are particular ways to draw landscape. Dutch professor of landscape architecture Clemens Steenbergen engaged in very precise and analytical redrawing of Italian villa gardens. [273] These drawings proved in an effective way that such garden designs, unless architectural in character, were always situated in a certain topography that highly influenced the design.

Corner's landscape phenomena

Let us turn again to James Corner's important essay 'Representation and landscape'. [274] Corner questions the abstractness of design drawings in relation to landscape phenomena. [275] As landscape architects are not really engaged in the *making* of what they depict, a distance from landscape has to be acknowledged, 'working instead with a completely different medium, an intermediary and translatory medium that we call drawing'. Drawings, however, are 'radically dissimilar from the medium that constitutes the lived landscape'. [276] Landscape is all-enveloping and surrounding us, but drawings by landscape architects are in general two-dimensional, and we see them, mostly, in front of us. This discussion connects the realm of representation and presentation. If we present images as 'a flat frontality approached from a distance as an object', drawings tend to be 'autonomous, equally at home in a gallery or book'. [277] Corner points out the specific materiality of landscape: 'Materials in the landscape ra-

[266] Ibid.: 30.

[267] Ibid.: 31.

[268] De Jong, Lafaille and Bertram 2008: 80-81.

[269] See Steinitz, Parker and Lawry 1976.

[270] Ibid.: 449.

[271] Ibid.: 448. See also McHarg 1969.

[272] See Simon 1987; Simon 1988a and Simon 1988b.

[273] See as an example Reh 1995: 55-81. Also Steenbergen and Reh 2005.

[274] See Corner 1992.

[275] Corner 1992: 145.

[276] Ibid.: 145.

[277] Ibid.: 149.

Fig. 3.37 *Verschönerungs-Plan der Umgebung von Potsdam entworfen von Lenné*, **drawn by Gerhard Koeber after a design by Peter-Joseph Lenné, 1833. Intervention in pen and ink, green wash, on copper engraving of the town plan of Potsdam.**
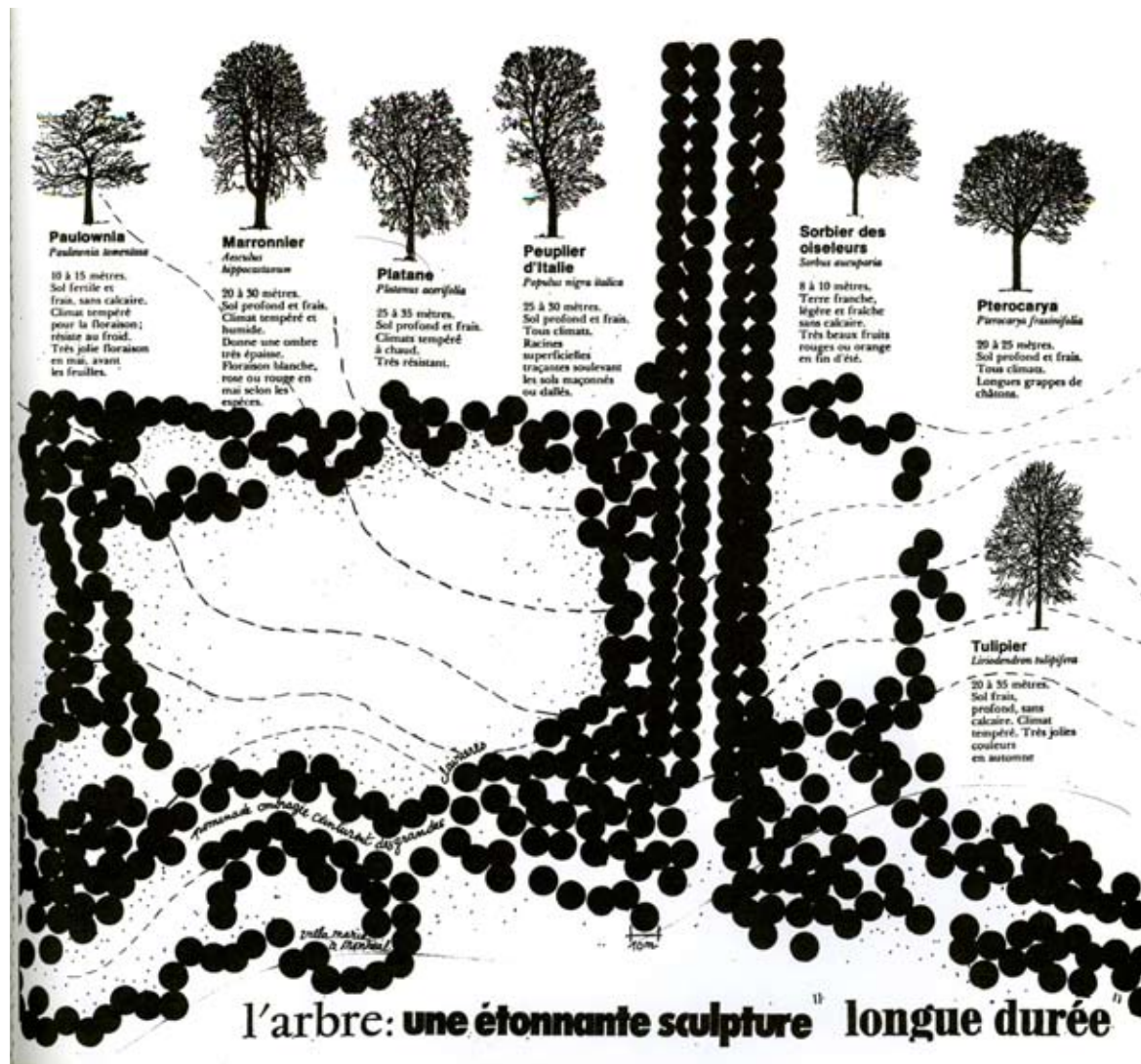
Fig. 3.38 Image taken from *L'Art de connaître et de dessiner les Arbres* **by Jacques Simon, 1987.**

[278] Ibid.: 149.

[279] Ibid.: 147.

[280] House in Lippincott 1999: 194.

[281] See House in Lippincott 1999: 196 and 197.

[282] Ades in Lippincott 1999: 202.

diate a host of sensory stimuli that are deeply registered by the sentient body: the aroma of material; the feeling of humidity and dampness; the intensity of light, dark, heat and cold.' [278] Even if this essay was written in 1992, before the impressive march of visualization software, Corner addresses this in relation to materiality: 'Today's fascination with the visual image, the pictorial, makes it all the more important to recall how the greater part of landscape experience belongs to the sensorium of the tactile, the poetries of material and touch.' [279] And in that respect, the drawing is limited, as drawings can hardly 'reproduce or represent the actual qualitative experience of materials which constitute the landscape'. By that Corner points at the principal insufficiency of drawing in landscape architecture.

Drawing time

Corner's argument is vital when it comes to the representation of time. Time is an essential aspect of landscape, and, for that matter, the design of landscape. Therefore, superficially seen, one would expect it to be present in representations by landscape architects. However, as also shown by Corner, both theory and practice are not as explicit on time as they are on spatial aspects, like composition. The question of how to depict time has not been answered systematically in the context of landscape architecture. How is time depicted and visualized in general, independent of the discipline? What attempts have been made to depict time within landscape architecture?

A challenge over the centuries

This is not a problem of landscape architecture drawing alone. Depicting time has been a challenge over the centuries. Lippincott's *The Story of Time* includes a chapter on 'seasons and moments' in which John House states that art theory in the nineteenth century focussed on space and on single moments instead of the narration of stories through time. [280] But in the arts the insufficiency with regard to the representation of time was recognized earlier. The many changes of the nineteenth century invited artists to pay more attention to time, and at least the temporal dimension of the depicted moment. House focusses on paintings of rural life that reveal a clear temporal framework. Time in such paintings is in generally cyclical, as in a never-ending repetition, but later paintings such as Monet's *Railway bridge* come with explicit signs of progressive time. From such paintings we can deduce ingredients that mark time and conclude that these are similar to the ingredients of today's visualizations in landscape architecture. As House puts it, 'the foliage of the trees shows that it is summer and the play of sunlight and crisp shadows indicate a particular time of day'. [281] Dawn Ades notes that at the turn of the twentieth century radical changes meant a greater importance was given to aspects of time. That resulted in no immediate solutions for depiction, as 'the ways in which time has been implicated in art, and the ways in which it has been represented, however, is a complex matter, as painting, unlike music or poetry, does not have a natural temporal extension', but such solutions were on their way. [282] Futurist painting for example explored ways to represent time and movement, to depict time at work, or to catch the sensation of time. Time as a phenomenon has been personified as Father Time, but in fact the clock, or the calendar, are both measuring devices and representations of time. Clocks in earlier times were

often accompanied by sculptural arrangements that depicted time in an allegorical way. [283] A fascinating example is given by the so-called Long Now Foundation that tried to make deep time understandable in a diagrammatic drawing. [284] [Fig. 3.39]

An unexpected source on 'drawing time' is an article by Murphy on the organizational nature of drawing, and the role of speech and gestures in drawing. [285] Drawings are limited in the types of information they can display, due to their 'static nature'. Drawings 'show a building as if it is frozen in time, unmoving and unaffected by the actions taking place within it'. [286] Consequently, architects have 'to supplement [drawings] with other sorts of resources available to them to flesh out the building beyond what is graphically represented'. [287] Murphy refers to a case in which the architects speak about sliding doors, a 'characteristic difficult to represent on the plan'. Here, gestures come in: 'In order to express specific ideas about how these components will eventually move, the architects use their hands and words to imagine what the doors will do and what they will look like', and 'to put the plan into action'. [288] Even if it is only about a sliding door, Murphy confirms the difficulty of showing aspects of time in drawings. *Cartographies of Time* by Rosenberg and Grafton presents interesting examples of *chronicles*, graphical arrangements of words that were early depictions of time, preceding the later timetables. [289] *Envisioning Information* by Tufte devotes a chapter to 'Narratives of space and time' and approaches the subject from the point of view of information design, considering the timetable an iconic representation of time. Transportation systems are a very valuable source: 'A comprehensive narrative description of a transport system requires a record of both time and spatial expe-

Fig. 3.39 **Diagram**, *Long Now Foundation*.
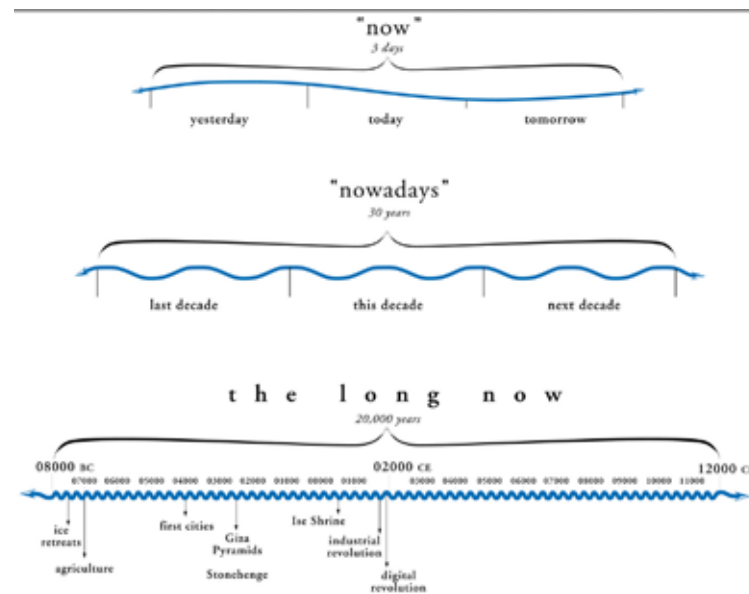
riences'. [290] An exciting 'space-time grid' depicting a life cycle of insects shows time and space at once. [Fig. 3.40] The reader skilled in architectural drawings thinks they see a section – but in terms of architectural types of representation it comes closest to a diagram. Tufte speaks about 'the essential dilemma of narrative designs': How to reduce 'the magnificent four-dimensional reality of time and three-space into little marks on paper flatlands'? [291] 'Narratives of space and time' finishes with examples taken from dance notation, a link to Lawrence Halprin and his *RSVP Cycles*. [292] Halprin explored the representation of time by means of 'scores'. A score is 'a system of symbols which can convey, or guide, or control (as you wish), the interactions between elements

[283] See for example Lippincott 1999: 178.

[284] See http://longnow.org/

[285] See Murphy 2005.

[286] Ibid.: 124.

[287] Ibid.: 122.

[288] ibid.: 125.

[289] See Rosenberg and Grafton 2010: 10-25.

[290] See Tufte 1990: 101-106.

[291] Tufte 1990: 110.

[292] See Halprin 1969.
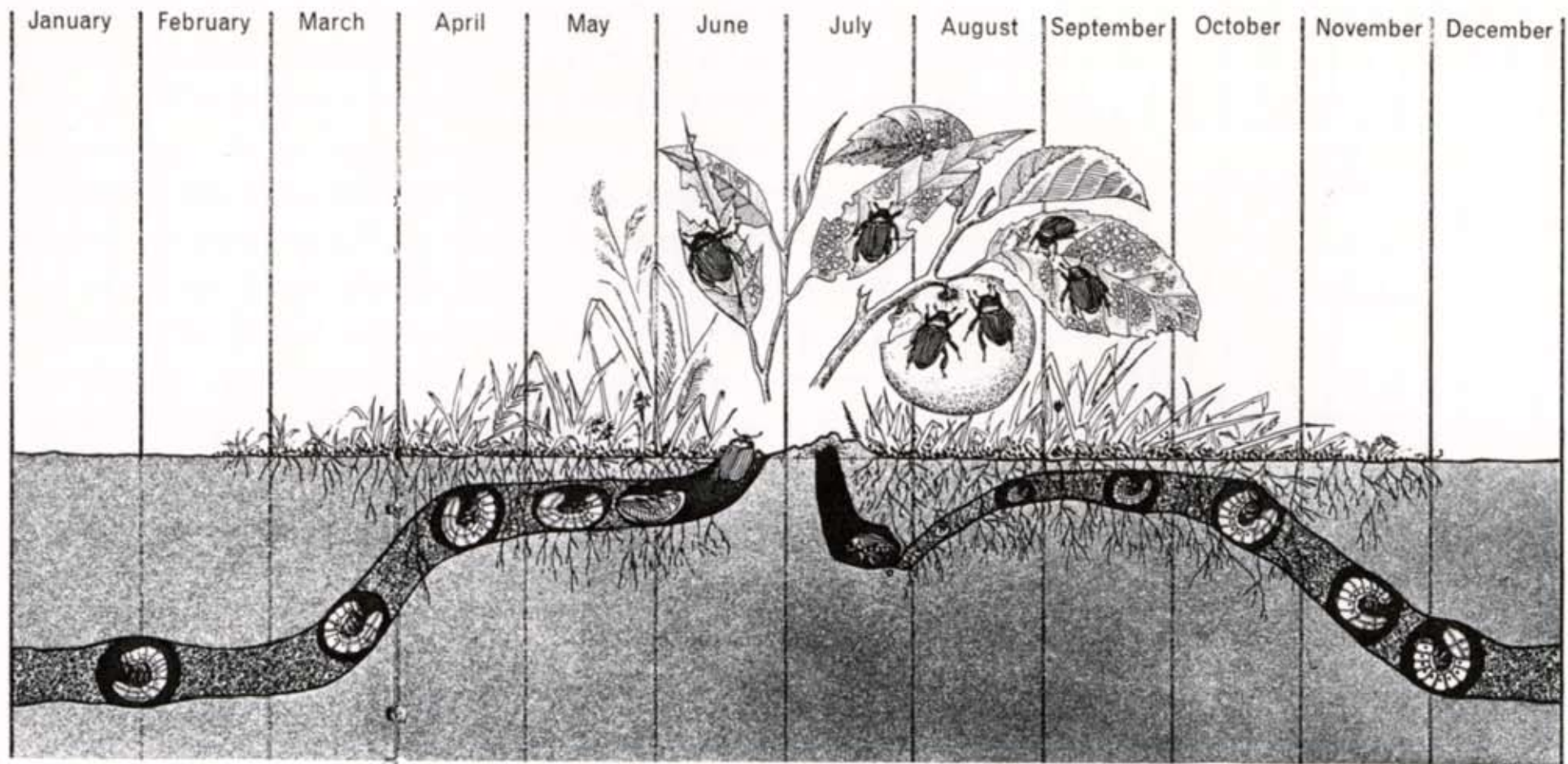
Fig. 3.40   Space-time grid as published in *Men and Insects*, **Hugh Newman, 1965.**

such as space, time, rhythm, and sequences, people and their activities and the combinations which result from them.' [293] Halprin understood the score both as a graphical device and as an organizational principle, for example in the so-called 'Take Part' workshops. [294] Using scores he tried to orchestrate ways to observe the city and gather a wide range of facts and opinions. Even if Halprin's drawings are often very personal, and not always easy to understand in relation to today's landscape architecture, they simply propose a way of doing. In defining scores as '*symbolizations* of processes which extend over time' Halprin introduced a new type of representation into the domain of landscape architecture. [295] Adding scores to incorporate time in landscape architecture's representation seems like an easy solution, but the example of *Visualizing Landscape Architecture* showed that it is not that simple. [296] The fourth dimension as distinguished by Mertens mainly addresses a statement on the need for drawing time. Mertens criticizes landscape architecture for not acknowledging differentiation in moments and in functions during the day or the year. [297] Mertens underlines the importance of movement: 'Moving pictures, videos, films and the like, can take up and present all three aspects of duration in time that have been mentioned - the future development of the "finished" project, the way the project combines past, present and future, and also temporal aspects of the experience of a place.' [298] She also proposes 'views' -a variation on visualizations in my eyes- to show how a design performs at different times. For this, series of plans are also proposed. This same representational 'trick', multiplication, is used to show how a series of aerial photographs can convey 'the passage of time'. *Representing Landscapes* by Amoroso predominantly covers the production of landscape architectural drawings in Northern America and confirms that the issue of time and performance are high on the agenda. [299] However, captions with indications of type reveal a lack of clarity in vocabulary: Phasing plan, strategy, experience, performance scenario, evolution graphic, simulation, event calendar, scenario plan, and mapping diagrams are all present, without a connection to larger categories. Notably, Halprin's proposal, the score, is missing.

As a conclusion, we have to face the fact that solutions have been found for representing time in general, but that representational theory gives no immediate answer for the specific case of the representation of time in landscape architectural drawings. In Chapter 4, examples of today's practice will be explored. These practical solutions of designers precede the presence of an adequate theory - a theory which I attempt to develop in this research. For such a theory, we should acknowledge progress as made in the École Nationale des Ponts et Chaussées, by Humphry Repton, in cartography and in informational design, from the 18th century onwards. Together with later examples, such as given by Lawrence Halprin, we see glimpses of a solution for drawing time in landscape architecture. Obviously, this should be connected with the thinking about landscape and landscape architecture as explored in the earlier paragraphs. Reading a treatise like that of Hirschfeld or handbooks such as *The Scots Gard'ner*, or studying the written work of Olmsted, one can start to relate this to representation, and specific types of drawing. This certainly will extend the borders of traditional landscape architecture drawing - think only of the *cladogram* as mentioned by Zerabuvel, or the small multiples as mentioned by Tufte. It presupposes a clear idea of what a drawing is, essentially, in landscape architecture, and how this relates to

[293] Halprin 1969: 7.

[294] See for example Hirsch 2011.

[295] Halprin 1969: 1.

[296] See Mertens 2010.

[297] Ibid.: 102-104.

[298] Ibid.: 104.

[299] See Amoroso 2010.

[300] Here one public design facility participates: DLG. DLG is the product of several reorganizations, so that fragments of for example Dienst der Zuiderzeewerken and Staatsbosbeheer became to be part of it. A separate study could represent such environments and their turbulent development adequately.

ideas on what landscape is or should be, as was illustrated perfectly by the 'unfinished' American pioneer landscape as shown by Helmreich and O'Malley. Again, the work of Corner provides a sound basis for thinking about a theory on drawing in landscape architecture. But how does this all relate, or not, to current practice? That is what is in question in the next section, introduced by an ethnographic perspective on the nature of practice.

3.4 Profession, practice, project

The outsider's perspective: an ethnographic reading of architectural practice

Now that we have explored time and drawing, it is important to speak about the social, professional and economical context in which designs and drawings are made. Professional practice is a complex web in which individuals and groups of people operate, within a set of written rules and even more unwritten codes. An ethnographic perspective may be of help. In such a perspective it is of relevance that designs are most often produced in economical units. We could use words like firm or practice. In this case, I mainly use the word office. Other organizational entities -the institute, the department- exist and existed in landscape architecture, but the office became the common way of organizing professional work throughout the last few decades. [300] Here, the focus is on drawings as made in offices. They have to solve problems as given by a client, and in a broader sense, by society. Therefore they are not considered here as artistic products in their own right. Design tasks in landscape architecture are seldom solved by individuals,

Fig. 3.41a   Inside the karres + brands office, 2015.
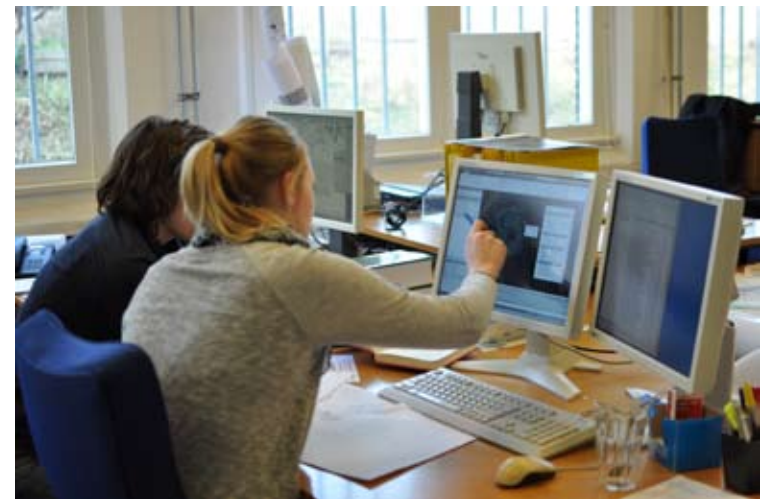
Fig. 3.41b Inside the Hosper office, 2015.

but mainly in small groups, and the landscape architect almost never builds what he or she drew on paper. He has to instruct a building company on how to do so. Therefore we have to explore the office as an environment; as a getting together of people; as a meeting point of the latest digital equipment and traditional drawing media. [Fig. 3.41a-l]

Creativity studies shifted from 'putatively creative individuals to a sophisticated understanding that novelty is often a product of formal and informal aspects of organizing'. [301] Ayn Rand's much read *The Fountainhead* is the perfect example of the 'putatively creative individual'. [302] In this 1943 novel young architect Howard Roark is unable to cope with the opportunism of the offices in which he works: he is the lonely genius. Rand's book has been often cited. Saint in *The Image of the Architect* does so, and notes an 'endless controversy' on the question of architecture being 'an art practiced by and for the sake of individuals, or a commercial enterprise geared to the needs of the market and the generation of profit, or a communal undertaking dedicated to the service of society'. [303] Despite the need to compromise, 'the strain of artistic individualism' has been heard loudly down through the centuries. [304] Saint locates this in the architect's profession itself: 'An individualized view of architecture attracts architects because it enables them to see themselves not only as top dogs in the construction process but also as creators and romantics, heirs to a tradition that offers them a chance of fame and remembrance from posterity'. [305] The Beaux-Arts system in particular had strong influence on the architecture profession and its self-image; 'a Beaux-Arts architect was one who firmly believed that architecture was an Art'. [306] The way Beaux-Art institutes

were organized still explains, to a large extent, the prominent position of words like atelier, studio and competition, indicating organizational entities, and environments to compete and excel. The difference between the actual reality of the profession and the image architects have in mind was also addressed by Brown et all. The title of their article, '"Invisible walls" and "silent hierarchies": A case study of power relations in an architecture firm', is telling, as it again points towards a difference between actual and imagined reality. [307] It is in the context of that tension that we speak about the potential innovation of the landscape architectural drawing system - even if most ethnographic studies are regarding architecture, the conclusions to a large extent also apply to landscape architecture.

Studying practice from within
Interest for how creative processes take place in such conditions has developed within the fields of anthropology, ethnography and sociology, and partly in architecture itself. Architect and researcher Dana Cuff intended in *Architecture: The Story of Practice* 'to look at the patterns of interpretation that members of a cultural group invoke as they go about their daily lives'. [308] She studied practice from within the office. That brought her to a crucial observation: 'What architects want us to hear about design practice often tells us more about beliefs and ideals than about the principles that guide action, theories-in-use.' [309] Cuff reports a telling remark by one partner of the firm: 'Really, we should call this place a studio, not an office.' (310) It 'invokes the studio analogy from architecture's heritage as a profession allied with the fine arts'. [311] It is about critically examining 'the justification of belief while respect-

[301] Brown, Kornberger, Clegg, and Carter 2010: 525.

[302] See Rand 1943.

[303] Saint 1983: 6.

[304] Ibid.: 6.

[305] Ibid.:6.

[306] Draper in Kostof 1977: 210.

[307] Brown, Kornberger, Clegg, and Carter 2010: 525.

[308] Cuff 1991: 5.

[309] Ibid.: 20.

[310] Ibid.: 17.

[311] Ibid.: 20.

Fig. 3.41cd Inside the OKRA office, 2015.

Fig. 3.37ef 1:1-Design of the support for benches, Anouk Vogel, 2015.

ing its authenticity' and to reveal in what cases such beliefs 'no longer respond effectively to everyday circumstances'. [312] She concludes that clients are important in this as they must arrive at some agreement together. This is not new: 'Art and business exist as a dialectic in architecture that has created a dilemma for the profession since its earliest days.' [313]

Drawing has changed substantially over the last number of decades. How did organizational structures respond? From Groleau's organizational science point of view, drawing is a collective issue more than it is an individual practice, as 'the improvisational nature of working as an on-going process of innovation and change is situated and social rather than cognitive and individual'. [314] Her study reveals something that is a delicate topic in design practice; specific persons can have a decisive role, even if they are low in hierarchy. Kevin, the intern in Groleau's case study on computer visuals, as she calls them, is a key figure in producing such visualizations - he is the one capable of making visualizations look 'more realistic'. [315] Houdart notes that in visualizations 'everything remains possible in the drawing, regardless of the conflict between banners and trees in reality'. [316] She quotes a designer, commenting on his own drawing: 'So, you have to give the effect of the trees being smaller in order to keep the visual composition and make it work – to make the clients believe in it.' [317] It illustrates the ambiguity involved in (perspective) drawings, but such is the nature of practice: 'A perspective drawing is not supposed to be convincing in its precision and respect for detail; the challenge is, on the contrary, to be false or unfaithful and still to transport the client away from his world into a new one; it is subversive almost by definition.' [318]

Architecture historian Robert Proctor studied how architects respond to interviews. The problem with 'the nature of the practice, indeed the nature of nearly all architectural work [is]: that it is collaborative.' [319] The biographical approach to architectural history, with its consequent emphasis on the role of the architect as an artist, lends itself to an 'unquestioning acceptance of intention as expressed in the interview'. Practitioners in interviews construct their histories 'through present desires, particularly the desire for esteem'. [320] That is not to suggest that interviewing architects makes no sense, but that a critical reading is definitely needed. As this study is partly based on interviews, as we will see in Chapter 4, Proctor delivers a very relevant argument. Keith Murphy as an anthropologist looks at drawings as part of a larger set of representational means that also includes text and gestures. This is important, as design processes mostly take place in groups. This opens up a view on design processes as 'collaborative imagining'. For landscape architecture with its complex projects involving many participants this is even more applicable. Murphy speaks about 'a social, jointly produced activity in which the objects of thought are actually manipulated in interaction rather than just reported'. [321] Participants in a design process are helped by 'each other's talk, gestures, and object manipulations to jointly imagine, and indeed create an imaginary thing'.

Can one understand Koolhaas's work without considering the practice, and the drawings made in it? Albena Yaneva thinks not. Therefore, in *Made by the Office for Metropolitan Architecture: An Ethnography of Design* she follows designers at work, assuming that 'there is much more logic in each piece of work executed by them, even in the apparently insignificant and unrelated design

[312] Ibid.: 21.

[313] Ibid.: 35.

[314] Groleau et al 2012: 652.

[315] Ibid.: 658-663.

[316] See Houdart 2008.

[317] Houdart 2008: 54.

[318] Ibid.: 54.

[319] Proctor 2006: 297.

[320] Ibid.: 296.

[321] Murphy 2005: 114.

Fig. 3.37g   Inside the Hosper office, 2015.

Fig. 3.41h   Inside the OKRA office, 2015.

Fig. 3.41ijk Inside the karres + brands office, 2015.

operations such as classifying models or reusing an old and forgotten piece of foam, than in the totality of their behaviour or design philosophy.' [322] She is specifically interested in models, as in OMA 'models are the material tracks of design processes': They represent the design process, or, as Yaneva puts it, they 'document important moments in office life'. [323] She proposes speaking in terms of trajectories rather than projects: 'If a project covers the process of step-by-step realization of an idea, a trajectory accounts for the explorations, the discoveries, the numerous detours and unpredictable surprises that might occur.' [324] Models literally move from table to table, undergo changes and are re-used, contributing in this way to a broader concept of drawings and models as 'backtalk'. Surprises are important: 'The designer encounters a piece of foam or a mundane object, and this encounter often surprises her, that is, it triggers an event.' [325]

Such studies of architects in practice point toward the role of drawings in design processes. Several authors, such as Goldschmidt, state that most design situations are 'ill-structured'. The fact that 'it is not clear at the outset where the process is leading to, and what the end result might be' will not worry any experienced designer, as that is part of his job. [326] But how does he or she solve it? Both Schön and Goldschmidt propose that drawings 'talk back', when describing the metaphorical conversation between the designer and his or her design. [327] For Goldschmidt backtalk describes how sketches can assist in generating ideas and strengthening them. The act of drawing itself creates such backtalk, as the designer 'sees' new options while drawing, and the continuous presence of paper drawings and models provides an intuitive way to reorganize one's thoughts. Schön in *The Re-*

flective Practitioner argues that designing is operating in messy situations, as it mostly begins with an ill-structured problem. One learns to master the messy character of design problems not through theory, but through action - by acquiring 'tacit knowledge'. Designing means making moves and evaluating these moves in order to decide on the subsequent moves. It assumes a dialogue between the designer and the evolving idea - as Schön puts it, the 'situation talks back'. [328] While Schön is interested in the design studio as a simulation of practice, Cuff focusses on practice itself. She tries to deduce what it means to work with clients, to have deadlines, to be paid for work and to have to organize work. Landscape architecture in that differs from architecture in that sense: more often the client is a large institutional body, represented by different persons and divisions, and that institution has to take into account the larger public that will use the design, or will be affected by it.

A landscape architecture interest
One of the rare ethnographic explorations of landscape architecture practice exclusively comes from the Dutch researcher Emilie Gomart. [329] She followed the office of H+N+S to study the political meaning of design, and more specifically the meaning of drawing in that context, having taken a project for the defence line of Amsterdam as an example. The background to this is a transformational process in landscape architecture and planning in the years after 1980, changing the role of images. Landscape architectural design, in drawing, substantially contributed to enabling political bodies to formulate new directions. The one-time event *Nederland Nu als Ontwerp* [The Netherlands Now as a Design] was an important testing ground for the development of

[322] See Yaneva 2009.

[323] Ibid.: 53.

[324] Ibid.: 27.

[325] Ibid.: 53.

[326] Goldschmidt 2003: 72.

[327] See Schön 1983 and Goldschmidt 2003.

[328] Schön 1983: 79.

[329] See Gomart in Hajer, Sijmons and Feddes 2006.

[330] See http://zoeken.nai.nl/CIS/ar-chief/317 on *Nederland Nu als Ontwerp*.

[331] Gomart: 80. Original text: '[...] ontwerp- en tekentechnieken in het politieke menings- en besluitvormingsproces zelf, met als doel de onderhandelingen te verbeteren door onverwachte verbanden te leggen tussen verschillende alternatieven'.

[332] Ibid.: 83. Original text: '[...] kaarten verschillen, en dat stelt de ontwerpers in staat bestaande gezichtspunten te problematiseren en hun aanvechtbaarheid aan te tonen'.

[333] Ibid.: 84. Original text: 'Zij tekent een patroon en onderbreekt dan haar werk, haalt het vel van de kaarten, bestudeert haar schets en gaat weer verder met tekenen. Zij blijft over de kaart gebogen; zij tekent, stopt, buigt haar hoofd en bekijkt het vel weer van dichtbij. Wat zoekt zij?'

[334] These are Atelier Quadrat, Bosch Slabbers, Buro Lubbers, DS, H+N+S, Hosper, karres + brands, OKRA, Vista and West 8.

scenarios for the distant future. [330] NNAO, as was the abbreviation, promoted a designerly exploration of the planning of the Netherlands towards the year 2050. The design professions were back in charge, after two decades of absence. The event introduced 'design and drawing techniques into the political opinion-forming and decision-making processes, the aim being to improve negotiations by linking various alternatives in unexpected ways'. [331] Gomart studied the production of maps, schemes and visions in relation to debates with clients and the public. Very often in landscape architecture, there is no clear assignment. The goal then is to contribute to an agreement on a future scenario, which requires a direct debate with the public. Contrary to Yaneva, who confined her observations to the role of models inside the office, Gomart was interested in maps and their use outside of the office. Maps and models are very different in their physical presence and their function, but her observations go in a similar direction. The office space is described as an arrangement of tables with stacks of maps and transparent overlays. Yaneva suggests that models 'talk' with each other and with the designers. According to Gomart maps do the same thing: '[...] maps differ, a fact which enables designers to cast doubt on existing points of view and to demonstrate that the latter are contestable'. [332] Observing landscape architect Yttje Feddes at work: 'She is drawing a pattern but then stops, peels the overlay from the maps, studies her sketch and then resumes drawing. She remains bent over the map; she draws, stops, bends her head further and looks at the overlay from close up. What is she looking for?' [333] Gomart concludes that the designer seemingly replicates existing patterns on maps by drawing them on overlays, but in reality she formulates her own design goals by doing so – a parallel process of creating content and intention.

The work of Gomart points towards the particularities of landscape architecture. In Humphry Repton's time, the client was a wealthy individual. This constellation is similar to architecture, with its dominance of private clients. Post-war landscape architecture, in contrast, is strongly related to civil service and engagement in public projects. Although a major shift towards commercial offices can be noted after 1985, the nature of projects since then is still predominantly public, or semi-public. The client in such cases is not a small group of persons, but a complex entity, representing political power, technical responsibility, public communication and so on. The notion of the *public* per se is much more present in landscape architecture, as most designs have no strictly defined user. The most relevant characteristic, very different from architecture, is probably the scale of landscape, and the time that evolves in its making. Landscape therefore is somewhat resistant and changes slowly, given its history -it is already there- and its lengthy maturation. Awareness of the resistance of landscape certainly influences professional perceptions. It probably contributes to patience, a mediating attitude and a general tendency to put things into perspective. This is the context of the making of drawings in landscape architecture.

Dutch professional practice after 1985: a thrilling decade
From the making of drawings in landscape architecture in general we move to professional practice after 1985, and to the particular aspect of time. To shed light on the meaning of time and drawing I selected, as elucidated in Chapter 2, ten offices founded during the thrilling decade between 1985 and 1995. [334]

In 1990 leading Dutch architectural journals such as *De Architect*, *Bouw* and *Archis* devoted several articles to the young office of West 8, founded in 1987, and its foreman Adriaan Geuze. [335] Three years before the foundation of West 8, landscape architect Alle Hosper and the office of B+B were commissioned to lead *De Kern Gezond* [The hearth healthy], an unprecedented renewal program for the public space of the inner city of The Hague, which was published in the 1988 volume of *Archis*. [336] In 1985 *Plan Ooievaar*, the winning entry of the first *Eo Wijers* competition, was an instant success, and inspired the start of the office of H+N+S. [337] The *Eo Wijersstichting* [Eo Wijers foundation], founded in 1985 and therefore of the same era, asked landscape architects to combine their research capacity with their ability to draw up visions for the future and concrete proposals for interventions in the landscape. There is a meaningful connection between these observations. Until then, if an architect's journal had mentioned landscape architecture, it was a curiosity from another domain. West 8 was a different thing; with its provocative, colourful and innovative projects the office boldly entered the domain of architecture and urbanism. How was this jump made? *De Kern Gezond* as a project certainly involved trees and plants, but it was primarily a 'stony' project. More importantly, it was a strategic project, as it took into account the inner city as a whole. Why did a landscape architect lead such a project, if landscape architecture until then was primarily focussed on vegetal environments? What was the innovation *Plan Ooievaar* brought, and how could it self-confidently define this large-scale plan as a landscape architectural work? These questions arise from a highly dynamic transitional period in Dutch landscape architecture from 1985 onwards. Obviously, the formation of offices in itself, as a response to shrinking public

planning departments, is relevant. And certainly the success of OMA and Rem Koolhaas, stimulated by their contribution to the *Parc de La Villette* competition was of influence - West 8 unmistakably expanded on that approach. But in the context of this study it is also the growing influence of ecological thinking, with its most clear manifestation in *Plan Ooievaar*, which must be noted. As previously discussed, the prevailing thinking surroundingnature in relation to landscape design changed dramatically. In the Netherlands, Westhoff, Sipkes and Landwehr are noteworthy for the post-war development of this thinking towards an appreciation of natural systems, and in designed landscapes. [338] As Löbbecke analyzed, and also Dirk Sijmons, member of the Ooievaar team and later director of H+N+S confirms, there was a strong tension between ecological thinking, gaining growing influence, and landscape architects - was design threatened? [339] In so far as landscape architects understood themselves as mediators between human beings and nature, it was ecology that claimed that role now. The Oostvaardersplassen, a leftover area in the IJsselmeerpolders caused a break through. Here, a planned industry area was not effectuated, and nature took over. The processes happening here made a group of ecologists and landscape architects aware of the new role of design: landscape architects could draw the conditions, in which natural processes could unfold. That discovery opened doors for a 'cultural adaptation', as Sijmons puts it, of these ecological insights. [340] *Plan Ooievaar* showed that the design of nature was possible - not as an image, but as a stimulus for a dynamic process. This was one of the fundamental changes occurring in the years around 1985.

[335] *De Architect* 1990: *Prix de Rome* competition; studies for urban open space in Rotterdam; park design for Beverwijk. 1991: Schouwburgplein Rotterdam. See also www.west8.nl/en/publications/about_west_8/page97/.

[336] Van Dooren and Van Leeuwen 2003: 87-93 and 146-151 and Molenaar 1988: 16-19.

[337] The team made a publication on their entry. See De Bruin 1987.

[338] See for example Ruff 1979; Woudstra in Dunnet and Hitchmough 2008, and Löbbecke 2012.

[339] See Löbbecke 2012. Also oral communication, Dirk Sijmons 08-02-2016.

[340] Oral communication, Dirk Sijmons 08-02-2016.

[341] Since 1993 15 yearbooks have been published. Starting with a two year's overview, 2003-2007 covered four years. Later editions covered one year.

[342] Luiten in *Landschapsarchitectuur en Stedebouw 93-95*: 24-31. The funds are (with their current names) Creative Industries Fund NL and Mondriaan Fund.

[343] As counted by Wageningen student Luuk van den Berg for this research in 2011. Report in author's archive.

[344] For example Hosper Gas storage near Langelo: 70, West 8 Borneo Sporenburg residential areas: 86, Quadrat The hearth of Amstelveen: 96, Bosch en Slabbers Public squares of Borsele: 152, Lubbers Gardens for Limburg Public Records Archive Maastricht: 194.

[345] See Van Dooren and Nuijsink 2010 for Enschede, and Van Dooren 2006 for Tilla Durieux.

[346] See *Landschapsarchitectuur en Stedebouw 93-95*: 82-85; Van Dooren and Van Leeuwen 2003: 162-165.

[347] See *Landschapsarchitectuur en Stedebouw 93-95*: 120-123.

Yearbooks

After little more than a decade a silent transformation was successfully accomplished. In the 1996 *Landschapsarchitectuur en Stedebouw in Nederland 93-95*, a yearbook displaying landscape architecture and urban design projects, was published as the first of a series of yearbooks. [341] Designers were invited to send in plans that were finalized in the years 1993-1995. About 30 plans were selected. The importance of this and consequent yearbooks is multifold. Through a system of peer review they show which plans are perceived to be the best over these years. Experts formulated criteria they wanted to apply for each yearbook. These continuously updated criteria, together with reflective essays in each book, provide an overview of the debate as it developed over the years. In the first edition Eric Luiten spoke about 'the infrastructure by which the profession can develop' as an important condition that made renewal possible. Examples of these are the Dutch Architecture Institute and the two funds that support initiatives in architecture and design. [342] In retrospect, the book series itself is an example of such infrastructure. The change in the design climate in the eighties resulted in an energetic production, new approaches and a vibrant debate. Yearbooks responded to that as a confirmation of the observed change, and as a first level of reflection on this dynamic period.

One of the criteria for the selection of an office was its presence 'on stage', which includes publications, prizes, and remarkable designs. A yearbook is such a stage, especially as plans are selected by peer review. West 8, H+N+S, Lubbers, Hosper, karres + brands, and Quadrat are all part of my selection, and are some of the most profiled offices in the yearbooks - they each had between five and fifteen projects published between 1993 and 2014. [343] These numbers confirm an exciting change. Offices, founded only a few years previously, were, by means of these yearbooks tagged as successful. Even *built* plans were recorded in the 1993-1995 edition. [344] Given the relative slowness of landscape architecture that is quite remarkable. It reveals the highly fertile conditions around 1990. Offices just starting from scratch acquired impressive projects such as the public space at the station of Enschede (OKRA) and Tilla Durieuxpark in Berlin (DS). [345]

If we take *Landschapsarchitectuur en Stedebouw in Nederland 93-95*, three projects can be highlighted as typical examples of a Dutch landscape architectural culture. The Zaaneiland urban renewal project by Hosper, commissioned by the municipality of Zaanstad in 1992 as part of the redevelopment of the highly industrialized banks of the river Zaan, included 530 new houses. [346] [Fig. 3.42] As green areas played only a minor role, in disciplinary terms this project should have obviously been classified as urbanism, but remarkably it was undertaken by a landscape architecture office. The landscape architect pleaded for the *minimisation* of regular green open space, as the surrounding water with its banks and wide vistas was considered the best quality landscape that could be offered, an argument which, incidentally, could also be heard in the West 8 design for Borneo Sporenburg - published in the same yearbook. Due to that development, landscape architects could now be the natural leaders of the design team. The next project is the West 8 design for the site of the VSB head office in Utrecht. [347] [Fig. 3.43] In 1993 West 8 was asked to design the 2,5 hectare garden. Obviously a garden design can be placed in the context of a long tradition, and is in that sense not remarkable. In the Dutch

Fig. 3.42   Aerial view of Zaaneiland, Zaanstad, designed by Hosper landsc-hapsarchitectuur en stedenbouw, 1992. Photographed by Peter van Bolhuis,

Fig. 3.43   Photograph of garden of VSB head office, Utrecht, designed by West 8 Urban Design & Landscape Architecture, 1993. Situation 2013.

Fig. 3.44ab   Detail of competition entry for *Parc de La Villette*, **Bureau B+B stedebouw en landschapsarchitectuur, 1985, and exploded view of Schouwburgplein plan, Rotterdam, West 8 Urban Design & Landscape Architecture, 1991, realized 1996.**
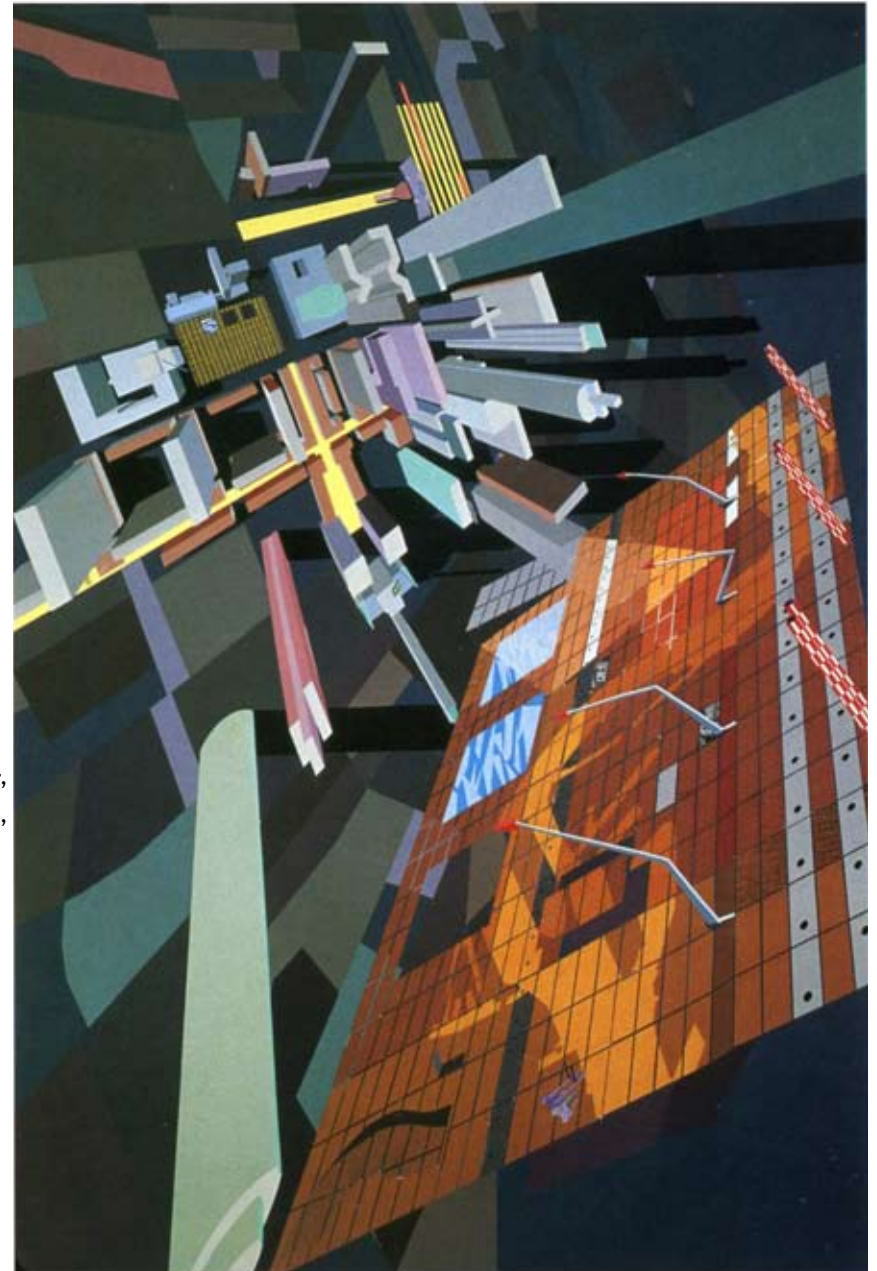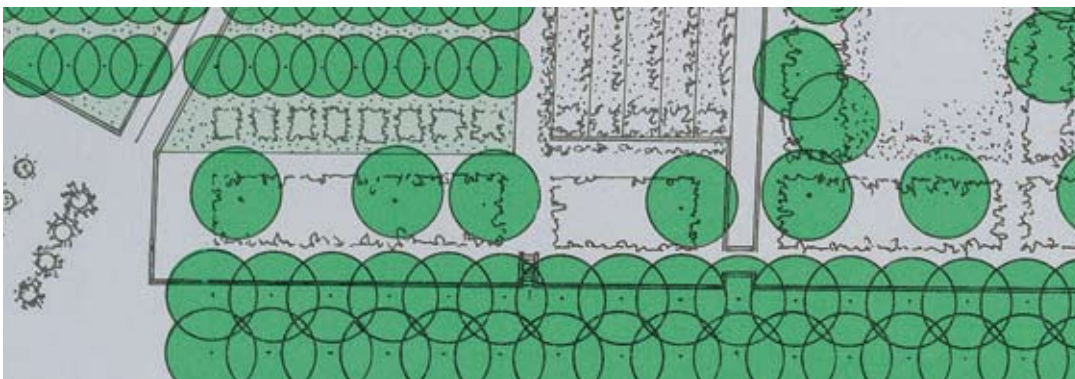
context however, it was exactly this garden tradition that seemed to struggle during this period. Yet it is mainly the approach of West 8 that makes it a characteristic design. In fact the garden is presented as a drawing, to be seen from above. A bridge -for which there is no immediate necessity- mocks Dutch austerity by being there at all, a fact compounded by its exuberant design. It is the colourful provocation in this project, and in general in the oeuvre of West 8, both in drawing and reality, that deeply changed Dutch landscape architecture. The third project is a 20-kilometre dike design by H+N+S situated along the river Waal, commissioned by the local water board. [348] Here the landscape architects had a leading position in a team with engineers. This is remarkable, as it confirms the rise of landscape architecture with respect to other disciplines in the planning process. It also represents a new reality in the profession: to take responsibility for the entire design of these 'necessities' of modern life. Furthermore, the design is remarkable, as it can only be understood at the level of the regional scale, which up to that point was not considered as a scale for design. These aspects were not radically new as such at that time, but should be seen as a harvesting of the preparatory work done in earlier decades. This harvest was now made possible.

Major shifts
Luiten stated in the first yearbook that Dutch landscape architecture 'enjoys a prosperous period'. [349] There may be discussion as to when exactly this period started, and different interpretations of what ignited this change are possible, but the set of yearbooks without doubt document this prosperous period itself. Journalist Max van Rooy commented on this successful progression of

landscape architecture: 'Seeing that, over the last ten years or so, even urbanization has become a landscape architectural assignment, the omnipotence of the landscape architect is now complete.' Prestigious awards confirm that landscape architecture has 'achieved Messianic status'. [350] Although obviously being ironic, Van Rooy brings attention to the important fact that by receiving such prizes landscape architects were indeed given a position equal to that of architects.

Four major shifts shape this period. Landscape architects started to operate on the same level and in the same domain as architects and urbanists. The question of why this happened has to be researched elsewhere. As the beginning of an explanation, I assert that both the work of B+B and West 8 strongly contributed to this emancipatory jump by their language and drawing style, consciously levelling with the architect's codes of working. [Fig.3.44ab] Secondly, after a period in which design struggled to survive, design as a means to explore the future was back again. This was certainly strengthened by the *Nederland Nu als Ontwerp* happening, but it was also inspired by a set of national policy documents that radiated optimism and a forward looking spirit. Dutch landscape architecture for the first time was seen as a serious partner in this motion. [351] Thirdly, landscape architects just like architects did renew themselves with a fresh, colourful, brutal and slick graphical expression. Without doubt, the success of OMA and Rem Koolhaas was of influence, but the 1983 *Parc de La Villette* competition has also often been mentioned as a strong motivation for innovation in landscape architectural representation and a radically new approach towards leisure, transport and urban open space. Last but not least, the profession of landscape

[348] See *Landschapsarchitectuur en Stedebouw 93-95*: 146-149 and Sijmons 1998: 44-47.

[349] Luiten in *Landschapsarchitectuur en Stedebouw 93-95*: 24. Original text: 'De landschapsarchitectuur maakt een bloeiperiode door.'

[350] See Van Rooy in *Landschapsarchitectuur en Stedenbouw 99-01*: 16-23. Original text: 'Nu sinds een jaar of tien zelfs de verstedelijking een landschapsarchitectonische opgave is geworden, is de almachtigheid van de landschapsarchitect compleet. De toekenning van de meest gezaghebbende architectuurpijs van Nederland, de Rotterdam Maaskantprijs in 2002 aan Dirk Sijmons, de bevlogen schrijvende roerganger van het Utrechtse bureau H+N+S Landschapsarchitecten, is een bevestiging van de Messiaanse status die de landschapsarchitect heeft verworven.'

[351] For example *Notitie ruimtelijke perspectieven: op weg naar de 4e nota over de ruimtelijke ordening* (1986).

[352] See Andela 2011: 123. Original text: 'Wij moeten voldoende contact hebben met de gedachtensfeer van den stedebouwer.'

[353] Andela 2011: 174.

[354] The event is mentioned in Steenhuis 2009b: 36-48, Hemel 1994: 73 and in Andela 2011: 97.

[355] Hemel 1994: 73. Original text: '[...] meerendeels opnamen van kleine, smaakvol aangelegde tuinhoekjes, elegante vijvers en rotstuinen'.

[356] Ibid.: 73. Original text: '[...] nog niet genoeg is men ervan doordrongen, dat bij het creëren van belangrijke cultuurwerken, landschapsschoon een programmapunt is van primaire betekenis' and: 'De tuinarchitect zal zich op een taak in deze ontwikkelingen moeten voorbereiden.' and: 'Hij zal dan grote braakliggende gebieden ontdekken. Hiermede bedoel ik niet alleen, dat zijn werkgebied zich over vele nieuwe objecten zal uitstrekken; ik bedoel vooral, dat hij deze zal moeten veroveren.'

[357] Andela 2011: 101, 102.

[358] Andela 2011: 102. Andela quotes Bijhouwer as given in 'Een bodemkartering ten behoeve van de stedebouw', *Tijdschrift voor Volkshuisvesting en Stedebouw* (1947) 3: 36. The Dutch text is: 'Wij vonden daar een veenig, drassig weidecomplex dat over groote uitgestrektheid nauwelijks boven het water in de slootjes uitstak.'

[359] Ibid.: 102. Bijhouwer said in Dutch: 'Het aantrekkelijke van dit plan zit voor

architects reorganized itself in a dynamic world of offices and independent designers. It is this major transition that marks the period that I am interested in.

Back to Bijhouwer

In 1947 the first landscape architecture program in the Netherlands started. These years are thus a foundational period in Dutch landscape architecture, in connection with the name of Jan Bijhouwer, the first professor in Wageningen. 'We need to have sufficient exposure to the way town planners think', Bijhouwer said in his inaugural speech. [352] I refer back to this earlier statement as I assert that the first signs of the transition in the eighties can be found here, and it was not necessarily in the domain of garden architecture. Bijhouwer was convinced that a landscape architecture program had to be positioned close to urbanism. His biographer Andela underlines that this must be read as a strategic remark. [353] It was much debated whether the new program should be housed in Wageningen, close to agriculture, or the engineering atmosphere in Delft, including urbanism. It also reveals what landscape architecture *should* be. In 1940 the Dutch federation of garden architects BNT participated in an exhibition in the Stedelijk Museum in Amsterdam with works of its members. Bijhouwer took part in the organization. [354] [Fig. 3.45] Urbanist Van Eesteren gave a remarkable opening speech. The exposition was 'mainly consisting of small and tastefully laid-out nooks, elegant ponds and rock gardens'. There can be no doubt about the rather critical view of Van Eesteren: He qualified the contributions as 'modest'. [355] He urged the garden architects to wake up and participate in the vibrant debate about new landscapes, such as the Zuider-

zee polders: In these 'important cultural works, scenic beauty is of prime importance'. A garden architect should take initiative, have a role in these developments, and discover 'large, empty wasteland areas. By this I don't only mean that his area of work will extend to many new objects; I mean in particular that he will have to conquer them.' [356] With these bold statements Van Eesteren was, in fact, presenting a manifesto for post-war landscape architecture. In the post-war decades the profession of landscape architecture responded step-by-step to the call of Van Eesteren, until the second half of the eighties, when 'the wasteland areas' had definitely been conquered.

Debate

Incidental early examples show a profession on the move, such as the urban plan for Kethel (1942), designed by Bijhouwer and urban planner A. Siebers. [357] Bijhouwer was strongly influenced by soil science. The area indicated for the extension of Schiedam caused difficulties, or, as Bijhouwer puts it: 'There we found a large system of peaty, boggy grasslands which hardly protruded above the water in the ditches.' [358] This actual condition to a high degree defined the design, and Bijhouwer was proud of that: 'The appealing aspect of this plan as far as I was concerned was the logical and pleasant "garden village" and park layout achieved by following the natural features as closely as possible. This result would never have been obtained if the layout had borne the stamp of the designers' own visions.' [359] His approach preludes the position that Dutch landscape architecture in later years took towards urbanism, striving to integrate the given qualities of the landscape. The existing landscape, its dynamics and its history should not restrict but enrich the urban design.

Fig. 3.45   Photograph of exhibition *Stad en Land* **in Stedelijk Museum, 1942.**

mij in het feit, dat een logische, aangename indeling werd verkregen van tuindorp en park, door de natuurlijke gegevens zo nauw mogelijk te volgen, en dat het resultaat iets werd, dat nooit zou hebben kunnen ontstaan uit de 'vormwil' van de ontwerpers.'

[360] See Steenhuis 2007 and Steenhuis 2009b.

[361] Doorenbos in *De Boomkweekerij* 1945: 36.

[362] Bijhouwer in *De Boomkweekerij* 1945: 44.

[363] See *De Boomkweekerij* (1946) 12: 83. In an editorial comment H. (which is presumably Haspels) writes in Dutch: 'Er is iets nieuws aan het groeien, [...]. Dit nieuwe zou ik de "school" van Bijhouwer willen noemen, een "school" die steeds meer volgelingen zal trekken.'

[364] Boer in *De Boomkweekerij* 1946: 103.

[365] See Steenhuis (Ed.) 2009b and Kamphuis 2014.

[366] Hoogstrate in Steenhuis (Ed.) 2009b: 245.

[367] Vroom 2014: 128-132.

Prior to the Second World War garden architects were mainly independent designers, different from urbanists who were generally part of public bodies. [360] Garden architects were strongly related to private clients and often close to the world of nurseries, or were nurserymen themselves. The earlier mentioned debate in *De Boomkweekerij*, started in 1946 by Doorenbos, is relevant also when it is the profession itself that is spoken about. Doorenbos had the bold opinion that a garden architect should have his own nursery. [361] Only this way could a knowledge of living material be acquired and kept up to date. Bijhouwer opposed him and stated that a garden architect should by no means have his own nursery, which was also the official viewpoint of the professional organisation BNT. [362] A garden architect with a commercial nursery could not be an independent advisor. In an editorial the discussion is commented on: 'Something new is growing,...... I would call it the "school" of Bijhouwer, a "school" that will attract more and more followers'. [363] In a next issue, landscape architect Wim Boer, declared himself part of that new school, and stated bluntly that these newcomers have an interest that is broader than the garden alone. In fact, the discussion was already out-dated: For Boer's generation it was all about creating space, designing a balanced composition, and accommodating the program - an approach that mirrors the basic thinking of Modernism. [364] At the same time, the importance of this debate for the young profession was substantial, confirmed by the fact that the discussion is cited in several publications, and even got a name: the 'met-of-zonder' discussion - the with or without discussion. [365] This debate has strongly contributed to the definition of the emerging profession of landscape architecture, and it marks the definitive separation between the craftsman (the gardener) and the advisor (the landscape architect). Bijhouwer, invited by urbanists, initiated a new understanding of landscape architecture and, as a consequence, to leave its fortress of plants and trees and move towards the city. It certainly had an effect; a growing presence of landscape architects in public service can be noted in the period after the Second World War, for example in cities' departments for green and public space, known for their knowledge on living material. But as Van Hoogstrate notes, leading designers in these departments, like Doorenbos in The Hague had a rather traditional approach, and they were urged by the new generation to renew the profession. An interest in flowers, shrubs and trees was seen as old-fashioned - the new era asked for a different approach. [366] It would be too easy to see this as an explanation for the later lack of engagement with issues of time, but it certainly reveals a contradictory set of changes. As Vroom notes in his memoirs, the installation of a chair of landscape architecture at the university made it difficult to give garden architecture and the knowledge of plants and trees an adequate position, and to some extent this has been an unsolved debate up to present day. [367] However, to restrict the engagement with time issues to the domain of gardening would be nonsense. The way in which landscape architecture after 1985 widened up its domain certainly caused an even bigger move away from garden architecture, but at the same time it introduced important new areas in which time, change and dynamics were central. So again the transformation must be seen as dialectical.

Turning points

The biography of Bijhouwer concludes with an essay by Adriaan Geuze. In a provocative argument he asserts that the generation

of Bijhouwer was 'betrayed'. [368] Geuze wants to understand Bijhouwer as heir of generations of 'landscape architects', even if that term was yet to be invented, who created the Dutch landscape and were never afraid of large landscape works. Geuze states that this tradition got lost. What makes the essay relevant is the significance Geuze gives to the definitive decision to *not* make the Markerwaard. This last polder of the Zuiderzeewerken started to be fiercely debated in the climate of the seventies. The general public opposed such large interventions. Geuze wants to read this as the final loss of a culture in which Bijhouwer operated, and to which he strongly contributed. Geuze's reading makes sense, in so far as not making the Markerwaard does, indeed, have a very strong symbolic meaning. The event can certainly be understood as the end of a period that began in the post-war years with the involvement of Bijhouwer in the polders, and the instalment of the landscape architecture chair in Wageningen. In retrospect, both the Zuiderzeepolders and Staatsbosbeheer have, as an environment for landscape architectural production, contributed highly to the intellectual development of the discipline of landscape architecture, its participation in the main post-war investment programs that affected landscape, and the production of numerous important plans. [Fig. 3.46] Geuze speaks about the loss of a tradition, and seems to interpret this moment of not making the Markerwaard as the conclusion of a glorious era. In reality, this is true and untrue. The transformation in the eighties was highly dialectical. Indeed a series of state institutions with a strong tradition were dissolved. At the same time, this helped a group of new and private offices to become very successful, and ironically, Geuze's West 8 is one of the best examples.

Fig. 3.46 **Polder Zuidelijk Flevoland, Spring 2009.**

[368] Geuze in Andela 2011: 236.

[369] As confirmed in interviews held to prepare Van Dooren and Van Leeuwen 2003.

To the city

A biography of the Dutch landscape architect Alle Hosper (1945-1997) illustrates the development of the profession. [Fig. 3.47] Starting at the national forestry service Staatsbosbeheer in 1967, Hosper shifted to the Projectbureau Almere, part of the Rijksdienst voor de IJsselmeerpolders to work on the new city of Almere. Just as Staatsbosbeheer, this service (formerly called Dienst der Zuiderzeewerken) at that time housed substantial numbers of landscape architects. These environments were perceived as dynamic, and as much more attractive to work in than private offices at that time. [369] In fact these larger groups of landscape architects within public institutions were essential to the way in which Dutch landscape architecture developed, as they also functioned as a research facility, and as Jannemarie de Jonge observes, 'the specific orga-

Fig. 3.47   Sketch drawing for so-called *Eierenplan*: drinking water basin in De Biesbosch, Staatsbeheer, 1967. Drawing Alle Hosper.

nizational structure of the landscape architects in the Landscape Development division of the National Forest Service, and the network they maintained, contributed to the increasing influence on the professional domain.' [370] Many of the employees, following the dissolution of these institutions, started their own firms, and three of the offices participating in this research have their roots here. [371] At the Projectbureau, Hosper was tempted to cooperate in the design of the Markerwaard, but when it became clear that this polder would never be realized, he left this statal body and moved to the world of commercial offices, to Bakker en Bleeker, today B+B. He knew this office quite well. Although only founded in 1977 they had done several commissions for the Projectbureau Almere. Now the office set off on a new adventure: the project of *De Kern Gezond* in The Hague. The name refers to the inner city, or the core, and the desire to revive that core. Hosper got a leading role. That is of importance. Writing the biography of Alle Hosper a decade ago, I wondered at length how it could happen that at that time such a large, strategic and strongly design oriented project was possible, and why a landscape architect was appointed to a project that mainly concerned the stony surface of The Hague's inner city. [372] The Hague alderman Adri Duivesteijn had a crucial role in this. More specifically his visit to English industry cities, such as Manchester in 1982 taught him that The Hague too had to face the risk of a degrading city centre. [373] He convinced the local government that a long-term project to invest in all public space was of high importance, and that a master plan should be made. This advice initiated one of the most continuous and consistent urban renewal projects the Netherlands has known in the last few decades. *De Kern Gezond* was published as early as 1988 and 1989 in *De Architect* and *Archis* - again a sign that this new

spirit had been noted in broader circles. [374] Hosper's role in *De Kern Gezond* marks the conquest of the entire city as a domain for landscape architecture, and not only its green space. However, as is often the case in these years, such transitions are dialectical. In an essay in *Streetworks* I argue that it was probably the vibrant debate in urbanism that paved the road. [375] Urbanism at that time played a stimulating role for landscape architecture. Urbanists like Rein Geurtsen, Frits Palmboom and Maurits de Hoog explored the notion of *morphology*. This interest in morphology, inspired by urbanistic experiments in France and Italy, had many aspects, but one of them was a new reading of the relations between the landscape, as a basis, and the urban pattern. In 1982 Geurtsen drew a set of noteworthy drawings in which the urban structure of The Hague was read as a consequence of its soil, an interchange of dunes and peaty depressions. Such a reading 'explained' the morphology of the urban pattern of The Hague. [376] Palmboom did the same for Rotterdam. These drawings were published in *Rotterdam. Verstedelijkt landschap*. [Fig. 3.48] This publication from 1990 was an instant success, marking the interest for such a reading. [377] It certainly supported landscape architects in taking a leading role in the design of the city.

Challenging architecture
The office of Bakker en Bleeker (later: B+B) with its foundation in 1977 preluded the changes in Dutch landscape architecture after 1985. Consciously positioning itself at the same level as architecture and urbanism, indeed the ambition was 'audacious', as landscape historian Marinke Steenhuis suggests. [378] It is an emancipatory act, and going back to the changes after the Second

[370] De Jonge 2009: 95.

[371] H+N+S, Vista and Bosch Slabbers can be traced back to these environments.

[372] See Van Dooren in Van Dooren and Van Leeuwen 2003: 70-73.

[373] Ibidem, and also Van Dooren in Oxenaar (Ed.) 2011.

[374] See Molenaar 1988 and Zwinkels 1989.

[375] See Van Dooren 2011.

[376] Re-published in Van Dooren and Van Leeuwen 2003: 71 and Van Dooren in Oxenaar (Ed.) 2011: 55. Also published in the 1988 reader *De stad, object van bewerking* (Technische Universiteit Delft).

[377] See Palmboom 1990.

Fig. 3.48   Analytic drawing for *Rotterdam. Verstedelijkt Landschap* **by Frits Palmboom, 1990.**

World War probably the *second* major emancipatory act. Despite the years of crisis in which the practice started it went quite well, and in 1982, celebrating its first five years of existence, the members allowed themselves to participate in the *Parc de La Villette* competition. [379] Success came instantly; the office was one of the nine winners. The importance of this competition as a whole can hardly be overrated. But the entry of B+B was also remarkable for its excellent drawings. These drawings were not innovative in the way Tschumi and OMA shocked the design world, but the implicit statement on landscape architecture was nevertheless far-reaching. The posters were very unconventionally reproduced as serigraphs, due to the colour quality, and that mattered. The drawings were, to put it simply, more architectonic, and expressed a strong opinion on the nature of landscape architecture. Specific greens are bluish, to take distance from the traditional rich greens of landscape architects, and in the same way sharp, thin black lines gave the drawing an architectural look. Trees were perfect circles, again not the traditional 'natural' drawings made by landscape architects. The La Villette entry established a strong drawing history that continues today at the office of B+B. The practice strived for austere drawings, restrained in their use of colour, precise in the drawing of lines and aiming at a balanced composition. [380] Many drawings were in black and white; others showed very skilled coloured pencil drawing. This also reveals the conscious move towards architecture and urbanism. It helped the office to accentuate their artistic autonomy to the client even more. This was, as Steenhuis observes, rather unusual for landscape architects. [381] Their 1984 Prinsenland design is significant in that respect. [Fig. 3.49] In an article in *Plan* three of the team members protested against boring functionalist plans and promote

a formal language that is more free and full of tension, in terms of composition. [382] In this plan the collage is introduced as a representational tool, which at that time was little known in landscape architecture; some years later West 8 would give the use of collage another strong impulse.

Leafing through *De Architect* and comparable journals, one can trace evidence that it had been noticed. At once, landscape architecture was seen as operating within the domain of urbanists and

[378] Steenhuis (Ed.) 2010: 34.

[379] See Barzilay, Hayward, and Lombard-Valentino 1984 and a Dutch dissertation: Baljon 1992.

[380] See Van Dooren in Steenhuis (Ed.) 2010.

[381] Steenhuis (Ed.) 2010: 60.

[382] Steenhuis in Steenhuis (Ed.) 2010: 56-57.
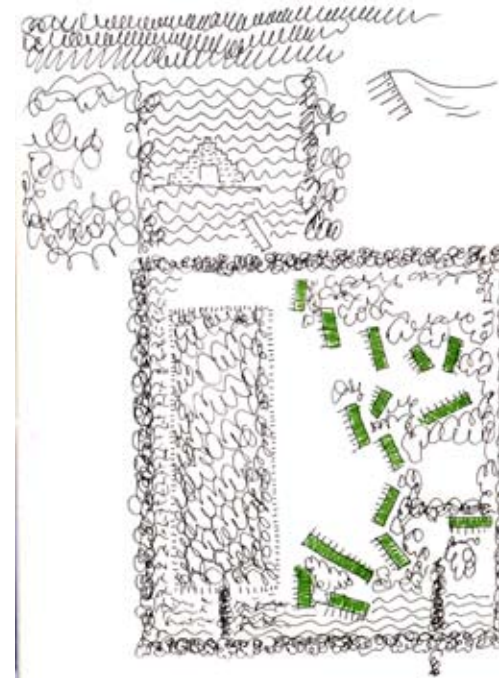
Fig. 3.49   Drawing for Prinsenland, Bureau B+B stedebouw en landschapsarchitectuur, 1984. Drawing by Jos Jacobs.

[383] See Lootsma 1990.

[384] See Roodbol 1990.

[385] See Goffi in Frascari, Hale and Starkey 2007.

architects. A major force came from the work of West 8, founded in 1987. Publicity around the work started to grow from 1990 onwards. Attention was also received from international architecture journals. His entry in the *Prix de Rome* competition positioned founder Adriaan Geuze as a newcomer with a vocabulary that superseded the general landscape architectural rhetoric. His final plan was judged to be 'almost arrogant' by Bart Lootsma. [383] Shortly after the personal success of Geuze, the newly founded West 8 office was introduced to the broader architecture public with studies for urban open space in Rotterdam, characterized by Jos Roodbol as 'unorthodox', 'unconventional' and 'intelligent'. [384] The appreciation in architectural journals was certainly helped by the drawings and more particularly the collages and the layered diagrams, relating West 8 to OMA. But West 8 immediately claimed its own handwriting - for many a source of inspiration. Some of the drawings were disseminated worldwide and acquired a cult status, such as the diagram for the landscape design of the Oosterschelde dam. [Fig. 3.50] Goffi coined the term 'twinned body' to describe the relationship between drawing and building, pointing at the autonomous life a drawing can have, and this West 8 drawing certainly is a confirmation of that theory - the actual design is long since gone, but the drawing is alive. [385] Both on the level of design invention and drawing the oeuvre of B+B and West 8 shaped and represented the transformation of landscape architecture.

Plan Ooievaar

A rather typical aspect of Dutch landscape architecture is the idea that nature can be made, if one knows the conditions in which
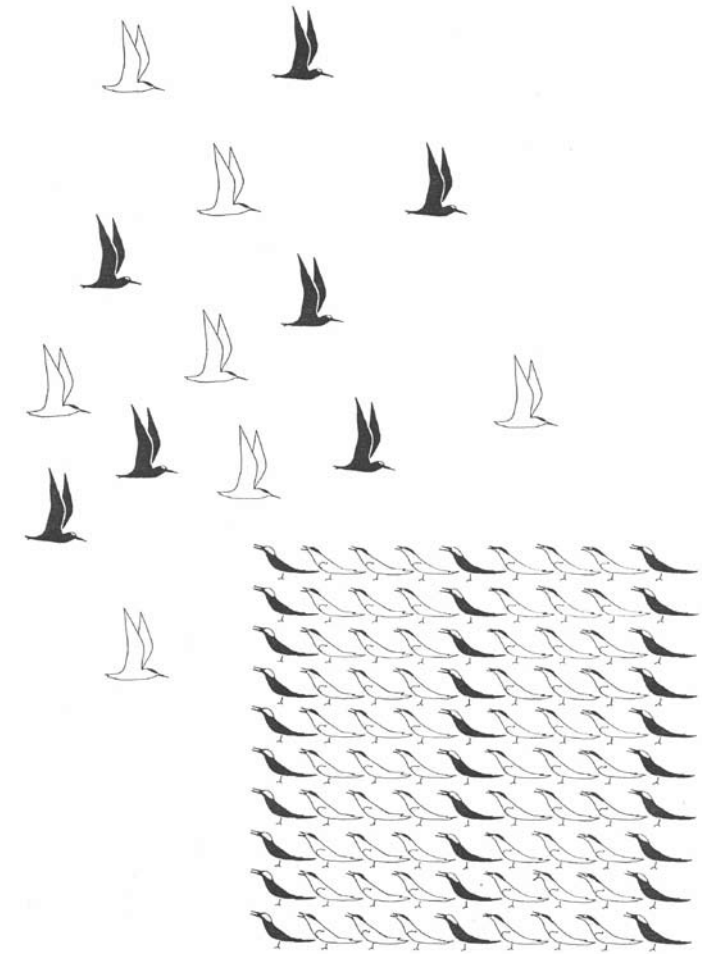
Fig. 3.50 West 8 Urban Design & Landscape Architecture, *Oosterschelde storm surge barrier* **project, 1990, print on paper.**

certain ecosystems flourish. It inspired a line of thinking in the Dutch landscape architectural community, which became very important in the transformation around 1985. The 1985 Eo Wijers competition *Nederland Rivierenland* [The Netherlands, a land of rivers] and its winner *Plan Ooievaar* played a key role in this. [386] The plan drawing is often the one shown, but the competition entry contained other drawings, such as explanatory sections. [Fig. 3.51] The competition as a whole was important, as it expressed a statement on what was considered to be the future role of landscape architecture, which was to design the large scale, and the distant future in an explorative way. Design on the large scale and for the distant future was also claimed by the foundation, that staged *Nederland Nu als Ontwerp*, promoting a designerly exploration of the planning of the Netherlands towards the year 2050. [387] Initiatives as Eo Wijers and NNAO created an explorative space in which to work, ranging from competitions to exhibitions to workshops, which was fitting with the striking comeback of the competition as a phenomenon in these years. [388] It encouraged landscape designers not to wait for a client, but to actively put forward opinions on landscape. Crucial to this was showing 'what we could want', as Sijmons put it. [389] *Plan Ooievaar* presented an idea about the future of rivers, of nature and of agriculture that at once became leading. It is mainly recalled as a point of reference for the thinking on nature, but the plan put forward the development of nature and agricultural innovation as working together in a mutually beneficial relationship. I will come back to this specific Dutch approach. *Plan Ooievaar* jumps to the future, then asks how to get there and what forces have to be put to work. Verbal metaphors such as 'locomotives' and 'judo' were used to explain the design in operative terms, the latter arguing that landscape architects have

to bend with the forces more than oppose them. [390] One other feature is its acknowledgement of uncertainty in the development of the plan over time. No final image is given, processes are set to work. Expert judgement tells us what *may* happen, not what will happen. De Jonge and Van der Windt define Plan Ooievaar as a 'conceptual plane of fracture', and observe that it had far reaching

Fig. 3.51 Of *Plan Ooievaar* **most often the plan drawing is depicted. This set of sections provides a different perspective.** *Plan Ooievaar*, **competition entry in** *Nederland Rivierenland*, **Eo Wijers Foundation, 1985.**

[386] The Eo Wijers Stichting started its work in 1985, aiming to strengthen large scale design via competitions. In 1985 the first competition *Nederland Rivierenland* was announced.

[387] See http://zoeken.nai.nl/CIS/ar-chief/317 on *Nederland Nu als Ontwerp*.

[388] See Wiegersma, Ettema and Peppel 2012.

[389] See Sijmons 1997 but also De Bruin et al 1987: 103.

[390] De Bruin et al 1987: 110.

[391] De Jonge and Van der Windt 2007: 27.

consequences for landscape architecture, the thinking on nature in general and Dutch national planning. It was within this context that the office of H+N+S came into being. [391]

Contradictory developments

In relation to what has been said before in 'Time, landscape and intervention' and 'Drawing, drawings and the design process' contradictory developments can be seen. Landscape architecture throughout these years, in the context of Modernism, became much more oriented on architectonic materials and forms. If the landscape architect was ever a nurseryman, it was certainly not during this time. As a consequence, aspects of time as related to the world of plants and trees were less present. However, when Modernism drifted away, doors opened for other approaches. With relation to time, the work of Lawrence Halprin marks the changing times in an international perspective. For the Dutch situation Louis le Roy, his book *Natuur uitschakelen. Natuur inschakelen* and the Eco Cathedral project represent this change. Alongside that, pressure grew to realize projects quickly and efficiently, making it very relevant to think about time aspects, both in terms of planting schemes and phasing in urban planning. And as previously discussed, ecological thinking became more important. *Plan Ooievaar* is certainly not the only instance in which this became manifest: several offices and many plans are deeply influenced by this. For various reasons drawing also changed in these years. Much more attention was given to the drawing as an independent piece of art. West 8 in particular excelled at new ways of drawing. Again, this had contradictory consequences. A striking image became essential for success. This prompted the representation of plans concentrated on one specific moment, in which an optimal view could be given, and thus less attention was given to aspects of time. At the same time, the renewed attention given to diagrams enabled the representation and understanding of designs as a machines, and thus showed how such a machine functioned in time. The arrival of the computer and the rapid development of software contributed to digital solutions for representing time, although this took a long time, particularly in landscape architecture, to develop beyond initial attempts.

Meeting the offices

How do the offices participating in this research relate to the issues of time and representation, and the (recent) history of landscape architecture? In Chapter 2 the list of offices and the background motives for selecting these offices were presented. Chapter 3 enabled this to be put in a larger perspective, and in Chapter 4 we will examine the drawings of these offices in so far as they are relevant to this study. This larger perspective brought us from 'Time, landscape and intervention' with texts from throughout the history of landscape architecture and affiliated disciplines to 'Drawing, drawings and the design process', which is about the drawing as an object, and about the process of drawing. That enabled us to see to what extent drawing in landscape architecture is different. From that we moved to 'Profession, practice and project' in which the culture of the discipline was discussed from a social perspective, and a history of recent practice was presented. That is the context for the initial interest in the actual drawings of a group of offices, and furthermore experimental drawings made by students. This paragraph only serves to mention all the offices, and the way they

are grouped. A detailed description of their history, background, and aims cannot be made here; this is the point of departure for Chapter 4 in which specific drawings and specific thoughts in relation to time, representation and landscape architecture are discussed.

The core group of ten offices started between 1985 and 1995, but within that group a broad spectrum can be found. Almost all offices are medium or large in size, and engage in several thematic fields. Some concentrate on assignments related to the urban area: urban open space, transformation areas and urban extensions. Even if such classifications fail to describe offices adequately, they help to describe the playing field in which they operate. West 8, Lubbers, Quadrat, OKRA and karres + brands fall under this umbrella. These offices are strongly involved in to the building of projects. A large share of their work is rather stony, as in street profiling, but they all engage in designing gardens and parks too. West 8, substantially bigger than the others, works mostly in other countries, and employs many nationalities. Offices such as karres + brands and OKRA mix a typical Dutch portfolio with projects from abroad, whereas Quadrat focusses on Dutch assignments. Other offices, such as H+N+S, Bosch Slabbers, and Vista explore more rural or large-scale assignments, for example on infrastructure, or water. These offices typically combine more abstract studies with the making of projects, which sometimes can be extremely large. They engage in programs that are rather unusual for landscape architecture, such as wind energy plants and nature development. Their work is primarily Dutch, but recently they started to work in other countries too. The United States in particular with its climate-induced disasters became an important country. DS and Hosper have a somewhat more mixed character, operating both in the rural and urban area, at the smaller and at the larger scale, building projects and drawing visions. Some of the offices were founded by the generation that studied around 1980 (West 8, OKRA, DS, Lubbers); for the others their founders had a history before the office started, either in governmental or local service (Quadrat, H+N+S, Bosch Slabbers, Vista, Hosper) or in other offices, such as B+B (karres + brands). Almost all offices changed substantially. Founders left, and interests changed. Obviously, they all experienced the transition from drawing by hand to computer drawing, and they were part of the transformation of Dutch landscape architecture after 1985. Regarding the issue of time, some offices operate in thematic fields in which the aspect of time is dominant, such as peak water management, whereas for others there is no specific thematic connection to time.

Before and after
Going back to 1763, Copijn spans the entire transition from the gardener-nursery man to the landscape architectural advisor. [392] This office is the most orientated on plants and trees, the scale of a (large) garden and a craftsmanship approach, and closest to the making and maintaining of gardens. Buys & Van der Vliet (now MTD) is also much older than the others, and covers the post-war history of the profession. The office experienced the conquest of the urban realm, as they participated in the design for the city extension of Breda, Haagse Beemden. [393] MTD is known for a craftsmanship approach, a preference for the smaller scale, and an engagement in urban open space. DLG, a public institution stemming from Staatsbosbeheer (going under many

[392] See Kamphuis 2014.

[393] One of the founders of Buys & Van der Vliet is Pieter Buys. See Steenhuis 2008.

other names throughout the decades), very recently ceased to exist. While DLG is the only non-private participant, its work is not so different from some of the other offices. DLG worked in the rural area, often in connection to land consolidation, and had to accommodate other programs, such as leisure, in its plans. Work was closely connected to execution, without too much drawing in between. In recent years the organization shifted to the role of mediator between competing interests in the landscape, for which many drawings, mainly sketches, were involved. Hubert de Boer is addressed as an individual, due to his diverse roles, such as co-founder of B+B, member of the board of the urbanist

office TKA (now Atelier Dutch), head of the landscape department of the Academy of Architecture Amsterdam and an independent advisor. De Boer represents the independent landscape architect type, who is from time to time part of larger networks.

The 'young' offices in this research started after 1995. Some of them, like Anouk Vogel and Lola, started directly after their studies, while others such as RAAAF (Ronald Rietveld) had a previous history in other offices, such as B+B, or, in the case of van Paridon x de Groot, H+N+S. The work of Vogel and Rietveld is closer to art and architecture. Vogel shows a preference for gardens, interiors
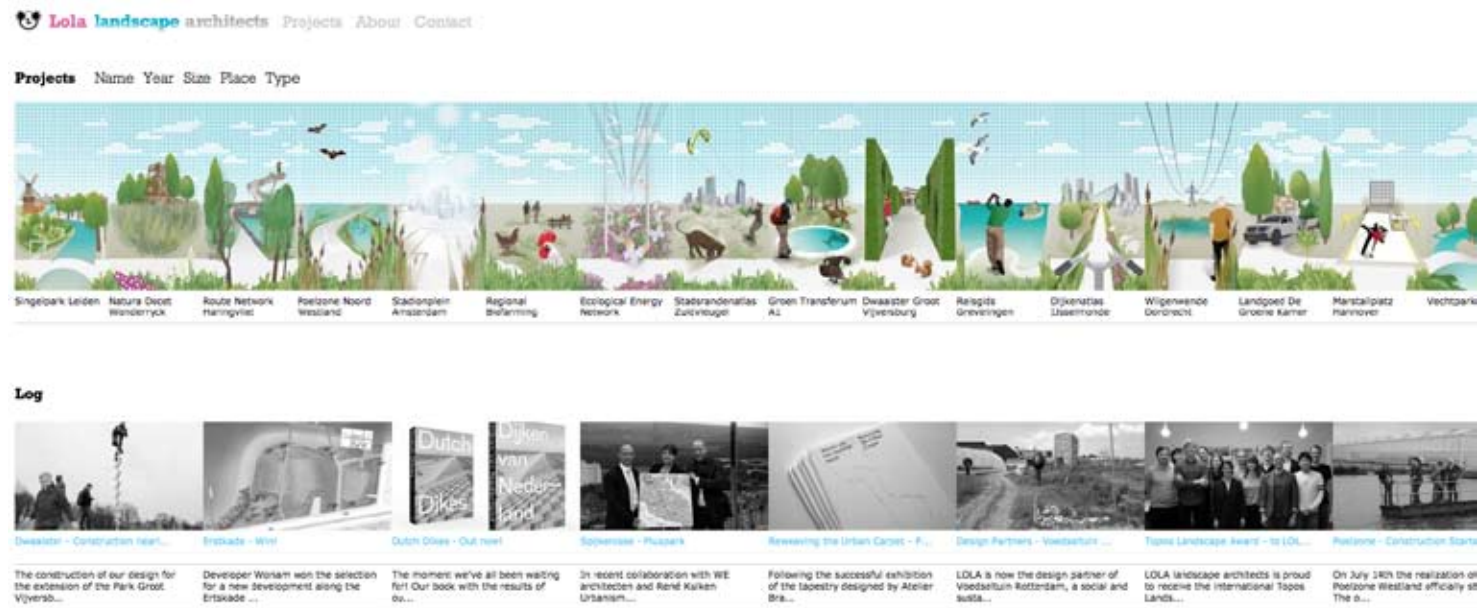
Fig. 3.52   Front page of Lola website, 2015.

and smaller urban open space, RAAAF focusses on conceptual work and installations, which could also be large scale. Lola and VPxDG operate more at a larger scale and in rural projects, although, as a general characteristic of these young offices, their curiosity brings them to a very varied set of assignments, and to cooperation with other disciplines. RAAAF refers to itself on its website as 'architecture-art-affordances', Anouk Vogel does not specifically categorize her office as a landscape architecture practice, apart from mentioning her landscape architecture education. Vogel is the only strictly one-person office. All four young offices have a strong drawing style that combines digital and manual techniques. For a different representation of an office Lola's webpage is shown here, as it was in 2012, with a very explicit choice of colours. [Fig. 3.52]

Surrounding countries
The selected offices in the surrounding countries are of a very different nature, as they are few in number, and as they were selected for their interest in time. Some of these offices are part of rather strong national traditions, or escape from such traditions. Vogt for example must be positioned within a typical Swiss tradition of dealing with gardens and urban open space that goes back to Dieter Kienast, Gustav Amman, Willy Neukorn and Ernst Cramer. [394] Studio Vulkan on the other hand relates negatively to such an assumed Swiss tradition, working with process, change and uncertainty. For that reason they are rather close to Dutch offices like H+N+S and Vista. [395] Denmark and France also are known for a very strong national landscape architectural culture. Denmark can be understood both as part of Scandinavia, and as an

autonomous area. In both cases a specific drawing tradition of precision in black and white is noteworthy. Both Germany and the UK have, for different reasons, less explicit landscape architectural traditions. German landscape architecture, in Leberecht Migge, has a strong and early example of a crossover between urbanism and landscape architecture. However this did not result in an uninterrupted tradition in the twentieth century. [396] A very specific practice is atelier le balto. The founders have French roots, but are located in Berlin. [397] Their specialty is the temporary garden, a preference that fits with the issues of time and drawing. The accent on hand drawing also is present on their website. [Fig. 3.53] In France, the Ecole Nationale Supérieure du Paysage in Versailles is a main point of departure, with a strong accent on drawing, and an artistic approach. The school is strongly connected to practice, where the late Michel Corajoud played a leading role. [398] French landscape architecture approaches Dutch landscape architecture with its designerly interest in large-scale programs such as forestry. Michel Desvigne descends from that tradition. [399] In the UK, landscape architecture is strongly associated with the historic gardening tradition, and in the twentieth century Geoffry Jellicoe is the obvious focus point. Post-war landscape architecture had to fight hard for its position, and for that reason cannot be understood as a very continuous tradition. At the same time the Edinburgh Art College, now part of the University, has been an important place in recent decades, also internationally. For years Dutch landscape architect Elco Hooftman was a leading figure in the Edinburgh Art College before starting GROSS. MAX, in 1995. Obviously, short typifications as given here do not do justice to the richness of landscape architectural cultures in Europe. Surprisingly enough, a convincing comparative description and

[394] See Weilacher and Wullschleger 2002.

[395] Oerlikon Platz by Studio Vulkan, formerly known as Schweingruber Zulauf, was published in numerous journals. See also Weilacher 2006.

[396] See Haney 2010 on Migge.

[397] See Pasquali 2008 on atelier le balto.

[398] Helms in *Landscape Architecture Europe* 2006: 64-67.

[399] See *Intermediate natures: the landscapes of Michel Desvigne* 2009.

evaluation from such national or regional cultures of landscape architecture, and how they manifest themselves in recent practice still has to be made.

Recent practice, time and its representation
To what extent does the period of study starting 1985 and ending about 2014 reveal changing paradigms in landscape architecture, a different position of drawings and a new perspective on time? This chapter started with an overview of the engagement of landscape architectural theory and practice with the issue of time. The sometimes explicit but often implicit engagement re-

vealed a complicated and dialectical relationship with the issue of time. Specific contributions of individual landscape architects and theoreticians were given, such as those of Repton, Halprin, and Lynch. But that did not result in a coherent theoretical framework in which to speak about landscape, representation and time. The Modernist era certainly made it difficult to focus on the dynamic character of landscape. In particular the debate between garden architects with their nurseries and the 'new' landscape architects, the independent advisors, symbolizes a detachment from aspects of time. When Modernism gave way, the growing influence of ecology in landscape architecture stimulated a new engagement with issues of time. And we should also note other aspects of time, not
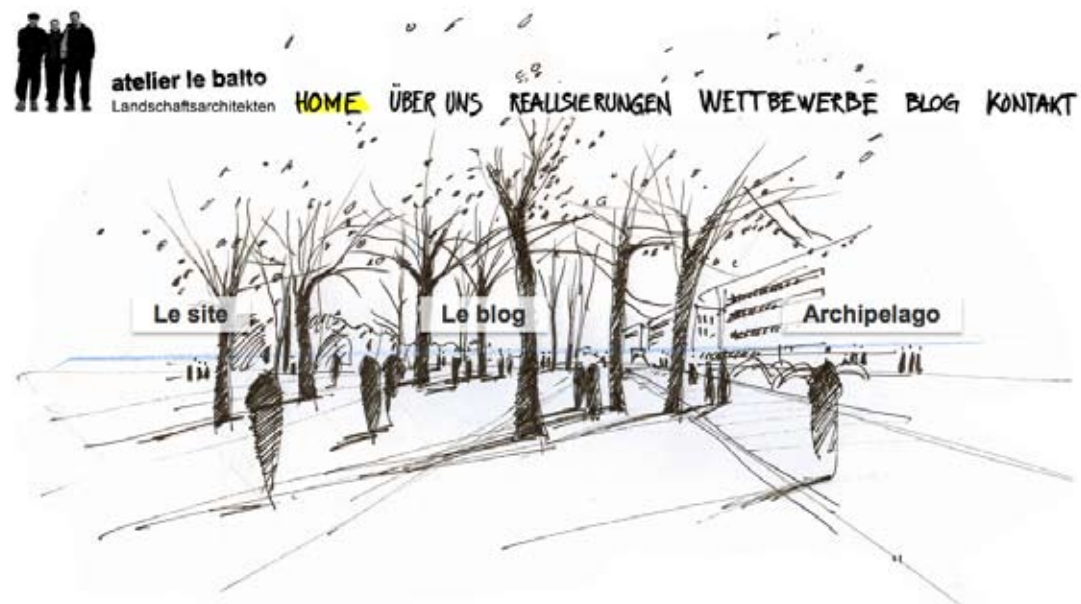
Fig. 3.53   Front page of atelier le balto website, 2015.

necessarily connected to growth or ecology, such as in urban projects. There, the dimension of time is always close by, as phasing and long-term planning is required. In a broader view on ecology, environmental and climate issues asked landscape architects to be sensitive to the dynamics of water in particular- again an impetus to think about and also represent aspects of time. If control was essential in the Modern period, and therefore a preference for certain and fixed moments in time could be seen, today's landscape architecture (and urbanism) have to cope with large uncertainties. That brings the issue of time to the forefront, and probably also its representation - the public needs to be informed. Recent practice, therefore, may be expected to have an opinion on the role of time in landscape, landscape architecture and the representation of landscape. Ironically, the decade in which the core group of offices started is innovative in many ways, but not particularly so when it comes to time aspects. A tentative explanation is the accent on an architectural approach, which was vital in the emancipation of landscape architecture, but left less room for change and dynamics. At the same time, the growing influence of ecology made it much easier to speak about uncertainty and dynamics. In terms of drawing, we see drawing being taken over by digital means. To some extent this supports the aspect of time, as it becomes more easy to replicate drawings in series, or to design algorithms that can produce the development of designs over time. Credits for integrating aspects of time into landscape architecture design and drawing should be given to the landscape urbanism movement, that entered the scene a few years later, supported by Corner's 1992 essay 'Representation and Landscape'. And yet in 2009 Torres detected a crisis in landscape representation, as 'few responses to Corner's call have been advanced within the landscape discourse'.

[400] Perhaps it can be concluded that a slow and stepwise theoretical advancement is accompanied by innovations in practice restricted to certain periods and certain geographical areas, and that it is still going on today. In that context, the deep economic crisis which began in 2008 certainly slowed down developments and forced designers to think about design and realization processes that were flexible and adaptive. However, as already argued, it is not something that is necessarily reflected in drawings.

On a theoretical level, we could take Balmori's 2014 *Drawing and Reinventing Landscape* as the most recent contribution to the debate, and more than that, as a rather complete statement that leaves no doubt about the importance of the issue. [401] At the same time, particular events that transcend what appears superficially to be their topic, can express the transition towards a new approach. Such an event is the prestigious *Maaskant Award* that in December 2014 was given to garden architect Piet Oudolf. Hugh Maaskant as an architect funded this award in 1978, and architects dominate its list of laureates. But we find garden- and landscape architects in between. Landscape historian Erik de Jong -his 2008 *Landscapes of the Imagination* was cited often in this chapter- was asked to read the laudatio. De Jong argues that the choice of Oudolf is significant, and I share his observation. [402] The presence of landscape architects on a stage typically occupied by architects is meaningful in itself, as it (again) marks the emancipation of landscape architecture. Relevant here is the relation to plants. De Jong notices a connection with the earlier mentioned Doorenbos-Bijhouwer debate, as Oudolf is typically a nurseryman, and a designer of gardens and parks. His drawings represent this. [Fig. 3.54] As the nurseryman to some extent 'lost'

[400] See Torres 2009.

[401] As a confirmation of the growing interest in the theme I can mention Lee Heykoop's thesis submitted to the University of Sheffield in 2015: *Temporality in Designed Landscapes: the theory and its practice in works of some major landscape designers 1945-2005*. Heykoop's work crossed the path of this study too late to be fully part of it. It is worth mentioning, as Heykoop explores temporality on a theoretical level, and as applied in written texts by contemporary landscape architecture.

[402] Speech by E. de Jong 2014.

[403] Ibid..

[404] The *Zilveren Anjer* award is mentioned at the site of the fund. See https://nl.wikipedia.org/wiki/Zilveren_Anjer#1970-1979. This part of the consideration of the jury can be found at http://www.earthpo.com/scriptie/hoofdstuk-3.html. Original text: 'De heer Louis le Roy heeft zich naast zijn taak als leraar ingezet voor een vrije landschapsarchitectuur, die zich als een gevarieerde contrawereld bij de steden kan aanpassen. De eerste proefneming daarmee in zijn eigen tuin en de eerste projecten in Heerenveen en elders zijn zowel in visie als in aanblik meer dan een verfrissing; ze lijken een vernieuwende doorbraak in de ecologie te betekenen'.

the debate of the independent advisor, Oudolf with his very explicit focus on plants and plant knowledge was seen as an outsider in current landscape architectural practice. De Jong sees this in the perspective of the Modernist period: Oudolf 'is not an architectural designer who conceives design mainly in terms of space, line, function and mass, as was customary in the Modernist tradition in the second half of the 20th century'. [403] Therefore, this *Maaskant Award* makes us 'rediscover a substantial tradition in garden and landscape architecture and art from the 20th century which we apparently had forgotten'. To some extent, the opposition as noted in relation to the Doorenbos-Bijhouwer debate 'evaporates' with this *Maaskant Award*.

It certainly is significant that both Dirk Sijmons and Adriaan Geuze were also given a *Maaskant Award*. Sijmons and Geuze both represent the strong transition in landscape architecture that was experienced after 1985. It is, in that context, interesting to put forward the name of Louis le Roy. Just like Oudolf he was an outsider in the generally accepted history of recent landscape architecture. This study elaborates on that at several points and suggests that the relevance of his work for the theory of landscape architecture asks for a repositioning of his work. Perhaps it is insightful to refer to the *Zilveren Anjer* award of the Prins Bernhard Fund Le Roy received in 1972. The jury considered that Le Roy, 'next to being a teacher engaged in a free landscape architecture that adapted itself as a varied contra-world to cities. First experiments in his own garden and first projects in Heerenveen or elsewhere are both in their vision and their appearance more than refreshing. They seem to represent a breakthrough in ecology'. [404] Le Roy never felt comfortable with being seen as a professional, and may have
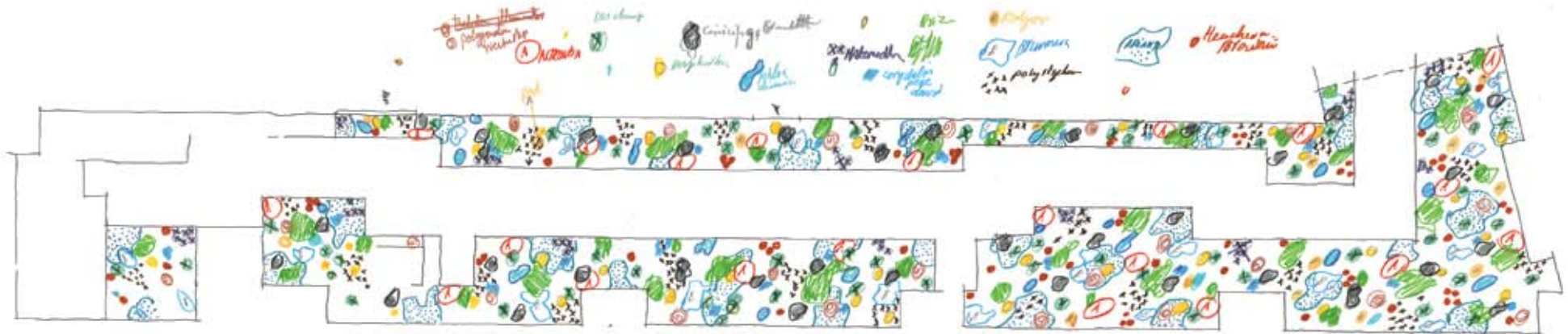
Fig. 3.54   Planting design for an exhibition at Palais de Tokyo, Paris, 2013 by Piet Oudolf.

been happy with the words 'engaged in' that did not qualify him as landscape architect, but it certainly is remarkable that the jury explicitly put him in that perspective.

Both the *Maaskant Award* for Sijmons, not to be seen apart from H+N+S, founded in 1990, and Plan Ooievaar that prompted its foundation, and Geuze, obviously connected to the rise of West 8, are strongly connected to what I indicate as the second emancipatory jump after 1985. For the issue of time and its representation this jump was highly dialectical. The success of landscape architecture during these years was certainly helped by its *architectonic* character and its new approach of representation, as can be seen so well in the work of West 8. The dialectic aspect is to be found in this: Due to the closeness to architecture and the dominance of inert materials, and due to the absence of plants and trees, the relation to time issues became shallow. At the same time, as is also manifest in the *Parc de La Villette* competition, the 'empty field' and the aspect of programming brought in new aspects of time, and in terms of representation this was often related to the diagram. The thematic fields in particular covered by H+N+S and other offices familiar with this approach, reveal a new interest in aspects of time. Their approach explores natural processes as guiding principles, and landscape architectural interventions that stimulate and invite change. Oudolf's internationally acclaimed work based on plants also, though by other means, raises attention yet again to the issue of time.

This study assumes that time is an important feature of landscape and landscape architecture, and it also assumes that the presence of time in landscape architecture drawings would support the spe-cific position of the discipline towards time. Chapter 4 will answer in detail if and how aspects of time are visible in current landscape architecture representation, but the argument in Chapter 3 learned that in terms of general thinking and writing the approach of time is dialectical. Perhaps we must conclude that the positive changes as mentioned in this paragraph do not express what is there, yet, but mainly present a challenge for today's landscape architects, and in that respect it is apt to refer again to Mark Curry, and to state that a study on aspects of time in landscape architecture and its representation is 'about time'. [405]

[405] Currie 2007: 2.

4. On the representation of time in today's practice and education

4.1 Drawing Time

As follows from the argument in Chapter 3, several qualities can lead us to denominate a drawing as a representation of time. Such a drawing should show the development of landscape over a span of time. A drawing that demands attention be given to the future landscape, at both specific and specified moments in time, also falls into this category. An important quality of landscape, due to its scale and changeability, is that it will be fully experienced only by moving around in time and space. Hence, ways of moving around in landscape can also count as representations of time. In fact, and this is the subject of the next section, one may also expect an association to the thinking about landscape: a representation of time also expresses a set of beliefs based on landscape as a time-based medium. Drawings as presented here are discussed in relation to the considerations behind these drawings. Interviews with designers, as reported in the next section, position this within a larger context.

This section presents about 37 drawings that explicitly depict time. [1] These drawings were selected from work done by offices participating in the interviews, and made in the period 1985-2015, with the exception of a small number made before 1985 deriving from earlier established offices. In some cases the reason for selection is obvious. In many other cases it is a matter of interpretation, as the depiction of time is not provided for in its own type of representation, and a drawing is seldom explicitly related to time in the way that it is given a title, described, and archived. Quite often such interpretation cannot only be determined via the drawing alone, but must take into account the narrative in which the drawing functions. However, to be selected a drawing must have one or more of the characteristics as described in Chapter 3. Some drawings *seem* to fulfill the criteria, but after close inspection are put aside, for reasons such as displaying only one situation, for example. This means that first and foremost we should read a drawing as a description of the cyclic or progressive movement of time. In terms of Lynch, we can furthermore speak about the length of time within which events as depicted by the drawing recur; the 'chunks' in which the time is divided; the degree of change that is suggested by the drawing, and the degree to which the cycles and changes are in phase. Zerubavel added another set of relevant ways of looking at it: is the drawing commenting on 'straight or zigzag, staccato or legato' understandings of the course of happenings? Very importantly in landscape and urban design is the question of whether the drawing allows for an understanding of landscape in 'unilinear or multilinear' terms – in planning and design we would use the word scenario. As mentioned, design drawings almost by definition speculate on progress, but in essence they could also depict decline. And, as a final point, the drawing can be read as a narrative - a plot with subplots. All these Lynchian and Zerabuvelian ways of speaking about time help to distinguish a drawing as a representation of time.

[1] Drawings were proposed by the selected offices as a response to my questions, or by me in preparing and processing interviews. Per office 10-15 images clearly related to issues in this research were chosen. The drawings presented here are selected from this collection of about 500 drawings

[2] See Lynch 1972 and Zerubavel 2003.

Therefore, the selected drawings explored in this section are divided into two main themes: cyclic phenomena, for example the seasons; and progressive phenomena, such as growth. On a secondary level, drawings are grouped together because of their shared characteristics in terms of time scales -from days to centuries- and rhythm, in the case of recurring phenomena. As also covered by Lynch and Zerubavel, they range from very certain and recurring happenings to more uncertain happenings. [2] In parallel to such categorization with regard to aspects of time, drawings relate to certain thematic fields in landscape architecture, such as gardens and parks, or forestry, or urban open space. Drawings with a comparable thematic background are grouped together. In more concrete terms, this means that in the major category of drawings dealing with cyclic phenomena we move from the seasons towards the use of urban open space, which is less certain, towards water projects that deal with recurring events but have to face large uncertainties. In the category of progressive phenomena we move from stable growth, such as forestry, to a less certain evolution in nature development projects and in urbanism, ending in complex projects that are structured via if-then scenarios.

Chapter 3 also spoke about the drawing in these terms: an object with physical characteristics, meanings and other important qualities, such as the type by which it should be classified. A drawing generally has a title, as given by the author, relating it to a project, a year and describing what we see or should see. Insofar as offices gave drawings a title, I use this title. Sometimes drawings are categorized in types; often they are not. As such categorizations in types are not stable, I follow my own system here, as described in Chapter 3. Therefore, the type, being my addition, is given at the end of the caption. As a drawing is also a product of craftsmanship, one would like to be precise in giving information on the technique, the materials and the size of drawings. However, for several reasons this information is very often not accessible, or may be unreliable or irrelevant. Most of the drawings presented here are digitally made. This has consequences. As discussed in Chapter 3 it is difficult to speak about technique and material: Software programs? The paper it is printed on? Digital drawings have no specified size. They are made to be printed or screened at large size, but just as easily they may be presented in an A4 booklet. Here, all drawings are presented at A4 in a separate drawing section. Issues such as size, materiality, drawing techniques and drawing means are part of the discussion as it is relevant to the issue of time. Selected drawings here are discussed as individual pieces, and discussed in a more general reflection at the end of the drawing section. This again is placed within a larger frame of reference in the second section, which reports on interviews held with the offices that produced the drawings. Speaking, writing and drawing are thus connected.

Cyclic phenomena

Cyclic phenomena – the seasons
The experience of the seasons is probably the most emblematic manifestation of time in landscape. A flowerage calendar by Anouk Vogel (2009) represents this experience. [Fig. 4.1 / drawing 1]. Seasonal change seems self-evident. Experts working with plants rely on their silent knowledge and do not necessarily need a drawing to test or verify a planting scheme. For laymen the phenomenon

of seasons is also rather obvious. At the same time, seasons are essentially a landscape phenomenon. Specialized knowledge on the seasons helps to distinguish one's profession. Some landscape architects have silent knowledge on it, others, particularly those not working with plants, have not. In such cases, drawing helps to develop and test an idea. Visualizations are an obvious possibility as a means to display the seasons. Plans or sections raise more questions: Should a plant, shrub or tree be represented in a diagrammatic way, or in its natural quality with a texture and a form? If so, then it becomes a challenge to consider its appearance in April, August or November - the drawing must be precise on this. Although this drawing by Vogel has characteristics of a plan drawing, it is best to denominate it as a diagram. It is a typical example of what Tufte calls 'small multiples'. [3] Often flowerage calendars are matrices in which a small photograph is related to the main flowerage period. On the contrary, the Vogel example is consciously very abstract. In an earlier version of the drawing colour was used, but Vogel later disposed of this. She considered it to be too much information. A comparable example by Vogt (2006) seems to combine elements of an elevation and a section. [Fig. 4.2 / drawing 2] Although the flowers are drawn in a rather natural way, this is in fact a highly abstract notation. We first have to understand the logic. It is not a section, but a 'slice of time', and by that we see the same arrangement of flowers in their seasonal development. This slight misunderstanding of what we are looking at is relevant; like other time representations one has to get used to the specific representational solution. Both the Anouk Vogel and the Vogt drawing are not exactly planting schemes: they must be seen as additional drawings, translating the technical planting scheme to our daily experience.

Both Vogel and Vogt divide their drawing in terms of months. Even if that may seem self-evident it is a rather abstract way of understanding a year in the garden. Generally, vegetation is understood through its seasonal rhythm instead of being classified by the month. atelier le balto (2006) translates the seasons in four images. [Fig. 4.3 / drawing 3] But again that is not as obvious as one might think. Many gardeners would want to distinguish between, for example, early spring and late spring, and the garden in early July is certainly different from the same garden in late August. In the work of atelier le balto seasonal appearance is taken seriously, especially as the office often designs gardens with a lifespan of just one year. Even if this drawing is drawn in a naturalistic way, and seems to have qualities of a visualization, I classify it as a diagram. It differs from the Anouk Vogel diagram in that it is coloured. The repeated presence of two human figures signifies that we have to understand the drawing on a more abstract level. The statement is that all seasons have equal value - an 'emancipatory' approach of the seasons that calls to mind the work of Laird. [4] The sequence of changes is that for which atelier le balto strives. In that sense, the idea of the seasons as four iconic moments is a simplification of what is in fact a film, or a narrative. The flowering calendar of Vogel could be read as 12 stills, whereas the sectional drawing from Vogt provides a more continuous set of stills.

A diagram made by Studio Vulkan (2009) refers to another cyclic phenomenon: that of harvest. [Fig. 4.4 / drawing 4] The project is about the agricultural cultivation of plants and shrubs for the production of energy. Some plants are harvested yearly; others take many years. Studio Vulkan uses the word 'pulse'. This calls to mind the Zerubavel concept of density. [5] The drawing speculates

[3] See Tufte 1990.

[4] See Laird 1999, and Chapter 3.

[5] Zerubavel 2003: 25.

on a certain drama. In reality most pulses take a year or more. The drawing in that sense functions as a compression of time and as a rhetorical means. As discussed, drawings consciously steer the response towards an understanding that fits the argument of the designer - in this case to appreciate the different cultivations as eventful.

With a drawing made by Lola (2010) a different subcategory of cyclic time is put forward. [Fig. 4.5a-h / drawing 5] In a competition design for a square in Hannover the office mapped how very different events over the year would fit in the space. A range of options is shown. Lola uses the technique of a plan drawing, but in an abstract way. One could look at it as a composite drawing but it is best denominated as a diagram due to its reduced level of information. Kristine Jensen, in a design for Stortorget, Malmö (2009), concentrates on how the seasons differ in uses. [Fig. 4.6a-d/ drawing 6] Consequently, four drawings are needed in which visualizations and diagrammatic plans are connected. If we compare the Jensen and Lola drawings, two different things are being put forward. Jensen shows what is expected to happen in different seasons. This may even refer to what was given in the program – there is some certainty in the drawings. Lola does not show what is expected to happen, but what *could* happen. In the same competition entry Lola added another drawing: A diagram that provides vital information on the climate in Hannover throughout the year. [see Fig. 4.5h] To some extent this extra drawing verifies the other, or gives it credibility. The optionality in this Lola drawing is a clear example of a multilinear understanding of time, and it is also a rhetoric drawing. The design does not produce an ice skating facility, but it leaves the possibility open.

The drawing speculates on the desire to add this facility at some future point in time.

Okra, in several projects, used a calendar of activities. This supports the idea that the design invites and allows for a very wide range of activities. Since the early West 8 public space designs and the 1983 design competition for Parc de la Villette, empty space that could host all urban life has been popular. Consequently, one can hardly consider the design for such a space without having specific activities in mind. This gave rise to drawings that show what can happen, as a way of promoting the design. In its Breidscheid competition entry Okra (1999) developed a narrative about urban space that could inspire a wide range of things to happen – the choice of exactly which things is left open. [Fig. 4.7 / drawing 7] The still shows a pavement that could act like a screen on which, for example, the passing underground train could leave a temporary trace. RAAAF (2014) represents a public space in a very different way. [Fig. 4.8 / drawing 8] Here it is about a beach in the harbour of Rotterdam. People are allowed to drive around in their cars. The drawing registers a possible pattern of traces made by the tyres. To draw it, two pencils were glued together and moved by hand around the huge sheet of paper. The act of drawing represents the driving around. In reality, car tracks are wiped out in time and replaced by new ones, whereas the drawn traces accumulate and inevitably result in a black sheet of paper. Nevertheless, it is an interesting drawing experience. Intellectually, this is a very different drawing compared to the others in this chapter. Although the act of drawing represents the driving around, the drawing does not aim to represent a future reality. It is all about the idea, and even if the project were never to exist in

reality, the drawing still allows the idea to be communicated, an approach that differs from other drawings that stick to a verifiable or seductive future reality.

Cyclic phenomena – certainty and uncertainty

H+N+S (2002) studied catchment areas for water peaks in the river Emscher. [Fig. 4.9 / drawing 9] The diagram relates regular water peaks to rare high water peaks and identifies the availability of empty space to store both. Water peaks as cyclic phenomena vary from a rather certain repetition to infrequent and irregular extreme ones, the latter often being dangerous. For Dutch offices such as H+N+S, this theme has been present in their portfolios for a long time. From an international perspective however, it is a fairly recent challenge for landscape architecture, and even more so as it is not only a safety issue but also a starting point for the design. In this case the designer draws spaces that can have a wide range of appearances and uses, but which at some point may be filled with water. Here the capacity of the designer to represent time is quite essential. The drawing functions as a space to experiment, to test and to verify. To claim silent knowledge on water issues would be unconvincing. The designer integrates expert knowledge and verification. Today this would probably be done on the basis of very reliable GIS data and computer aided simulations. To get to grips with the system at work and to understand such systems, it is necessary to embed the design in the real topography. Hence, maps are important. To explore these issues, one has to calculate using a specific set of local data for relevant periods. With regard to engineering works, the design has to prove that it guarantees safety and accessibility. In many cases the interventions are debated heavily and within a team of technicians; it is possibly then up to

the landscape designer to show that the designed landscape is *also* attractive. The catchment area may provide new space for specific biotopes that survive high water or that can flourish because no other regular use is permitted. Recently the theme of rainwater catchment in private gardens has received more attention, as in an example drawn by VPxDG (2009). [Fig. 4.10ab / drawing 10] Smaller and larger rain peaks will occur, as will heavy periods of drought. But their interval, length and intensity are uncertain. As part of garden design, such phenomena are a challenge. First of all the designer has to explore what will happen, given, for example, the surface of the roof. He will need expert information - at the least the local rainfall statistics. Yet equally important is the understanding of the owner of the garden. Not only does he have to understand the design as a good proposition, but he also has to be equally aware of his responsibility to keep the system working over time.

Vista (2004) uses aerial photographs to show extreme, and regular, river behaviour around the city of Zutphen [Fig. 4.11ab / drawing 11] Aerial photography reworked in Photoshop allows the future reality to be shown in a manner that comes close to visualizations. Again this is not depicting a regular cyclic happening, as extreme water peaks may not occur for years, but they certainly will occur at some point. The drawing provides for these probable situations. In terms of communication, this is a difficult task, as the public may not experience the visualized situation for years, and therefore may question the intervention in the landscape. An animated film made for a project of H+N+S (2008) also aims to show what happens *if* a high water peak occurs, and how this influences an area south of the city of Kampen. [Fig. 4.12a-d /

[6] Animated drawings obviously relate to animated film, but probably should be considered as embryonic versions of a film. Walt Disney himself speaks insightfully about the animated drawing. See https://www.youtube.com/watch?v=5xnQSLxJmMg.

[7] Haagse Beemden is an extension of the city of Breda. As an extension it showed up in maps in the late fifties, but a definitive plan was presented in 1979 by urban planner Tummers and landscape architect Maas. Buys & Van der Vliet were part of the team.

[8] Goffi in Frascari et al 2007: 88.

drawing 12] Part of the intervention is a so-called 'green river', which in normal situations is dry and only in case of very high peaks helps to discharge the river. Today, such an animated film could be more elaborate, and might more smoothly visualize the narrative. In this case it is probably better to speak of an animated drawing. [6] A difficulty of animated film is the nature of the medium, which is not particularly suited for use in a book or on paper, and landscape architectural projects today are often shown on paper. However, animated films can be considered to be a short series of stills. VPxDG (2005) produced six slides to show how, in a landscape with heritage quality, changes in seasonal water levels would influence the experience. [Fig. 4.13af / drawing 13] On the website, these stills are presented as animated drawings, or as a rudimentary animation. In fact, it does not lose its informational value when seen as separate slides rather than a film.

Progressive phenomena

Progressive phenomena – stable growth
The growth of a tree is a fact of life. Still, we often forget that a tree will grow. The Haagse Beemden project started at the end of the seventies. [7] It marks a transition in landscape architecture because of its close cooperation with architecture. Architecture was no longer leading. It was a collaborative project of designers that were more or less equal in rank. In such collaborations the architects apparently had something to learn about trees in order to understand proper distances between houses and the growing matter. This drawing by Buys & Van der Vliet (1979), an early example in relation to the period of study here, and for its

time aspect perhaps one of the very few in this period, instructs the architect by showing the growth of a tree over time. [Fig. 4.14 / drawing 14] Oerlikon Platz in Zürich was one of the early designs in which Studio Vulkan (2001) tried to escape the strong tendency in Swiss landscape architecture for a finalized, neat landscape, and to strive for continuously changing designs. [Fig. 4.15 / drawing 15] Nevertheless, today the office evaluates the design as rather static. It did not provide many surprises, so recent designs take other paths. As a drawing, this one was published numerous times and is a typical example of what Goffi indicated as a 'twinned body': both connected with and existing independently of the project. [8] The Desvigne design for Greenwich (2000) also takes a forestry approach [Fig. 4.16 / drawing 16]. Starting with a large number of small trees, plantations are developed and thinned out over the years. Such drawings could, from an ecological perspective, be seen as displaying succession, but in the case of the Desvigne and Studio Vulkan project the development is entirely guided by management. Just as atelier le balto did with regard to the seasons, the Desvigne set of drawings portrays the message that there is not one final situation. There are stages, and these stages are equally important. It is interesting to compare this drawing with the earlier 'animated drawings'. These were based on four to six stills that should be seen sequentially. Here, four drawings create a composite drawing in which we see all phases at once.

The dot and circle in this DLG drawing (1973, formally ascribed to Dienst der Zuiderzeewerken), also a very early drawing, is ambiguous. It could be understood as the projection of a span of time, in which the dot displays the tree at T=1, and the circle the size of the tree as reached in a particular year [Fig. 4.17 / drawing 17]. In

fact, it is irrelevant if, given the intention of its makers, the drawing should indeed be understood in this way. DLG, typically, is an organisation in which the way to read such a drawing is considered obvious, being implicit knowledge. Such implicit knowledge was also available on the side of the decision makers and the contractors, so that in this specific context no representation of time was needed, and apparently also not sought. One may ask how often this circle is understood as a means to read the passage of time in a drawing. The drawing lacks information on the year in which the intended size would be reached, and in that sense it is a debatable representation of time. My informant at DLG claimed that it should be read as a time scale of sixty years, and thus the time scale is implicitly available. VPxDG (2014) in this double section shows two relevant stages in a tree's life: the young adult, and the aged, respected tree [Fig. 4.18ab / drawing 18]. In fact, the drawing addresses a secondary element. The iron structure protects the tree from grazing cows. For the young adult the iron cage is obviously oversized whereas the aged tree fits perfectly. This element becomes a means to read the growth, and a designerly solution to work with the issue of time. It calls to mind the granite blocks in the 7000 Eichen project of Joseph Beuys. [9] A drawing by Bosch Slabbers (1986) describes the evolution of a newly planted forest over time [Fig. 4.19 / Drawing 19]. To do so it needs to account for one hundred years, and is by far the most 'time-consuming' drawing. The forest is shown at 10 years, 35 years and then 100 years. The drawing belongs to an entry in the *Bos na 2000* competition which was held in 1988. [10] Landscape architects were invited to think about forests in a new way, and include tree species, growth cycles and mixtures. This certainly was not commonplace at that time. In such cases drawings may be part of the overall commu-

nication, but primarily serve to gain knowledge within the design process. In terms of our current understanding, this drawing is rather technical and not very attractive. This marks changes in how drawings are perceived; it also identifies specific environments in which such drawings operated.

Progressive phenomena – creating conditions
Dutch landscape architecture has a very particular drawing category that I consider to be essential for its approach. This drawing by Lubbers (1998) is a composite drawing that contains four steps in one drawing - in this case represented in sections. [Fig. 4.20 / drawing 20] Step 1 is the situation as found, drawn as a diagrammatic reduction of the existing topography. Step 2 displays the necessary intervention: Small dikes are built. Step 3 shows what the intervention in the landscape produces. Rain is caught in between, and wetland nature development is stimulated, as shown in Step 4. The Lubbers drawing in Dutch is called *Aanlegprincipe* which could be translated as 'constructional principle'. It is a deceivingly simple drawing. It is in fact a temporary situation, created as part of the building process, on the road to a final situation. It indicates the stable phase, as described by Roncken et al, mentioned in Chapter 3. [11] Time indications are not given, but there is an assumption that it should be read in terms of the way it would evolve in the year after building. The office of H+N+S has created comparable drawings in comparable projects. These drawings are remarkable in the sense that they display progressive growth, often associated with a long time span, but at the same time speak of a very short period, for example one or two years. It is mainly the initial development that is portrayed here. These drawings

[9] See http://www.7000eichen.de/index.php?id=2 and Körner and Bellin-Harder 2009.

[10] See De Poel and Hoeffnagel 1991.

[11] See Roncken et al 2014.

[12] In Chapter 5 the machine metaphor returns again in an argument on landscape urbanism.

represent a strong conviction in Dutch landscape architecture: Landscape can be made over time, by applying the right initial modifications, and by waiting for the evident things to happen. So these drawings do not only depict time, they also represent an essentially time-based approach to creating landscape.

In the Hondsrug project H+N+S (2009) shows how interventions in the water system would produce, in a series of steps, a different landscape [Fig. 4.21a-c / drawing 21]. What is interesting in this drawing is the choice of using a block diagram. For this type of landscape architecture not only is the visual aspect of landscape important, but also what happens 'underneath'. In that sense, the drawing clearly tries to be useful in communication with all participants in the design process, and to be explanatory about the landscape. Landscape, here, is a machine-like system which must be understood. Only then can we decide what interventions will cause the desired effects, or show what the consequence of a suggested intervention might be. The machine metaphor in a diagram is known in architecture but here the background ideology is different and more pragmatic. [12] The drawing relates to the systems that are actually at work in the landscape, with or without the design.

Progressive phenomena – transformations and speculations
Thinking in time and drawing in time are parts of a rather strong tradition in urbanism. A karres + brands drawing (2010) displays stages in an urban transformation project [Fig. 4.22a-e / drawing 22]. The composite drawing is rather technical. It serves as a way to prove to the designers and the client that the program fits, and can be organized in space and time. Adjacent to such technical

drawings visualizations are made to show what intermediate use of space this could result in. [Fig. 4.23] There is a relationship between interventions in natural systems and operations like a city extension, a major renovation or a transformation project. Urban operations generally take into account long time frames, ranging from 10 to 30 years. These time frames always need a division in phases to be able to organize the preparation, building and first occupation in an effective way. Often the drawings for such projects are also organized in steps of five or ten years. In such cases drawing is a way to find a mutual understanding within teams for the most effective organization of phases, and to communicate what can be expected. A drawing from Lubbers (1998) shows different possibilities within the same main idea [Fig. 4.24ad / drawing 23]. In a composite drawing by Kristine Jensen (2007) we see steps in time in three types of representation [Fig. 4.25 / drawing 24]. In this case, the direction of the development is clear, and in Zerubavel's words *unilinear*. It is debatable whether this should be seen as one drawing, but since the designer presents it in that way, it must be understood to be a part of the rhetorical strategy.

Fig. 4.23   karres + brands landschapsarchitecten (NL), Lammenschans, study, 2011-2015. Visualization.

An interesting drawing series was made by Quadrat (1992). [Fig. 4.26a-c / drawing 25]. In these black and white drawings Quadrat positions a relatively small urban operation in a very wide context. It is a speculation on how a tiny intervention might provoke subsequent steps, or fit in the future development of its surroundings. What these will actually be is not known at the moment of drawing, but it is part of the intelligence of the designers to suggest some realistic and smart next steps. The drawing shows future potential, pleads for next steps and proposes that the designers have a say in such next steps. Here, drawing in time is an attempt to ascertain that the specific approach of a designer does not necessarily stop at this one project. Evidently, such a message also serves the office in economic terms. As previously mentioned, for some time Quadrat had had the practice of 'inscribing' their projects into the existing map (2006). [Fig. 4.27ab / drawing 26] By translating the project in the graphical vocabulary of such maps it is as if the project is already there, and also allows for further speculation on future steps.

In a drawing by Vista (1993) five stages show how the new industrial area of the Maasvlakte could develop. [Fig. 4.28a-f / drawing 27] The message of this series is that nature processes are invited to take part. The power of the sea is welcomed to create a creek in the new land, and this creek is transformed into an industrial harbour. Vista used a technique we have already seen in another example from the same office, which is aerial photography, and simulations based on that. At the time that these drawings were made, Photoshop was a very new technique and not widely utilized. Probably for that reason the designers observed that the drawings were sometimes understood as if the project had al-

ready been built, a phenomenon happening more often today because of high quality of visualizations. Desvigne in Bordeaux (2004) and New York (Governors Island, 2007) was engaged with large transformational processes. [Fig. 29a-d,30a-c / Drawings 28 and 29] Bordeaux is also an interesting case in terms of drawing. A long-term vision for a large area frames actual steps. But these actual steps are totally dependent on parcels becoming available. Realized parts of the design do have to be meaningful and functional as such, but they also have to support the bigger transformational process. On Governors Island a vast area was to be transformed into meaningful public space. Desvigne relies on agricultural processes of cultivating land as a means of preparing the ground for future use and a step-by-step creation of the new public space. The drawing depicts this process and shows the aim that the final outcome embodies all former steps.

Progressive phenomena – if-then scenarios
A Hosper design for an urban extension of the city of Almelo (2011) was made before the economic decline became manifest [Fig. 4.31a-e / drawing 30]. Yet even then, some issues had to be tackled, such as how to take public interest into account. Here, it is suggested that public interest is taken care of by means of a framework created with water and forest. If these structures are made rather early, they give a sense of place for the first inhabitants. The developer will focus on the revenues of the plan coming in when first houses are sold. It is the intelligence of the designer that provides a smart phasing strategy to serve both perspectives. The building process should not be delayed, and the general arrangement of functions should be stable. The first inhabitants

[13] The 22nd of October 2014 issue of the local paper *Almere Dichtbij* reported on fierce protests by inhabitants against the thinning of a strip of forest. According to the local authorities it concerned an inevitable maintenance intervention in this young forest, as intended in the design. Inhabitants succeeded in temporarily stopping the thinning.

[14] Tufte 1990: 50-51.

bring a new social dynamic. It has often happened that, although a certain public investment was foreseen in the early planning stages, it was blocked when the application came to fruition. [13] Drawings, in that case, have a role to play in making people aware of the intentions of the plan, what is reality at a certain moment and what is yet to come. Studio Vulkan (2011) proposed that the area of a future urban development be structured with planted zones. [Fig. 4.32a-d / drawing 31] These zones would give some sort of shelter to the new inhabitants and, as a pre-investment, make the area more attractive in the eyes of developers searching for a plot. [Fig. 4.41a-d / Drawing 31] Such green structures, however, should never obstruct the future development of the area. These drawings must strike a balance between attractiveness on the one hand, and unrestricted development on the other. Both Studio Vulkan and Hosper use the technique of a series of drawings to show development in time.

GROSS. MAX in 2010 won the Berlin Tempelhof competition. As the area was immense, not all parts were available for development and as money was sparse, phasing was considered necessary. GROSS. MAX created a drawing (2010) that can generally be read as a diagram. [Fig. 4.33 / drawing 32] From the viewpoint of choreography, it might be seen as a score. The drawing shows what is happening where and when, and who has to do something to achieve it. It is a complex drawing; it comprises several strands of information, and to read both the details and have an overview, it is best seen as a very large drawing. Complexity creates a serious problem for easy communication. Drawings that are too complex to be understood miss the point. But as Tufte argued, 'clutter and confusion are failures of design, not attributes of information'.

If high-density information is provided for, 'control is given to viewers, not to editors'. [14] For the same project GROSS. MAX also made another drawing: a small animation of which a still is shown here. [Fig. 4.34 / drawing 33] The assignment requested that it be shown how the evolution of the green area could take place. GROSS. MAX proposed giving the area a boost with seed bombs, as this slide suggests. The narrative, referring to wartime bombing, was considered inappropriate, but as a representation it helps to illustrate the evolution of the area in ecological terms.

A drawing of Lubbers for the *Strijp S* project (2009) is an example of a very recent approach to developments in the urban context, in which grand uncertainty about future developments is met with temporary uses. [Fig. 4.35 / drawing 34] Here, an industrial area in which Philips was housed had been undergoing transformation for many years. During this process, economic perspectives were worsening. Apartments and office space were sold more slowly, and parts of the project were delayed or cancelled. Drawing in this case was employed by Lubbers as a means of organizing creativity: What can we do in such empty spaces? It is also a way of structuring the debate on promising strategies with the client. What is interesting here is the use of a catalyst. A temporary project that fills a gap has its own significance, but the best temporary project is one that triggers others to come and invest. Drawings in that context are often expected to have a seductive quality. Any drawing that proposes an attractive future development is part of the reality in which such a future will happen, or not. As Lubbers admits, this drawing is far from seductive, but it was the one that was created in order to fully understand all of the processes at work.

In the late nineties, Vista produced a poster (1996) as a result of the exercise *Uit de klei getrokken*, a Dutch expression referring to clay soil. [Fig. 4.36 / drawing 35]. The office set up a matrix in which different starting positions in terms of water and soil are defined. As such, the drawing has a graphic quality, but is also instructive. The composite drawing is full of information related to what the office wanted to solve: Suppose we manipulate a series of parcels with different water conditions, and define different management approaches, what would come out? This is in fact a typical example of Zerubavel's multilinear understanding of time. Water systems were discussed earlier in this chapter as cyclic phenomena, but sedimentation and erosion and the long-term rise of sea water levels are part of the progressive phenomena. The exploratory function for the designer itself is important, but an obvious goal is to put forward seductive ideas on how it would look and how it could be used. In this case visualizations are very fitting. We see this in a series made by RAAAF for Terschelling (2009). [Fig. 4.37af / drawing 36] They point out an important feature in time-based drawing. If we deal with natural systems, we more or less know the forces at work. At the same time reality can take many different courses. If, for years and years, no storm flood occurs, sedimentation starts to effectively defend itself against future floods. If, however, a large flood takes place, young dunes are swept away. Coincidence has a say, and there is a game-like optional element. Designers can outline the range of options but never know beforehand exactly what will happen. However, an essential part of landscape design is the assumption that this palette of forces can be influenced. The poles in the RAAAF drawing will inevitably influence sedimentation. These drawings promote the dialogue between human intervention and the natural surroundings. An-other goal of drawings is to hand over knowledge, in order to gain support for design decisions. In that case, plans, sections and diagrams are needed. A set of drawings made by H+N+S (2010) played a decisive role in the planning process for the Afsluitdijk. [Fig. 4.38ab / drawing 37] Such large projects have to be cared for by teams in which several disciplines are working. The landscape architect in such a team could have a powerful position simply by making drawings. That may vary from showing the consequences of what has been discussed, to revealing new options and finding an agreement: 'Is this what we want'? In such situations the act of drawing itself is important - it draws attention. Drawing materials that enable live drawing and quick work are essential for success in multidisciplinary teams.

Fig. 4.1 Anouk Vogel (NL), *Lace*
*Garden***, Amsterdam, realized, 2009.**
Diagram.
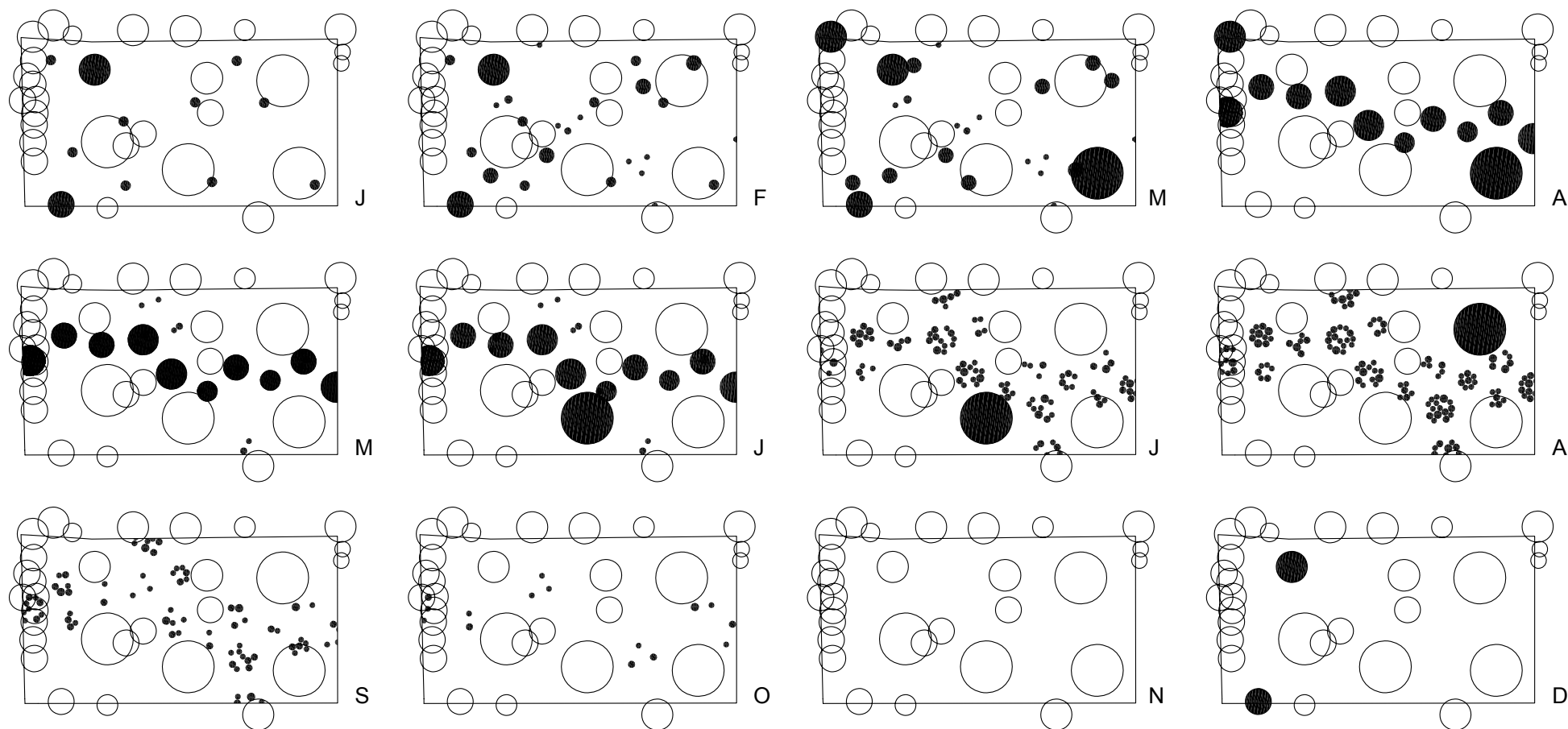
Drawing 2

**Fig. 4.2 Vogt Landschaftsarchitek-
ten (CH), Home of FIFA -** *The Game
of Continents***, Zürich, realized, 2005.
Diagram.**

Africa: Savannah
The landscape is distinguished by wide-open spaces and
low-growing vegetation. Large solitaire trees and small groups
of trees with broad, umbrella-like overhanging crowns create
islands of shade. Brightly coloured perennials with varying
leaf forms along the periphery display the rich variety of African
vegetation.

Asia: Flowering Grove
Sparse, terraced groves create a diverse landscape with
alternating clearings and shady areas. An umbrella of large
trees with delicate, light-coloured leaves spans loosely
arranged groups of small trees with white, pink and violet
blossoms. Large-leafed perennials with delicate blossoms
pick up on the soft tones of the flowering trees. In autumn,
the intense red of the Japanese oak trees provides a colourful
accent.

Drawing 4

Fig. 4.4 Studio Vulkan (CH), *Energie-berg* Hamburg Georgswerder, competition entry, 2009. Diagram.
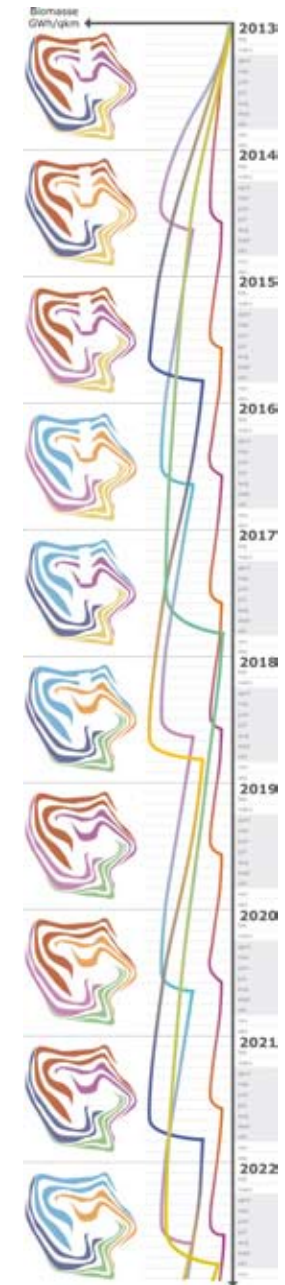
Fig. 4.5a-f   Lola landscape architects (NL), Marstallplatz Hannover, competition entry, 2010. Overview of development options. Diagram.
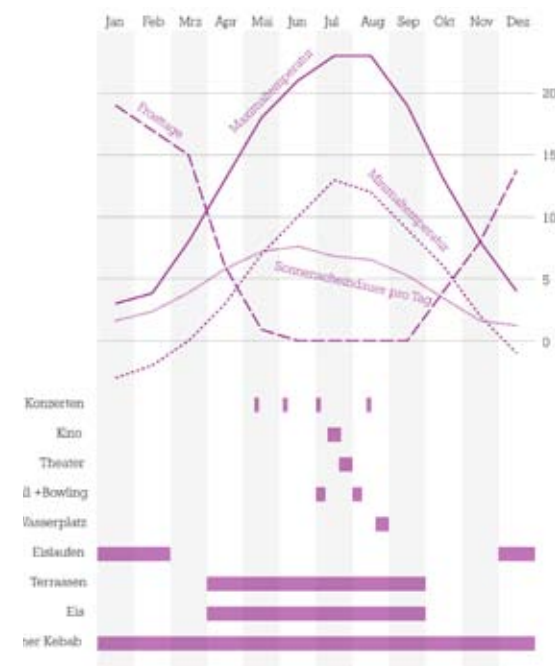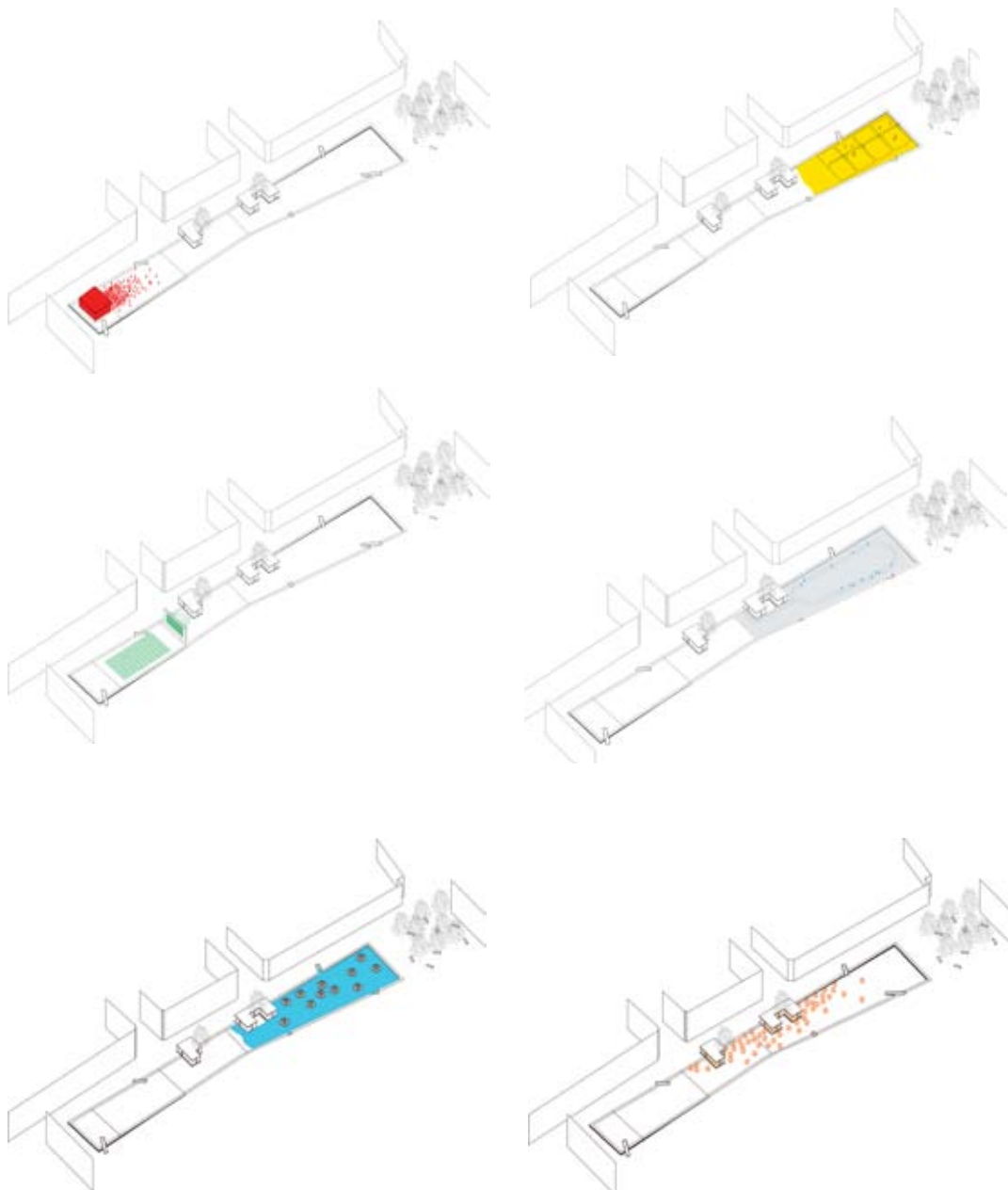
Drawing 6

Fig. 4.6 Arkitekt Kristine Jensens
Tegnestue (DK), Stortorget Malmö,
competition entry, 2009. Composite
diagram.

Fig. 4.7   OKRA landschapsarchi-
tecten (NL), Breidscheitplatz, Berlin,
competition entry, 1999. Still from
animated film.

Drawing 8

Fig. 4.8   RAAAF (NL), Free Zone,
Celebrate Mobility, **Maasvlakte Port
of Rotterdam, realized, 2014. Draw-
ing by Kasper Jacobs. Simulation of
tyre pattern.**
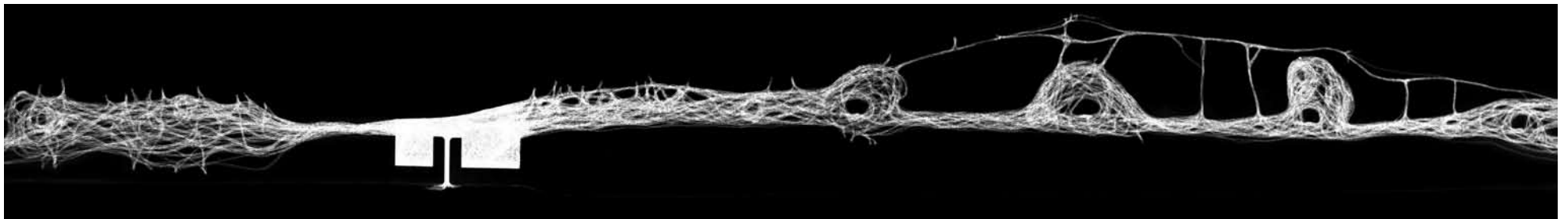
Fig. 4.9   H+N+S landschapsarchi-
tecten (NL), Water catchment in the
valley of the river Emscher, study,
2002. Composite diagram.
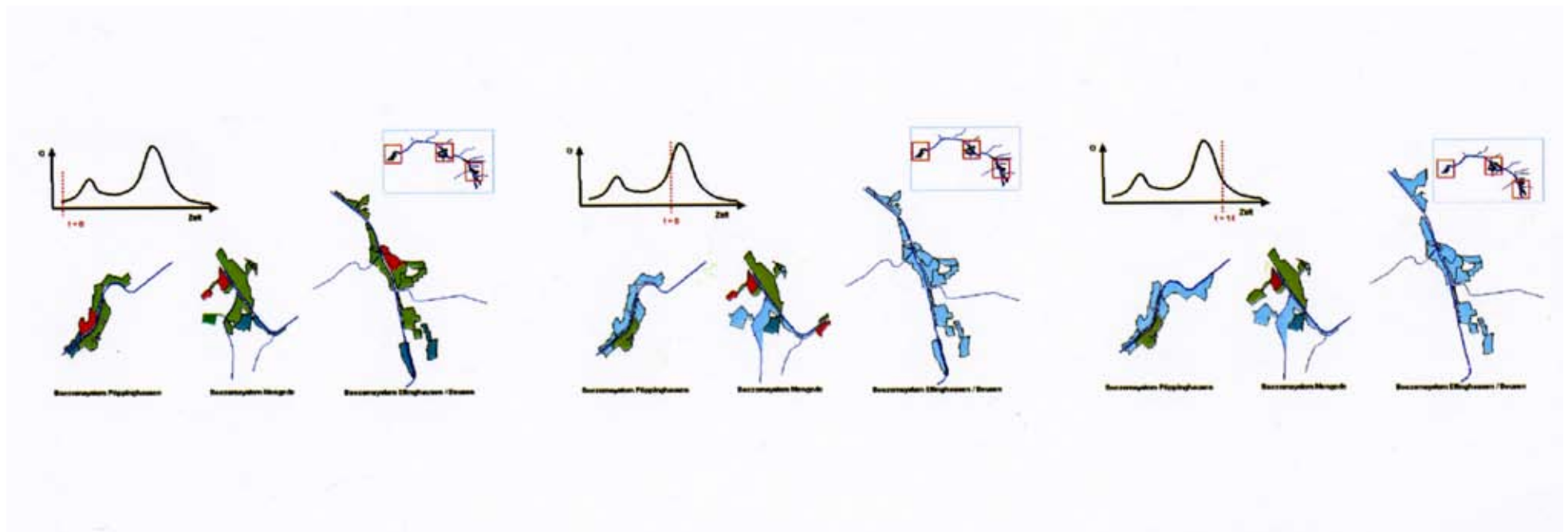
Fig. 4.10ab van Paridon x de Groot (NL), Rainwater catchment in private garden, dry situation with pond and peak situation, study, 2006. Sectional perspective.
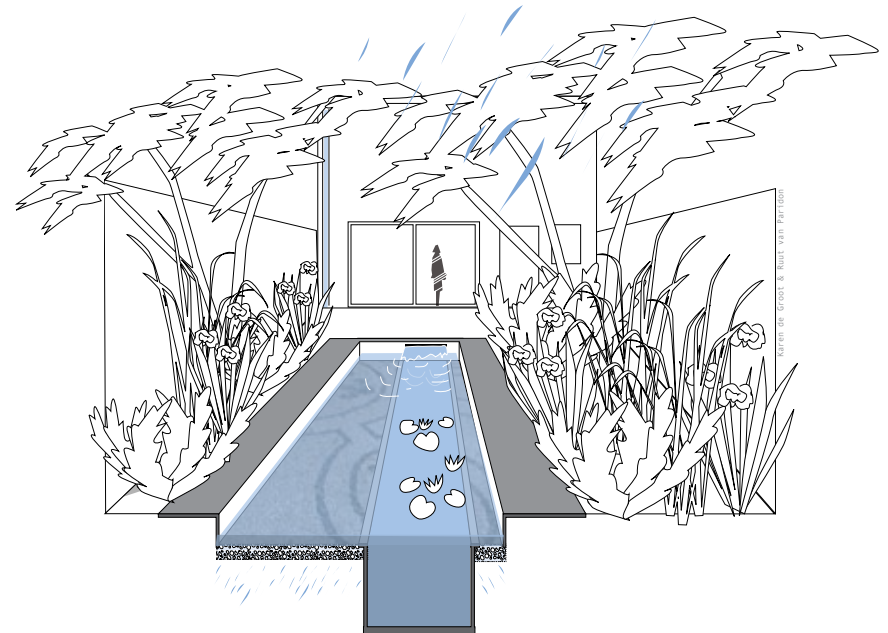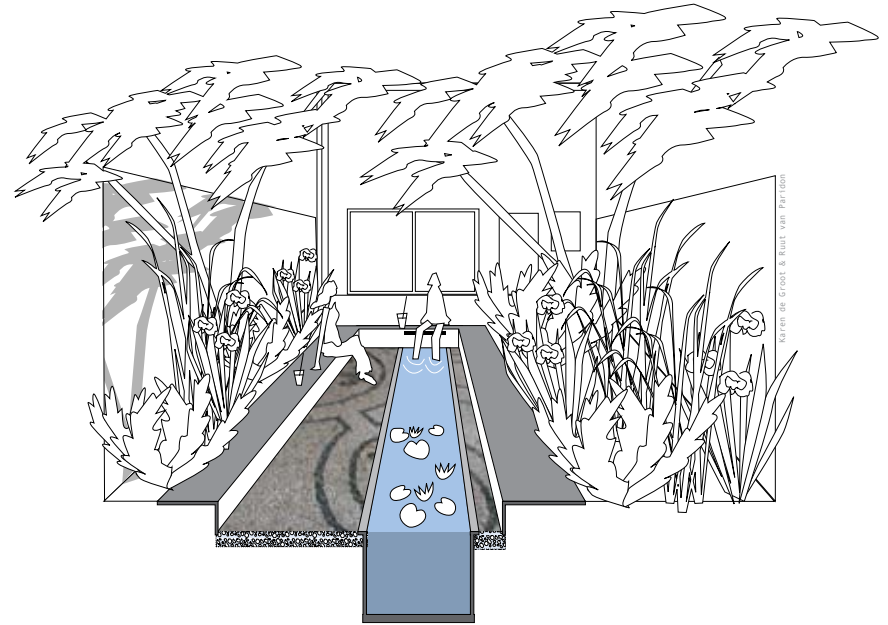
**Fig. 4.11ab Vista landschapsarchi-
tuur en stedenbouw (NL),**
Bypasslandschap Stedendriehoek,
**regular situation and peak situation,
study, 2004. Simulation in aerial
photograph.**

Drawing 12

Fig. 4.12a-d   H+N+S landschap-
sarchitecten (NL), *Bypass Kampen*,
Kampen, study, 2008. Stills from
animated film.

herfst

zomer

herfst

voorjaar

winter

voorjaar
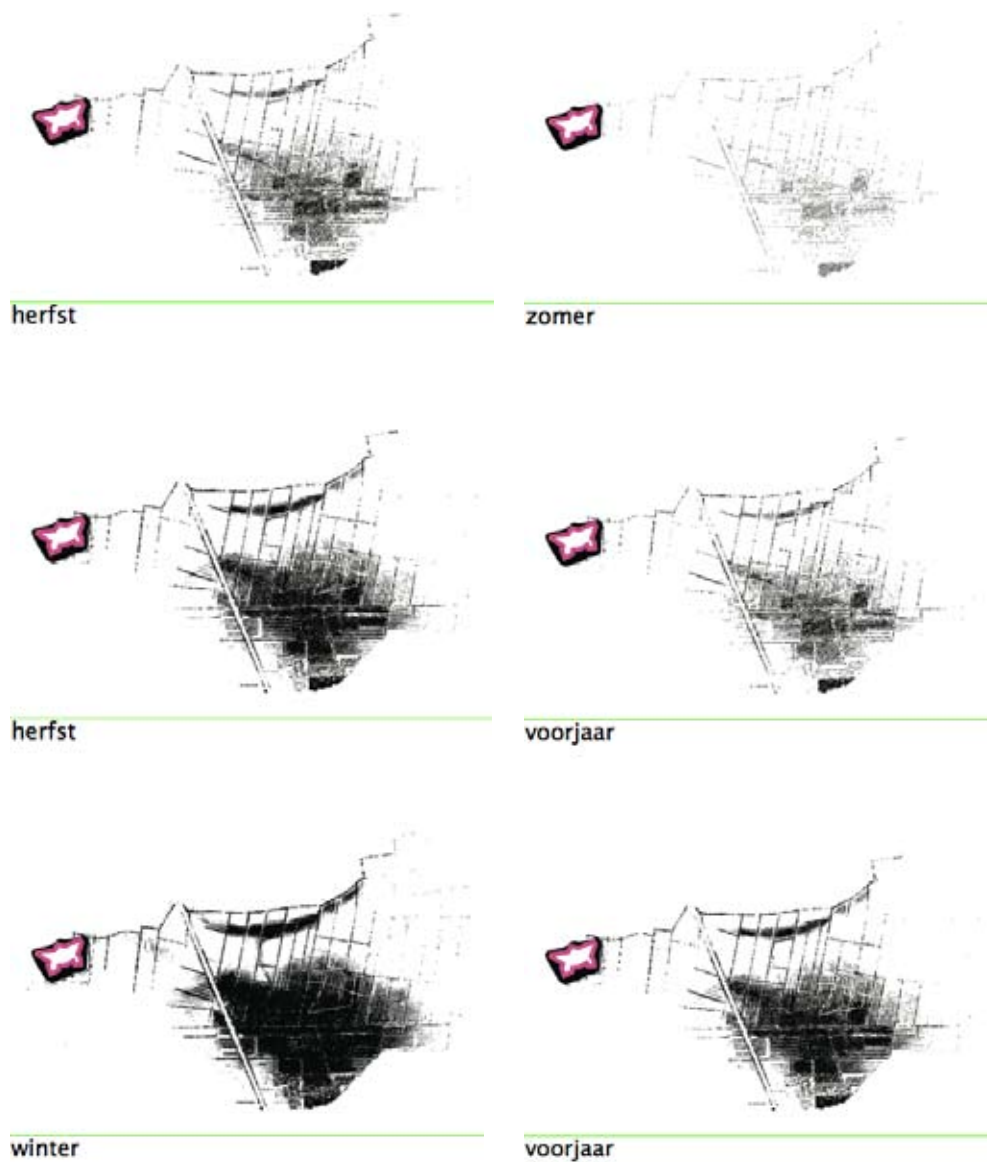
Fig. 4.13a-f   van Paridon x de Groot (NL), Water Storage in Nieuw Wul-ven - Laag Raven, *Nieuwe Hollandse Waterlinie*, **study, 2005. Stills from animated film.**

Drawing 14

**Fig. 4.14 Buys & Van der Vliet (NL),
Vergelijkingsschets Haagse Beem-
den, Breda, plan 1979, realized.
Explanatory sectional drawing**

1125·1· bl. 14

4·00 M·

3·00 M·

2·00 M·

1·00 M·

· V E R G E L IJ K I N G S S C H E T S ·

"KROONBOOM" ~ 5 JAAR GEKWEEKT·
STAM OMTREK OP 1·00M· 14~16 CM·
SOORT: POPULUS BALSAMIFERA
HOOGTE EN KROON BREEDTE GETE-
KEND· ÉÉN JAAR NA HET PLANTEN·

"SPIL" ~ 2 JAAR GEKWEEKT·
HOOGTE ± 2·00 M·
SOORT : POPULUS BALSAMIFERA
HOOGTE EN BREEDTE GETE-
KEND. EEN JAAR NA HET PLANTEN·

WERKNR· 1125·BLAD 38· 14·7·1977·
P·A·M· BUYS ~ B·VAN DER VLIET   TUIN EN LANDSCHAPS ARCHITEKTEN·B·N·T·

1125·1· bl·14·

2000 / 2005

Pflanzung im 4m-Raster
ganze Fläche

Fremdartenfelder
ein Raster, zwei Entwicklungen

A

B

Fig. 4.15   Studio Vulkan (CH), *Oerliker Park***, Zürich, realized, 2001. Diagrammatic plan drawing showing four points in time.**

2005 / 2015

1. Auslichtung
ganze Fläche

Fremdartenfelder
Ein Raster zwei Entwicklungen

A

B

2015 / 2025

2. Auslichtung
in Teilbereichen, nach Wahl

Fremdartenfelder
ein Raster, zwei Entwicklungen

A

B

2025 bis

3. Auslichtung
in Teilbereichen, nach Wahl

Fremdartenfelder
ein Raster, zwei Entwicklungen

A

B

Drawing 16

Fig. 4.16 Michel Desvigne paysag-
iste (FR), *Greenwich Millennium Park*,
London, realized, 2000. Plan draw-
ing showing 4 four points in time.
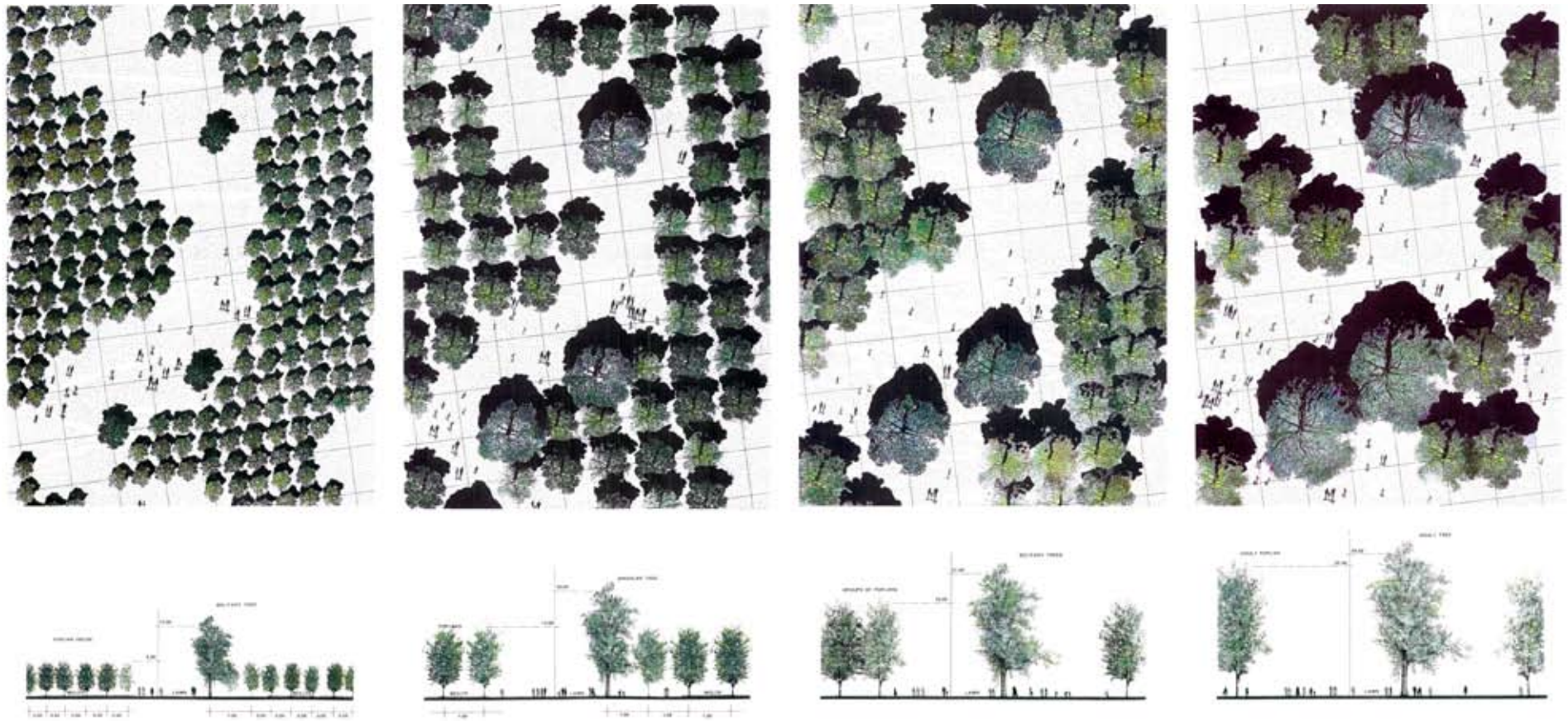
ZUIDERHAVEN

botenhelling

NA HET PLANTEN DIENEN DE BOOMKRONEN STERK TE WORDEN TERUGGESNOEID.
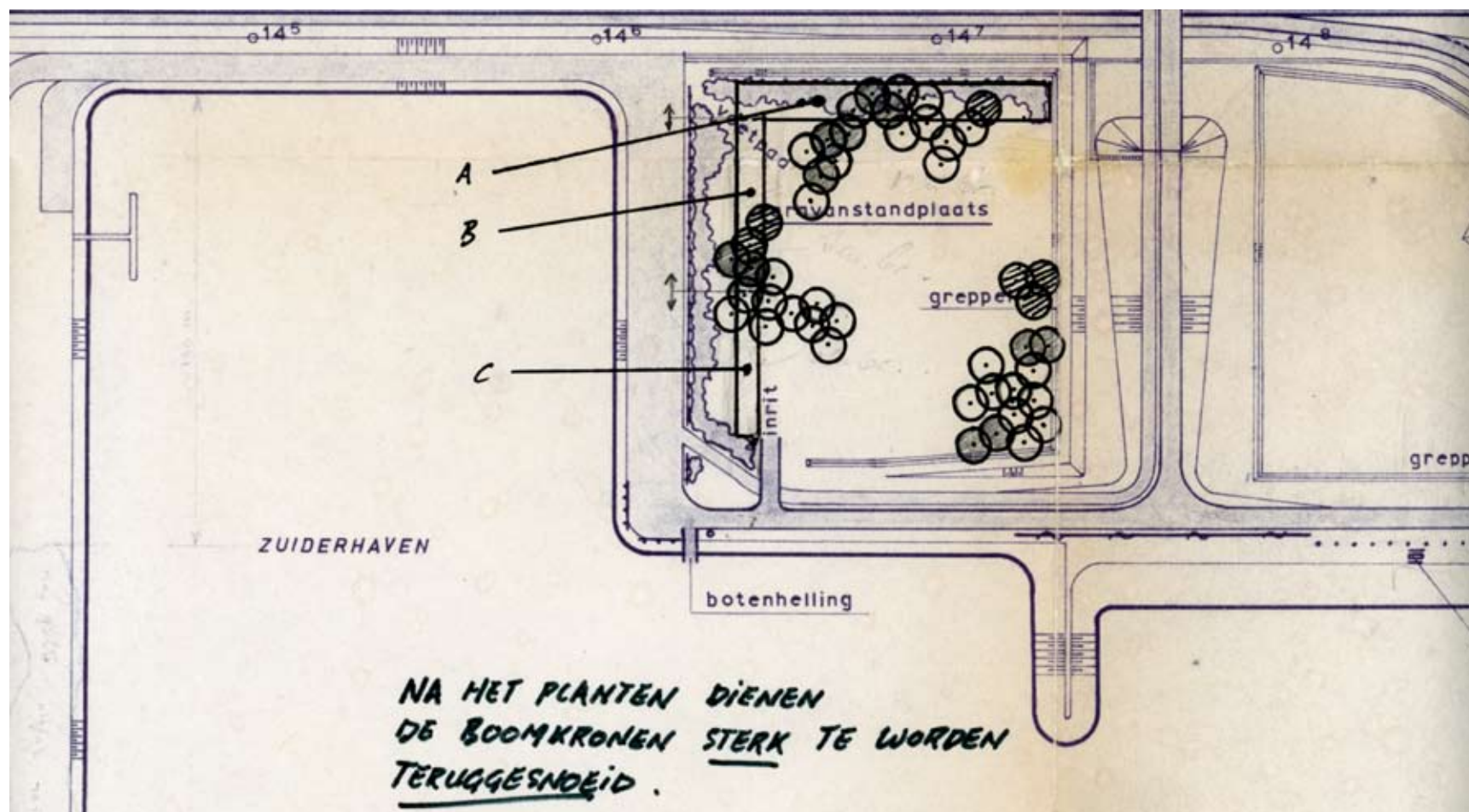
Drawing 18

Fig. 4.18ab van Paridon x de Groot
(NL), *Natuurderij* Keizersrande,
section of path and protection for
young tree, realized, 2011. Section,
diagrammatic section
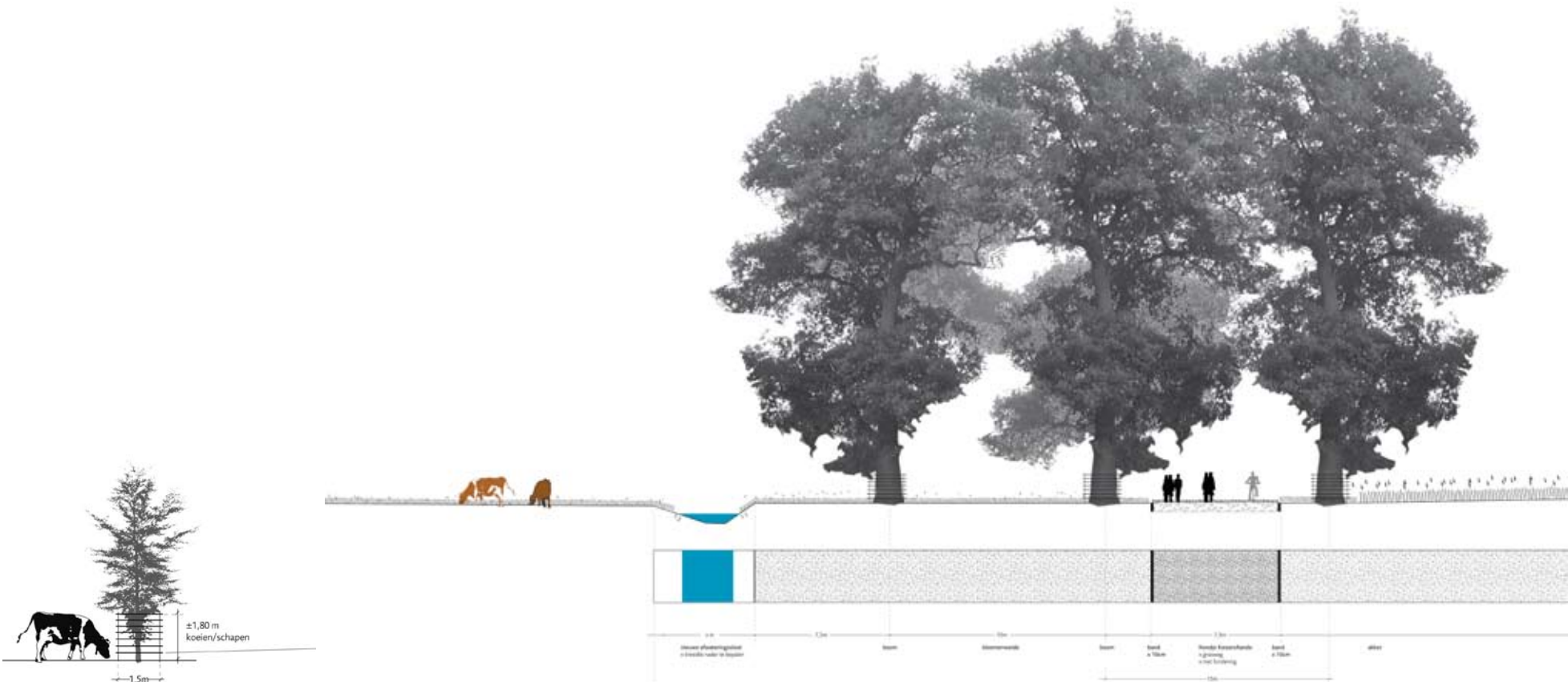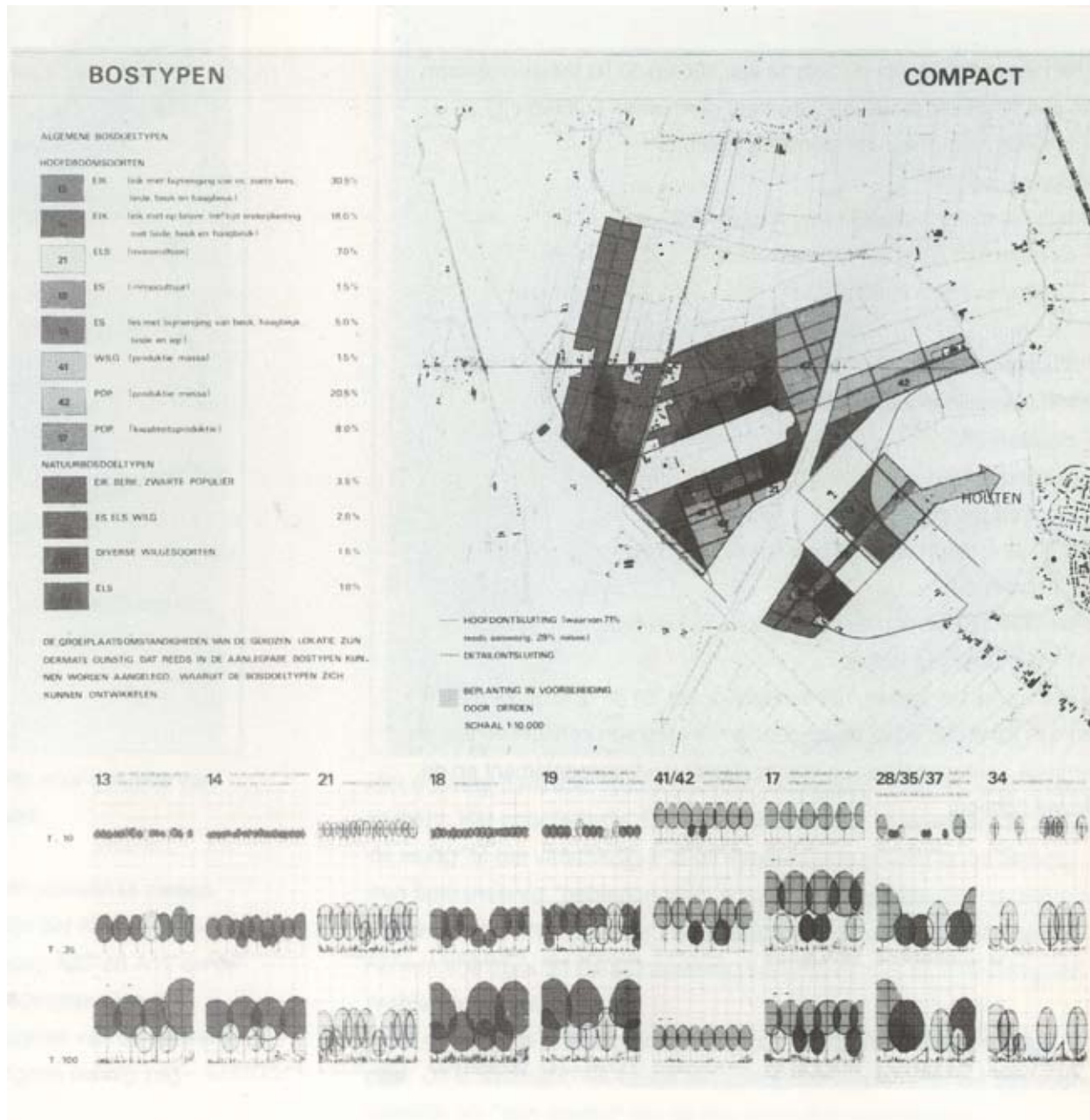
Fig. 4.19 **Bosch Slabbers** (NL), *Bos na 2000*, **competition entry, 1986. Composite drawing with diagrams showing 9 points in time.**

Drawing 20

Fig. 4.20 Buro Lubbers (NL), *Plannen zonder eindbeeld*, **Barendrecht, study, 1998. Sectional diagram showing 4 points in time.**

AANLEGPRINCIPE
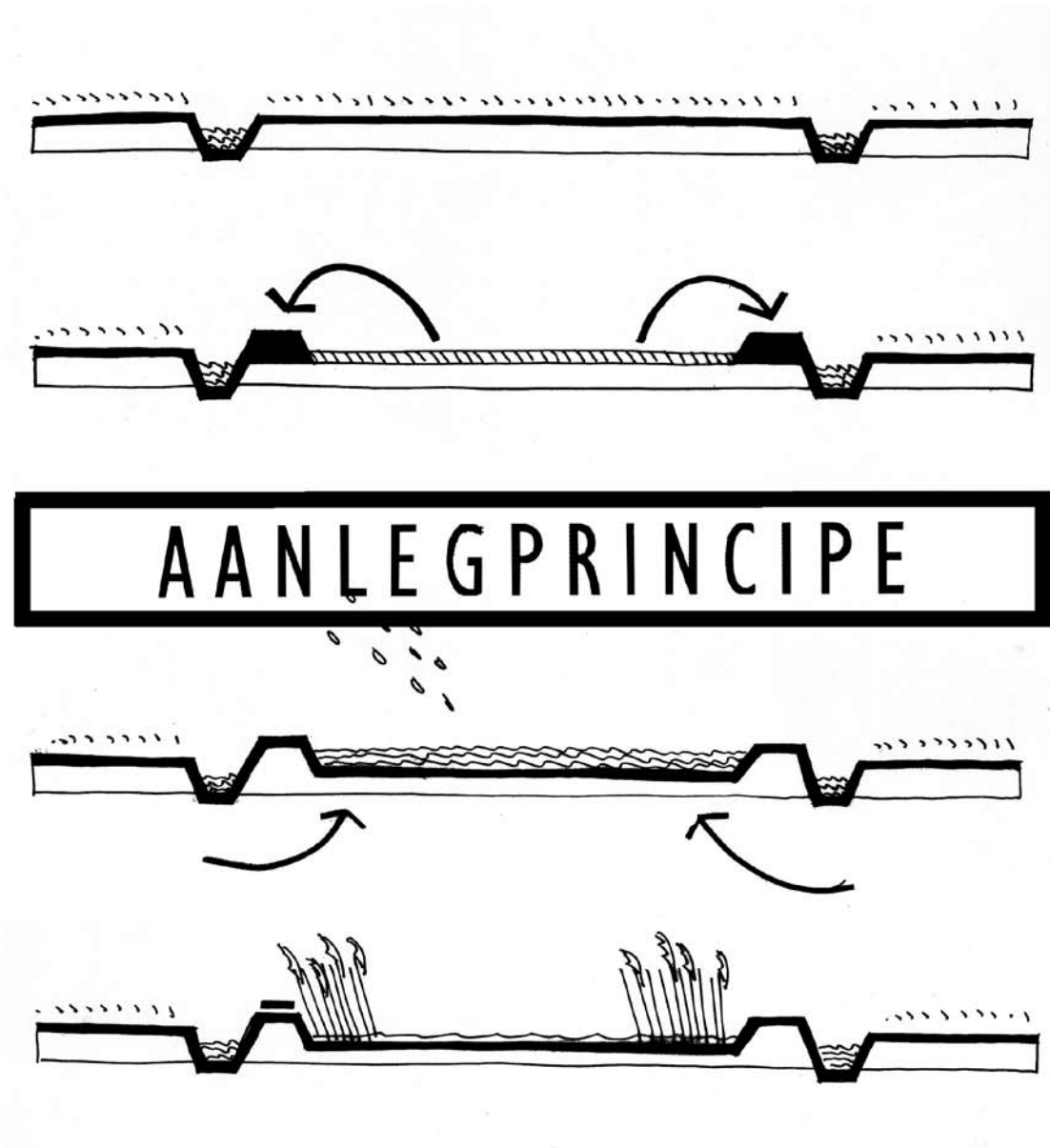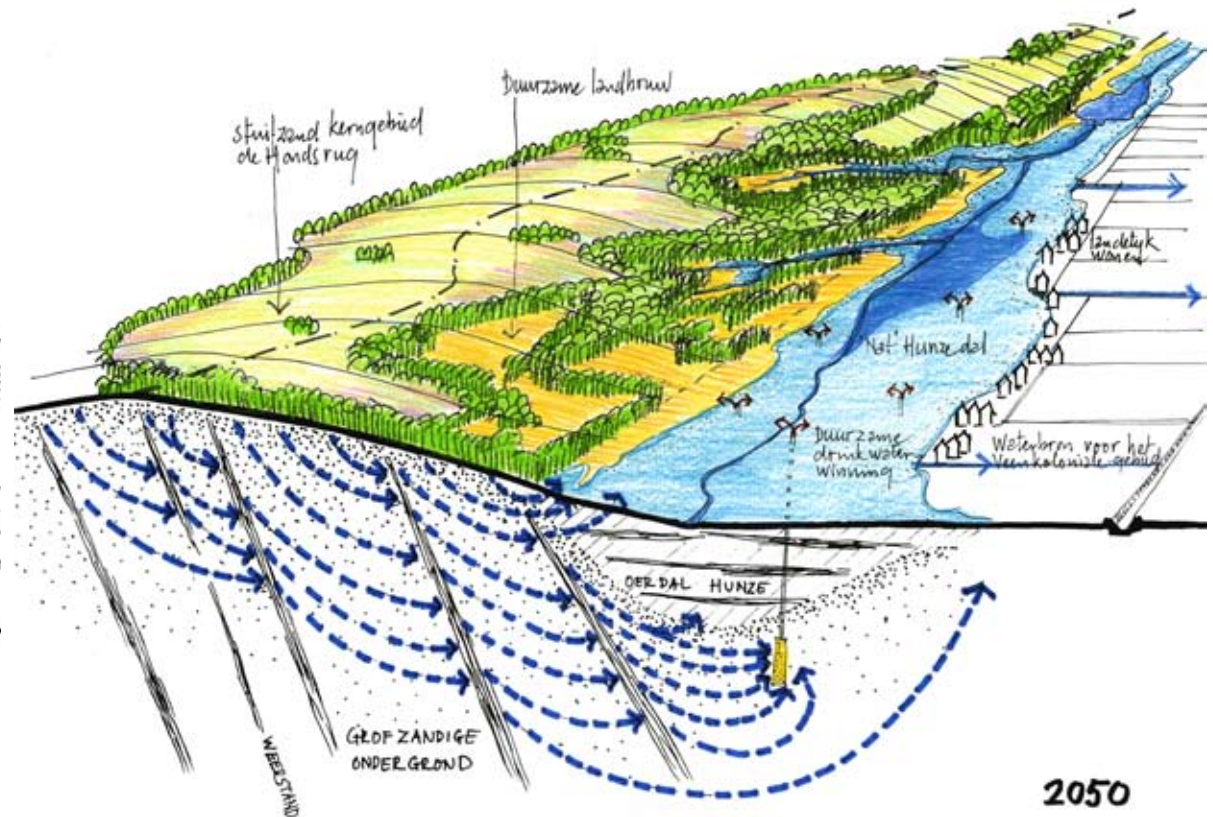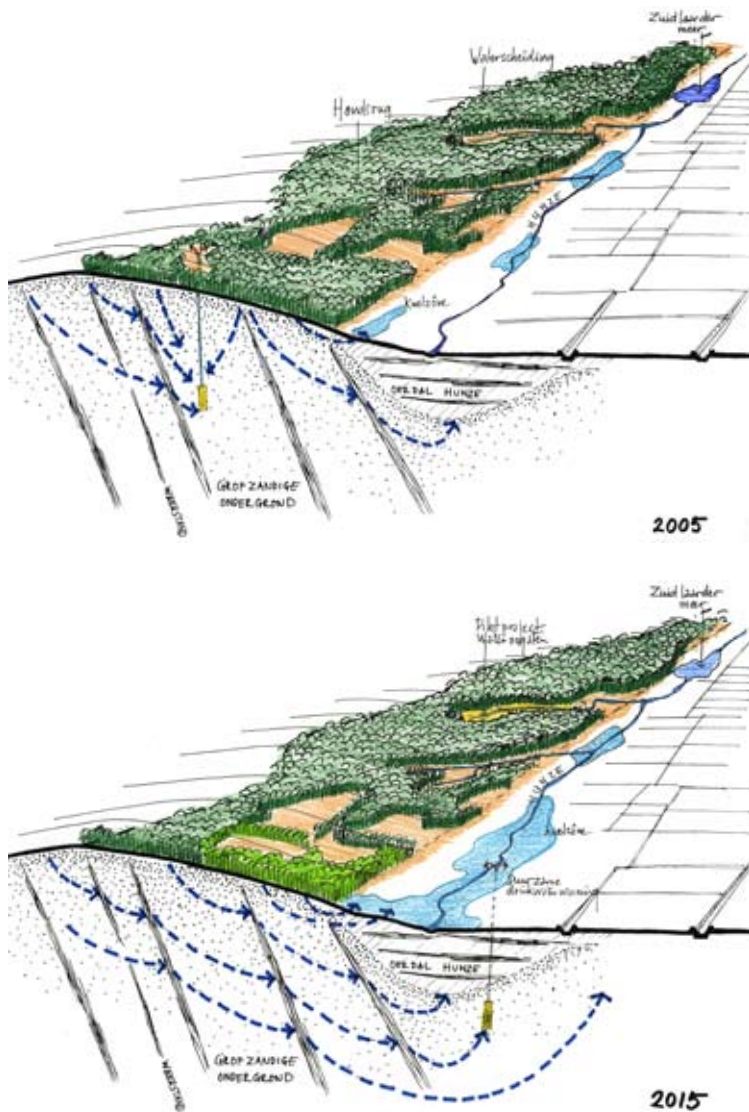
Fig. 4.21a-c H+N+S landschap-sarchitecten (NL), *Landschaps-ontwikkelingsplan Tynaarlo*, **study, 2009. Sectional block diagrams showing 3 moments in time.**

Drawing collection / 22

Fig. 4.22a-e   karres + brands
landschapsarchitecten (NL), Lam-
menschans, study, 2011-2015. Plan
diagrams showing points in time
(selection).
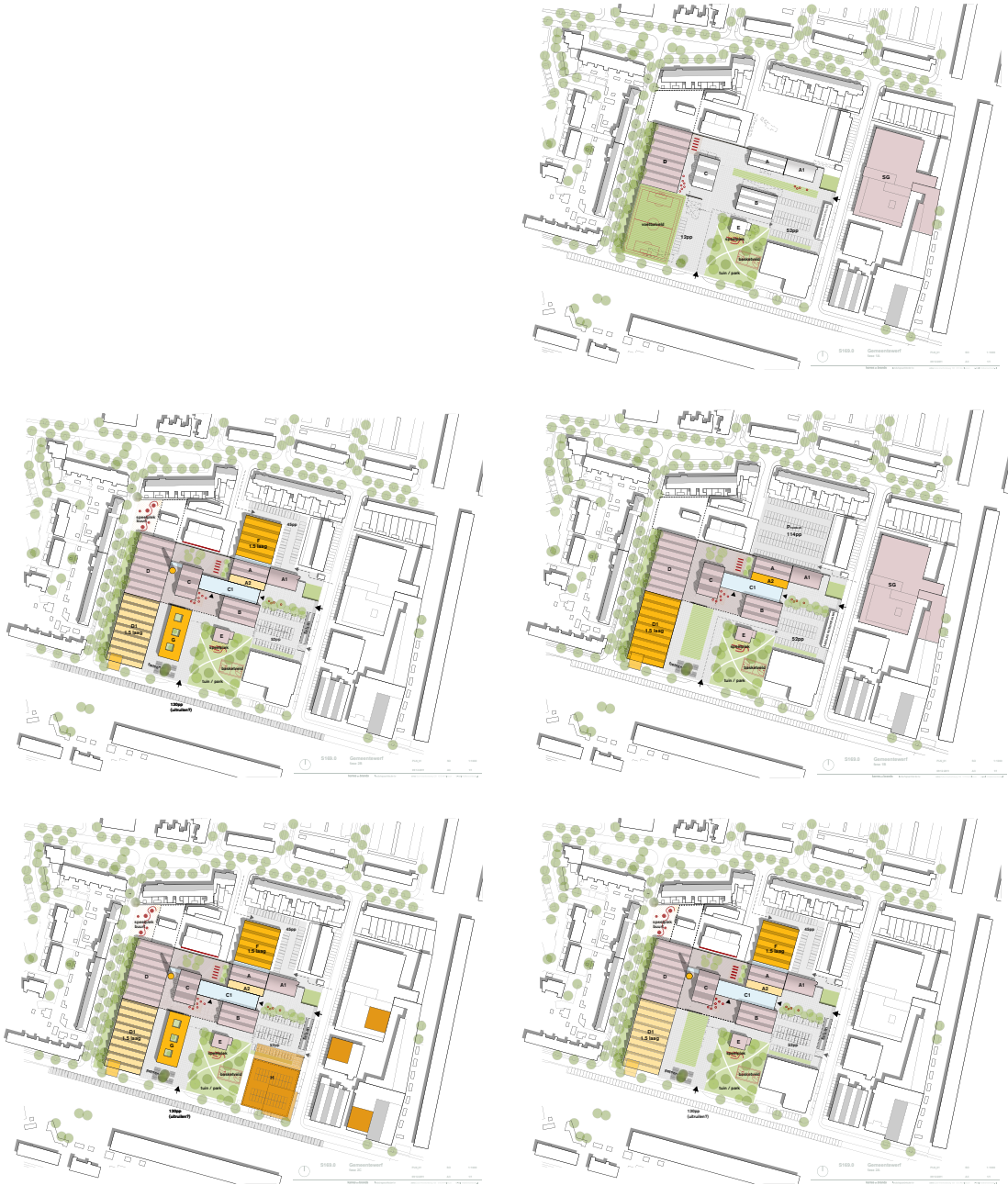
Fig. 4.24a-d   **Buro Lubbers** (NL), *Plannen zonder eindbeeld*, **Baren- drecht, study, 1998. Diagrammatic plan drawings showing 4 points in time.**
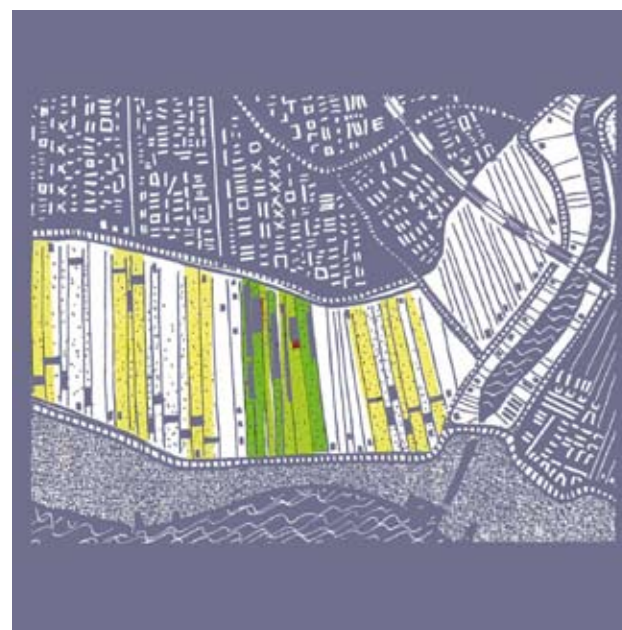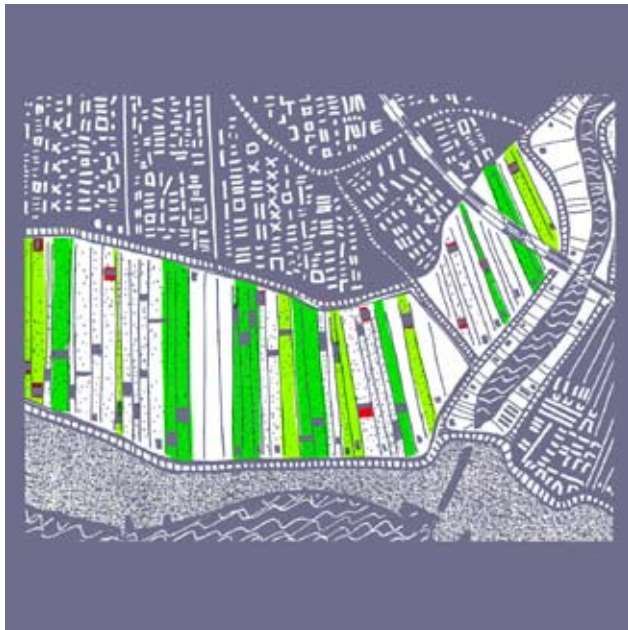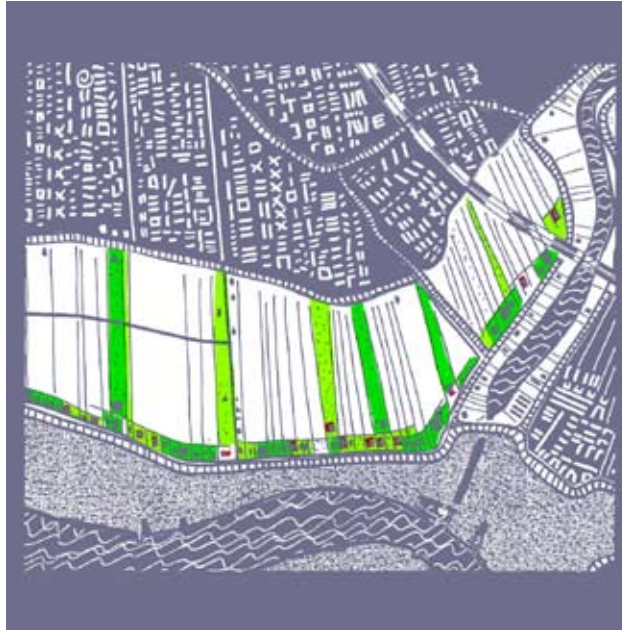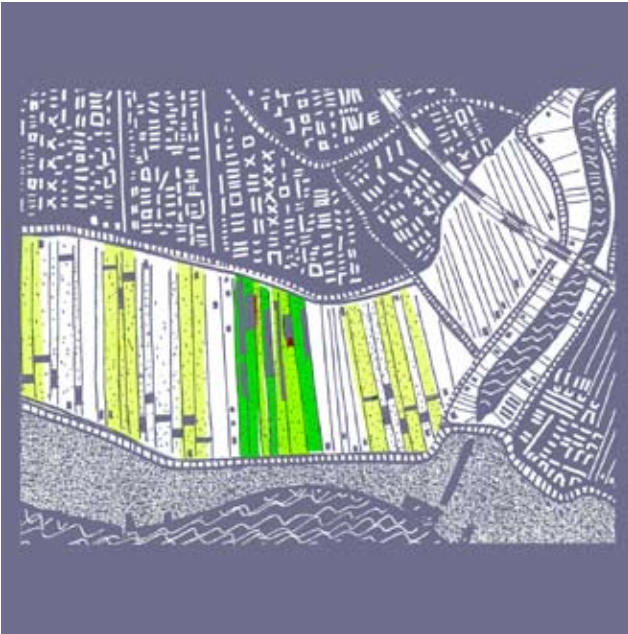
Fig. 4.25 Arkitekt Kristine Jensens Tegnestue and SLETH Architects (DK), Hornshøj, study, 2007. Composite showing 4 points in time.
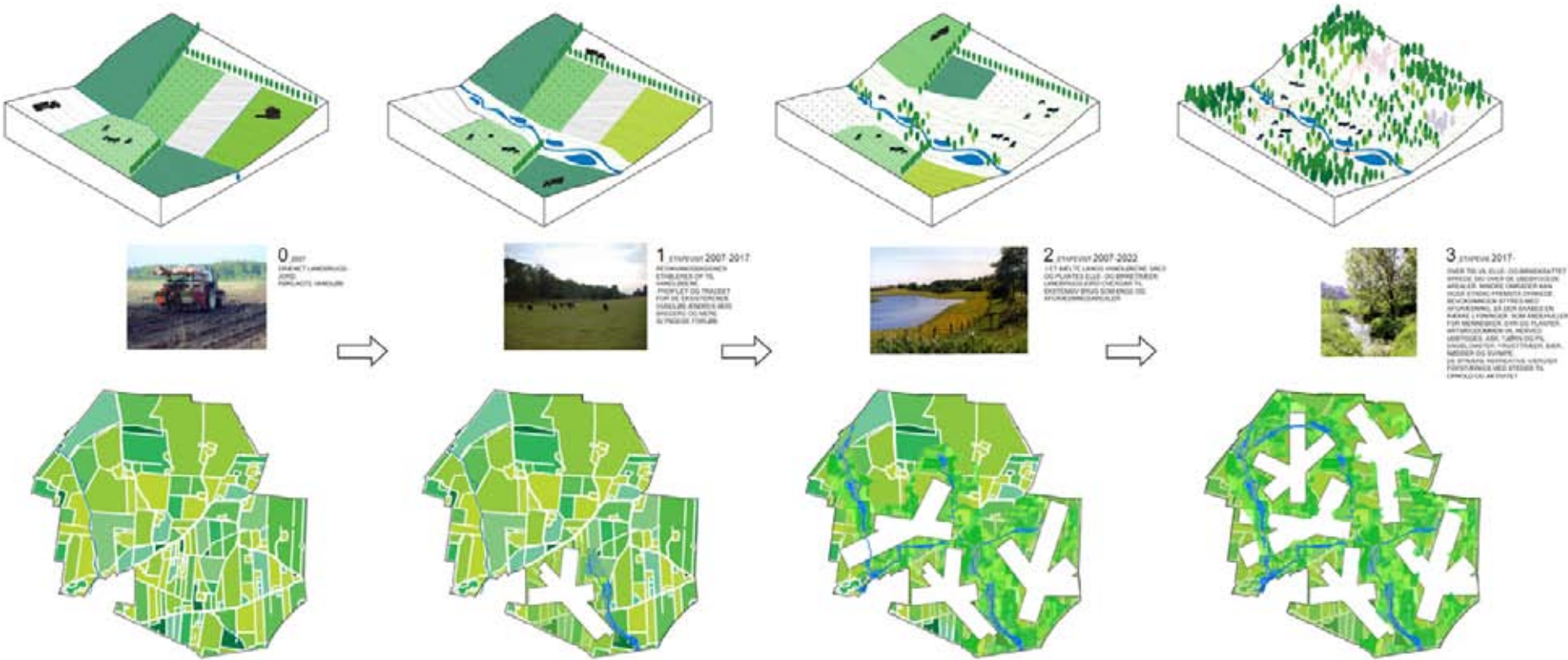
Fig. 4.26a-c Atelier Quadrat (NL), Masterplan Piet Smitterrein, Rotterdam, study, 1992. Diagrammatic plan drawings showing potential development over time.

Drawing collection / 26

Fig. 4.27ab Atelier Quadrat (NL),
Herstructurering stadshart Am-
stelveen, realized, 2006. Insertion of
designed intervention in standard
map.
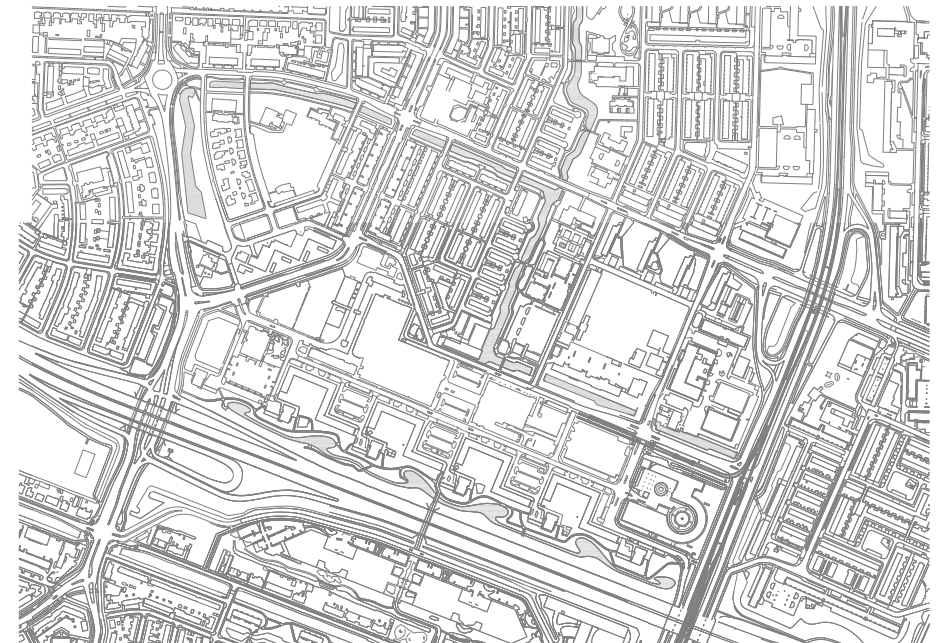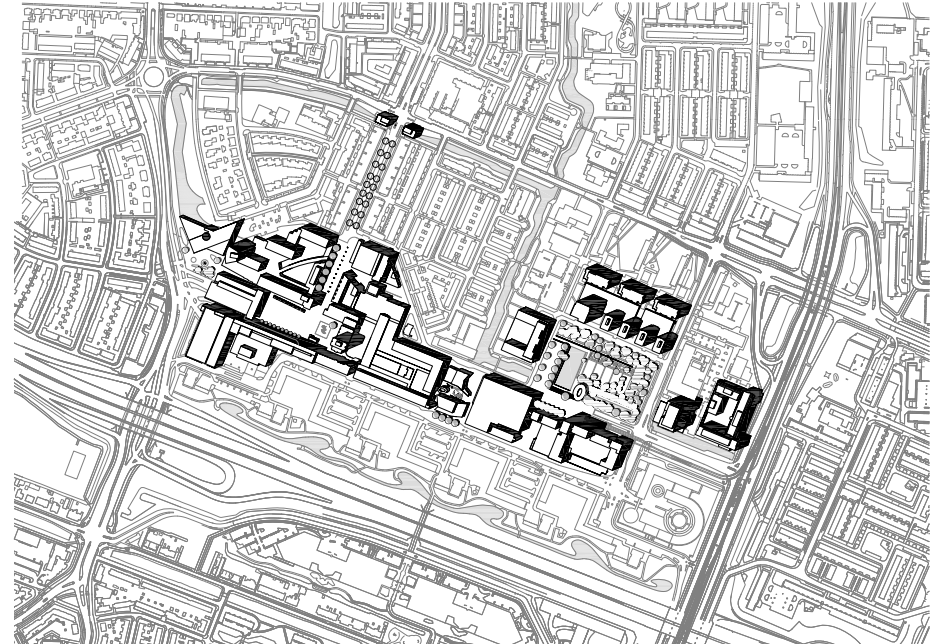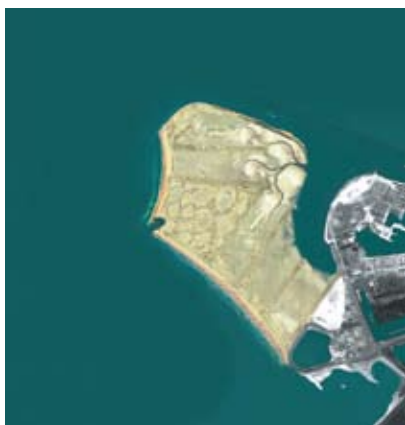
Fig. 4.28a-f Vista landschapsarchi-
tectuur en stedenbouw (NL), Devel-
opment of Maasvlakte, Rotterdam,
study, 1993. Plan drawing inserted
in aerial photograph, 5 points in
time.

Fig. 4.29a-d   Michel Desvigne pay-
sagiste (NL), Bordeaux *Rive Droite*,
Bordeaux, design 2004, in realiza-
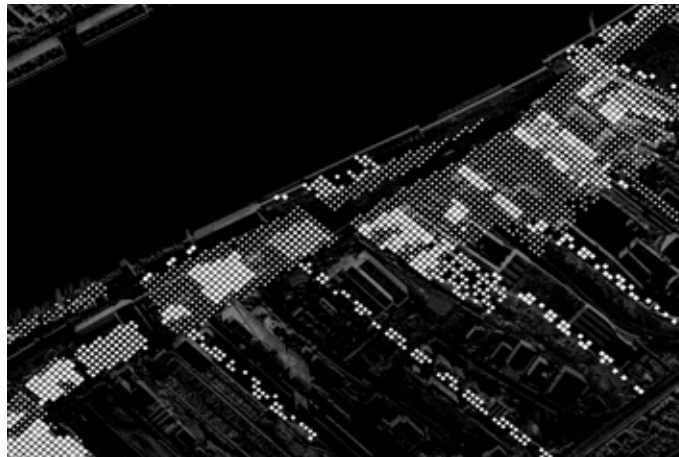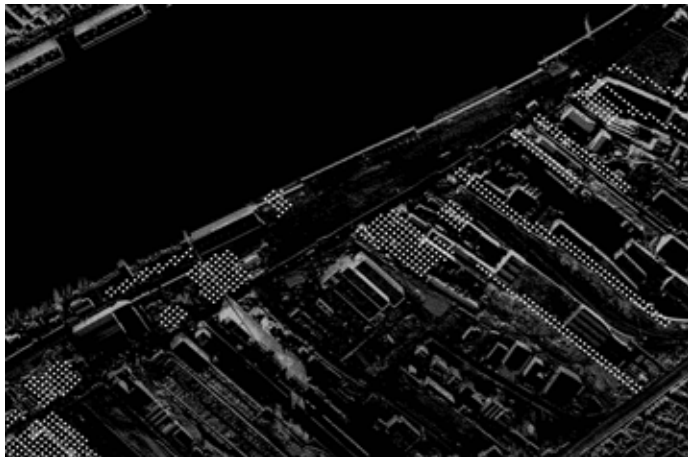tion. Diagrammatic plan drawings
showing 3 points in time compared
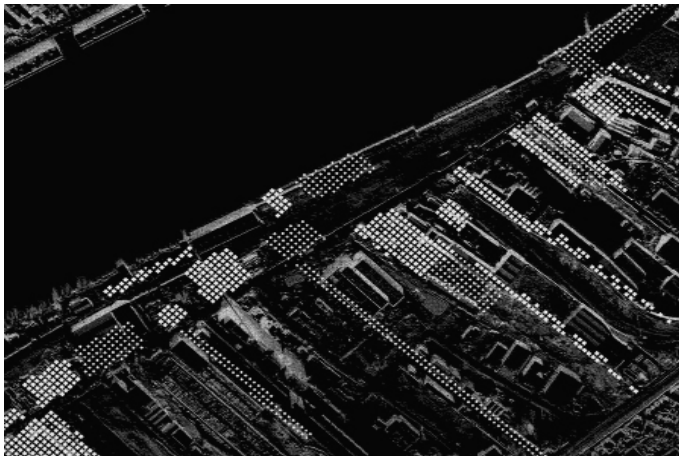
Fig. 4.30a-c   Michel Desvigne pay-
sagiste (FR), Governors Island, New
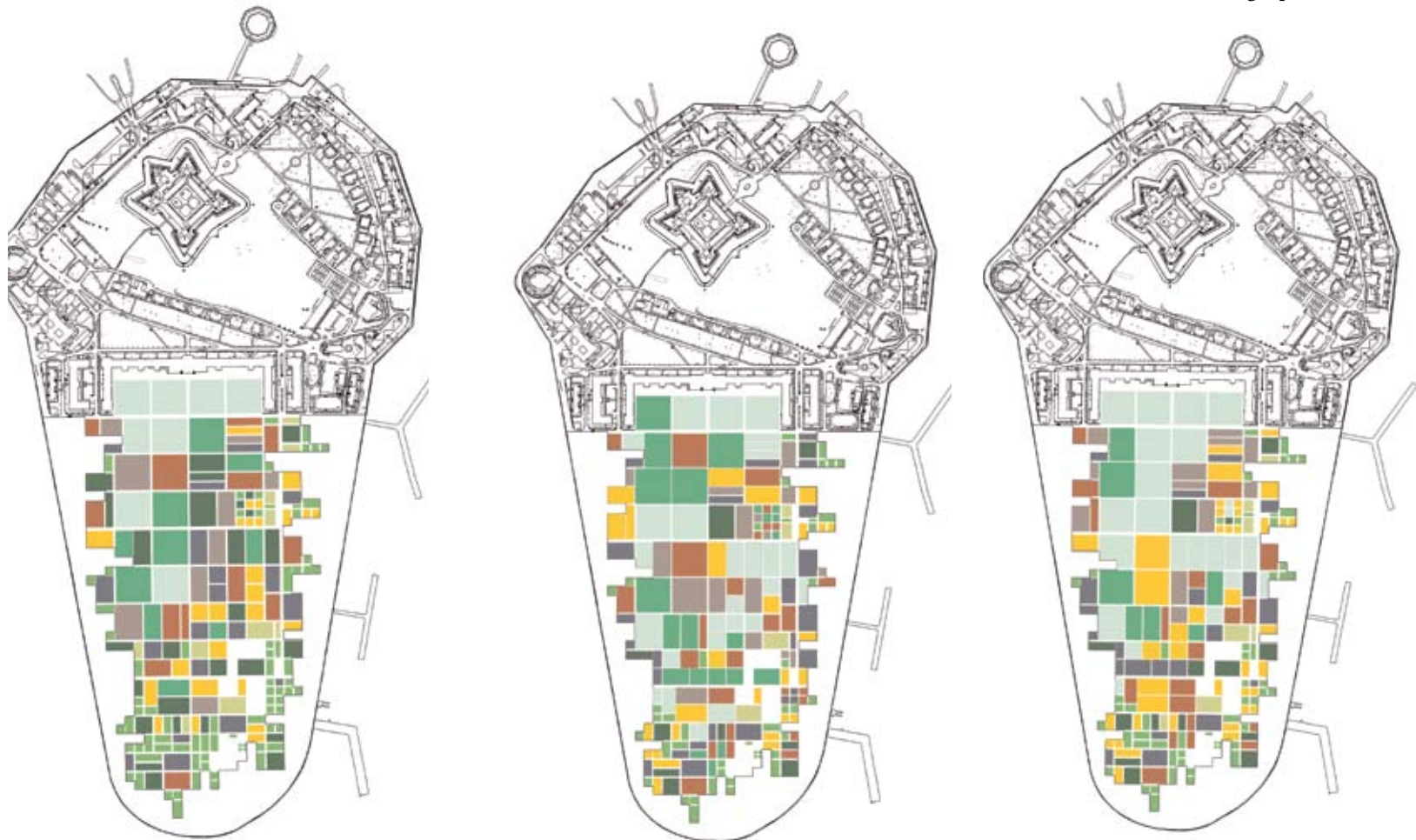York, competition entry, 2007. Plan
drawing, 3 points in time.

Fig. 4.31a-e   Hosper landschap-
sarchitectuur en stedenbouw (NL),
Waterrijk, **Almelo, study, 2011. Plan
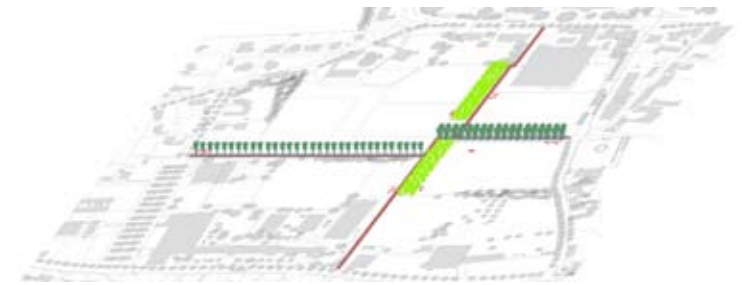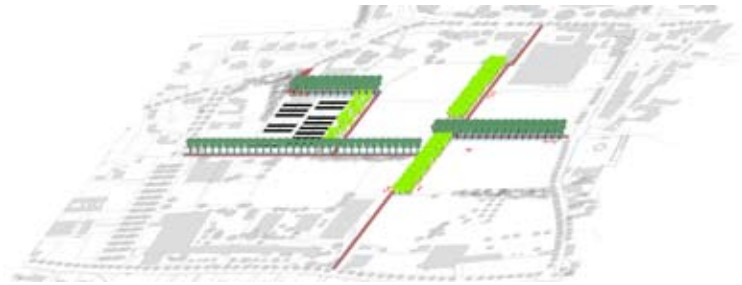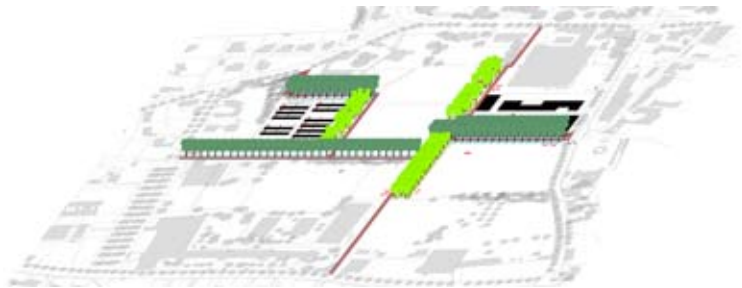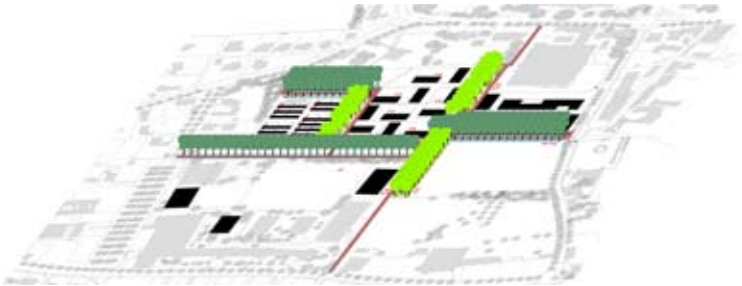drawing showing 5 points in time.**

Fig. 4.32a-d   Studio Vulkan (CH), Sphinxmatte, Solothurn, realized, 2011. Diagrammatic plan drawings showing 4 points in time.

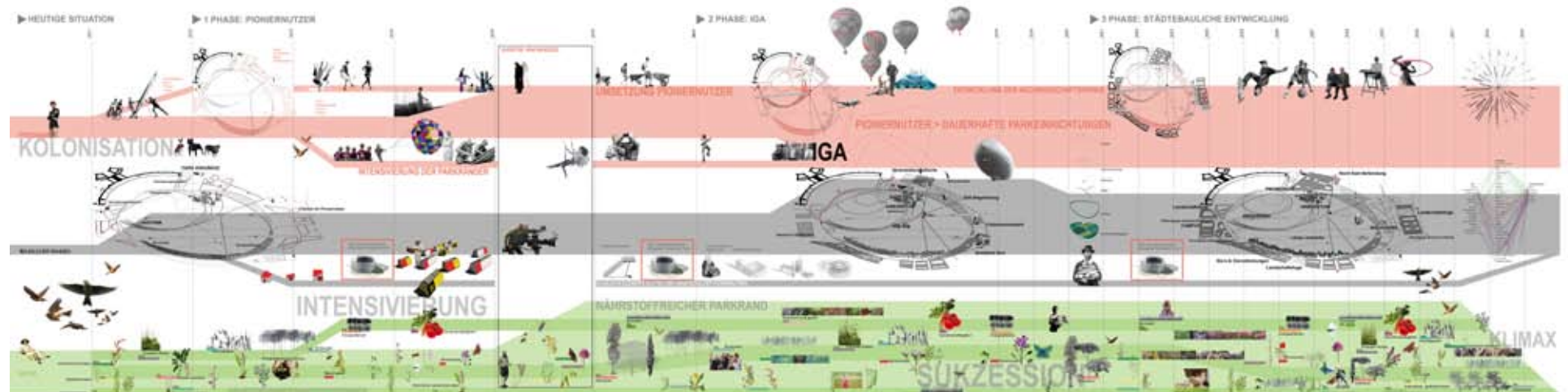Fig. 4.33 GROSS. MAX. (UK), *Park-landschaft* Tempelhof, competition entry, 2011. Timeline or score.

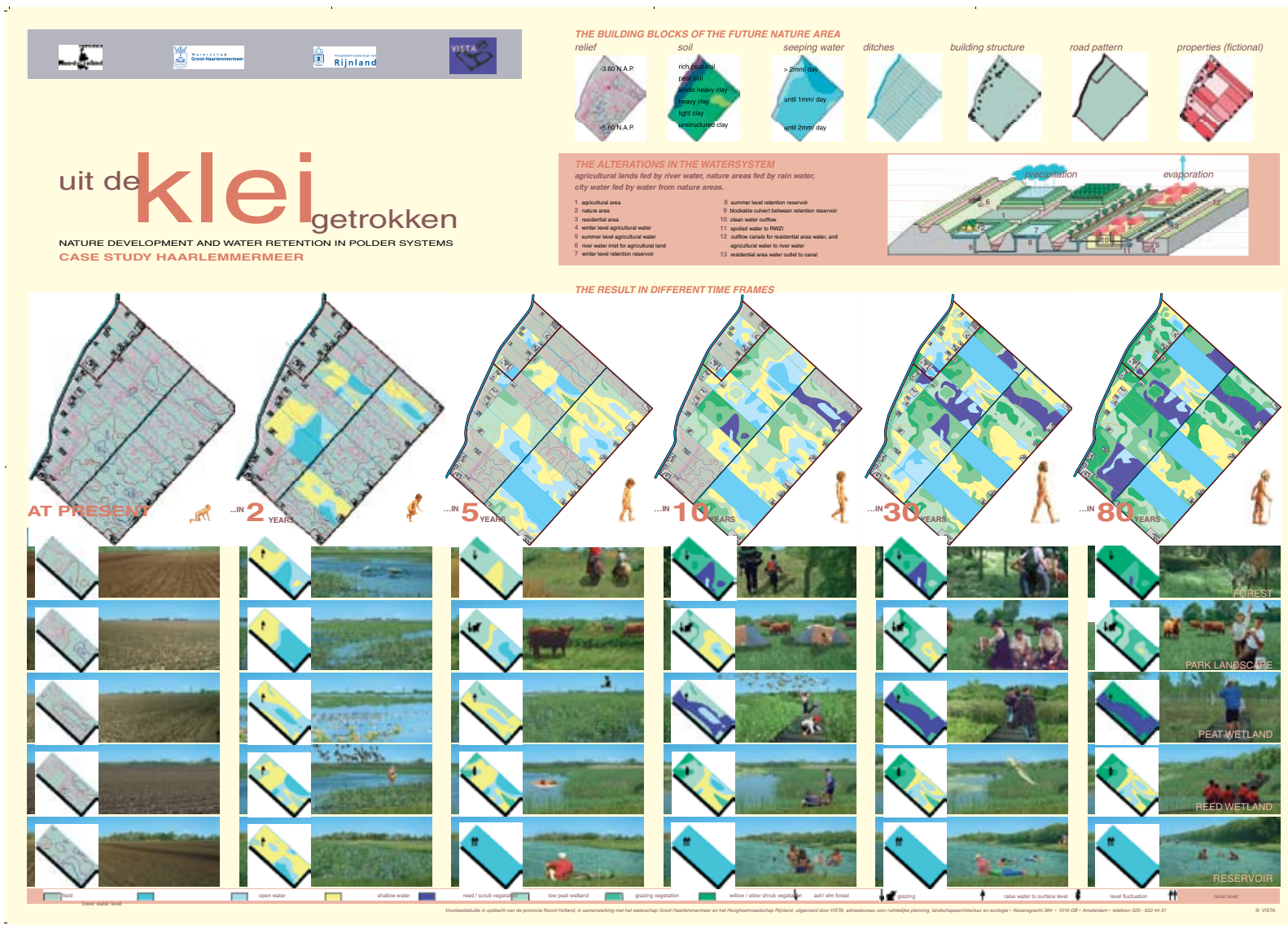Fig. 4.34 GROSS. MAX. (UK), *Park-landschaft* Tempelhof, competition entry, 2011. Still from animated film.

Drawing collection / 34

Fig. 4.35 Buro Lubbers (NL), *Strijp R*, **Eindhoven, study, 2009, parts in realization. Timeline.**

NU

TOEKOMST

| HUIDIGE SITUATIE 2009 | SLOOP EN ONTWIKKELINGSFASE | ONTWIKKELINGSFASE | EINDFASE |

PRIVAAT OPGETILD LANDSCHAP

	aanplant t.b.v. daktuin penthouses	daktuinen penthouses	daktuinen penthouses	daktuinen penthouses
	aanplant t.b.v. daklandschap hotel	daklandschap hotel	daklandschap hotel	daklandschap hotel
			dakconstructie t.b.v. daktuin	daktuinen patiowoningen
			dakconstructie t.b.v. daktuin	daktuinen woningen
			dakconstructie t.b.v. daktuin	daktuinen appartementen
			daktuinen lofts	
	aanplant t.b.v. daktuin lofts	daktuinen lofts		daktuinen lofts

PRIVAAT OPGETILD LANDSCHAP

OPENBAAR OPGETILD LANDSCHAP

OPENBAAR OPGETILD LANDSCHAP

ROUTE DOOR OPGETILD LANDSCHAP

ROUTE DOOR OPGETILD LANDSCHAP

OPENBARE STIJGPUNTEN

OPENBARE STIJGPUNTEN

OPENBARE STIJGPUNTEN IN GEBOUWEN

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GEVELLANDSCHAP

GEVELLANDSCHAP

OPENBAAR LANDSCHAP MAAIVELD

OPENBAAR LANDSCHAP MAAIVELD

OPENBAAR LANDSCHAP ONDERGRONDS

OPENBAAR LANDSCHAP ONDERGRONDS

	landschap		hergebruik materiaal
	routes		duurzaamheid
	architectuur		participanten

THE BUILDING BLOCKS OF THE FUTURE NATURE AREA
relief   soil   seeping water   ditches   building structure   road pattern   properties (fictional)

-3.60 N.A.P.
rich peat soil
peat soil
acidic heavy clay
heavy clay
light clay
unstructured clay
-5.60 N.A.P.

> 2mm/ day
until 1mm/ day
until 2mm/ day

THE ALTERATIONS IN THE WATERSYSTEM
agricultural lands fed by river water, nature areas fed by rain water,
city water fed by water from nature areas.

1 agricultural area
2 nature area
3 residential area
4 winter level agricultural water
5 summer level agricultural water
6 river water inlet for agricultural land
7 winter level retention reservoir

8   summer level retention reservoir
9   blockable culvert between retention reservoir
10 clean water outflow
11 spoiled water to RWZI
12 outflow canals for residential area water, and
     agricultural water to river water
13 residential area water outlet to canal

precipitation   evaporation

uit de **klei** getrokken

NATURE DEVELOPMENT AND WATER RETENTION IN POLDER SYSTEMS
CASE STUDY HAARLEMMERMEER

THE RESULT IN DIFFERENT TIME FRAMES

AT PRESENT   ...IN 2 YEARS   ...IN 5 YEARS   ...IN 10 YEARS   ...IN 30 YEARS   ...IN 80 YEARS

FOREST

PARK LANDSCAPE

PEAT WETLAND

REED WETLAND

RESERVOIR

field   lower water level   open water   shallow water   reed / scrub vegetation   low peat wetland   grazing vegetation   willow / alder shrub vegetation   ash/ elm forest   grazing   raise water to surface level   level fluctuation   raise level

Voorbeeldstudie in opdracht van de provincie Noord Holland, in samenwerking met het waterschap Groot Haarlemmermeer en het Hoogheemraadschap Rijnland, uitgevoerd door VISTA, adviesbureau voor ruimtelijke planning, landschapsarchitectuur en ecologie • Keizersgracht 384 • 1016 GB • Amsterdam • telefoon: 020 - 622 44 31   © VISTA

Fig. 4.36 Vista landschapsarchitectuur en stedenbouw (NL), *Uit de klei getrokken***, Haarlemmermeer, study, 1996. Timeline or score .**

Fig. 4.37a-f Visualizations of possible scenarios in Terschelling study, RAAAF, 2009.

Fig. 4.38 H+N+S landschapsarchi-tecten (NL), *Natuurlijk Afsluitdijk*, The Netherlands, study, 2010. Two scenarios, plan drawings.
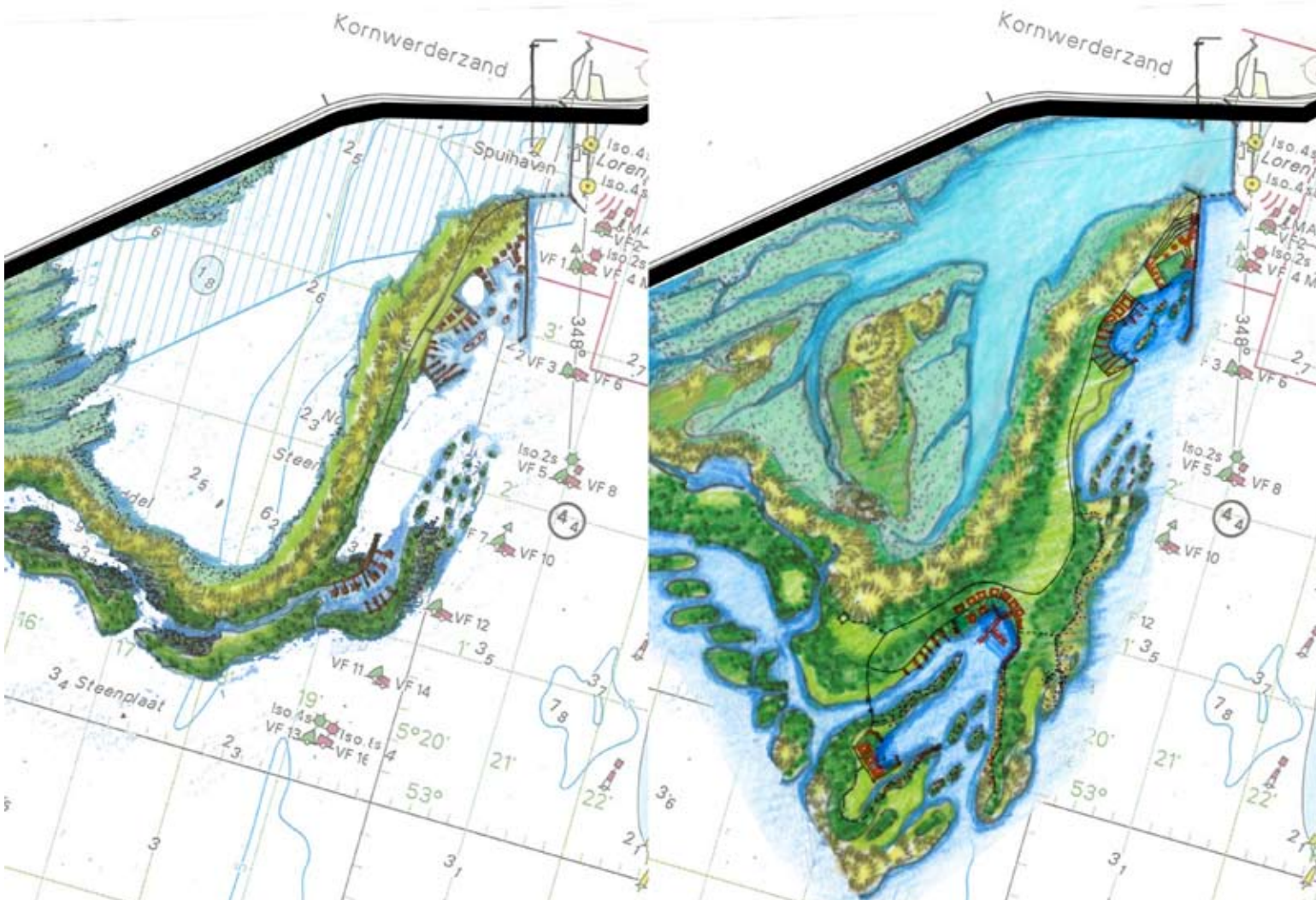
[15] See 't Hooft and Vandoren 2011.

[16] Tufte 1990: 67-79.

Reflection

The issue of time is explored in each thematic field in which landscape architecture operates, from gardens to nature development areas, from parks to urban extensions. In relation to gardens, representation of time is mainly associated with the need for the owner or the public to be informed, especially as designers observe that expertise on the role of time (flowering, growth of plants) on the side of the client is not as obvious as it was in former times. Forestry, water-related designs, and in some cases urban transformation involve expert knowledge. In these fields designers are forced to think about and draw time during design processes, and discuss that with their partners. Especially where there is potential for uncertainty, the role of the drawing broadens. Not only is a narrative presented, but it also serves as a laboratory for the designers, and as a means of verification. In relation to urban open space, drawings mainly show what could happen, over the day, the week and the season. In terms of Zerubavel we have to deal with 'multilinear narratives'; depending on the conditions, very different happenings are possible, both at the same time and over time. Hooft and Vandoren, as discussed in Chapter 3, speak about a time range from $10^{(-44)}$ to $10^{(26)}$. [15] In this collection, a month is the shortest span of time and a century the longest. The first can be found in gardening, related to flowerage, and in temporary use of public space. The latter shows up in forestry and occasionally in designs for disaster prevention, such as coastal defence or peak storage.

Most of the known types of representation as given in Chapter 3 are present in the collection. But as stated before, plan, section and model are not in themselves meant to represent time. They have to be used in series to do so. Tufte coined this as the small multiple technique. [16] In some cases this small multiple technique is used to show the progression of time in its relevant steps. In other cases it helps to present a multilinear narrative. The Lola drawing for Hanover [Fig. 4.5af / drawing 5] displays several options for how the urban space can be used over time. This is certainly not neutral. Are these all options? What is it that they need to be realised? The drawing mainly serves to support a rhetorical argument, and as seductive information for the client and the wider public: See how welcoming this space is! The types of representation presented here are rather conventional; only in some cases are the borders of the system of types of representation challenged. I mention the Vogt 'time slice' [Fig. 4.2 / drawing 2]; the 'slides' from a (suggested) film as in the Okra, VPxDG and H+N+S examples [Fig. 4.7; 4.12; 4.13 / drawing 7,12 and 13]; the H+N+S sectional block diagram [Fig. 4.21 / drawing 21]; and the two Tempelhof 'drawings' (one is a still from an animation film) by GROSS. MAX [Fig. 4.33; 4.34 / drawing 32 and 33]. Some examples raise discussion on the boundaries of landscape architectural representation in a productive way. The two-pencil drawing by RAAAF is an example, and an important experiment in an attempt at coherence between the drawing technique and represented process [Fig. 4.8 / drawing 8]. As the drawing represents a very particular and rare situation, its applicability is not immediately clear, but as a lesson in correspondence between a drawing and what happens outside, it is telling. The Quadrat drawing for Amstelveen [Fig. 4.27ab / drawing 26] is not so much innovative, but relevant in a more theoretical perspective. Design drawings in general explore one's own handwriting, in order to claim authorship. Here, consciously, the vocabulary of the existing map is used, to create an understanding of what the plan provokes in the ex-

isting reality. As such, that poses a question about drawings and their role in communication. The Lubbers drawing concerning Strijp [Fig. 4.35 / drawing 34] is the best example of the urgent need for innovation. It addresses a very relevant problem, and as an approach it is innovative, but as a drawing it does not help a professional or public debate, as also signalled by the designers themselves. A striking example of a total lack of innovation, but a renewed understanding of a drawing is given by DLG [Fig. 4.17 / drawing 17]. To understand a drawing of trees as representing a span of time by the dot and circle -as long as it is clear what year the circle represents- is both obvious and provocative. It questions the precision with which landscape architecture draws and reads its own representations.

These 37 drawings show a cross-section of how thinking about time and drawing time is present in the work of 26 offices as observed in 2012. The number of offices that cover the era before 1985 allow for preliminary conclusions. It seems safe to say that offices that started in the studied time frame 1985 - 1995 introduced drawings depicting time – albeit in a modest way, if compared with the sum total of drawings. Drawings made by these offices since their start do suggest a growing popularity, although the decision to include aspects of time in drawings is today still not a self-evident one, it remains a conscious choice for certain situations. However, the expanding technical possibilities help to stimulate the making of animations and series of images, and it seems that address-ing several moments in time has become quite common. It is tempting to ask if this collection provides a complete overview. Have we seen everything? Do we have a reasonable insight now into the different ways in which practice up to 2012 represented

time? The answer is yes we have, but answering this question is a matter of interpretation. Only a minor portion of the drawings shown here are explicitly linked to time by their title or other ob-jective information. In some cases the office proposed that the drawing be understood as a representation of time, while just as often, it was I who proposed to the office that it could be looked at in that way. Interestingly enough, this was seldom a matter for discussion – the simple point was that the office had not looked at it from the perspective of representing time. Obviously, such interpretations operate in a grey zone. With a slightly different set of criteria, or a different application, perhaps some other draw-ings might have come into the spotlight. This is even more so the case as a tentative definition of a representation of time was developed during the research: Such a drawing should show the development of landscape over a span of time; demand attention to be given to the future landscape, at both specific and specified moments in time; or convey the experience of moving around in time and space. This emerging definition helped to omit draw-ings from the collection for reasons of not matching the criteria well enough. An outspoken condition of the weather suggests a specific moment, but without comparable representations (for example in winter, or in rain) it does indeed not match the criteria well enough. [Fig. 4.39]

The conclusion must be that there is no established system of drawing time. In Chapter 2, I mentioned that this selection of drawings can be related to about half a million drawings these offices made during the period of study, confirming that the rep-resentation of time in drawings is, in quantitative terms, marginal. Another conclusion is that landscape architecture does not em-

Fig. 4.39 Visualization for Oostervaardersplassen, new entry building. RRog stedenbouw en landschap with ZECC architecten, competition entry, 2010.

[17] Zerubavel 2003: 17.

ploy a shared vocabulary on time aspects. However, thinking of Zerabuvel and Lynch we can see glimpses of such a vocabulary. Several terms as used by Zerubavel can be traced in landscape architecture drawings. For example the harvest drawing of Studio Vulkan [Fig. 4.4 / drawing 4] plays with the 'staccato/legato' couple. This drawing underlines the fact that a drawing can suggest a certain density of event and create dramatic expectation - even if that may be a bit exaggerated. The drawing is very implicit of its own 'constructed narrative', and its 'plot' (who exactly is doing what, and at what moment), but most of the drawings can be discussed in that context. In some cases, like the visualizations of RAAAF for Terschelling [Fig. 36a-e / drawing 35], the images express a multilinear narrative, though in itself the reader would need more information on why, how often and how long certain 'paths' in the narrative would happen. In other cases, for example Quadrat's drawing for Rotterdam [Fig. 4.26a-c / drawing 25], the narrative is consciously of a speculative nature. The drawings explore the possible next steps, provoked by a landscape intervention. It is telling that the word 'decline' can hardly be found. Even if worries about the state of landscape are to be easily found in landscape architecture debates, in design drawings landscape architects do not engage in decline, and concentrate only on progress. But as Zerubavel claims, often 'historical plotlines are extrapolated to imply anticipated trajectories'. [17] To put it in other words, landscape architectural plans react to, or are rooted in, real or expected decline. Urbanistic drawings often fit within multilinear narratives. They belong to designs that operate in contexts that are not stable. Landscape architectural plans are often structured as scenarios, or as options. In narratives one would expect certain clarity about who or what is causing either one or another road to

be taken. The drawings as shown here are not clear on these issues. They merely suggest the existence of several options or scenarios. Accompanying text can help to clarify the mechanisms at work, stressing again that a drawing is both an individual object and a necessary part of a larger argument.

For several of the presented drawings, the means of presentation is important. Some drawings, in their original form rather large, hardly hold their quality if reproduced at A4 [Fig. 4.8; 4.33; 4.36 / drawings 8, 32, and 35]. Obviously, all drawings that are simultaneously, or primarily, seen as animation [Fig. 4.7; 4.12; 4.13; 4.33 / drawings 7, 12, 13, and 32] function differently on paper and on screen, although organizing them as different pages in a book allows for a certain control over what the reader sees at any one time. We could also relate this to the technique of a flip book, in which animation and book formats merge. Some drawings only hold their quality if seen at a very large scale [Fig. 4.8; 4.33; 4.36 / drawings 8, 32, and 35]. In cases in which a drawing comprises small multiples, it is of relevance whether the designer wants to control the entire composition. Some drawings are examples of small multiples [Fig. 4.1; 4.3; 4.16; 4.20 / drawings 1, 3, 16, and 20] that are grouped in a composition, or a composite drawing. In other cases the individual drawings are to be rearranged in new situations [Fig. 4.5af; 4.28ae; 4.31ae; 4.37ae / drawings 5, 27, 30, and 36]. This confirms that an interest in the representation of time in landscape architecture drawings also introduces a debate on the nature of presentation in landscape architecture.

4.2 Thinking about time

The drawings as presented in 4.1 can be seen as objects which might be studied in their own right, but in many cases information on their background would be very insightful. This certainly applies to the issue of time, as that is generally an implicit part of the drawings. In general, drawings are part of an argument that is structured by text. This text could include information on time aspects, but more often that would be information for the client or for the public, and would not cover the considerations the designers had in making their drawings. In this study, interviewing is chosen as a tactic to collect opinions, explanations and considerations. [18] Chapter 2 elaborated on the background to the methods involved. The result of the interview section of the project is a book with reports of conversations, and an analysis of these conversations. Here, a condensed report is given.

Interviews enable the exploration of the world behind drawings. What were the considerations of the designer while making the drawings, and more specifically, with regard to aspects of time? Decisions in designing and drawing are always made within a particular context. This context is an amalgam of professional convictions, social beliefs, ideas on organization, and also coincidences. In debates, lectures or written works designers may give insight into the thinking that created the conditions for drawing and designing, but in general this information is not available to us. Interviews as done here aim to map such thinking.

If time is essential in landscape, what then is the role of time in landscape architectural practice, and how does that influence drawing? This larger question has been refined into a series of detailed questions and handed over to the interviewees in a question-naire. [19] If time plays a role in projects, would that be reflected in drawings? Would that be in sketches during the process and/or in presentation drawings? Which representational techniques are preferred? The asking of such questions starts with a broader inquiry: What are your general associations with time in landscape? This is framed by questions on landscape architecture as a discipline, on drawing as a designerly activity, and on the office as an entity. Three hours of conversation, as was the average length, was sufficient for meandering through these topics to discover the important issues for each office. The result is a comprehensive report. [20] Chapter 2 previously described how these interviews are processed to look for, as Rubin and Rubin put it, 'the individual concepts, themes, events and topical markers that speak to your research question'. [21] By that, we 'read' the larger narratives underneath the thousands of statements. In fact, the rich material produced in this research could nurture quite a number of such narratives. Here five narratives are presented. From a first narrative about the general role of time we move to a second narrative built upon opinions on the representation of time, thus revealing the importance of drawing, representation, and designing. Should landscape architects draw time, and if so, how and when? A third narrative is then on the operational side, presenting the client as a central character, and the project as a crucial organizational entity. This is followed by a narrative that tries to detect, insofar as the issue of time relates to certain assignments, certain periods or certain opinions on landscape architecture. The last narrative maps the starting phase of the offices of the main group around 1985. [22] As argued earlier, statements in these interviews are connected to offices rather than individuals, and in general they are paraphrased. In case of

[18] A list of interviews is added in Appendix [1].

[19] An example of a questionnaire used in this research is added in Appendix [2].

[20] This report is available as hardcopy in the archive of the author.

[21] Rubin and Rubin 2005: 208.

[22] In case of quotation, the original Dutch text is given in a note.

[23] Interview with Desvigne, June 2011.

[24] Ibid.

quotes, a reference refers to the specific interview. The entire list of 26 Dutch and Northwest European offices and informants is to be found in Appendix 1. Note that names of offices in this chapter are shortened for practical reasons, but follow the spelling and formatting as used by the offices themselves, hence atelier le balto and GROSS. MAX.

No landscape without time
French landscape architect Desvigne, one of the Northwest European offices participating, puts it very plainly: 'As soon as you plant a tree you deal with time.' [23] Time is an implicit aspect of landscape, but very present. As Lola observes, once one starts listing in which assignments time plays a role, one can hardly exclude any project. atelier le balto states that *all* projects in the office are about time – the topic does not discriminate. Working with vegetation, as atelier le balto always does, simply implies working with time. Yet even if the issue of time does not seem to be so distinct, once *architecture* comes into the discussion, it is. As Lubbers argues, it is the issue of time that marks a vital difference between architecture and landscape architecture. Plans of landscape architects only prove themselves in the future, as they first have to grow. During their growth period they are fragile, vulnerable to sicknesses, droughts, bad maintenance and vandalism. Such awareness influences the design. One starts to leave out things that are too fragile. However, according to Lubbers, it is not only landscape architecture that has a strong tie to time: Urbanism shares that connection, especially today. Hubert de Boer has the same thought, albeit put into different words. Just as architects, De Boer states, you design something by drawing, but

unlike architects you only know how it will look in due time. Bosch Slabbers is convinced that landscape architecture only reveals its richness in the future whilst architecture often loses quality over time. Nevertheless, aspects of time are shared with architecture, as noted by Anouk Vogel and Lola. Weathering is the most obvious shared feature of the passage of time. But as Vogt adds, the idea of weathering in landscape is not easy to show - visualizations can tell a lot, but weathering is difficult to communicate.

Desvigne observes that landscape architects have mixed feelings on the process of growing. Many see it as a nuisance. In his own perception it is a challenging aspect. Even if Desvigne confesses 'to hate young parks for the anachronism between the ready-made furniture and the young trees' he values the growing landscape. [24] Vista states that in forestry plans the juvenile phase often is neglected. But it is precisely that phase that is of great interest in terms of its dynamic power. Quadrat proposes seeing a newly planted avenue as promising the joy of future maturity - it expresses time in itself. Vogt, in some of its projects, densely planted some very small trees. As a consequence, many small trees will die - a natural process of thinning out. Although Oerlikon Park [Fig. 4.15 / drawing 15] became famous, Studio Vulkan confesses not to like the park so much today, as it lacks surprise. The firm's Solothurn project [Fig. 4.32a-d / drawing 31] is a reaction to that: Extremely small trees are planted very densely. This takes advantage of a forestry tradition. Planting is rather cheap, the process is self-maintaining and it provides more surprises. Lubbers has experienced that when working with robust plans, with masses of young trees, they are also beautiful in the first year. Desvigne notes that it is both tree growth and strategic design that causes

landscape to take a long time. Desvigne's Bordeaux project [Fig. 4.29ad / drawing 28] is taking decades to grow as it is a development area; in some parts trees have already been planted, but the industry has yet to vacate other parts. In such cases a long-term commitment from the client is essential.

It is not only about trees. As Studio Vulkan argues, there are many other areas in which time is essential. From an archaeological or historical perspective layers of time are present in almost any site the office works on. Can information about former times be made visible? Can history be experienced? It is not only Studio Vulkan that considers this important. It is also very relevant for GROSS. MAX to work with layers of time; the office is inspired by French landscape architecture. Informant Bernadette Blanchon confirms that French designers, such as Alexandre Chemetov and Georges Descombes, have always been fascinated by 'what was before and what comes after'. [25] What time scales are taken into consideration? If offices consider time in landscape, they implicitly think of a time span of 15-30 years, that being a time frame in which trees more or less mature. Public space is often redesigned within that time frame, and many buildings reach the end of their effective economical life in 30 years. This is nothing new, but it is interesting to note the decisions that designers make on that basis. Studio Vulkan is of the opinion that, given these rather short time spans, it is better to make something that is attractive in the first 15 years. Kristine Jensen sets the limits of the time scales: On the one hand, landscape deals with the long term scale of geology, while on the other it occupies itself with trends in the way that public space is used, and in doing so it follows fashion. The time scale of geology is very abstract, and therefore one of the tasks of landscape architecture is, according to Jensen, to make geological time visible in a way that people can relate to it. Geological time is also mentioned by GROSS. MAX, referring to the geologist James Hutton who established the idea of *geological time* in the 18th century. [26] GROSS. MAX sees a relationship between the Hutton idea of erosion and sedimentation with Fernand Braudel's concept of the *longue duree*. The very long and slow cycles are both essential for an understanding of landscape. It is such an understanding that distinguishes landscape architects from architects. Informant Thilo Folkerts sees a strong sense for durability in German landscape architecture, which may be linked to the notion of the forest. The characteristic opinion in German landscape architecture is that things should last for a long time. To confirm the breadth of the subject, Vogt adds that time is a matter of perception and movement. As movement is an important aspect of time in landscape, the perspective of the walker is of great interest. In the tradition of landscape architecture and in land art the perspective of the walker is essential, but in fact movement using any means of transport should be included – as also becomes clear from a drawing by landscape architect Ken Smith [Fig. 4.40]. The exploration of most landscapes requires the viewer to move around, a way in which time in landscape may also be experienced. For that reason models, in Vogt's view, are a very relevant representational technique for landscape - one can 'walk' around them and, with a tiny camera, simulate the movement through landscape. [Fig. 4.41]

It was remarked upon in some conversations, for example the one with DLG, that any design process in itself is an issue of time, and in landscape architecture many design processes last for several

[25] Interview with informant Bernadette Blanchon, March 2011.

[26] *Geological time*, also addressed as *deep time*, is developed as a concept by the Scottish geologist James Hutton (1726–1797). See also https://en.wikipedia.org/wiki/Deep_time.

Fig. 4.40 One out of six visualizations for *Orange Council Greater Park* **competition entry, Ken Smith Workshop 2005. Each visualization refers to certain moments. Caption by the author: 'Most anytime: A driver enjoys the park's orchards and big orange hot-air balloons on the way to work'.**

years or even decades – an awareness that was also visible in the work of Repton and Pückler Muskau. DLG refers to land consolidation projects, which take so many years that the agriculture system changes in the meantime, resulting in a realized situation that is immediately redundant. Many projects are therefore typically of their time, which is sometimes positive and sometimes negative – if times have changed and the project is no longer suitable. The fact that landscape takes so much time to develop, and is very much related to political discussion, restricts the artistic dimension. DLG is of the opinion that, for that reason, authorship has less significance in landscape architecture in comparison to architecture. As MTD observes, plan processes easily take time. MTD is already 20 years engaged in the Zuiderpark, Den Bosch. Interestingly, it is still the drawing of 20 years ago that guides the transformation today. [Fig. 4.42] Time in landscape also fundamentally relates to landscape ideology. VPxDG take an interesting stand, asserting that landscape is a product of power, and a landscape design should allow these powers to do their work. Processes of erosion, succession, appropriation and weathering should be welcomed and even consciously solicited. VPxDG not only addresses physical powers like erosion, but also the actions of inhabitants. In landscape, many people are in charge. What you leave behind as designer is the starting point for others. But this notion is full of tension: As a designer, one wants to have a say in the long term process and at the same time it is necessary to draw back and leave it to others.

Opinions or considerations, as reported here, in relation to most of the offices, are not laid down in texts. A rich world of thinking unfolds itself, but, as many of the interviewed designers men-

Fig. 4.41   Model-making as the core of the project atelier in the Vogt office, Zürich.

tioned, it is not a topic that is explicitly discussed very often. Only in incidental cases did sources such as those mentioned in Chapter 3 enter the conversation - Repton, Olmsted, Halprin, Corner or Balmori apparently do not structure the thinking of practitioners. Even if none of these interviewees is, referring to the Bijhouwer-Doorenbos debate, a nurseryman, knowledge of the growth of plants and trees and the change of landscape is considered self-evident. At the same time, however, the issue is considered to be essential in defining landscape architecture. That the inherent character of change and the need to grow is both a nuisance and a source of inspiration is telling: processuality, as Raxworthy put it, may be part of landscape, but how landscape architects deal with it is a matter of opinion.

[27] Interview with RAAAF, March 2011.

[28] Ibid.

Fig. 4.42 **Masterplan for Zuiderpark, Den Bosch. by MTD landschapsarchitecten, 1996?. The drawing guides the transformation process upon today.**

Time and representation

'Aspects of time can be displayed with any representational type', states RAAAF, 'the choice mainly depends on what public you want to reach.' [27] Given that for many designers time is an obvious dimension of landscape, do designers think that aspects of time should be represented? If so, should it always be done, or only in some categories of assignments, or in some phases of a project? In general, the answers are ambiguous. Often, the necessity of drawing time is questioned. It does not always need to be done, but should be related to the type of assignment. Projects of H+N+S for example, often involve expert knowledge on ecological systems. Making a drawing is a way of exploring such systems. The practice uses drawings to test out how certain interventions would affect the landscape over time. However, Vista turns this argument around and states that a drawing is not needed for the designers themselves. The knowledge is already there, by observing and photographing what happens in time in areas of nature. So if a drawing depicting time is made, it is because the client or the public asks for it. Vista thinks landscape architects have enough knowledge to predict what will happen, given a certain starting point. Though, as Vista adds ironically, the final result will, without doubt, be different from your expectations, but even that is part of the knowledge one has. Studio Vulkan fears that visualizations of moments in time become too precise too easily. Such precision denies the fact that one cannot be particularly sure of the outcome of processes in which nature takes part. One could even question whether the designer should want to know at all, as there is also an element of surprise. However, in order for plans to succeed, the public must obviously be informed of its key features. This implies that there is a difference between an implicit body of knowledge and its presence in drawings that communicate with the public. RAAAF alludes to this communicative aspect: 'If the message is centred about some sort of time mechanism, time should be represented. If not, there is no necessity to do so.' [28] Hosper argues in the same way: A reason to show aspects of time would be the complexity of a project, as in their Wieringerrandmeer-design. In this plan a new lake is proposed, in combination with new housing. This huge project has to be phased in several steps, and every step must be able to function independently. In such cases, it is necessary to prove that each stage works smoothly. In fact both RAAAF and Hosper suggest here that drawings are instrumental. They serve to reach specific goals. There is no objective need to deliver representations of time. With regard to a park design that started almost 20 years ago, DS contemplates that the various changes over

time the office had expected were not drawn. The drawing only gave an idea of the final stage. But as DS reflects, that was normal then; today one would probably approach it differently.

On the question of whether or not time should be represented, the answer often starts with 'we would like to draw time, *but...*'. This often refers to the client or the public, and on the difficulty of representing time. Although the technical means are available -Chapter 3 has already shown this- such means come with specific problems. For example, the medium of film is spoken about as an interesting representational possibility. It is, however, seldom applied. Explanations range from 'too costly' to 'lack of experience'. Okra in the early nineties had many technical difficulties with a film for their Breidscheidplatz competition entry [Fig. 4.7 / drawing 7], and in the end only used some stills. But this is changing. Production processes are lighter today, and Vogt observes that in recent years films are, quite simply, a requirement in many competitions. In its Tempelhof competition entry [Fig. 4.34 / drawing 33] GROSS. MAX used the medium of film to explain the development over time, and also to create a narrative on how this development could take place. In such cases, however, presentation is questioned. Film does not fit within the tradition of presenting drawings, nor in a book, so offices that are experimenting with film also experiment with ways of presenting ideas.

Relating the discussion to the design process, some designers speak about the time it takes to make a drawing. Whereas many designers see speed as the first advantage of computer drawing, Anouk Vogel chooses hand drawing because of having little time. In her opinion an A4 sketch with a black fineliner is much quicker than a computer drawing, and for most stages just as effective. [Fig. 4.43] For a project in Aachen, atelier le balto returned to its project site every year for five years. Only a rough drawing was made to start the project. Each year the necessary interventions were defined and inserted into the drawing. This questions the seemingly obvious idea that a drawing is a static object that, once finished, will not change again - drawings in that sense are instruments in a larger process.

Are some types of representations better suited to the job of depicting time? Visualizations may be the most effective in this respect as they are able to show the outcome of a design at a certain moment. At the same time, visualizations are spoken about with great reservation as they often suffer from superficiality. If such drawings must describe something about a specific moment, it should be done in a critical, precise and coherent way, and that is often not the case. Lola, Okra and Kristine Jensen discuss urban open space projects and the problem that visualizations in such cases mainly show options instead of concrete information on what exactly will happen at a certain moment. For that reason, visualizations are often combined with diagrams. Most offices give no indication of the year for which a drawing is made. In general, offices understand visualizations as describing scenarios that will exist after 15 years. Why is an image almost never given of the outcome after two or three years? The pragmatic answer of Hosper is that such an image would disappoint the client and the public. [Fig. 4.44ab] Are these images then anachronisms, given that image ingredients not belonging to the immediate design (like cars, other buildings or activities) are generally from the year the drawing was produced? That may be the case, but Hosper argues that if
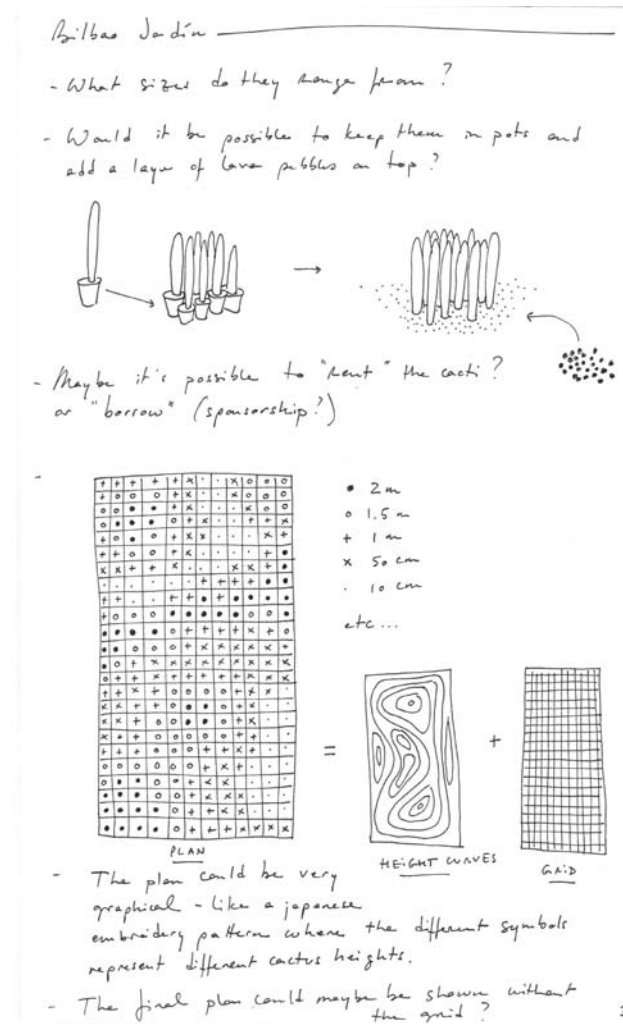
one were to try to predict how we will play, move and live in 2030 -to reach an internal coherency within the image- this prediction would raise too much discussion in itself.

To show time is not the main goal of a plan drawing as a type of representation. In particular cases however, one can read a single plan drawing as pertaining to time. DLG underlines that a plan drawing of tree plantations [Fig. 4.17 / drawing 17] although mostly not read in that way, in fact embodies very specific information on time. The dot in the middle indicates the very young tree, and the circle the mature size - a typical example of implicit knowledge, thus demonstrating the awareness of the designer. Plan drawings have an immediate meaning in time when they are used as a series showing successive steps, a technique used by most of the offices. Quadrat, for example, sees it as an obvious technique in the context of urban transformation. This seems to contradict the previously mentioned statements that the representation of time is difficult. Apparently, such series are not recognized as representations of time. Coming back to the circle and dot, as discussed by DLG, the drawing does not make explicit which year the circle represents. DLG would take into account a time frame of 60 years. Compared to other suggested time frames in drawing, this is by far the longest one. But even the average answers, as mentioned, range substantially, from 15 up to 30 years. The role of the diagram as a type of representation seems to be growing, and certainly when related to the issue of time. GROSS. MAX refers to diagrams in the Tempelhof competition [Fig. 4.33 / drawing 32], but the practice did the same in other competitions. Schematic drawings that in the eyes of GROSS. MAX 'could be called a diagram' show what would happen over time and who would be responsible for that.

Fig. 4.43   Hand sketch in early stage of Cacticity project by Anouk Vogel, 2009. Black fineliner on standard A4 paper.

Fig. 4.44ab Study for visualization by Hosper landschapsarchitectuur en steden-bouw. Estimated situation in 15 years' time and estimated situation after only 2 years. The second drawing was made by Hosper for this research in 2011.

[29] GROSS. MAX admits that such diagrams are very complex, but this is the likely reality of this type of plan.

As we have seen in Chapter 3, the theory of representation suggests that a certain set of drawings is essential to represent a plan, and a taxonomy of types of drawings helps to structure this. These interviews reveal that the aspect of time has an ambiguous position. In terms of roles of drawings, or phases in a design process, a distinction is made between the designer and the client: who needs a drawing of aspects of time, and when? At the same time, the inadequacy of theory is addressed. There is no clear framework in which to do it. Film may be promising but comes with difficulties, and there is also a problem to solve in relation to the issue of too much precision. It is telling that the score, introduced by Halprin as a necessary addition in 1969 specifically to address the aspect of time, plays no role in these interviews, although some designers, when asked, recognize some of their drawings as a potential example of a score.

The operational side

Both the client and the project are crucial when considering the issue of time; according to Studio Vulkan: 'There are reasons not to be too outspoken on the theme of growth and dynamics towards clients as they prefer certainty above all.' [30] A gross simplification of statements in the interviews would run like this:

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[X]: Do you often make drawings representing time?
[Y]: No.
[X]: Why not?
[Y]: Because the client doesn't pay for it.
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[29] Interview with GROSS. MAX, February 2012.

[30] Interview with Studio Vulkan, January 2012.

[31] Cuff 1991: 35.

[32] Interview with Copijn, April 2011.

[33] Interview with Vista, June 2011.

[34] See http://www.landezine.com/index.
php/2016/03/toni-areal-pixel-park-by-
studio-vulkan/.

[35] Interview with Grant, February 2012.

Even if this is a simplification, it is relevant as the figure of the client turns up surprisingly often in the interviews, and in most cases in a restrictive manner. Clients have, in the perception of designers, specific issues with which they are occupied - and these issues may differ from the designers' priorities. The introductory quote reveals an interesting tension. Designers think in a strategic way; dealing with the client is a complex balance between delivering information and *not* delivering information. One could even conclude that designers think about dealing with the client in a manipulative way. Obviously, from the client's perspective, another story may be revealed, but that is not under examination here. Dana Cuff comes to mind, as she located the client in 'the centre of the dilemma', when speaking about the dialectics between art and business. [31] The issue of the client is generally spoken about with certain awkwardness. A recurring complaint is that drawings related to time are not paid for. As Copijn states, 'clients don't ask for it, it takes time and time is money'. [32] As Lola and Copijn experience, clients are not very willing to accept such 'extra' ingredients in the offer. Vista is rather sharp: 'Clients are opportunistic; they want it all - but when it comes to paying for it, it is not that essential anymore'. [33] All interviews took place in a time when the economic crisis was not directly affecting landscape architecture, but even then it was said that not being paid meant that it would not be undertaken. This in itself is a revealing argument. It is a general habit of designers not to please their clients exactly in the way they would expect. Most designers would not withhold a nice composition, even if the client is not paying for it. The client has to be seduced! But apparently, designers don't trust the fact that clients would be easily seduced by the issue of time. As was explained already, the figure of the client

transformed over the decades, from an individual to a company or an organization, and from private to (semi)-public. Several designers note that this caused a decrease in awareness of time issues on the part of the client. As Desvigne states, working with time is laborious, and the client first has to be convinced that this should be strived for.

Studio Vulkan learned to look for arguments that suit the client. Arguing that something reduces costs, supports ecology, or creates identity, works well. The office does not deny the opportunism in this: One needs such rhetorical tricks. In the best scenario, the trick is to combine this with the delivery of a nice design, as shown in a proposal in which Studio Vulkan introduced wooden boxes filled with earth and seeds. In due time the boxes fall apart resulting in soft 'hills' of earth and herbal vegetation - 'Here, the much-cited processuality of landscape architecture has been reversed: the process begins at the apparent end – with decay'. [34] [Fig. 4.45] The cheap and immediate result for the short term convinced the client, and it helped the designers to get what they wanted to have in the long run. This reflects a paradox in the designer's position: On the one hand the designer tries to meet the client's wishes, and on the other hand he pushes the client towards what the client should wish for, in the eyes of the designer.

Some offices mentioned that the maintenance plan is a document that invites one to think about time. However, as it is stressed for example by Grant, it is not easy to be commissioned for this: 'One should be happy when allowed to make the maintenance plan'. [35] Copijn confirms that often clients do not want designers to make the maintenance plan as it might extend the designer's

Fig. 45ab Studio Vulkan, *Toni Areal*, **Zürich, 2014. Two photographs displaying the development over time. Photographs Daniela Valentini.**

influence too much. In Bordeaux, Desvigne had the chance to be involved in the maintenance of the area for many years, but this doesn't happen very often. It mostly occurs in commissions in the public domain, as such institutions are used to considering longer time frames. atelier le balto is one of the only offices involved with the maintenance as well as the design, and this office indeed sees maintenance as an option to design with time. How maintenance relates to design, and how designers are involved in maintenance, is a larger theme that seems to be rather unaddressed. Vogt instructs the client on maintenance, as often time is not 'allowed' to express itself, referring to a project in which dying young trees and falling leaves were part of the narrative, and heavily discussed.

As several interviewees mention, the client today is a complex team representing many interests. There is often a grey zone between the client as the institution that pays for the job and a bigger group of stakeholders. The level of understanding of design problems will vary, and therefore so does the strategic approach the designer must take. For that reason the designer himself, in many cases, doubts if drawings about time should be on the table for discussion. Will showing time aspects clarify or confuse discussions on the design? Some designers fear the latter. Studio Vulkan has a special stance on this; the office boldly states that it doubts if even the designer himself knows enough about the development over time. If this is the case, it is best to avoid speculation. Another viewpoint is that of Quadrat. This office observes that drawings that are too explicit on the development over time take away room to manoeuvre, and such flexibility is essential for a good relationship with the client and the public. For that reason, Quadrat oc-

[36] Additional conversation with West 8 on the Schiphol project, April 2012; additional conversation with Lubbers on Strijp, August 2012. Interview and field trip with Jack Hock, Trudo Housing Corporation, September 2012; additional conversation with Hosper on Zuiderburen, April 2012. Interview and field trip with Rein Bergsma (formerly at municipality of Leeuwarden), August 2012; additional conversation with Desvigne on Greenwich, February 2014; additional field visit with project designer Berdie Olthof and Ronald Buiting, advisor for forestry aspects, October 2012.

casionally uses water colour; the atmosphere of such drawings is open and not decisive. As VPxDG experienced, in more complex projects the client and the public often do not have an overview of all steps in time, and can only be engaged if convinced by the immediate result of the first steps. Plan elements that take a long time to develop can demotivate the stakeholders. At the same time, drawings that inform on time issues in a clever way may contribute to awareness and a sense of urgency. One reason for making representations of time would be the need to organize the interventions in time. For Desvigne organizing the interventions over time is essential, as seen in the Bordeaux project [Fig. 4.29 / drawing 28]. Bosch Slabbers has a contrary statement: Clients will give a landscape architect -as an average- only one chance in a few decades to make a design for a certain place. Therefore, no design action should be postponed to the future: you do not have any certainty it will be executed.

Projects

In several interviews, and later additional conversations [36], projects were discussed as an expression of 'the operational side', the project being the organizational entity that encloses the entire range of brief, contract, design, decision and making. Specific projects were spoken about in order to examine how the phase of drawing and designing can differ from the phases of deciding, making and maintaining, or how the length of the planning process may introduce new elements that change the course of the plan. This is a very relevant topic in relation to time, as the entire debate on how to represent time in drawings more or less supposes a stable condition for the making of plans, which is very

often not the case. Lubbers's Strijp S project is a good example of how design, drawings and reality can converge, and how the issue of time 'escapes' the drawing, also, as Lubbers notes, because the office had no examples of how to catch such processes in drawings [see Fig. 4.35 / drawing 34]. Lubbers was active in a series of smaller commissions in this former industry area. The housing development corporation searched for (temporary) initiatives, to attract new users. One of Lubbers' commissions concerned roof gardens. These gardens were partly located at existing buildings that were to be renovated, and partly at new buildings. [Fig. 4.46ab]

Fig. 4.46ab   Buro Lubbers. Typical Philips building and view from roof garden. Situation 2014.

As the planned new buildings were postponed due to the decline in the economy, the project goal shifted from roof gardens to a temporary idea for the footprint of such buildings. Later on, the depth of the crisis once again required an update of the master plan, and the footprints were no longer kept. A temporary program lost its relevance. So the position of the landscape architect in this project is rather fragile: Most of these temporary proposals exist only in sketches. However, two roof gardens were built. In such a context, design drawings mainly provide a starting point, preferably with cheap and simple first steps, while having the capacity to mobilize bigger changes. As Lubbers puts it, such questions exceed the boundaries of the profession of landscape architecture as it is by necessity about entrepreneurship. At the same time, landscape architects are considered to be capable of contributing due to their capacity to visualize what *could* happen, and for their broad approach to public space. In 1994, Hosper was commissioned to draw the Leeuwarden extension, Zuiderburen, comprising 1500 houses. As was usual in the Hosper office, the project started with a brainstorm in which simple sketches were made. [37] [Fig. 4.47] One of these early sketches helped to structure the process that ensued. Initial drawings were made by hand. Drawings with strong colours made with Carisma coloured pencils are clearly part of the Hosper vocabulary. [38] The *Zuiderburen* project represents a typical Dutch phenomenon: Urban assignments are taken over by landscape architects. The main idea is that the landscape architect provides a landscape setting in which the city develops. The building phase of an urban extension takes a long time. The idea of providing a landscape setting is an important landscape concept. A forest could be such a setting, as was claimed in the *Zuiderburen* project. In due time the forest gives the growing new city a land-

Fig. 4.47 Hosper landschapsarchitectuur en stedenbouw. Sketch made by first brainstorm on the project, 1994.
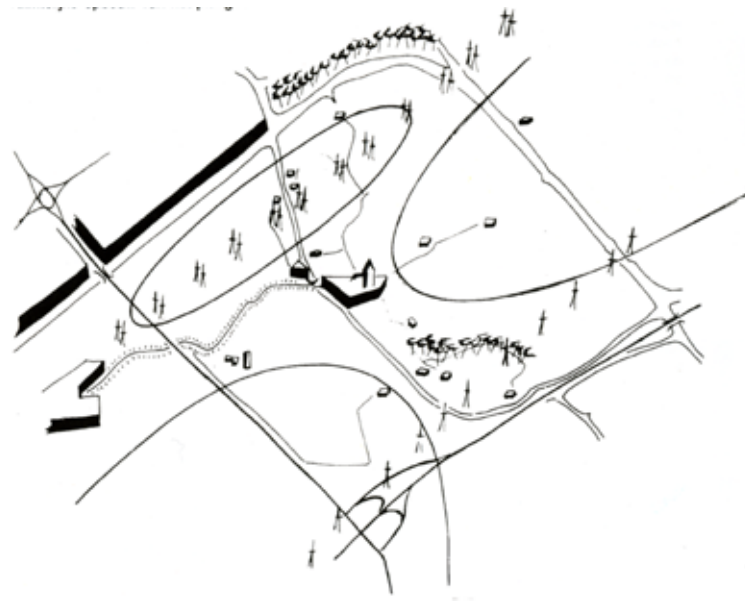
scape identity, and could accommodate future programs. In Dutch planning this was denoted as *voorinvesteren*, or pre-investing [see also Fig. 31 / drawing 30]. However, planting a forest in the early years, giving the small trees some time to grow before the first inhabitants would come, requires a stabilized plan in which no big changes will occur. One has to be sure that the fragile young trees are not harmed by building activity. Concerning Zuiderburen, in retrospect this 'future forest' turned out to be highly rhetorical. The narrative of this project has it that a pre-investment in landscape was made, but as Hosper also acknowledges the reality was quite

different. In 1995 the office produced a document on the forest to be planted, but the city of Leeuwarden chose to be pragmatic by keeping the northern part of the central forest as a soil depot until 2010; a decision that would overrule any drawing independent of its time aspects. [Fig. 4.48] The aspect of time for that reason is not as strong as the narrative of the project suggested. This reveals an interesting aspect: A project has a reality, but can independently serve as a precedent in its idealized form.

To some extent, these comments on projects are anecdotal. One could even say they are trivial, as such things happen when projects are designed and built. But particularly in the context of a a debate on landscape architecture, representations and time this is crucial: we need to know the story of the project to be able to understand why drawings showing aspects of time were there (or not), and how they operated in relation to the reality of the project. Desvigne's *Greenwich Millennium Park*, realized in 1998, is part of the regeneration of a former industrial area in London. About 20% of the area of 120 hectares was re-designed by Desvigne. The plan introduced an urban forest. It is not easy to convince clients that the long-term involvement of the designer is a necessary part of a project. It was expected that each new development stage of Greenwich would pose new design questions. The central drawing [Fig. 4.16 / drawing 16] suggests a steady development via several stages, valuable in themselves, towards the mature landscape. In reality, the office was not permitted to be involved in that process. For that reason, the actual development of Greenwich is only a partial realisation of the designer's drawings. The H+N+S Noorderbos, completed in 2002, typically is a project in which the objectives changed substantially during the design process. The

Noorderbos was developed on a former water purification area [Fig. 4.49a-c, 50]. It is a mix of environmental regeneration, leisure facilities and forest. A sand pit to provide sand for a new road, and a main electricity transport system had to be integrated. The brief for the project changed substantially over the course of the years, and the design process lasted almost a decade. The aspect of water infiltration was taken out of the brief, for fear of pollution, whereas the aspect of forestry became more important. But perhaps the most interesting aspect of this project is that even if forestry is a time-based practice, hardly any drawing showing time aspects was made. As the office put it, expertise was present in the team, and was not necessarily needed in drawings. Visits to other forests and
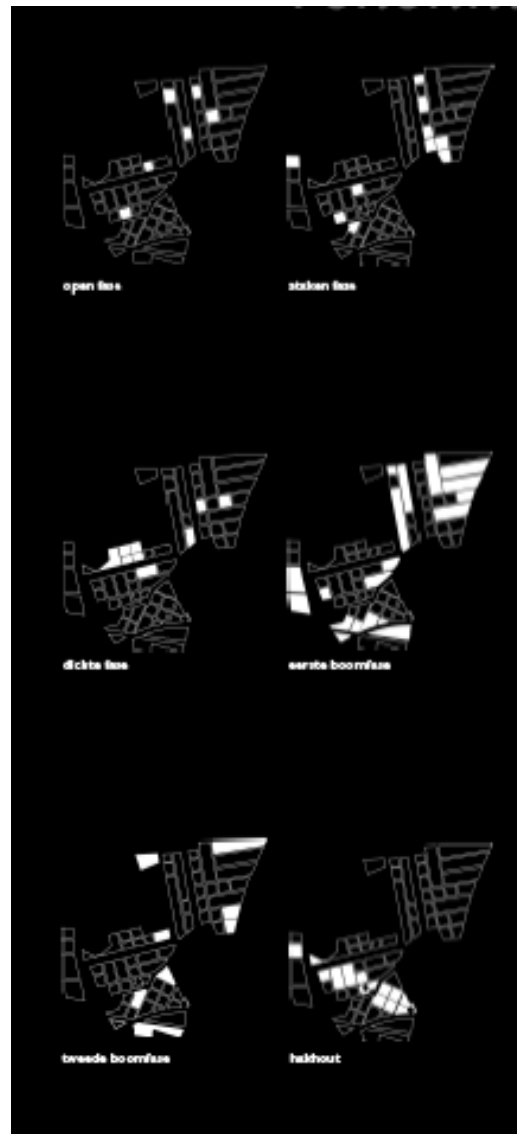
Fig. 4.49a-c   Noorderbos as designed by H+N+S landschapsarchitecten, situation 2013. Photos by Johan van Grinsven.

Fig. 4.50   H+N+S landschapsarchitecten, *Noorderbos project*, **2001. Diagram displaying the arrangement of forest types.**

[39] As spoken about during a field visit October 2012.

[40] See also Heidemij adviesbureau and West 8 1992.

exchange of photos guaranteed a shared understanding. A less obvious explanation for the absence of time drawings is the slight resistance in the team to explore time. As Berdie Olthof expressed it, landscape architecture is also about certain surprises. Here a starting point based on expert knowledge is created, enabling the forest to unfold itself. This unfolds, to some extent, as expected but at the same time is driven by its own dynamics. A drawn prediction would 'spoil' the surprise. [39] West 8's 1994 *Landscaping Schiphol* not so much diverged over time from its original aims, but reveals how complex is the relationship between drawing and reality. The 'landscape strategy' -a characteristic novelty of this time- aimed to brand Schiphol as a green airport by giving it a rich green setting, while at the same time providing an adequate response to the permanent changes that occur at an airport. [40] [Fig. 4.51a-c] As Schiphol shows an endless number of leftover spaces, either permanent or temporary, it was proposed that such spaces would be filled with masses of young birches that would provide a green 'haze'. The designers came up with *Betula pubescens*, to be planted densely and to be thinned out in three steps - if they were to survive the dynamics. [Fig. 4.52] The West 8 Schiphol project is a rather unusual one, for the office and for landscape architects in general. What is called the Schiphol project in fact is a series of projects -up to now numbering about 70- for which the basis was given in the landscape strategy. In current Dutch landscape architecture a long-term commitment of 20 years is quite exceptional. Although Schiphol is highly dynamic, it is exactly its pragmatism as commercial organization that supports West 8 to go on. In terms of landscape architecture, the project is relevant for its radical and strategic reasoning in which the permanent planting and removal of birches is key. The project is too pragmatic to require finished

Fig. 4.51a c   West 8 Urban Design & Landscape Architecture, *Landscaping Schiphol* **project. Situation 2014.**

drawings. In fact, the idea is so simple that many of the changes do not even require a drawing from West 8 at all. The necessary instructions can be given by the internal services of Schiphol using the guidelines made by West 8. If West 8 is involved in new Schiphol interventions, small documents suffice to communicate them to the client. The real estate department, which acts as the direct client, is experienced and there is no need for slick visualizations. Simple plans or sections and a reference to the core landscape strategy document are sufficient. These minimal plans do not form part of the public architecture debate. Therefore, almost no drawings are available that represent aspects of time. It is not deemed necessary; the knowledge is embedded in the project. The project has been documented very well in photographs, and with the exception of initial diagrams one could say that every change is drawn 1:1 in reality. So the irony is that here we have a project that is extremely engaged in aspects of time, made by an office known for its skills in representation, and in contrast with that,

Fig 4.52 West 8 Urban Design & Landscape Architecture, update *Landscaping Schiphol* **project, thinning strategy, 2007. Diagram.**

or even as a consequence, the actual project reality lacks adequate representations of time.

Paradoxality

Perhaps this is the narrative that fully reveals the paradox that is 'drawing time'. It may be essential for landscape, it may even be the aspect of landscape that helps in distinguishing landscape architecture from other disciplines, but that does not mean that dedicating drawings to the topic is always *appropriate*, or really helps to control over time. In contrast to 'landscape time' there seems to be 'project time' - and this type of time escapes the designer's control, and is thus not present in drawings. At the same time, designers acknowledge that hardly any project is not influenced by this 'project time' in which the aims of the project change, and new interventions have to be made. In relation to the client or the larger public, both the aspects of time and drawings of time seem to have a difficult position, as they may muddle up the debate, or restrict the designer's room to manoeuvre. It is of interest that 150 years ago Humphry Repton expressed his thoughts on this in relation to the Red Books and how they performed as mediators between the designer, the client and the actuality. Today's situation shows that designers are still very aware of this mediating between their work, the client and the public, be it with drawings or *without* drawings. These interviews suggest that certain implicitness -as Repton also acknowledged- is essential, and that apparently the issue of time falls in this category. At the same time we can refer to Olmsted. He made the issue of time more or less explicit in his texts. The making of one project book or one drawing at one moment would not suffice to guide the process. In that sense, the
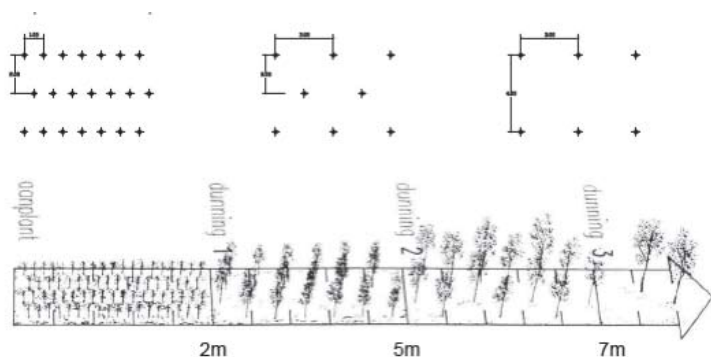
[41] Interview with VPxDG, March 2011.

issue of time is part of a general strategy to manage a process, in which drawings are only one of the means, thus confirming that we must distinguish between drawings and texts or internal considerations. The absence of time aspects in drawings cannot lead to the conclusion that designers fail to take time into account.

Types of assignments

'If one designs a garden, one certainly has to represent time', states VPxDG, 'as the owner needs to know that gardening is engaging permanently with change.' [41] The type of assignment matters when speaking about depicting time. While VPxDG would say that drawing time in the case of gardens is essential, as the owner needs to be aware that when caring for a garden one is permanently dealing with time, Anouk Vogel however thinks that the growth of trees is so evident for every owner and user of a garden that drawings are not strictly needed. Gardens are mostly associated with private clients. Experienced garden designer Pieter Buys notes that generally these private clients are aware that things have to grow and take time, so there is no specific need to show that in drawings. If one can assume embodied knowledge on the side of the designer, and tacit understanding from the client's point of view, no drawing is needed. Speaking about the garden in which the office is situated, Latz points out the beauty of the combination of hedges and roses, which are also extremely beautiful in winter. [Fig. 4.53] But one would not hand over a winter image of roses, as that in general is not considered very attractive. It recalls the observation in Laird's work on the preference of summer in gardening.

Assignments related to forestry and water have an evident time aspect. Dutch offices like H+N+S, Vista and Bosch Slabbers often work in such fields. As Bosch Slabbers notes, the dynamics of high and low water are essential in such assignments – so one simply has to draw them. This is not only considered a service to the public, but also a means for the office itself to gain insight. Forestry is essentially about time. As Lola and VPxDG put forward, designing a forest is at the edge of regular landscape architectural knowledge and for that reason drawings are vital for developing and testing knowledge while designing. H+N+S states that in such projects the office itself also has to generate insight. This seems to be an important point. As such projects are at the edge of regular knowledge, both exploring time during the design process and communicating the aspect of time are essential. Apart from drawing, forestry forces designers to make decisive choices in terms of time. Vista, for example, has no affinity with the traditional forest planting strategy that relies on planting whips. In the eyes of the office, this results in rather boring landscapes. Succession, starting from scratch or helped a bit with sowing, is more dramatic and presents itself as something that is already part of the design.

In urbanism time is important in a different way. As Lubbers says, urbanism is strongly related to uncertainty. Lubbers speaks of urban 'fields' that have to be programmed within a stable structure [Fig. 4.24a-d / drawing 23]. In urbanism today the idea of a 'final image' or blueprint, describing what the plan will result in, has lost its position of importance. Different from previous times, there is no rigid final image anymore. Karres + brands tend to use the word 'scenario' to describe an urbanists approach to how a rich main structure is designed, leaving open what is to be built

Fig. 4.53 Garden at Latz office, Ampertshausen, winter image, 2012.

[42] See Reid 1683 and Evelyn 1664.

[43] Interview with Quadrat, June 2011.

[44] Interview with MTD, May 2011.

in between, and only defining some basic rules. Karres + brands works with the idea of 'pioneers': How to make an early investment that attracts other investors? The Lammenschans urban transformation project [Fig. 4.22a-e / drawing 22] contains a nursery in which trees for later phases are raised. The nursery will be a playground in the future. Vogt is also increasingly interested in integrating a nursery in its long term and large-scale projects, as it is a logistic challenge to provide trees of a certain size. We can relate this to the Bijhouwer/Doorenbos exchange, but even more to the theory of gardening as put forward by the likes of Reid in his 1683 gardening handbook *The Scots Gard'ner*, or the theory of forestry as handed over by Evelyn in *Sylva or A Discourse of Forest Trees & the Propagation of Timber* (1664). [42] Hosper frequently includes larger water bodies in its urban projects [Fig. 4.31ae / drawing 30], as water bodies can be realized quite quickly and have an immediate effect - in contrast with a forest, which takes a lot of time and has to be planted as early as possible. Okra, referring to its Croydon project, is aware that only parts of the plan will be realized soon, and many temporary solutions are needed. These temporary solutions should also stimulate the development of a subsequent part, and seduce investors. In fact, as Okra admits, plan drawings have limited meaning in such projects, as the future situation is unclear. [Fig. 4.54] Nevertheless, the office still relies on plan drawings, mainly as it feels it has no better way to do the job. Quadrat positions the thinking about time in a Delft urbanism tradition that looks at plans as growing entities. For Quadrat, it is very obviously appropriate to draw series of plans showing development over time. This could prove how a small intervention is able to respond to, or stimulate, potential developments in its surroundings [Fig. 4.26ac / drawing 25]. Quadrat refers to urbanist

Van Emden, who stated that plans should always be positioned in their 'possible futures'. [43] An urban plan should become part of the morphology of the city. For this reason Quadrat sometimes draws its plans in existing maps, using the graphic language of such maps with much precision [4.27ab; drawing 26]. This helps make the intervention graspable, and allows the consideration of the next stages that develop from the initial situation.

The many rather 'stony' designs for urban open space in the last two decades do not seem to relate to issues of time. DS and H+N+S indeed think that urban open space is the least interesting category when looking from the perspective of time, given the dominant hard surfaces. Other offices think differently. The transformation of urban open space is always done in phases. If one part works very well, it creates the conditions for the next part. A smart designer anticipates possible next commissions via the designs of individual parts, a strategy revealed by MTD. Urban open space is less stable than one would tend to think. MTD would plant a group of trees expecting that after 15 years they should fit in an eventual new lay out. As MTD says, they should be planted to 'resist change'. [44] So the paradoxical situation is that the stony public space is subject to renewal in a regular rhythm, and it is up to landscape architects to counter those dynamics with resilient design. Kristine Jensen puts it differently, but in fact arrives at a comparable conclusion: Urban open space is not meant to reflect time – it should be timeless. DS, despite stating that urban open space is not so interesting in terms of time, has also in reality a more layered approach: as the use of an open space changes quickly, and even the furniture is subject to rash changes, the pavement, being often the biggest investment, should be durable and resist quick changes. Okra

Fig. 4.54 Plan drawing for Croydon, London, OKRA landschapsarchitecten, 2009 (partial).

approaches the subject from another angle. Urban open space should be lively and therefore have many features stimulating a rich and varied usage. Different forms of usage during the week or over the seasons contribute to that richness. Okra thinks about space as if it were a stage to be programmed. Designing furniture that is ambiguous in its potential use helps to engage the public. A bench should not only be for sitting on, but designed in a way that it is also for sitting on, alongside other optional uses. This ambiguity creates a dynamic use of space. Activity calendars are a helpful representation technique. By speculating on possible uses via such drawings, designers aim to use them to seduce and effect enriching new usages.

When it comes to more planning oriented or strategic designs the issue of time holds another position. As Bosch Slabbers points out, such studies -indeed these are often studies in which text, maps, and diagrams are important- do not consider only one future endpoint, but different scenarios -in Zerubavelian terms multilinear narratives- to prepare for a political choice. The study should illustrate the consequence of choices. Describing and evaluating future prospects, they are by necessity about time. In such situations, drawing has another role. Lola recalls its Grevelingen project. The image of the preferred final situation would, without doubt, never be realized in the way that it was presented, but it was necessary to motivate people. One could make visualizations for in-between states but that is quite dangerous, as it suggests a rather obsessive idea of control. In their precision such images are an illusion.

In Chapter 3 roles of drawings were discussed. The difference

[45] Interview with Lola, March 2011.

[46] Interview with West 8, August 2011.

[47] Interview with Quadrat, June 2011.

[48] See Bakker in Landschap en Steden-bouw in Nederland 97-99 (2000): 8-21.

[49] Interview with Copijn, April 2011.

between drawings as being explorative and of use for the designer herself, or mainly as a communicative tool for the public, is stressed here, and, even more importantly, related to certain thematic fields. Urbanism reveals itself to be a very useful point of reference. This is underlined by the work of Kevin Lynch, but also of Frits Palmboom. Perhaps one could say that landscape has a predictable unpredictability. We are familiar with the whims of gardens and nature over the seasons, while the development of cities follows paths that are less familiar - perhaps Zerabuvel would describe them as staccato, and discontinuous. We are certainly in the realm of the multilinear narratives. Once again, in this context we see that drawings can be risky if they suggest too much precision and reliability.

The generation of 1985
'The idea of a generation is fluid', Lola states when asked about its position. 'Offices renew themselves continuously because of people coming and going'. [45] The year 1985, the starting point for the period of study here, was a turning point in Dutch landscape architecture. How do offices look at this? It was certainly a vibrant time. West 8 made a jump-start: 'In the early days you had to be brutal, but most plans were only statements on paper.' [46] As Vista recalls it, a new spirit came from the many competitions that were organized in the Netherlands. For Vista, just as it was for some others, this stimulated the founding of an office. Competitions were not the primary reason; - it was evident that there was room for new offices. Just as importantly, it was a reaction to the professional climate in the preceding years. For Vista regional design was important, as was an interdisciplinary approach. Within the

state service in which its founders worked, there was no place for such things. Landscape architects working in state service were often on the backbench, and now discovering that alternative paths were possible. The founders of Quadrat worked in the Rotterdam municipal planning agency, and experienced the growth in the importance of the landscape designers at that time. They stress the role Riek Bakker, co-founder of B+B and later part of the Rotterdam planning department, had in this. [47] In making quality guideline booklets, setting out the desired image and standard of the future landscape, landscape architects moved into a better position in between urbanists and architects. [48] *De Kern Gezond* in Den Haag was experienced as an important new project. In retrospect Quadrat looks at this time as the start of a new era. The office started as a consequence of a reorganization of the municipal services. One cannot say the office, nor other offices that were the result of the same reorganization, replaced public services for landscape - it simply motivated the profession to having a more office-driven character. Buys & Van der Vliet recalls a jump in professionalism at that time, mainly due to the imminent arrival of the computer. But Van der Vliet also remembers how the *Parc de La Villette* competition was an event that had already seemed to mark a new era at that time. Copijn observes that in these years plan processes progressed to a more complicated level, with more parties engaged. As Copijn puts it, 'in former times you spoke with two people, and now it's with 20'. [49] This required more process organization, and more drawings. In economic terms this helped offices, but at the same time, this came with a loss of authority. Convincing the public and the client became more important, and landscape knowledge on the client's side diminished.

For Copijn urban open space in the eighties became a new theme, which the office relates to the influence of Riek Bakker's work in Rotterdam. Karres + brands tends to see the second half of the eighties as the start of a new era simply because of the crisis that preceded this period. Sylvia Karres saw her portfolio change dramatically: going from plantations in the green parts of the city, before starting karres + brands, towards more urban open space projects. The founders of H+N+S all worked in state planning agencies. They note how the role of drawings changed. In their first years of professional experience, the drawings were simple - they were a means to build, and in later phases details could be worked out. After 1985 it became necessary to seduce with drawings. For H+N+S this coincided with the Eo Wijers competition *Nederland Rivierenland* that defined the start of the office. Okra and Hosper are of a somewhat younger generation. Both offices mention the strong influence of French park design in the late eighties, and the important role of a park exposition in the Dutch architecture institute in the early nineties, as it put the city park at the forefront of the debate. [50] For the founders of Okra, travelling to Paris and Barcelona was essential to distance themselves from the restrained Modernistic climate in Wageningen, where they studied, and to develop their interest in the rich formal language of a design as an independent value. The founders of Okra were deeply influenced by the interviews they had with Corajoud, Coulon and Chemetoff, forerunners of the new French landscape architecture. [51] Both Okra and DS in retrospect see how quickly they got substantial jobs, so that within only a few years they could celebrate built projects. [Fig. 4.55ab] DS deems it important to mention the role of the project developer. As the government retreated in the late eighties, much was left to the market. This new competing mechanism

Fig. 4.55ab   Tilla-Durieuxpark Berlin, DS, situation 2006.

[50] In 1991 the Dutch architecture institute NAi in Rotterdam organized *Het nieuwe stadspark – opvallende vormen en pakkende scenario's*, an exhibition which was important for the debate on city parks.

[51] See Van Dooren and Nuijsink 2010.

[52] Interview with DS, November 2011.

[53] Gomart 2006: 50.

stimulated the hiring of young offices, such as DS. In the eyes of DS the city itself became more important in these years, also prompted by events such as *Nederland Nu als Ontwerp*, and by developments in Paris, London and Barcelona. [Fig. 4.56] Maike van Stiphout, founder of DS, speculates that she is part of the first generation for whom 'urbanity' got an independent value. [52] The dynamic evolution of architecture as seen in the work of OMA aided this development, and certainly the upcoming image culture did too: Van Stiphout recalls how architects became stars. DLG reads the transition in the making of drawings. Until the early eighties, the state service simply produced drawings with some supplementary text. Then the making of booklets started. This coincided with the growing influence of the general public. Previously, the designers had mainly discussed their designs with the engineers.

The description of 1985 as turning point in Chapter 3 is easy to recognize. Drawings, or representation, had a role in this, as several interviewees note, both as a facility that transformed under influence of other changes, but also as a driver for such changes. Offices wanted to join the rash and on-going development, and especially the acceleration new software brought. Presupposed effects of drawings on the client or the public became much more important: being seductive, for example, became a quality in itself. In that sense, drawings as a means to precisely (and verifiably) describe what is going to be made became more ambiguous, being added an implicit layer that, similar to advertisement, hinted at certain emotions or expectations. The office as a new phenomenon is very present in how designers understand this period, as well as the changing relationships with clients. Even if drawings are not explicitly discussed in this context, they have an important role -

think for example of Gomart's observation of large-scale design processes in landscape architecture offices: 'the aim being to improve negotiations by linking various alternatives in unexpected ways'. [53]. Drawings are needed to do this, and needed in a smart way. The issue of time in these transitional years does not seem to be important for offices to enhance their profile, nor to answer questions from clients, and hence the issue is not dominant in their readings of this dynamic period. There seems to be a consensus that 'a new era' can be found in the changes in the profession, with relation to types of assignments, a culture of designing, and the organization of the profession, but none of these specifically as related to time. An exception must be made for the thematic field of nature development, for which Plan Ooievaar is a point of reference, and which does coincide with these turning years.

Reflection

Drawings in (landscape) architecture may sometimes be considered stable and the core business of a design, but as anthropologists note, text, speech, and gestures are necessary companions to drawings, and drawings originate from a process of thinking and experimenting. In that sense, text and speech as carriers of knowledge and opinions could be just as informative as drawings, but for various reasons as discussed in Chapter 3 drawings have an autonomous position. Considerations underlying a drawing are often not known. There is a lack of insight into how landscape architects operate with and without drawings. It is necessary that the interviews done here influence our reading of such drawings. The narratives confirm that drawings are made, corrected and presented with diverse considerations that we cannot see in the

Fig. 4.56   Study for extension of Almere as part of *Nederland Nu als Ontwerp* **design event, B+B, 1987. Drawing by Jos Jacobs.**

drawings alone, and they specify the role of time in this.

Interviewing is not a standard way of reflecting on design. In fact, it proposes in itself a way of looking at design both as a product and as a social activity. It suggests that information on designs, and design drawings, can seldom be found in design products only, but is part of an implicit body of knowledge and opinions. Interviewing, therefore, proved to be a very fruitful way to reveal how designers think about the many seemingly obvious aspects of their work. As was already stated in Chapter 2, it is not so much 'truth' or 'logic' that is being addressed here. This is about what *apparently* drives designers in their decisions. As an activity, designing has a narrative character, in which the way one is perceived and the way in which one presents oneself is important. These interviews tell us how designers want to be perceived in relation to the topic at hand. That is interesting in itself, but even more so if we can connect it to actual drawings, projects and realised landscape.

As a research tactic interviewing requires careful procedures. Not used to being interviewed in this way, offices often felt it necessary to add to or correct statements in my reports. Many designers struggled with the status of the interviews. If interviews seemed to suggest a theoretical position, it became important to discuss whether such a position should be recorded and made publicly available via this research. In general, designers have, or think they have, control on their presence in media, especially if projects are the vehicle for demonstrating these positions. The interviews certainly map the thinking of designers in general, but because a vast (metaphorical) landscape was covered, in many cases only an

initial exploration of certain aspects could be made. Obviously, the subject would allow for an extensive second round of interviewing. What follows from this first exploration is that we may expect rich and revealing narratives arising from subsequent interviews, expanding on specific themes such as drawing materials. In terms of interviewing, it proved to be difficult to tap into deeper layers of thinking with regard to time. Does this tell us that current designers are not engaged in a more abstract or philosophical approach? Perhaps it mainly tells us that current designers in general are not inclined to offer an explanation of their professional activities from a moral or philosophical point of view. It certainly also follows from a focus in the interviews on daily practice, and on concrete products, such as drawings.

A recurring issue in the interviews is that the word time is experienced as too abstract and too wide in its range of meanings. Even if that is true, the interviews reveal that exactly this width is what comes to mind when speaking about time, which also became clear in some of the sources referred to in the previous chapter, especially in Lynch's description of the topic. The interviews reveal a striking ambiguity on several topics. This concerns, for example, landscape architecture's position on architecture. In many interviews architecture was a point of reference. One could use the metaphor of the elder brother to describe the view of the relationship: architecture as a discipline is more experienced, more daring and world wise. At the same time, especially in the decades covered in this research, architecture, and also urbanism, were professions with which to compete, to reach a more independent position and to conquer terrain. Often the issue of time was central for interviewees when the difference with architecture

had to be marked. But so far that apparently has not encouraged landscape architects to invest strongly in this specific niche.

For most of the interviewed landscape architects drawings are seen as a means of communication, helping to present a project to the client and the public. There were many different interpretations of what communication via drawings means exactly, but there is a widespread agreement that this is an important goal of drawings. The opinions on the other role of drawing, that is exploring and testing the design in the office before something is presented publicly, were much more diverging. 'Drawing is not necessary for ourselves – we have this knowledge already' contradicts sharply with 'drawing is an essential space for finding out how it works and if it works'. Such remarks were clearly related to different categories of assignments, but that does not solve the apparent discord. For example, most offices working in the thematic field of forestry and water are experts. For some offices, drawing is seen as essential, to enlarge, control and apply expertise, whereas for other offices drawing was considered unnecessary for the designers themselves, *because* of them being experts. Yet, on the question of whether drawing is necessary for informing the public, there is agreement. The interviews do, however, reveal that the central issue of representing time is looked upon with reservation. If the designer thinks it necessary, it should be represented, and if not, then it should not. This is contradictory in more ways. If we were to assess an average set of design drawings, especially in the context of presentations, their level of necessity would vary greatly, from undoubtedly necessary to superfluous, just made out of habit, as the large amount of visualizations as made today seems to be driven by habit more than being a necessity. In that sense the argument that time drawings should only be made if necessary, is not so strong. The second contradiction is in relation to the orientation on what the client wants, and what he does not. Attitudes of designers differ but it is evident, as demonstrated in preceding chapters, that designers often oppose or neglect or at least influence what the client wants. Therefore, if designers thought it important to include time drawings, the limited scope of the client's requests would not necessarily have to dissuade them from producing such drawings. If time is considered inherent to landscape, how can it be that the representation of time is not an established part of the shared set of professional values, and that it is not very present in text, speech and drawing?

On the basis of the interviews I elaborated on a small set of projects that were looked at in the interviews as having a strong time-based character. My assumption was that they could be informative on the role of representation and the thinking about time. An important conclusion for this set of projects, but arguably for projects in general, is that the project reality is very ambiguous. Ambitions with regard to the issue of time were often not realized, and drawings representing that subject hardly turn up in the project documentation. What struck me was the recurring phrase 'but this was a rather unusual situation', to explain the lack of representations depicting aspects of time, the changing aims, or the nature of these projects in general. We could sort this out in two categories: projects being unusual, and therefore susceptible to changes, up to the point that a specific approach to time was never realised, and projects that, due to their unusual character, required radical solutions in terms of drawing - such as not drawing at all. An obvious conclusion is that there is no

[54] See Van Schie 2013.

immediate connection between a strong time aspect of a project and the presence of drawings displaying that. What is remarkable is the attention given to drawings in the early phases of a project, and the lack of drawings in the phase that projects are realized and implemented. Therefore we often face a divergence between design and reality. This starts with the fact that it is often difficult to define the formal design that was supposed to be built. In between a general approval of the design, contracting a company to have it built and finishing the building process, many smaller and bigger changes occur. Once the design is ready it keeps evolving as a consequence of unforeseen interventions in or around the project area. This was confirmed by a student's investigation in the context of this research. [54] Loes van Schie critically compared the designs and the actual realisation of five projects of the Dutch office Feddes Olthof and found that in most cases it was very difficult to do so, first and foremost due to the fact that actual reality differed substantially from the approved designs, but also due to the many small changes in the process of approving and contracting.

How do interviews, drawings and projects relate? In which cases can one strain of research be helped to better understand the outcomes of another strain? One of the obvious connections is the role of interviews in explaining the absence of drawings concerning time. In several interviews designers commented how their expertise made it evident for them that drawings concerning time were not urgent - as was the case for Vista, and also for H+N+S, for example in the *Noorderbos* project. A second interesting relationship is the existence of excellent time drawings, and the mismatch with the actual reality. Desvigne's *Greenwich*

Millennium Park project is the best example for this: as a drawing of time aspects the central plan drawing couldn't be better, but the banal reality of the project meant that the office had no role in later stages of the project, and Bordeaux is preferred as the better example of a project in which time aspects are fully integrated. The same distance to a realised (and applauded) project can be seen at Studio Vulkan's *Oerliker Park* project. Interviews also reveal how designers themselves read a drawing, or use it in a didactic way. Buys & Van der Vliet created a drawing [Fig. 4.14 / drawing 14] which was mainly intended to instruct architects on the growth of trees. Instructive in another way is the H+N+S-example of the Emscher project. Here the drawing is used as much to teach the designers themselves how the design will operate as it is as an explanatory presentation for the public. The discussion of the DGL-drawing and how to understand the circle and the dot teaches a reading of a drawing that is certainly not the only, and perhaps even not the most probable, reading of a drawing, and yet it is the way the designer wants to speak about it. Concerning drawings in an urban context, we can conclude that these drawings often show scenarios or options, but that in doing so designers follow parallel paths: one is to explain such scenarios in a neutral way as being possible, and the other to promote certain scenarios as being desirable, for example because they could have the potential to ignite certain future stages. Such considerations in general are implicit, but the actual drawings are certainly used as instruments to influence the debate. In that respect it is relevant to note how designers consciously choose particular ways of drawing. Quadrat and VPxDG refer to certain drawings as deliberately creating room to manoeuvre, for example by using watercolour, or drawing by hand as ways to make the drawing not too precise. [Fig. 4.57] These
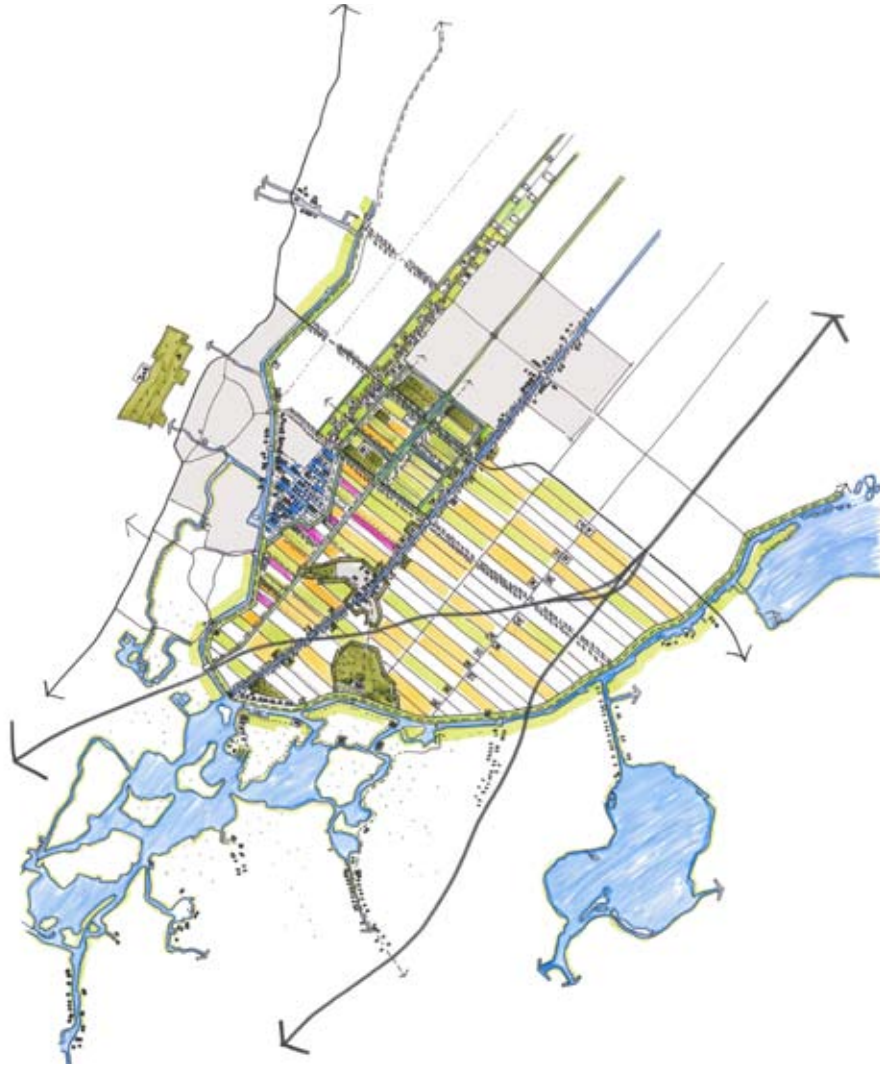
Fig. 4.57 van Paridon x de Groot, hand-drawn report of interviews for *Westflank Haarlemmermeer* **project, 2010. Felt tip pen on paper.**

drawings are not technically time drawings, but they reveal how drawing, thinking and acting are connected.

Drawings are autonomous objects and at the same instruments in an argumentation; they are a reality in themselves and part of a larger set of considerations; they display craftsmanship and technical innovation; they are essential to manage design processes and yet can also disturb communication with the client and the public. The interviews provide overwhelming evidence that the representation of aspects of time is especially influenced by these ambiguous characteristics of drawings, and that time as an issue in landscape architecture design has an ambiguous position. Against this background we understand that despite technological progress and despite the growing attention for design challenges that incorporate time, the presence of time in drawings and the innovation of how to represent time in drawings is modest, even today.

4.3   Experiments

Between 2010 and 2015, during this research, 14 design experiments have been conducted. The background of these experiments has already been discussed in Chapter 2. Design experiments are consciously placed outside daily reality, operating within a controlled set of conditions. 'Design experiment' as a term is consciously chosen. Even if the nature of such practices might lead one to describe them as exercises or workshops, from the perspective of this research they are indeed experiments, in which assumptions were verified and new options were generated and evaluated. These experiments can be seen as a series of simultaneous happenings. The first experiment was already organized in 2010, at the very beginning of this research. Consecutive experiments integrated results from earlier experiments and reacted upon new material generated by the research, up to an ultimate experiment in January 2015, shortly before finishing the research. Because of varying conditions, experiments differed in length, size, level and focus. In terms of length, they varied from two days to three months. Three months is the lead time, including a starting lecture, preparatory individual work, an actual workshop after which students could elaborate on the material, and an evaluative meeting to discuss final results. In terms of numbers the smallest experiment involved six participants, and the larger ones 25-30. The level varied from bachelor students to PhD-candidates and young professionals. The most important difference for the progression of the research was in the way the basic question was posed. In some cases there was already an assignment given by the hosting school, and a set of predefined learning outcomes. In these cases I could introduce an extra layer to the existing module, for example via a lecture on the representation of time. It remained to be seen if this would result in a specific focus on aspects of time. In other cases it was unambiguously asked that aspects of time be considered and depicted. This evidently shifted the focus towards how to do it. Students in these workshops had already positively engaged with the issue, were informed on the intermediate results of the research and were confronted with clear questions with regard to final results.

Of these fourteen experiments, five are described here. The other nine, for different reasons, had no results that are of relevance

here. In the early set up of this research experiments were antici-
pated, but actual implementation had to be done along the way.
Many practical difficulties influenced successful implementation,
such as a competence level of the students that proved not to be
high enough to overcome the general challenges of the design
task at hand, and to arrive at an exploration of the issue of time.
Therefore, some of the experiments did not arrive at coherent
results. Even if these failed experiments were valuable as such
and helped to improve subsequent experiments, I will only focus
on five of the experiments here: [Fig. 4.58a-f]

- *Kijkdoos* [**Diorama**] / **Autumn 2010** / **Academy of Architecture Amsterdam.** [55]

- *Wachsen Lassen* [**Let it grow**] / **Summer 2011** / **Technical University of Stuttgart.**
[**56**]

- *Drawing Time Now!* / **Winter 2013** / **Academy of Architecture Amsterdam.** [57]

- *Dancing Drawings* / **Summer 2013** / **SNDO Amsterdam.** [58]

- *Højstrup Parken revisited* / **Winter 2014-2015** / **Copenhagen University.** [59]

These five experiments varied considerably, but common to all
is the active search for the representation of time. What happens
when we throw light on the aspect of time in landscape? In what
ways can we represent aspects of time? In two cases (*Drawing Time
Now!* and *Højstrup Parken revisited*) the research Drawing Time
was the larger framework in which independent experiments
were organized to work on these questions. The other three cases,
and the experiments not discussed here, were at the invitation of
schools, as these questions seemed to fit in and enrich the exist-
ing module.

Can we rethink representation, and particularly in relation to
time? Already in the early stages of this research the work of Law-
rence Halprin was studied. This introduced the *score* as a type of

Fig. 4.58ab   Impression of design experiments *Wachsen Lassen***,** *Drawing Time Now!*
and workshop at École Nationale Supérieure de Paysage at Versailles.

[55] *Diorama* [Kijkdoos] (2010): exercise
at the Academy of Architecture Amster-
dam. Suzanne Hin supervision, Noël van
Dooren co-supervision.

[56] *Let it Grow* [Wachsen Lassen] (2011):
part of seminar at the Technical Universi-
ty of Stuttgart. Antje Stokman, Ferdinand
Ludwig and Moritz Bellers supervision,
Noël van Dooren co-supervision.

[57] *Drawing Time Now!* (2013): extracur-
ricular 'design experiment' at the Amster-
dam Academy of Architecture. Noël van
Dooren supervision, David Kloet produc-
tion, guest lecturers and commentators.

[58] *Dancing Drawings* (2013): drawing
experiment at SNDO/DasArts, Amsterdm
School of Arts. Manolis Tsipos supervi-
sion, Noël van Dooren co-supervision.

[59] *Højstrup Parken revisited* (Winter
2014-2015): part of Design by manage-
ment course at Copenhagen University.
Anders Busse Nielsen and Torben Dam
supervision, Noël van Dooren co-super-
vision.

Fig. 4.58cf   Impression of design experiments *Wachsen Lassen*, *Drawing Time Now!* and workshop at École Nationale Supérieure de Paysage at Versailles.
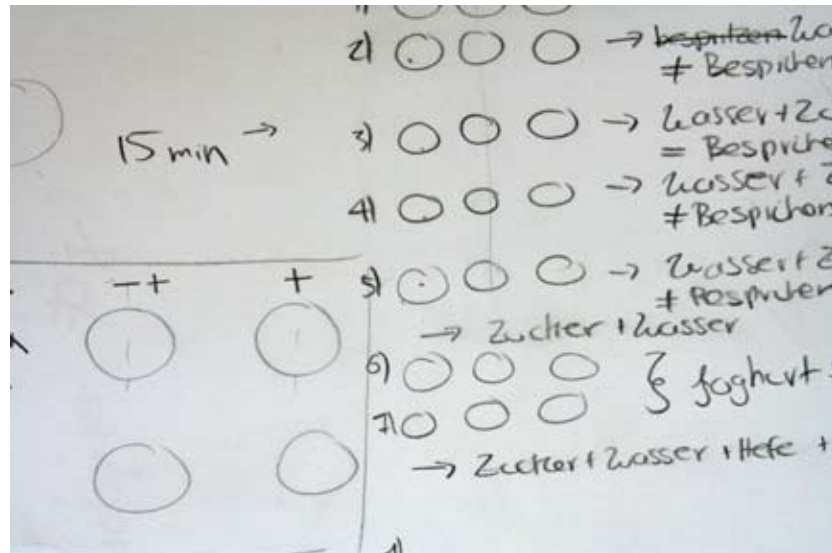
representation of the argument. [60] It inspired a crucial thought: If it were true that the representation of time is hindered by the lack of a type of representation that is particularly well suited to that specific goal, would then the score as a new type help to overcome this barrier? In fact, as it has already become clear in the preceding sections, the existing system of drawing types allows for the depiction of time, for example using the technique of small multiples as mentioned by Tufte. [61] It has also been observed that other disciplines offer a range of representational strategies that are effective in depicting time and may be applicable for landscape architecture, like animated film and comics. In the larger design experiments the score was presented as a potential and promising new type of representation, specifically suited to the depiction of time. As only a small number of existing scores relate to landscape architecture, it is mainly the *idea* of a score that could be handed over. It was necessary to explore what a score could be in practice.

Kijkdoos [Diorama] proposed to understand the diorama as an unusual presentational tool that invites one to depict landscape in unexpected ways. [62] By its very nature, the diorama might suit the representation of landscape. Corner argues: The diorama places one in the landscape. A diorama has no specific capacity to display time but existing examples show that the diorama can do so very well, for example in using slides, and in supporting the idea of motion. *Wachsen Lassen* [Let it grow] was aimed at raising the awareness of processes of growth. The organizers proposed working with dough, so as to confront the students very directly with growth and change. Students explored what they expected to happen, and how to notate this. Different conditions (for example

the amount of yeast and sugar, or warmth) that would influence the outcome were tested and selected. Finally, students had to register in drawings how their experimental 'design' behaved. *Drawing Time Now!* was organized as part of this research. In the assignment, addressing the transformation of a park in Amsterdam, aspects of time were very present. The design experiment started with a public seminar with lectures on the theme. In the assignment the score was proposed as a relevant option for displaying time, and the production of a score was explicitly asked for. A second representation of time, in any other form, was also invited. A formal definition of the score as a type of representation was prepared and distributed to the participants at the beginning of the experiment. *Dancing Drawings* was envisioned as a meeting of the architectural tradition of drawing, and notation in the field of choreography. The question was whether to use an existing choreography and notate this performance in drawing, or to prepare for a new performance via drawing. Due to the meeting of two fields of expertise the experiment was very much focussed on scores, and the use of drawing(s). *Højstrup Parken revisited* concerned the park by Sørensen that was encountered in Chapter 1. Students did a *speculative reconstruction* of the development of the park over its 50 years of existence. Speculative, as this development is only known in bits and fragments. I was not so much the true story that was recounted in this reconstruction, but a coherent and convincing account of how it could have happened, mainly meant to inform how we, in case of new designs, can speak about the development over time.

Evidently, these five experiments were very different in terms of organization, the programme, the site, the participants and more.

[60] See Halprin 1969.

[61] Tufte 1990: 67-79.

[62] See also http://en.wikipedia.org/wiki/Diorama: 'The word diorama can either refer to a 19th-century mobile theatre device, or, in modern usage, a three-dimensional full-size or miniature model, sometimes enclosed in a glass showcase for a museum.'

That also counts for their results, varying from concrete objects in *Diorama* to individual drawings in *Dancing Drawings* and to a more general workshop outcome in *Drawing Time Now!*; from individual to group work and from explorative sketches to elaborated (computer) drawings. Here I focus on the aspect of time as present in the results.

Results

Kijkdoos and Wachsen Lassen
Kijkdoos, an eight-week exercise that took place on Friday afternoons, explored plain, hand-made dioramas. Participants learned that using a diorama to present images aids the understanding of change in landscape, just as it is suitable for following a sequence of views moving through a landscape. One of the produced dioramas allowed for the insertion of new pieces of scenery, in the form of hand-made slides, and in doing so helped one understand how the design would change the landscape, as seen from one point of view. [Fig. 4.61ab / Exp. 1] A comparable diorama functioned as a low-tech slide viewer in which different views can be shown, representing a walk through the designed landscape. One very relevant diorama engaged with the specificity of landscape: The view was organized as a 360-degree panorama for one person, to be turned around while standing, providing a landscape experience. [Fig. 4.62 / Exp. 2] Another diorama abstractly tested the presence of sunlight in a new building during the day. This was explored by making small cut-outs in a model, using an external lamp, and photographing a series of images from the inside that register the change of atmosphere. [Fig. 4.63 / Exp. 3] *Wachsen lassen* started

with a lecture on growth, time and representation, and an exploration of existing designs that engage in these themes. The actual workshop used dough as an unusual but suitable material that by its very nature represents and even incorporates growth and change. Teams explored how dough behaved, and how the growth of dough could be notated. [Fig. 4.64 / Exp. 4] In a second step specific interventions were tried out. Interventions ranged from adding colour, extra doses of yeast, or additional sugar, and stimulating growth using a heating installation. [Fig. 4.65ab / Exp. 5] One group put the dough in a closed box with a number of 'chimneys', speculating that dough would be pushed out through the chimneys and form a *Pilzlandschaft* or a 'mushroom landscape', because of the emerging forms. This group also kept the box closed until the evaluative session, to see to what extent the material degraded over time, a the relevant fact that landscapes also decline. [Fig. 4.66abc / Exp. 6] Groups developed a detailed observational programme, and on that basis a drawn forecast of the effect of an intervention. In the last step a final experiment was executed and registered very precisely in a more elaborate notation. In this experiment time was very present in the notations, but also as a pressing external condition that urged the students to act. The purpose of drawing here was to both register what actually happened, and to represent an intended result. The workshop was followed by an elaboration of the material, and an evaluation.

Drawing Time Now!
Drawing Time Now! was organized as an eight-day workshop, starting with a public seminar on the issue of time and representation. As this experiment was part of the research *Drawing Time*, several

aspects of the organization could be influenced in favour of valuable results, such as a public seminar at the start in which concepts of time and representation were discussed. Apart from that, participants were challenged to hand in an image or text on the issue beforehand on a public website, to stimulate an engagement with time and representation. Participants worked in groups from different disciplinary backgrounds and nationalities. Products here concerned a design for the transformation of a park, including, as was required, two representations of time, one being a score. This specific requirement often was not fulfilled, but still prompted a detailed exploration of potential representations of time. A first group relied on seeding, metaphorically and literally, to extend the park – a strategy for a future situation that by definition relates to time. One of the drawings was a timeline, which could also be understood as a score. [Fig. 4.67ab / Exp. 7] Two groups prepared a book for the final presentation. One group focussed on the change of seasons, another on spontaneous development. In both cases they used the idea of a book as a useful structure to organize and present their narrative, or put differently, to speak about time. [Fig. 4.68ab / Exp. 8] In a third example, the group wanted to create the park extension by new trees planted by park users. In that way, the park would develop over time. This group made an animated film, by drawing their plan as to how exactly it would evolve over time, and by photographing all intermediate steps. [Fig. 69ab / Exp. 9] Through this, both a final drawing was produced, being the accumulation of all subsequent steps, and an animation of the growth over time. One group had a rather different background, rooted in art and choreography. These participants were interested in how people, moving through the park, could change it as a consequence of their moving around. Drawings were made as a

simulation of moving around and physically changing the ground. This was represented in 'drawings' made by folding and cutting, and by adding foldouts. Drawings were collected in a book. This book was presented as a performance, using a camera and flipping through the book. [Fig. 4.70ac / Exp. 10] The last group proposed a newly planted 'forest' in which trees would be planted over time. Their drawing follows this logic. If we read it from left to right, we experience time unfolding over 25 years, in steps of five years, and see, if we study the drawing attentively, the number of trees accumulate, and the individual trees grow to the point when they are felled and replanted. The drawing is stamped using a piece of eraser and pink ink. [Fig. 4.71ac / Exp. 11]

Dancing Drawings and Højstrup Parken revisited
Dancing Drawings was a very condensed two-day workshop with only six participants with a choreography background, most of them without much experience in drawing but with a very specific interest in scores. Therefore, this experiment arrived at unexpected results. As a consequence of not having drawing experience, drawings were researched with a somewhat phenomenological interest: What is it exactly a drawing can do to prepare for or reflect on a performance. One of the students 'just drew' as a means of meditation from which she expected to obtain new ideas on dance. [Fig. 4.72ab / Exp. 12] Remarkably, her drawing -both the result and the process- appears from the outside to be close to a possible choreography. One other student understood (a) drawing as a sheet on which traces could be made and taken away, registering over time the development of her thinking. [Fig. 4.73ac / Exp. 13] At any moment this drawing could be the starting point for

Fig. 4.59 Louis Vanhaverbeke. Drawing as part of performance *I will go back to*

Fig. 4.76 Aksel Akselsen, Sondergardsparken, 1949.
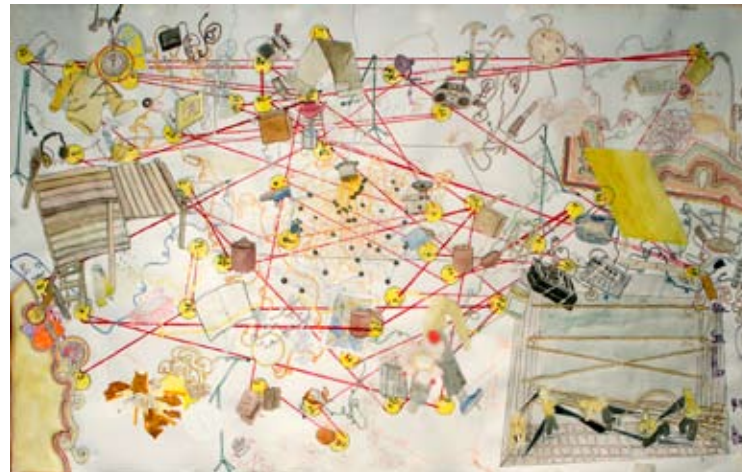
a choreography. Its different states are not archived. Preceding stages are lost and only the accumulated actual state is available. A third student had used drawings more often. Through the media of drawing, he researched the spatial organization of the stage, and how a performance would run over time. [Fig 4.74ab / Exp. 14] Remarkably, this young choreographer also used such drawings on stage, as part of the performance. [Fig. 4.59] The representation enters the physical world it represents. It is a very intriguing thought that design drawings are 'emancipated' as real objects within the design. *Højstrup Parken revisited* was organized as a three-day workshop within a larger seminar on issues of growth and change in relation to urban forestry. It started with a tree planting exercise. One of the tree circles of Sørensen was 'rebuilt', to confront oneself with the difference between the actual state and the (simulated) initial state. After that, groups of students

reconstructed the development of Højstrup Parken over time, and in some cases went on with reconsidering its future development. One group represented the process in a watercolour drawing. Watercolour is used here as a drawing means that enables one to see through it, and in that way to read different layers of time. Tiny trees as planted in 1954 are seen 'under' the mature tree of today, thus incorporating the planting system and the actuality in one representation. [Fig. 4.75 / Exp. 15] In a surprising way this watercolour drawing brings to mind a drawing from 1949 by Axel Andersen for the close-by Søndergårds parken. [Fig. 4.60] Although a totally different drawing technique was used, the same solution for the representation of time can be observed. One of the students engaged in an original exercise which focussed on what is not there anymore: the (approximately) 870 trees taken out over the years. At least 150 trees were removed as young adults, and used for timber and other goods. [Fig. 4.76 / Exp. 16] This exactly is what Ruyten, as discussed in Chapter 3, points out: How can design deal with aspects of time efficiently, and reduce the 'matter' to be taken out? [63] A next group represented the process as a fictional DIY (Do It Yourself) in the same way that a known Swedish firm provides graphic notations of DIY furniture. [Fig. 4.77 / Exp. 17] Portraying it in this way, current 'expert' management is rejected in favour of informed citizens deciding on management actions to be undertaken, as a form of civic empowerment. A fourth example captured growth in a series of diagrams that show how trees are 'released', as in a forestry strategy in which the healthy tree is given both protection and space to develop. This group revealed the interesting difference between a general depiction of trees and the precise registration of specific individuals. [Fig. 4.78 / Exp. 18]

Fig. 4.61ab Diorama as seen from the outside and example of slide on inside, Form study program 2009, Academy of Architecture Amsterdam.
Fig. 4.62   Surrounded by landscape. Form study program 2009, Academy of Architecture Amsterdam.
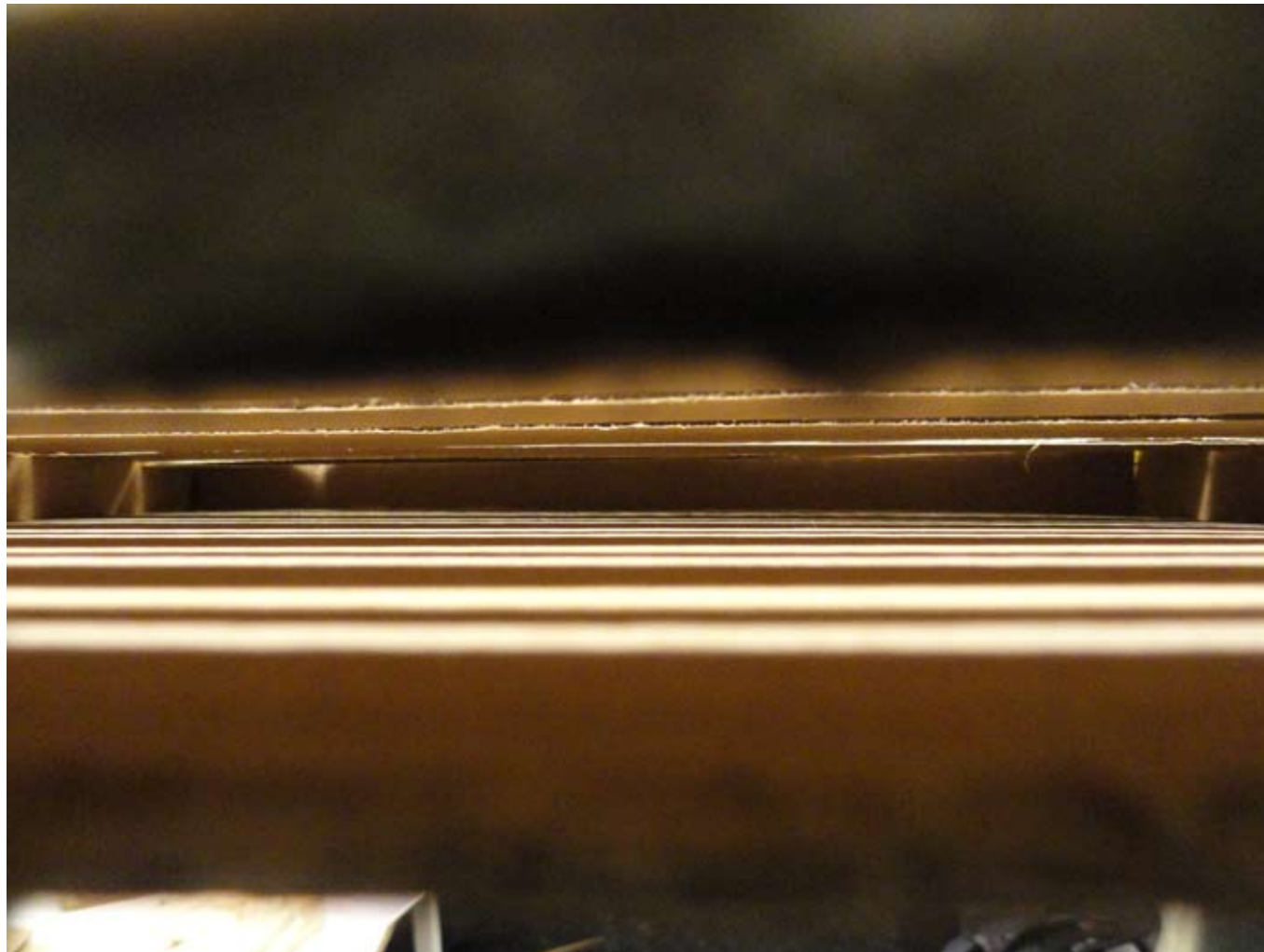
Fig. 4.63 Testing the presence of sunlight in a building with a diorama, Form study program 2009, Academy of Architecture Amsterdam.

Fig. 4.64 *Wachsen Lassen*. **Exercise in notating the effects of different treatments of dough, Technische Universität Stuttgart 2011.**
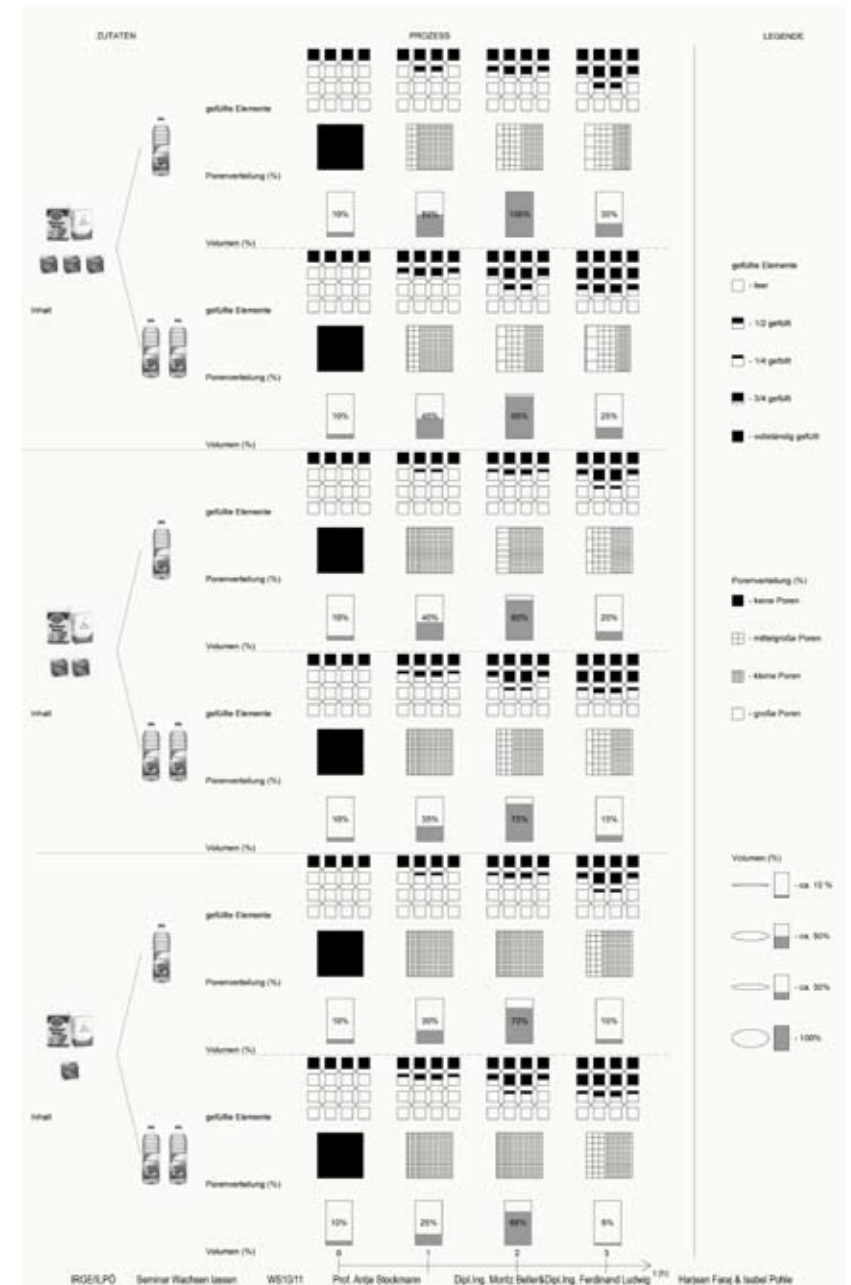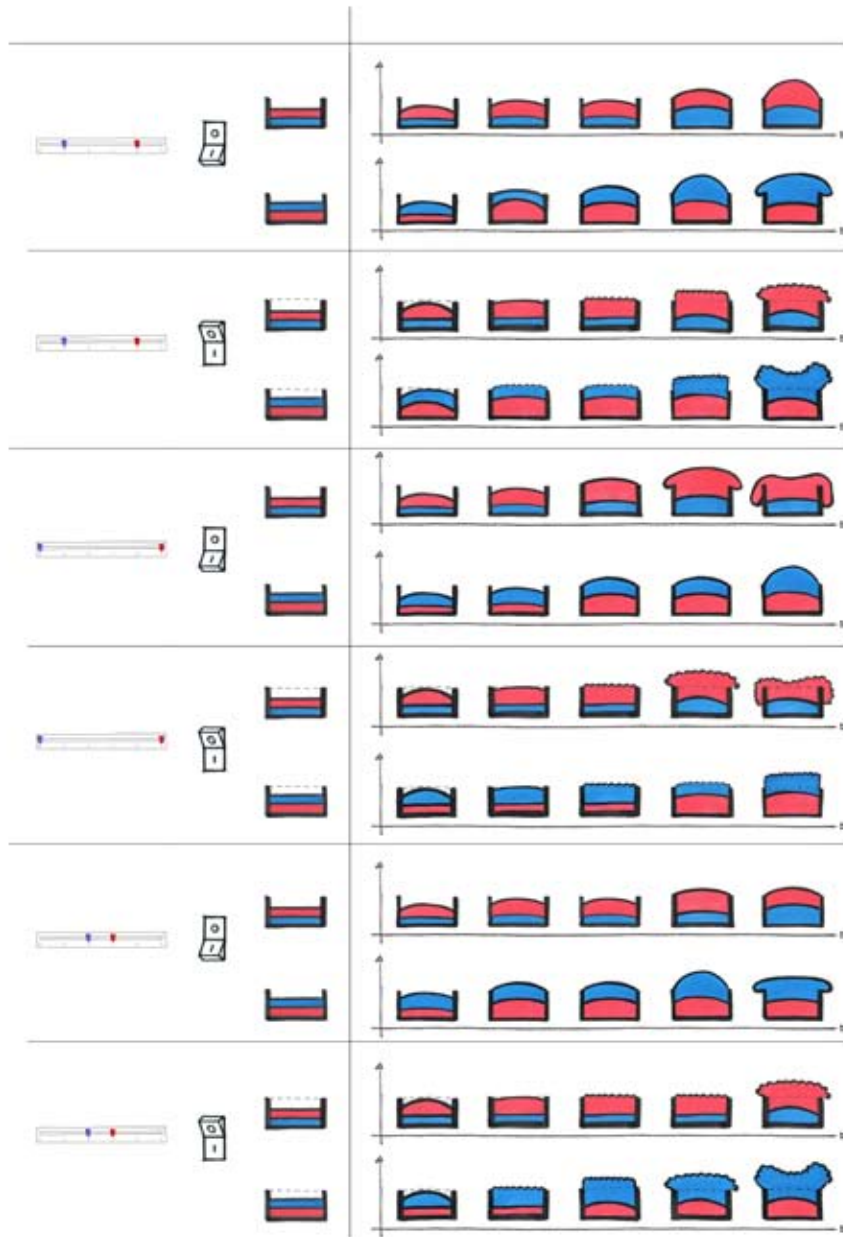
Fig. 4.65ab *Wachsen Lassen*. Notation and real-time experiment with different dough conditions, Technische Universität Stuttgart 2011.
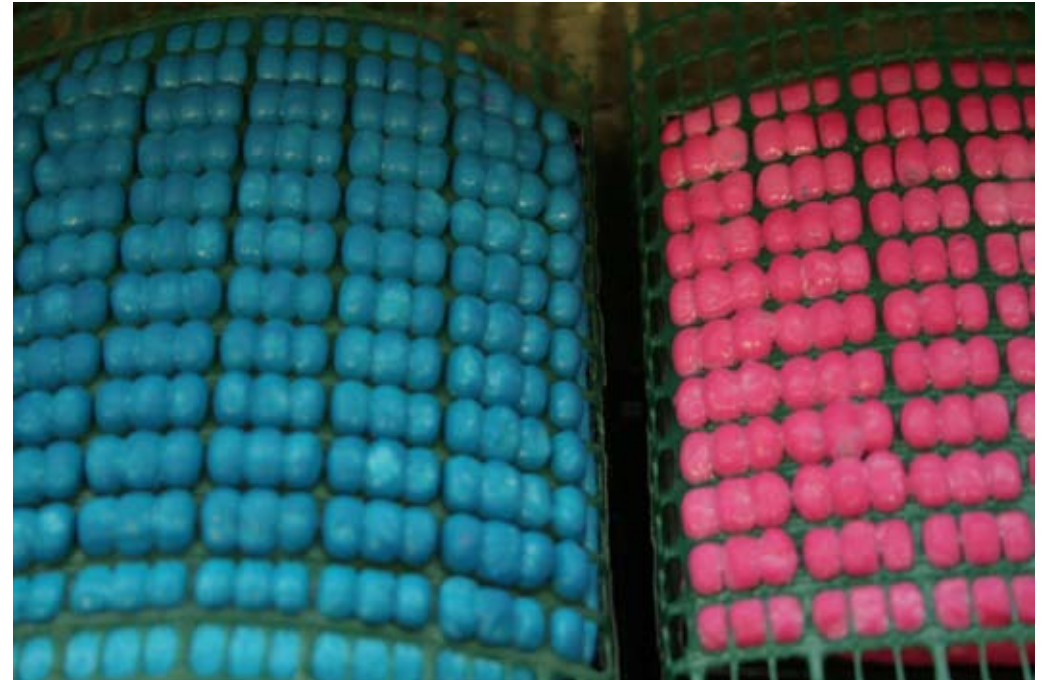
Fig. 4.66a-c *Wachsen Lassen*, *Pilz-landschaft*. **Notation and real-time experiment with dough enclosed in box, Technische Universität Stuttgart 2011.**
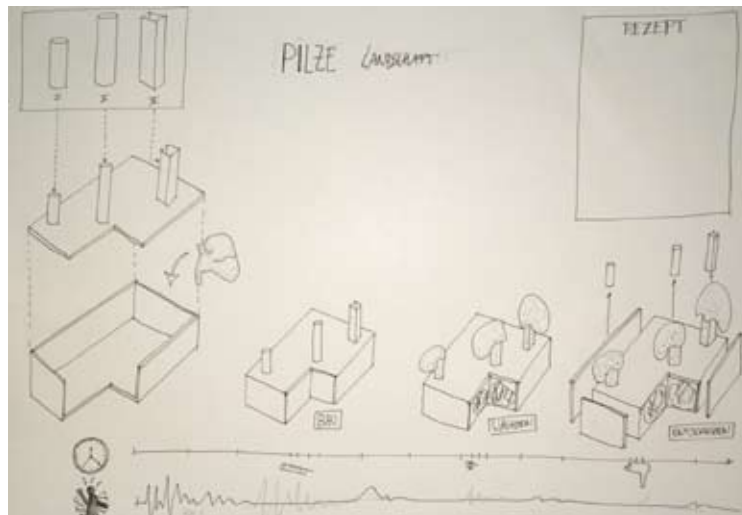
Pilzlandschaft: Score — Andrea B., Marius E., Yza H.
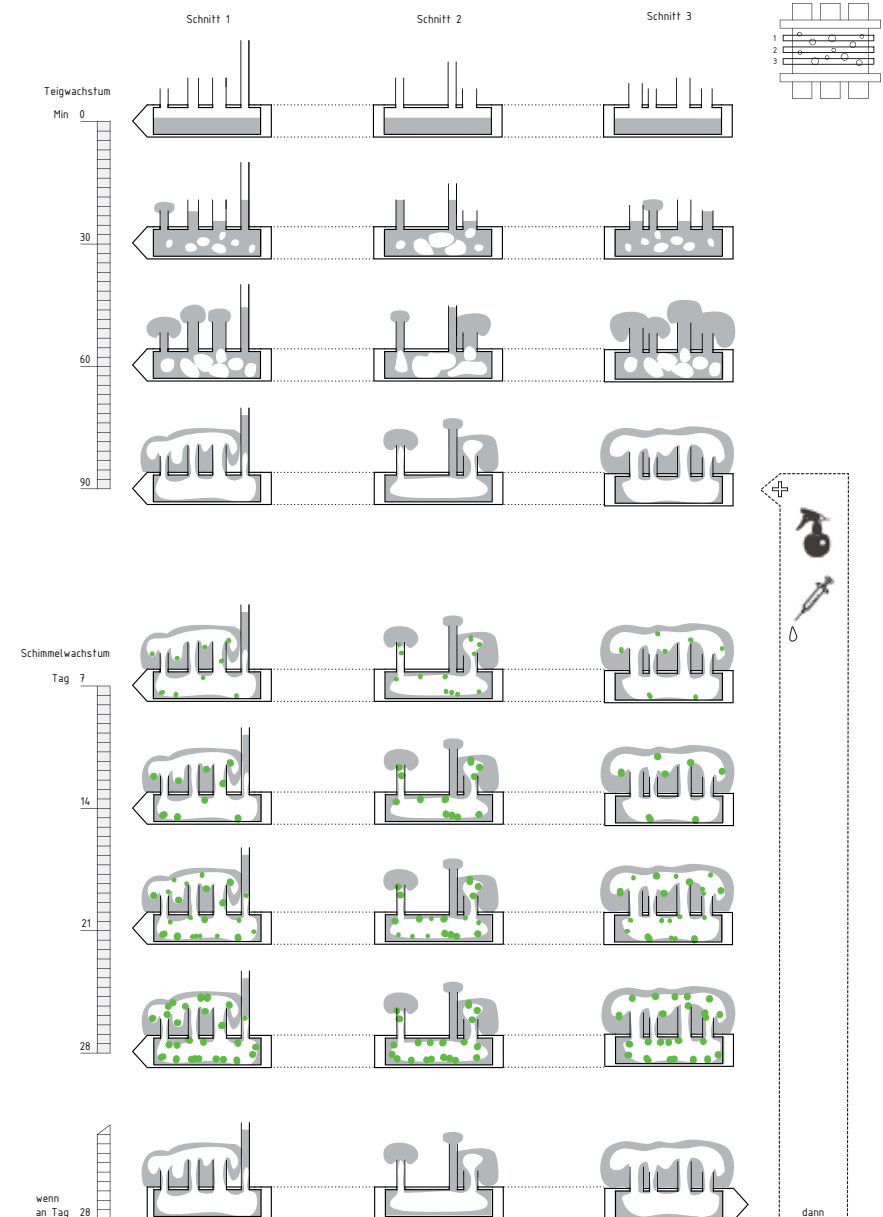
Fig. 4.67ab *Drawing Time Now!* Visualization and timeline, 2013, Academy of Architecture Amsterdam.

Fig. 4.68ab *Drawing Time Now!* **The book as a representation of time in spontaneous processes, 2013, Academy of Architecture Amsterdam.**
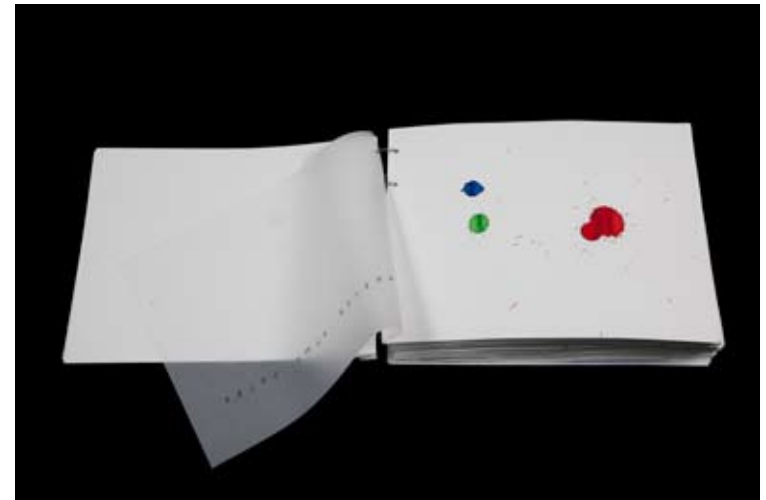
Fig. 4.69ab *Drawing Time Now!* **The making of the drawing transformed into animated film, 2013, Academy of Architecture Amsterdam.**

Fig. 4.70a *Drawing Time Now!*
Simulating the 'moving around',
2013, Academy of Architecture
Amsterdam.
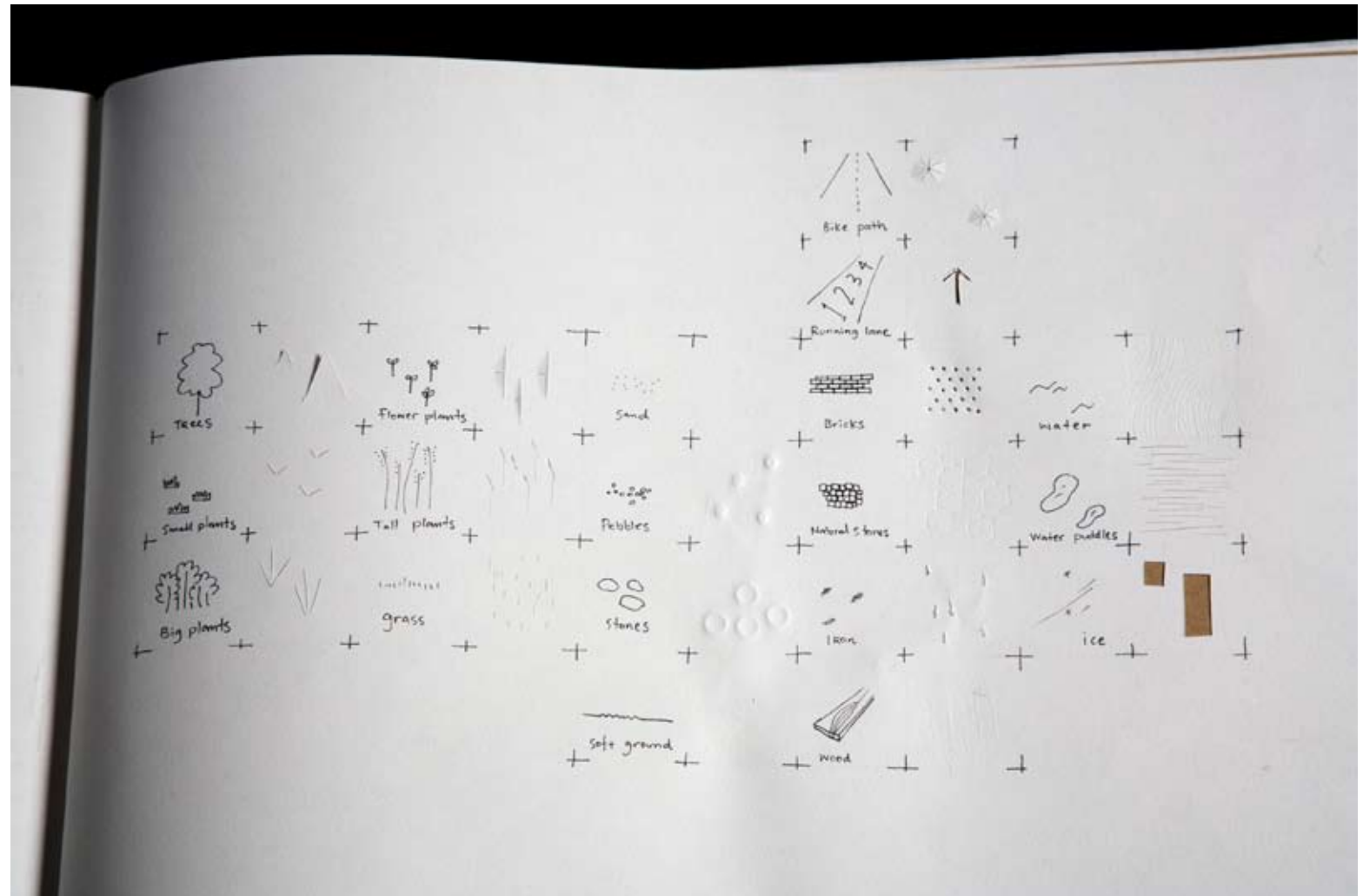
Fig. 4.70bc   Fold-out for certain moments, and presentation with videocamara and beamer
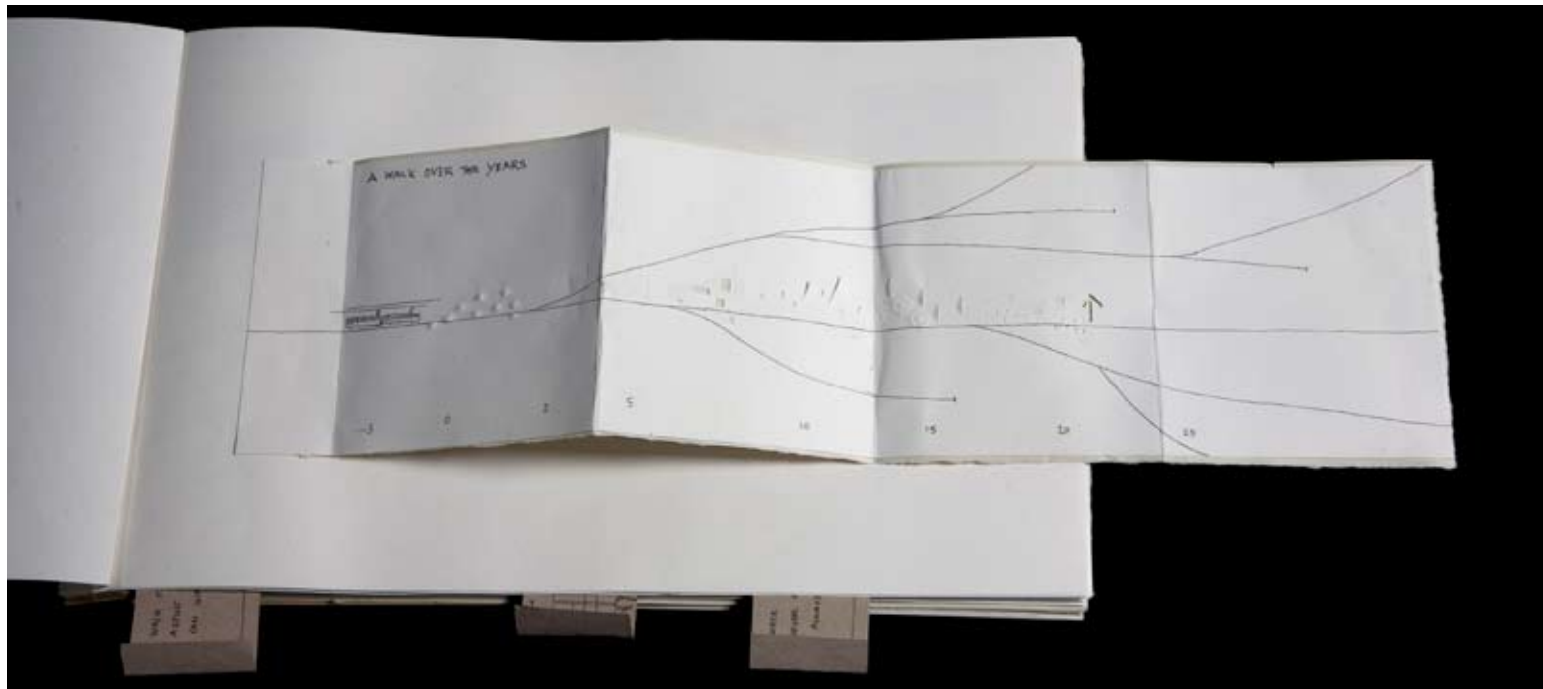
Fig. 71ab *Drawing Time Now!* **A former eraser and pink ink as new drawing media, Time unfolding from left to right 2013, Academy of Architecture Amsterdam.**
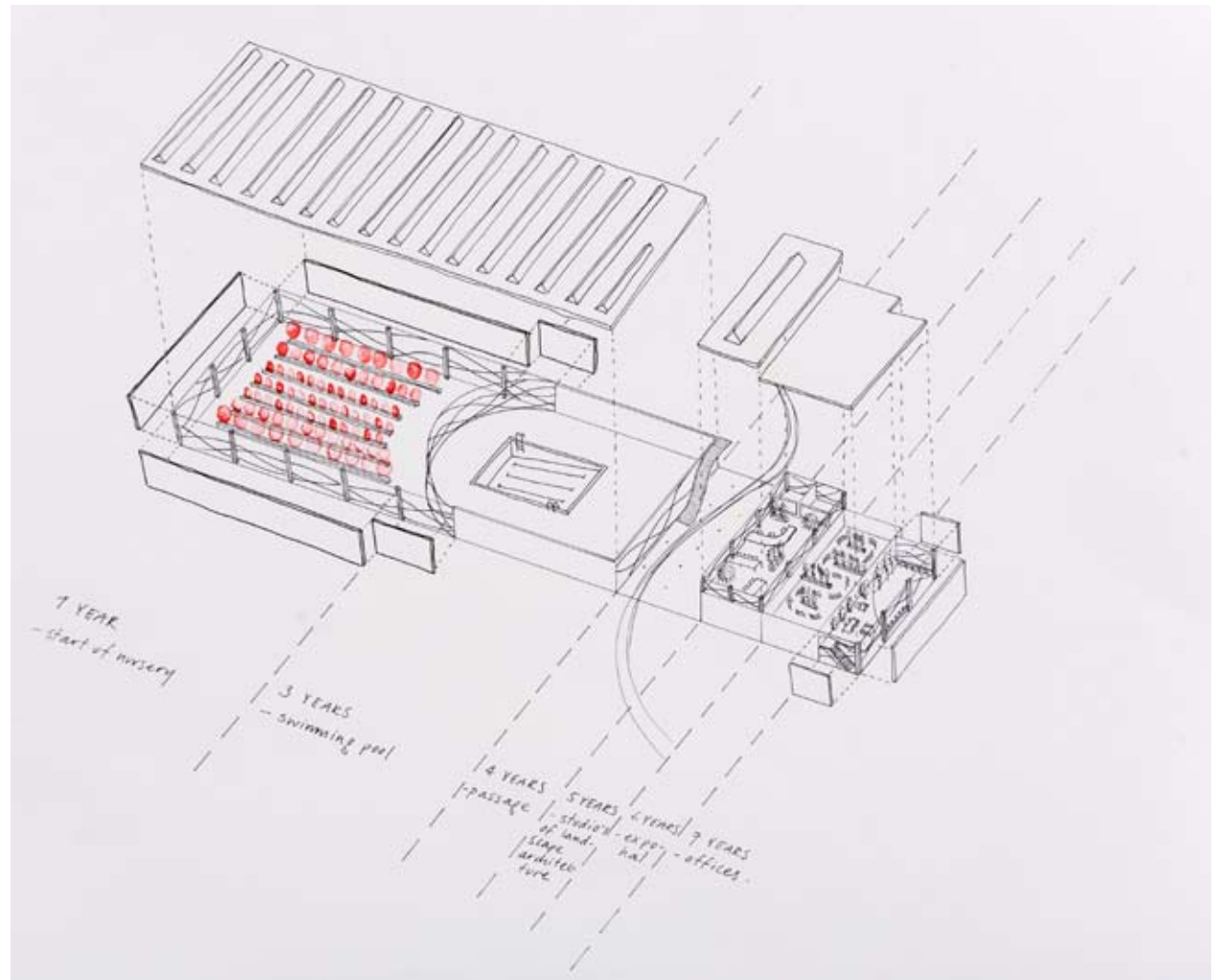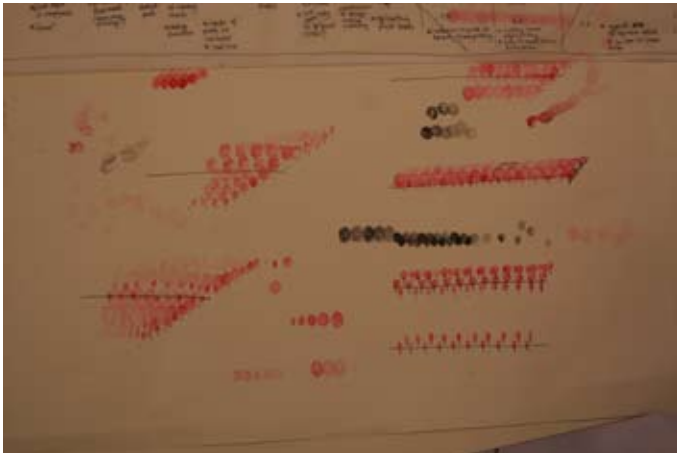
Fig. 4.71c *Drawing Time Now!* **Development of a forest over 25 years from left to right, 2013, Academy of Architecture Amsterdam.**
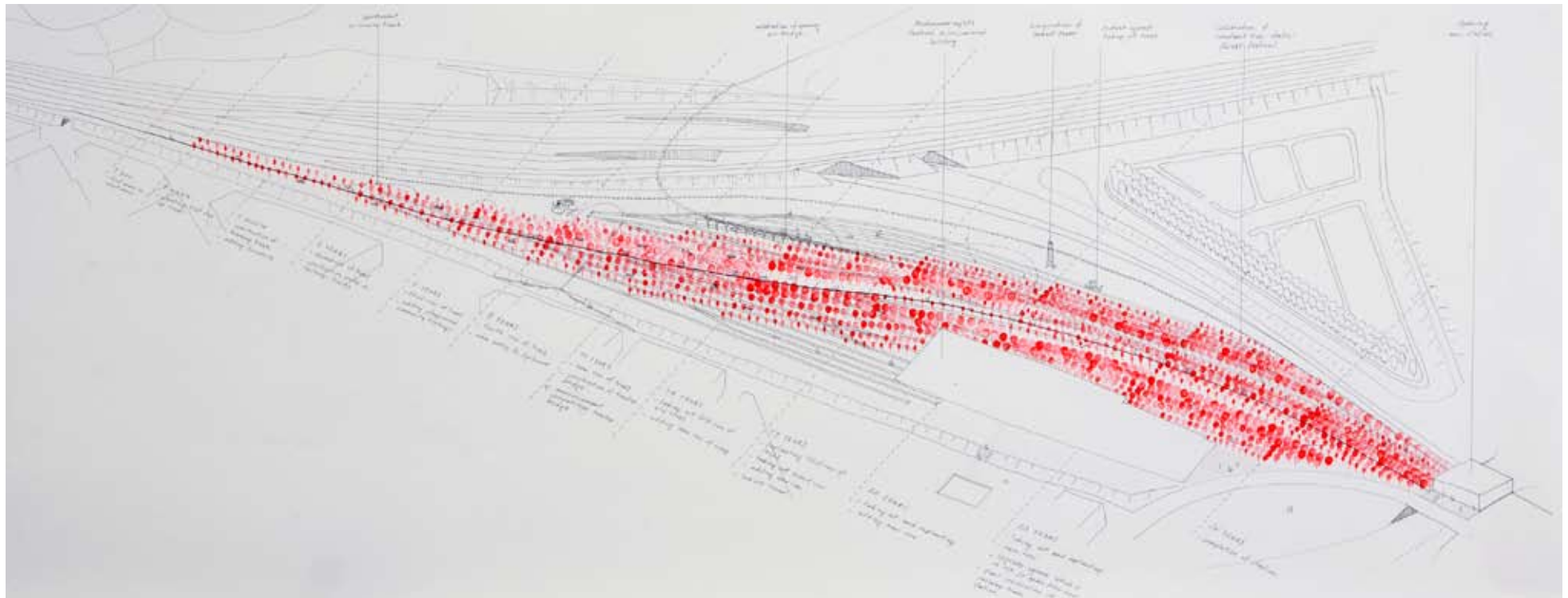
Fig. 4.72ab *Dancing drawings*.
Drawing as a meditation, prepar-
ing for performance, 2013, DasArts
Amsterdam.
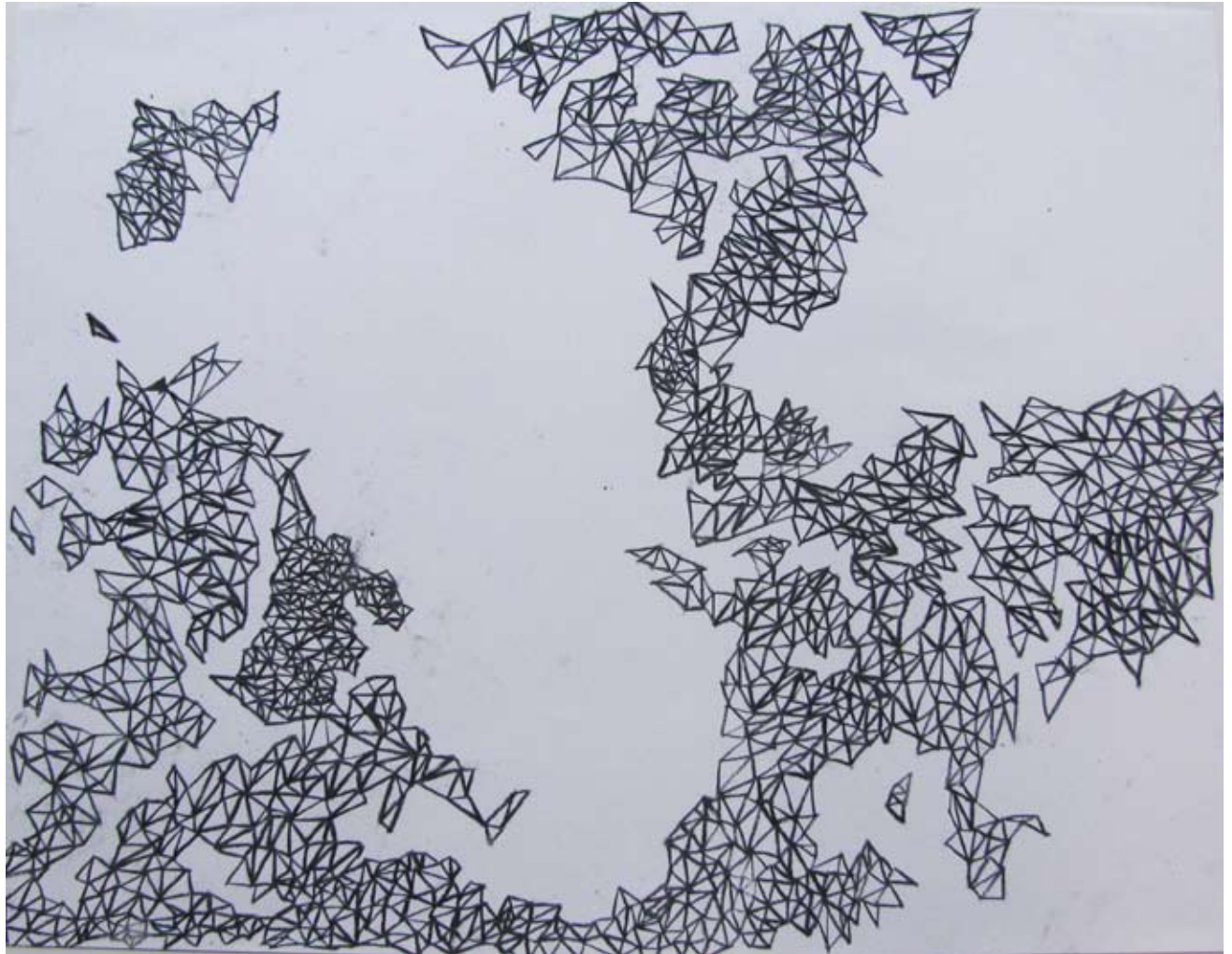
It is quite a stupid action to fall on your both knees.
It is like a light between body, mind and gravity.
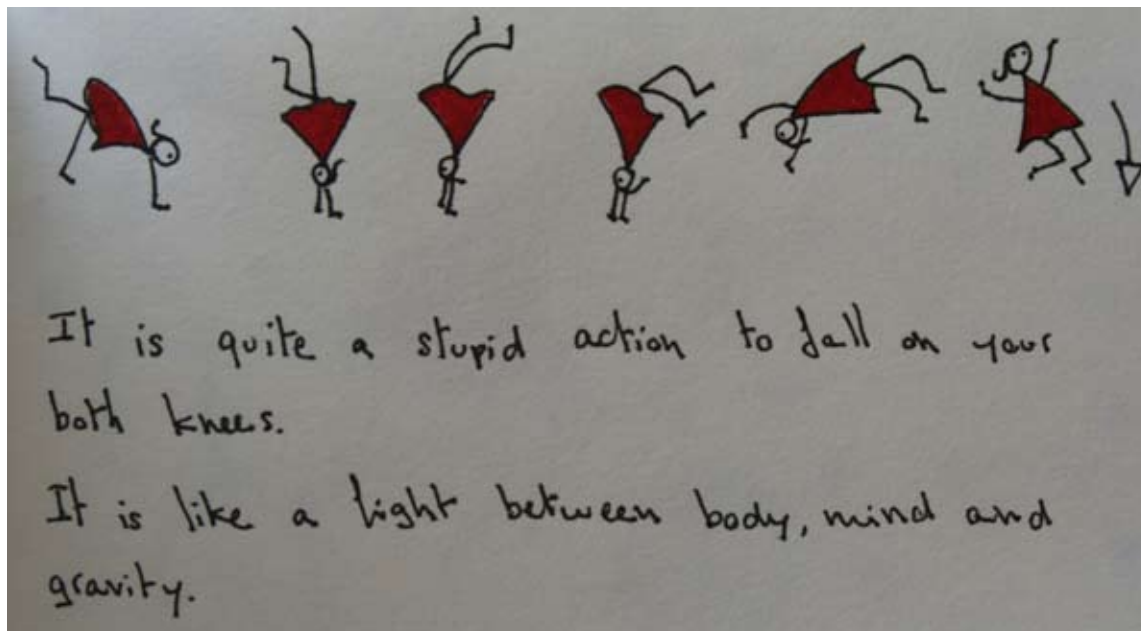
Fig. 4.74ab *Dancing drawings*. **Dialogue between drawing and performance, 2013, DasArts Amsterdam.**
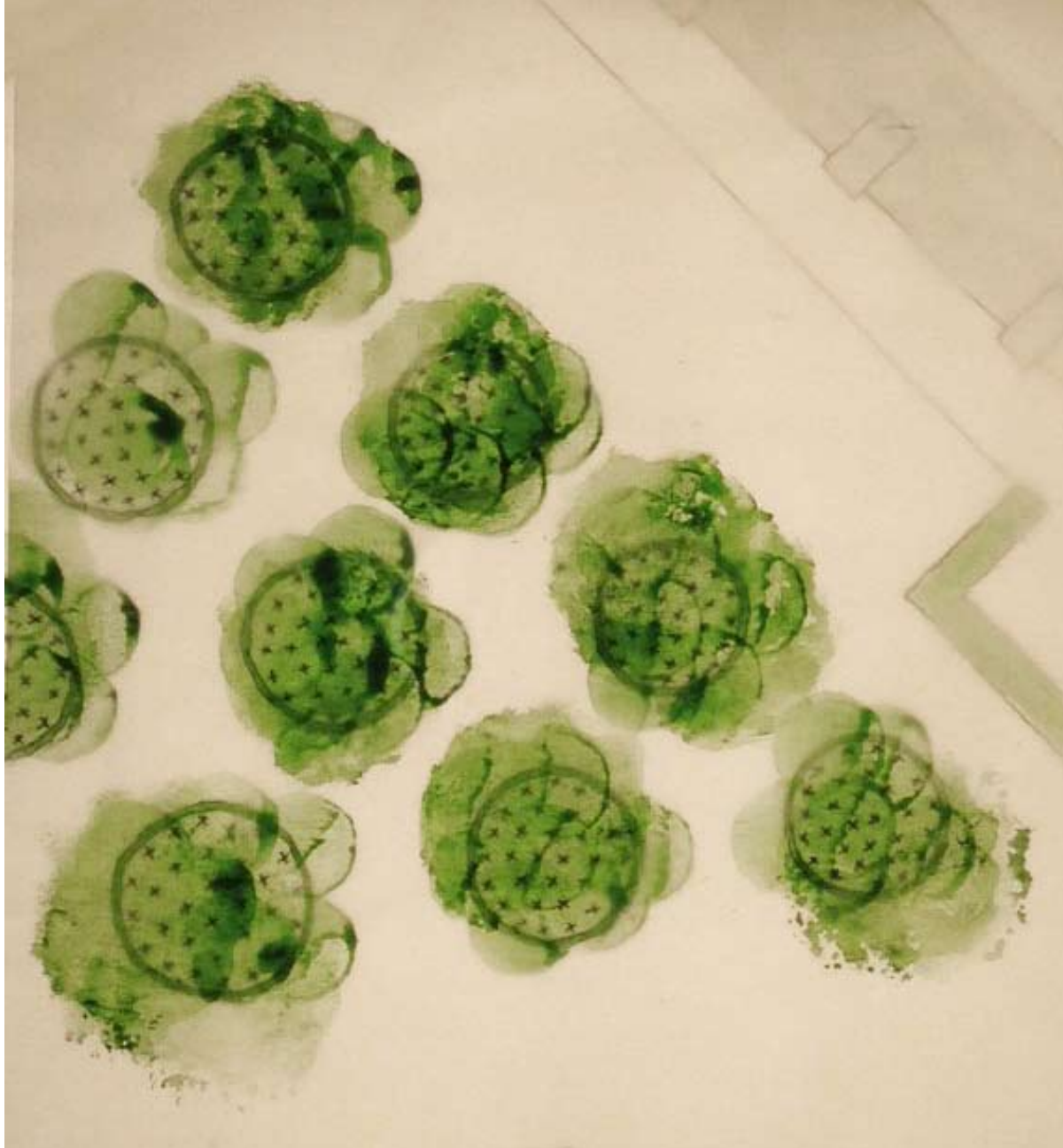
Fig. 4.75 *Højstrup Parken revisited*, **watercolour as a means to see through layers in time, 2015, Copenhagen University (partial).**

Fig. 4.77 *Højstrup Parken revisited*, **an analisys of what is not there anymore, 2015, Copenhagen University.**

Ecological and economic benefits of urban ecosystem management in Højstrup Park

Year	Number of oak trees (*Quercus robur*)	Carbon dioxide sequestration per tree (kg/year)	Number of thinning	Wood biomass of cut oaks		Wood products from thinning	Wood pellets	Heating surface area during five months	Wood chips Dry ton/cubic meter	Mulch for allotment gardens depth 5 cm
1954 (establishment year)	900	-	Natural reduction 1954-1964	-			-	-	-	-
1964	850	-	Thinning I 1964-1974	626 removed trees × 0,015 m^3 (age 18)	$9,39\ m^3$		4,6 tons	184 m^2	8,7 tons/ 23,5 m^3	470 m^2
1974	224	3,1 kg (age 20)	Thinning II 1974-1984	108 removed trees × 0,048 m^3 (age 24)	$5,2\ m^3$		2,6 tons	104 m^2	4,9 tons/ 13 m^3	260 m^2
1984	116	21,4 kg (age 30)	Thinning III 1984-1994	80 removed trees × 0,19 m^3 (age 36)	$15,4\ m^3$		7,7 tons	308 m^2	14,4 tons/ 38,5 m^3	770 m^2
1994	67	48,8 kg (age 42)	Thinning IV 1994-2004	31 removed trees × 0,38 m^3 (age 45)	$11,8\ m^3$		5,9 tons	236 m^2	11 tons/ 29,5 m^3	590 m^2
2004	36	88,1 kg (age 52)	Thinning V 2004-2014	7 removed trees × 0,7 m^3 (age 56)	$4,9\ m^3$		2,45 tons	98 m^2	4,5 tons/ 12,2 m^3	244 m^2
2014	29	131,7 kg (age 60)	-	-	-		-	-	-	-

Muukkonen P., Mäkipää R. 2006. Biomass equations for European trees: addendum. Silva Fennica 40 (4): 763–773
Møller C. 1933 Bonitetavise Tilvækstoversigter for Bøg, Eg og Rødgran i Danmark (Tabel-larisk). Særtryk af DST, LXXIII

Fig. 4.78 *Højstrup Parken revisited*, do-it-yourself management of time, 2015, Copenhagen University

7

As newly planted the oak seedlings are fragile to wind.

When the oaks reach a height of 2-6 meters they are less fragile to wind, but more fragile to shadow .

Therefore remove the hedge so it does not over shadow the oaks.

Ligustrum hedge
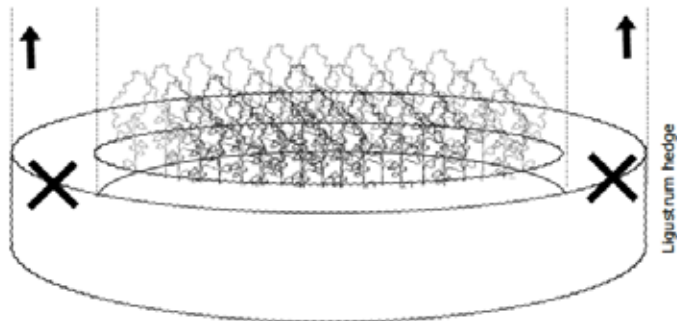
16
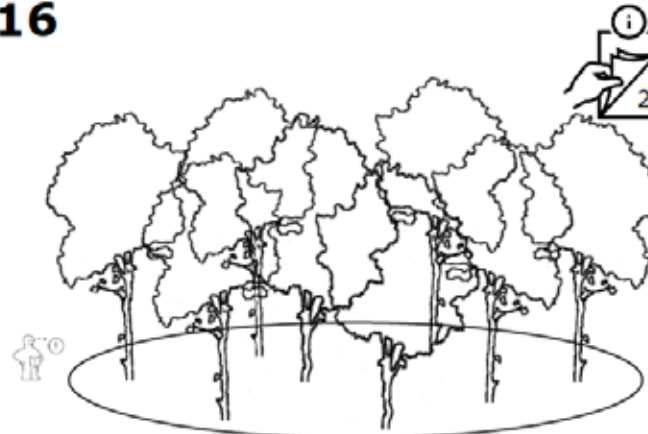
6-8 oaks per planting circle

17
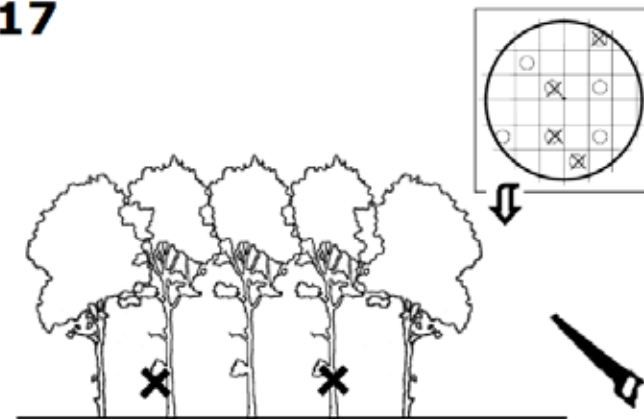
Thin approximately 50% evenly

Fig. 4.77 *Højstrup Parken revisited*, **sectional portraits of trees released over time, 2015, Copenhagen University**
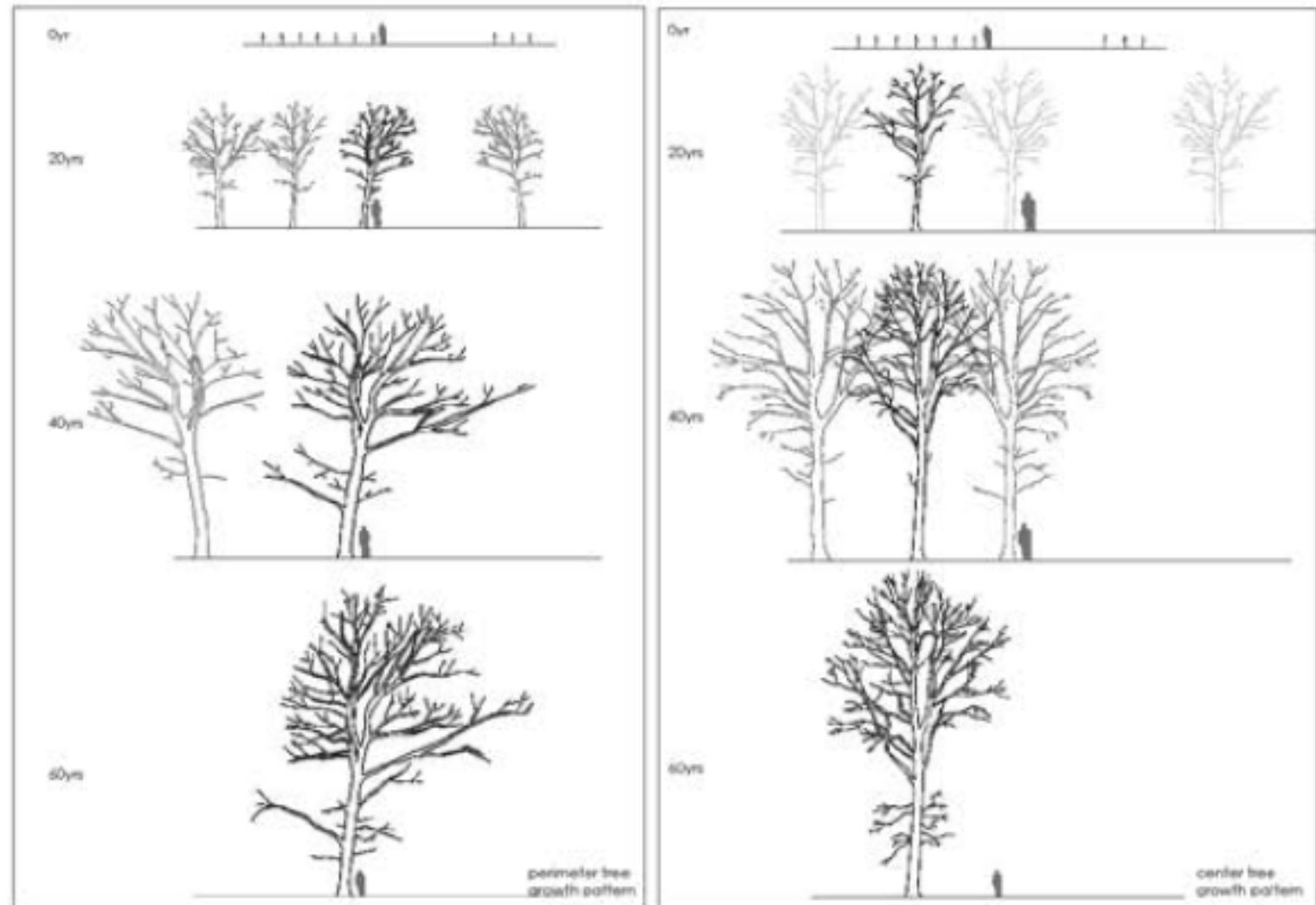
Reflection

Can aspects of time be present in landscape architecture drawings? Which types of representation are suited to doing so? Is it done in today's practice, and if so, how? As discovered via interviews and in collecting drawings, daily practice is restricted by a lack of instructive examples and the (assumedly) difficult position of representations of time in communicating design projects. However, both the exploration of literature in Chapter 3, and a set of successful examples suggest that the representation of time is very possible. In these design experiments the researcher can be seen as a virtual client, explicitly asking for representations of time. Individual results of the experiments can be judged as starting points for discussing promising ways to represent time. Chapter 1 positioned this research in the domain of pragmatism. This philosophical school expects theory to be instrumental – pragmatism, as Dewey said, 'insists upon the possibilities of action'. [64] It has been claimed in the professional designer's community and in scholarly reflection that competitions and workshops are a space for innovation. In Chapter 3 the École des ponts et chaussées was presented as a space where fundamental innovation in the domain of drawing was achieved. [65] Today, many educational programs of (landscape) architecture more or less follow the idea, an example of which was presented by Schön, that the design studio is a simulation of practice. [66] In such a view it is less obvious that an educational program is an independent realm with its own aims. Design experiments as done here attempt to, in the tradition of the École, explore innovation in drawing in itself and to explore the 'possibilities of action'.

These experiments show how fragile the level of control is, if we think about design as a method to retrieve answers to questions in a verifiable way. How far can results be defined by the conditions in which they are produced? For example, would it make a difference if some of the participants were explicitly asked to deliver representations of time, and others not? The fragile level of control is a serious constraint if we look at these experiments from a scholarly perspective. But that is a problem shared with many other experiments in design, and such constraints can be relieved, for example by understanding the experiments *Drawing Time Now!* and *Højstrup Parken revisited* as the first parts of a series. In keeping the conditions as much as possible the same, small but decisive variations in what is asked for can be made. Or, by reversal, variations are avoided, as it is clear beforehand that participants will be different. Participants are probably the most haphazard factor, both in their individual background and the chemistry of their collaboration. It is part of the culture of design that the context and conditions shift, and are redefined. Even the fact that in some cases a score was explicitly asked for does not guarantee that a score is produced! In fact, this research sets out an agenda of consecutive experiments, with different set ups, to be carried out in education or practice, testing out a range of hypotheses. Carrying these out will also help to gain insight into the relationship between the set-up of design experiments and their results.

An important goal of these experiments is to see if new ways of representing time can be discovered, and to reflect on how such discoveries could be applied in practice. However, the outcome of these experiments is not only about drawings. It is just as important is to observe what happened during the experiments. This

[64] Thayer 1982: 33.

[65] De Jong 2008: 74-75 and Picon 1992: 217.

[66] See Schön 1983.

[67] See Goldschmidt 2003.

[68] See Corner 1992; Torres 2009, Amoroso 2012 and Balmori 2014.

[69] See Goodman 1976.

[70] Amoroso 2012: 92-99.

[71] See Loudon 1840/1988.

[72] Corner 1992: 146, 149.

is an instance of *backtalk*: How does drawing as activity, and how do drawings as artefacts, influence the thinking on next moves to be made? [67] Discussions on representation, graphic aspects and the issue of time are essential, both as a learning strategy for the participants and to explore the research questions. How are aspects of time defined in particular situations? In what way can they be represented and how would that be appealing in graphic terms? Tests are done, first tries are rejected - even drawing as such may be rejected. The experiments also revealed an insight into how far the themes spoken about in this research are present in educational programmes. These programmes are very formational for the basic assumptions on how landscape architects draw. Plan, section, diagram and visualization are dominant in that basic scheme - and give little importance to indications of time. Many of the students revealed to be rather alone with their interest in the representation of time, as in most schools this was not explicitly addressed.

The design experiments depart from the representational needs of landscape with regard to time, in line with the argument by James Corner in his essay 'Representation and Landscape', Torres' challenge to develop a landscape-specific way of drawing and Amoroso's and Balmori's overview of current innovative attempts in landscape representation. [68] Obviously, this does not solve the presumed resistance of the client or the larger public, as discussed in the interviews, but as it is acknowledged that drawings have influence on design conversations, new ways of drawing may open new doors. Experiments that do not follow conventions in that sense can be very instructive. With reference to Nelson Goodman, the experiments can be judged as exercises in notation.

[69] In particular, Let it grow resulted in a number of innovative notational explorations [as in Fig. 4.64; 4.65ab; 4.66abc / Exp. 4; 5ab; 6abc]. Many of the outcomes in this experiment are to be understood as diagrams, often consisting of small multiples. They notate the process in an abstract way and engage in (the change of) form, both as a prediction and a registration. Those drawings that included actions to be taken at certain moments, as well as agents to undertake such actions, could be classified as scores. Amoroso refers to the diorama. [70] But the *Kijkdoos* experiment, with its use of slides [Fig. 4.61ab / Exp. 1ab], relates even more to the work of Humphry Repton and his 'before' and 'after' slides, especially given the gestural quality of folding out or pushing in. [71] The specific example of one person's panorama [Fig. 4.63 / Exp. 2] in fact answers one of the difficulties of the representation of landscape as noted by Corner: Landscape is around us, and not before us. [72] The diorama experiment also taught us something about presentation. Dioramas are viewed individually, and create a very intimate experience. Dioramas require a certain concentration in which all other parts of the design presentation are, in that moment, literally out of sight. This suggests different ways of controlling the public's experience in design presentations. *Dancing Drawings* tested the borders of drawing both as verb and as noun. What is it a drawing does? What role can a drawing have in conceiving a performance? That opened up discussions on a drawing being 'emancipated' into the physical world of the performance [Fig. 4.75ab / Exp. 14ab], the act of drawing as the main focus [Fig. 4.72ab / Exp. 12], and the drawing as an ever unfinished accumulation of traces [Fig. 4.73abc / Exp. 13abc], at every given moment a possible inspiration for a performance.

In *Drawing Time Now!* participants took up the challenge and really concentrated on time. As a consequence the aspect of time was (too) heavily stressed in comparison with other relevant aspects, such as leisure, or nature, or infrastructure connections. A professional practitioner therefore might find the results beyond his or her needs. But we have to make a distinction between the drawing as an instrument within the regular practice of producing plans and constructing landscapes, and (the) drawing as an independent mental space with its own history, expectations, possibilities and problems. Again, I mention the École des ponts et chaussées as an environment where drawing was exercised for its own sake. The drawing by Valentina Chimento, Astrid Bennink, and Hannah Schubert [Fig. 4.71abc / Exp. 11abc] is a good example of such an independent mental space, challenging our reading abilities. This comes back to the basic idea that architectural drawings are codified, and that we have to learn to read the code. Equally relevant was the contribution by Mathilde Christmann, Yukina Uitenboogaart and Emilie Gallier [Fig. 4.70abc / Exp. 10abc] as an exercise on how to represent change, erosion or weathering in the physical landscape, as well as on posing questions in relation to presentation. A book -their product- allows control over the narrative of what happens over time. To present the book by means of video had a striking effect; the presentation became a performance. This left open the fascinating question of whether we had witnessed in this performance a work of art, or the representation of something still to be built. It is precisely this aspect which is so relevant for practice and education. Working consciously and explicitly with time, and exploring ways to represent this, seems to challenge regular modes of landscape architectural presentation. Animated film, which is certainly interesting when speaking about time, also demands new concepts of presentation: Is film an independent product, with its own music and text, or is it just a sort of drawing, part of a larger presentation? Against the background of Chapter 3 we must conclude that most of the techniques as used here are not new at all, but are indeed unusual and put forward questions related to the traditions of presentation.

It was intended that the concept of the score, and its application in the context of landscape architecture be explored, especially in *Drawing Time Now!* The outcome was rather ambiguous. It was revealed to be a difficult concept. Similar to some of the examples from practice, such as the GROSS. MAX Tempelhof one [Fig. 4.33 / drawing 32], it was complicated to read, and most of the participants ended up using other types of drawings to represent time. However, a number of interesting drawings were produced, and this contributed substantially to an idea of what the score can be. It helped to define the score as a type of representation that shows all relevant aspects of time in a design, the time scales in which they operate, the moments at which they become manifest, the actions by which they are provoked and the persons or institutions doing so. In discussing this it became clear that the score is already subject to very specific interpretations and meanings, mainly due to the revival of interest in the work of Lawrence Halprin. [73] Scores are used in his work in a much more broad way. Therefore, the recent interest in Halprin is also a problem: existing interpretations confuse the search for the possibilities of the score today. Nevertheless, I share his hope that scores will lead to new ways of designing landscapes whose essential nature is complexity. [74] Both the results of the experiments and this discussion on the score inspire a shift in attention from a specific

[73] See Halprin 1969.

[74] Halprin 1969: 1.

[75] Corner 1992.

[76] See Balmori 2014.

type of representation towards a group of types: could the score be part of a group of 'temporal representations', as opposed to spatial representations such as the plan and the section?

Torres urged landscape architects to react upon Corner's rich article 'Representation and Landscape. [75] Balmori argued that it is curious for a discipline in which everything is in constant change that there is so little in landscape representation that reflects time. [76] Today's landscape architecture, probably due to its professional success, neglected innovation in its standard of representation. Certainly techniques changed, but in a more fundamental sense landscape architecture relied on the drawing conventions as handed over by the architecture tradition. Many of the experimental results as shown here can contribute to a fruitful debate on representation and on the role of drawing. This is a call for theory, as it challenges the taxonomy of types of representation, ways of presenting landscape architecture and the position of designers between clients and the larger public. And, obviously, it challenges practice to transform these emerging ideas into realistic innovations.

5. In between history, theory and current practice - a wider perspective

5.1 Introduction

It is unclear what the place of the representation of time in present-day landscape architecture is. This has to be the conclusion one draws from the results presented in Chapter 4. Even if an inspiring history of ideas is there (see Chapter 3), current practice is hesitating, and a cross-section of the current Dutch and West-European offices were only able to supply a limited number of drawings explicitly depicting aspects of time. There appear to be very few drawings in which the title or caption unmistakably mentions time as the subject. Thus, putting together a collection of drawings is in itself subject to interpretation, which just underlines the lack of clarity. The chosen examples, however, do show that it is possible to represent time. They also show that this is done only if necessary. It is precisely this proviso that characterizes the problematic position of representing time; it happens, but only under certain conditions, as was revealed in interviews. This is surprising. Landscape architects are keen on distinguishing landscape architecture from architecture, and one of the arguments supporting that specificity is the aspect of time: A landscape grows and changes. [Fig. 5.1] That is why most landscape architects believe time to be such an important feature of landscape architectural design - even if they not always *draw* it. Obviously it is important to distinguish between *thinking about* aspects of time and *representing* them. Aspects of time are often part of the design but are taken for granted, so that no further attention is given to time in the drawings. Equally, the interviews have shown

that these aspects of time are often not explored in drawings, based on assumptions of what the client desires, or how the general public will react. In the Netherlands or Northwest Europe we find neither a lively debate on nor an intensive exploration of the representation of time. That is certainly amazing, as the rich history of ideas as explored in Chapter 3 reveals the historical foundations of what could be a much more solid approach to time than the one we see today. A more solid approach would help further professional emancipation. In this, drawings, texts, realized projects and theory have a mutual relationship: Practice needs a clear frame for the representation of time, and vice versa the development of theory responds to the production in practice and the innovation that comes with it.

This chapter wishes to offer a wider perspective by connecting theory, history and current practice. It does so by focussing on particular drawings as found in current practice, specific periods of history and particular concepts as found in theory. These are taken as a point of departure for a more detailed argument. Why, for example, is Corner's written work so relevant for a better understanding of this problematic? How can a particular drawing by Lubbers be used as a driver to discuss a Dutch landscape architecture culture, and therefore a Dutch approach to the representation of time? The overarching message of this chapter is that landscape architecture as a discipline and as a profession can not only no longer neglect time is an essential dimension of

Fig. 5.1   Explaining the process of growth. Competition entry for Danevirke, B+B 2009, visualization.

landscape, but must also take decisive steps with regard to theory, practice and education. In that sense, the meandering organisation of this chapter is telling: it moves from a plea to revalue part of the discipline's history to a deepened interpretation of texts and theoretical concepts to an extended understanding of actual drawings, and from the organisation of professional practice to the future oriented theoretical proposition of *temporal* representations, including the score - the last paragraph being an explicit challenge for practice, theory and education.

5.2 The meaningful invention of slides: re-assessing the discipline's history

'On lifting up the slip of paper, or slide, the landscape is seen as it will appear when the operations of the landscape-gardener are completed'. [1] This is how the editor of *Sketches and hints on landscape gardening* in a bulky footnote explains the reader of this 1840 book on the work of Humphry Repton what a slide is, 'undoubtedly a very ingenious invention'. [Fig. 5.2ab] It is, having seen the collected examples of the representation of time in current landscape architecture practice in Chapter 4, somewhat bewildering that so far back in time, even before landscape architecture was coined, a principal step was taken in the representation of time. Bewildering, as on the basis of the preceding chapter we only can conclude that the position of the representation of time in present-day landscape architecture is unclear. Against the background of the lucid contribution Repton gave, too little seems to have been achieved since. Repton represents a period in pre-landscape architectural thinking, drawing and building in which time came

to have an important place – see the work of Hirschfeld and note how we can trace relevant contributions to a vivid debate in the work of Wimmer and Laird. Repton, however, stands out amongst his fellow designers as he was able to link the issue of time with representation and practice, and he managed to both theorize on that, and apply it in his own work. In *Sketches and hints on landscape gardening* Repton argued that the term gardening did not cover the work of 'improving the scenery of a country'. [2] He coined the term 'landscape gardening'. This term was more appropriate, as it pointed towards 'the united powers of the *landscape painter* and the *practical gardener*'. Just as the term *paysagiste*, coined in the same decades, this helped to *shape* an idea of the profession of landscape architecture. But it also alludes to drawing. The painter is seen in Repton's quote as the one conceiving a plan, and the gardener as having practical knowledge in planting, digging, and moving earth. It is exactly the faculty of drawing (or painting) that made the transformation from gardener to landscape architect possible. As De Jong argued, in the time of Repton 'the existing practice of intervening on site without the benefit of a plan or a ground plan was replaced by a practice in which any intervention was preceded by a visualisation on paper'. [3] In the case of Repton, 'the faculty of drawing' included these ingenious slides. Repton thought about slides in a very pragmatic way -as an instrument to convince his client- and in that he is a prefiguration of the 20th-century practitioner. In the case of Repton, being pragmatic was never far away from being reflective. This made him conceive the phenomenon of the 'Red Books' as a new way of presenting his work to clients. Slides were key in this as they were 'the only part of my labours which the common observer has time or leisure to examine'. [4]

[1] Loudon 1840/1988: 31.

[2] See Loudon 1840/1988. This concerns a revised reproduction by Forgotten Books, London, 1988.

[3] De Jong 2008: 13.

[4] Loudon 1840/1988: 33. The remarks made by the editor, as discussed in this passage, are part of a long footnote. On the same pages some lines of the main text are displayed. The remark of Repton is part of the main text.

Fig. 5.2ab   Plate 9 made for Hanslope estate, including slide. Drawing by Humphry Repton, 1791.

[5] Ibid.: 3.

[6] Ibid.: Introduction. This text stems from the Biographical notice of the late Humprey Repton written 'expressly for Loudon's Edition of Repton's Landscape Gardening'. The text precedes the collected writings of Repton (Loudon 1840/1988).

[7] Ibid.: 169-181. The typography follows the 1840 version, hence the capitals.

[8] Ibid.: 181.

[9] Ibid.: 467.

[10] Ibid.: 468.

[11] Ibid.: 65.

[12] Ibid.: 80.

Immediate and future effect

The introduction of Loudon's 1840 edition points out that 'the monumental works of the landscape gardener' are fragile: 'Time makes unrelenting havoc with designs which, during the first ten or twenty years, may have afforded unmixed satisfaction'. [5] The 'master-hand that first laid the foundation of the improvement' may not be there anymore, but it is by 'Mr. Repton's printed works alone that his well-earned fame can be properly appreciated'. [6] This immediately puts Repton's work in a context of time, and it points out the importance of presenting landscape architecture – and archiving it, for that matter. Repton himself was very aware of the dimension of time in his work, as we already saw in Chapter 3. The best example of this is a chapter in Loudon, appropriately titled 'Of PLANTING for immediate and for future Effect', indeed written in this way. [7] Here, Repton discusses that in some cases trees of larger size are planted to evoke present effect, whereas other plantations are meant for future effect. It is a given thing that such future plantations take time, and 'in a naked country, the outline, however graceful, will appear hard and artificial; but when the trees begin to require thinning, a few single trees or groups may be brought forward'. [8] His clients were often impatient, and asked for more trees. In a letter to a client Repton defends the landscape gardener who sees things 'as *they will be*'. [9] This is an important quality, as few persons consider the future shape of trees. A young tree that seems to be too little to create a certain effect easily, distort views when it starts to grow and 'few who have planted such trees, have courage to take them away after they have begun to grow'. [10] Repton was also aware of the fact that a landscape architect operates in an existing landscape. In discussing his design for the estate of Hanslope he mentions the large trees planted in avenues. Even if this was the 'false taste of former times' the trees provide shade, and they should be kept as long as the new plantations are not big enough to do the same. In his design only a few trees are taken away to 'induce to forget that they stand in rows'. [11] The avenue-effect will easily be remedied when, in the long run, 'many of the old trees shall be either taken down or blended into closer groups'. [12]

Landscape cannot start on a white sheet of paper. There is always a before – an existing landscape. Repton's slides solve that in drawing, and in that it is a conceptual thought on a specific landscape architectural drawing culture. At the same time, we could hold it against Repton that he considers only *one* 'after', probably the final situation, and in that respect, one could critically question his slides. His textual contributions however, suggest a rather accurate awareness of the development of designs over time, thinking in long stretches of commitment. One slide showing the 'after' stands for this commitment to time. It probably also was the pragmatic answer of the practitioner Repton, who knew that it had to be paid for by the client. Such tension makes the work of Repton highly relevant for today, and we can see that slides, also the modern technical version, have found their way into landscape architectural representation and presentation.

Here I come back to Humphry Repton rather extensively as it occurs to me that we lost something in the course of history. Few know Repton's textual work. It is important to support the positive but fragile engagement with time and drawing in current practice by digging up what is there already. We cannot escape the conclusion that Repton offers us quite a comfortable starting point

for thinking about time – and challenges us to take up the good work. Ironically, Repton and his slides also received criticism, and even this criticism is insightful for us. Stephen Daniels notes that Repton's slides in their time were judged with reservation. Critics spoke about 'stage tricks' and 'rural pantomime'. His drawings were accused of making the 'before' look worse than it was. [13] Daniels provides an interesting quote from the poet Mason. As Mason wrote, Repton 'can draw in your way very freely… by this means he alters places on Paper & makes them so picturesque, that fine folks think that all the Oaks &c he draws on Paper will grow exactly in the same shape and fashion in which he has delineated them, so they employ him & at great Price'. [14] This critical note could just as well apply to some of today's visualizations!

Drawing and text
From today's perspective a focus on drawings is almost self-evident if we want to speak about the representation of time, as there hardly seems to be any alternative. It is good to remind ourselves that drawings did not always have such an autonomous position in the history of the communication of designs and design arguments. What about text, for example? I already mentioned Adrian Forty, who considered it striking how little discussed language has been compared to drawing. [15] Forty, although rooted in architectural history, refers to John Evelyn – his writings on forestry were mentioned in Chapter 3. Evelyn, whose interests were wide-ranging, also wrote about the architect as a phenomenon. He saw the architect as divided into four persons. One of those was the 'architectus verbarum', or 'the architect of words, skilled in the craft of language, and whose task it was to talk about the work

and interpret it to others.' [16] It makes Forty pose the question: What can language do that drawing does not? [17] '[Drawings] presuppose that one is *outside* the object: subject and object are conveniently separated by the surface of the paper', argues Forty, and he continues that 'language places no such demands upon us: the words themselves carry no illusions, but act directly upon the mind'. [18] That is a thought to take seriously, as today, at least by fellow practitioners, design is mainly judged by its built products or its drawings, and seldom by its writings.

Keep the client connected
I refer to Forty, as he leads me to Frederick Law Olmsted, again a nineteenth century landscape architect (Olmsted indeed used that word) that is very relevant for the exchange on time, landscape architecture and representation. In the case of Olmsted, language in written text is an essential and strategic instrument. Reading the many letters, articles and pieces of advice Olmsted wrote, it becomes clear that it was his primary problem to keep both the client and the public connected to the ambitions of the project, even if it might take decades for such ambitions to be realized. Olmsted had to permanently fight 'the confusion of the popular mind in the early years of a large park work' as this only 'gradually passes off with an experience of the benefits resulting from an habitual use of the finished ground. The chief peril from it occurs during the period of constructive operations, and before any important results of growth have been attained.' [19] For Olmsted written text became so important that he even *paid* to have articles placed in journals or magazines to reach the public if he considered it essential for continued support, or to prevent

[13] Daniels 1999: 47

[14] As quoted in Treib 2008b: 44. The text here, including what can be mistaken for a failure, is exactly as Mason is cited.

[15] Forty 2004: 14.

[16] Ibid.: 11.

[17] Ibid.: 29.

[18] Ibid.: 41.
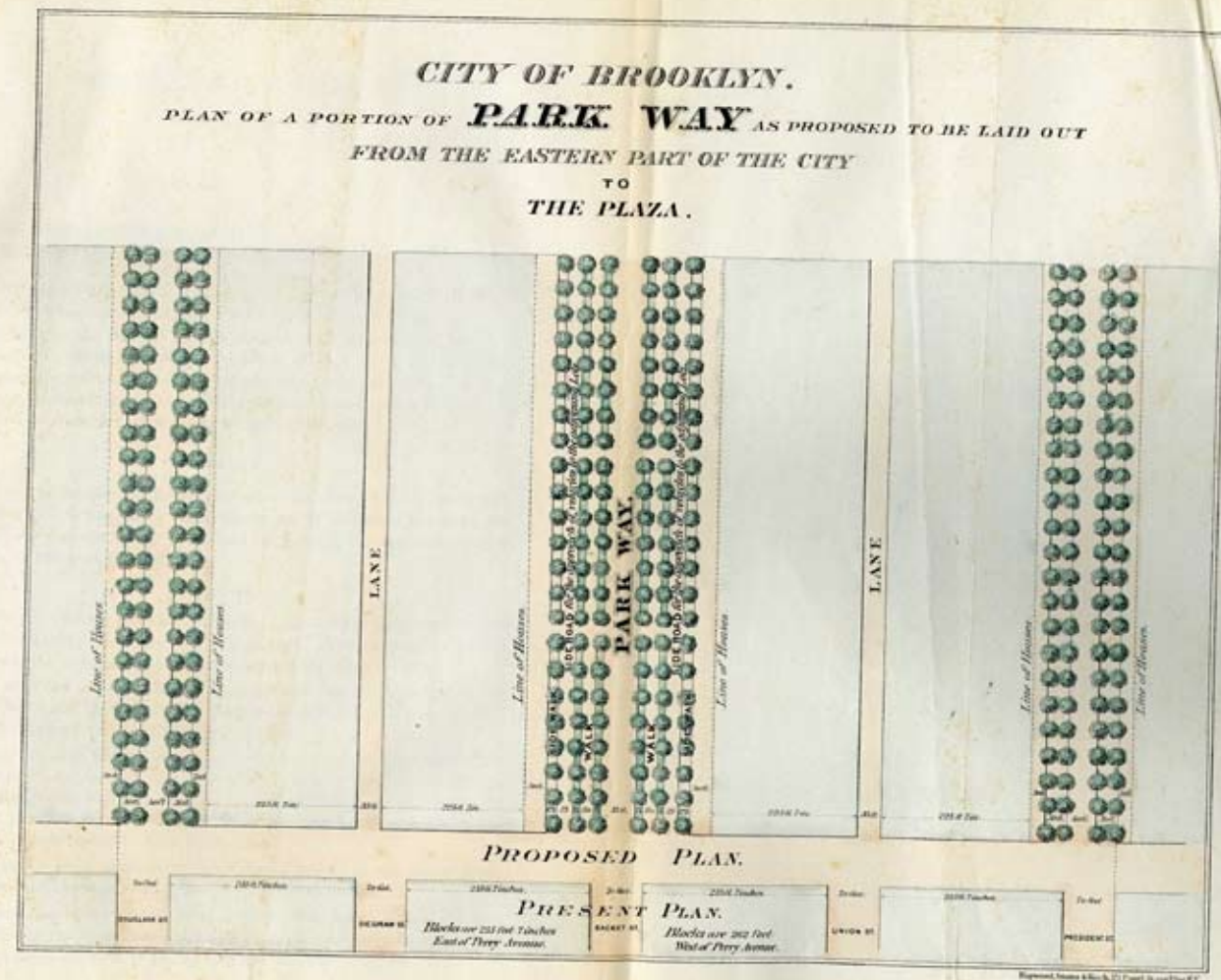
[19] Beveridge and Hoffman (Ed.) 1997: 465.

Fig. 5.3 *Plan for portion of parkway*, **Brooklyn. Drawing by Frederick Law Olmsted, 1868.**

commissioners from loosing grip of the original intentions. Often, Olmsted directly addresses his commissioners: 'Wisely or unwisely you have bought the property, and must do something with it.' [20] Yet it is more the commitment over the years he cared for. No plan will at the outset be so complete that no additions or modifications will be made, but 'it is of the utmost consequence that the essential ends should be clearly seen before the work is organized, and that from the moment it begins to the end, be that five or fifty years hence, and under whatever changes of administration and changes of fashion, these great ruling ends should be pursued with absolute consistency.' [21] [Fig. 5.3, 5.4] With statements like this, Olmsted shows a remarkable strategical insight in the processes of designing and building, and the time involved in that. The drawings of Olmsted hardly show any aspects of time, but Olmsted was certainly interested in time. The growth of vegetation was on his mind. Olmsted was very aware of the time a landscape takes to mature, and thus the value of existing trees. In a text from 1866 he stresses the importance of a large body of existing trees, 'not too old to be improved, yet already old enough to be of considerable importance in a landscape'. [22] His writing capacity is fully shown in his 1870 article on public parks and the enlargement of towns, in which he passionately discusses trees in an urban environment. They are mistreated: 'Thousands and tens of thousands are planted every year in a manner and under conditions as nearly certain as possible either to kill them outright, or to so lessen their vitality as to prevent their natural and beautiful development, and to cause permanent decrepitude.' Can trees not 'remain a permanent furniture? I mean, to make a place for them in which they would have room to grow naturally and gracefully.' [23]

I conclude that we should revalue individual authors such as Repton and Olmsted for their contribution to landscape and landscape architecture theory, and more specifically for their dedication to the issue of time. We should also re-assess the relations between thinking, writing, drawing, making and maintaining, and observe that the drawing is both powerful and limited. And we should acknowledge today's practitioners that try out new roads in terms of drawing, and reflect on that in text. That does not happen very often, but it happens: The offices of Vogt, atelier le balto, Desvigne and H+N+S are forefront runners in the sense that they created projects and landscapes with a clear accent on time; they found ways to represent this and they explicitly discussed time and representation in texts. [24]

5.3 Representation and landscape, an unfinished exploration
James Corner's essay on 'Representation and Landscape' was taken as a point of reference in both 3.2 'Time, landscape and intervention' and 3.3 'Drawing, drawings and the design process', underlining the importance of this text from 1992. In 2009 Desvigne produced a book titled *Intermediate Natures*, and Corner wrote the introduction to it. Almost 20 years after 'Representation and Landscape', this introduction shows that Corner's opinions have shifted slightly. The aspect of time, in particular, is emphasized, so that this introduction comes even closer to the study at hand: 'Desvigne considers landscape architecture as a living art form that is more about cultivation, process, and change over time than it is with more familiar landscape architectural practices such as formal composition and representation.' [25] The emphasis on

[20] Ibid.: 397.

[21] Ibid.: 234.

[22] Ibid.: 91.

[23] Ibid.: 183.

[24] See Vogt 2007; Foxley 2010; Pouzol 2010; *Intermediate Natures: The Landscapes of Michel Desvigne* 2009; Sijmons et al 1998; Sijmons and Feddes 2002.

[25] Corner in *Intermediate natures: the landscapes of Michel Desvigne* 2009: 7.

Fig. 5.4 Plan for *Emerald Necklace***, Boston. Drawing by Frederick Law Olmsted, 1894.**

agriculture 'allows Desvigne to infuse his landscapes with the capacity for growth, change, and adaptation over time, allowing for a loose flexibility rather than an overly deterministic regime.' [Fig. 5.5ab] [26] Young landscapes are especially attractive, according to Corner, because of the 'anticipation of things yet to come'. [27] A new word, 'unfinished', appears in this introduction. Unfinished landscapes are attractive because they hold promise, especially those which develop quickly and surprise visitors with their rash development. For that, 'Desvigne views landscape architecture as a work in process, never really attaining an ideal state at any moment in time, but always exceeding expectations when set in motion over time, when viewed as an active palimpsest accruing new properties, qualities and potentials in time'. [28] Corner's concluding sentences indicate that he extended the interpretation he gave in his earlier essay in several ways, as there is an implicit but unmistakable reference to users, clients and various other parties, different from 'Representation and Landscape' in which users of landscape were absent. Furthermore, Corner starts to talk about much more concrete topics such as rainwater, different from the rather abstract character of the earlier essay. He speaks about landscape as 'instrumental in its effects', such as rainwater storage. In such cases 'technical performance criteria' are required, 'shaped with an artistic twist.' [29] Evidently, this widening-up of Corner's ideas was also helped by the landscape urbanism debate – a debate that is very relevant for any conversation on landscape architecture, time and drawing, but which also marks the different engagement American landscape architecture had with these issues: It was much more present in America than it was in Europe. As Waldheim puts it, 'landscape has improbably emerged as the most relevant disciplinary locus for discussions

[26] Ibid.: 8.

[27] Ibid.: 6.

[28] Ibid.: 9.

[29] Ibid.: 10.

Fig. 5.5ab   Mapping the agricultural landscape to prepare for a future extension of the city. Issoudrun district, Michel Desvigne paysagiste, 2005.
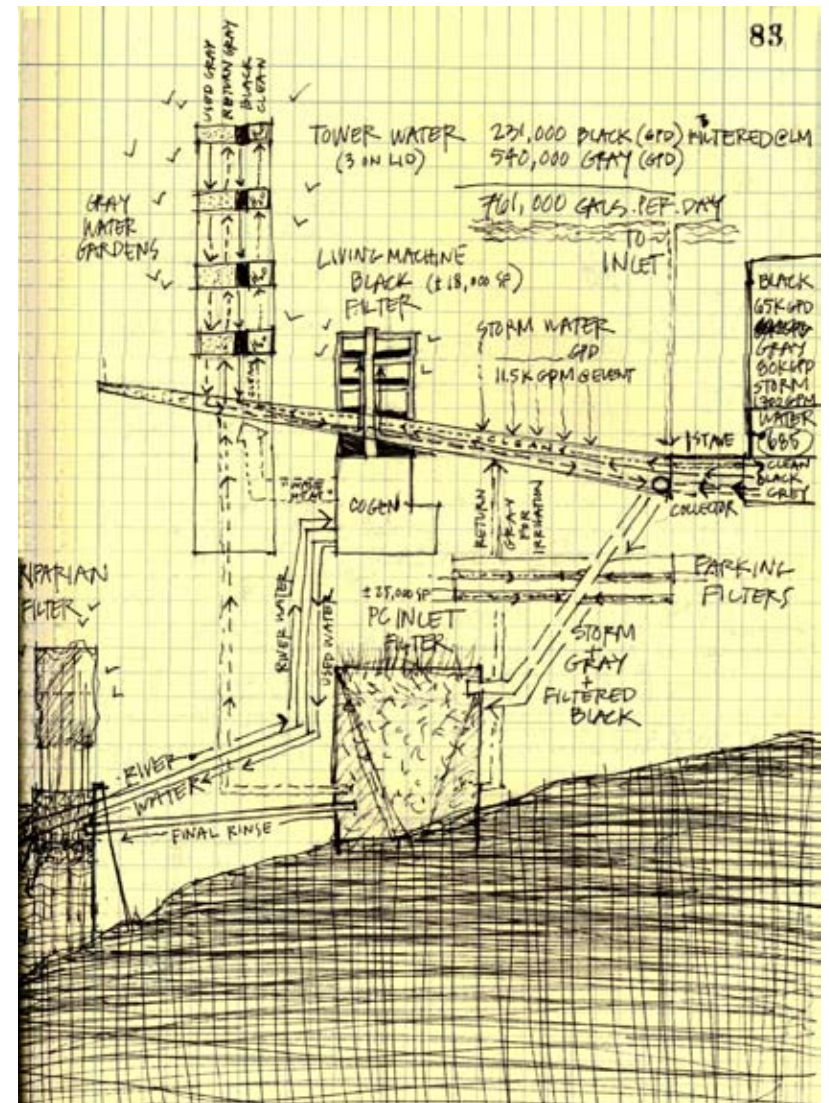
Fig. 5.6 Drawing for *unCity* **project by D.I.R.T studio, 2001.**

historically housed in architecture, urban design, or planning.' [30] The aspect of time plays a role here: 'Across a range of disciplines, many authors have articulated this newfound relevance of landscape in describing the temporal mutability and horizontal extensivity of the contemporary city.'

A discipline-based approach
The reason to come back to Corner is evident: He and related landscape urbanists are taking the first steps – theoretically, anyway – towards a discipline-based approach to representation, one which can facilitate specifically landscape architectural issues. The introduction to the book of Desvigne confirms this, and builds a powerful link to current practice as presented in this study. In *The Landscape Urbanism Reader* Corner explicitly puts the issue of time on the agenda, and stresses the move away from Modernism. There was no place in Modernist thinking for 'processes over time', but our attention needs to shift away from 'the object qualities of space (whether formal or scenic) to the systems that condition the distribution and density of urban form'. Whereas Modernism strongly accentuates form, landscape urbanism regards form as 'a provisional state of matter'. [31] The second issue on Corner's agenda is 'staging of surfaces'. It is about sowing the seeds of 'future possibility, staging the ground for both uncertainty and promise'. This shifts the focus from 'compositional design' to 'operational logic', which in turn leads to another much used word in the rhetoric of landscape urbanism, 'performativity'. A drawing by the American studio D.I.R.T. is not explicitly linked to landscape urbanism, but displays this notion of performance very well. [Fig. 5.6] Putting greater emphasis on the city means that

landscape urbanism has had a great deal of influence not only on landscape architecture but also on urbanism, which embraced these issues earlier and with even more conviction. This is confirmed in Dutch urbanism practice. 'Third, landscape is dynamic, and bears the traces of time. Landscape is constantly subject to change. It is time, momentarily solidified. Multiple dimensions of time are expressed in it. It is a narrative; it tells stories about its history, about its origins and development.' [32] Fitting perfectly into Corner's argument, this is a quote from *Drawing The Ground. Landscape Urbanism Today* by urbanist Frits Palmboom, who followed Corner in the search for 'a kind of urbanism that anticipates change, open-endedness, and negotiation'. [33] As far as Palmboom is concerned, drawings play a crucial role: 'In our drawings we also seek to make the operation of time visible. They visualize strategies in which time and uncertainty play a role. We practice the art of determining things minimally and leaving as much as possible open.' [34] Landscape architecture and urbanism, when compared to architecture, are positioned differently, being 'at the side of slow time, the *longue duree*.' [35] In the collection as presented in Chapter 4 the work of Quadrat comes close to this way of thinking (and drawing). Quadrat positions its work in a tradition of urbanism in which plans are regarded as growing entities that evolve in phases and always leave sufficient room for deciding on the following steps to be made. Drawings do not represent the anticipated end result, but instead speculate on how the city might react to an intervention. [See Fig. 4.27a-c / drawing 25] But obviously it is the work of Desvigne that connects the important work of Corner to current practice as presented here, and to mention it again, a link that is just as much about drawing as it is about writing. As Europeans, we have to acknowledge though

[30] Waldheim 2006: 37.

[31] Corner in Waldheim 2006: 31.

[32] Palmboom 2010: 34.

[33] Corner in Waldheim 2006: 31.
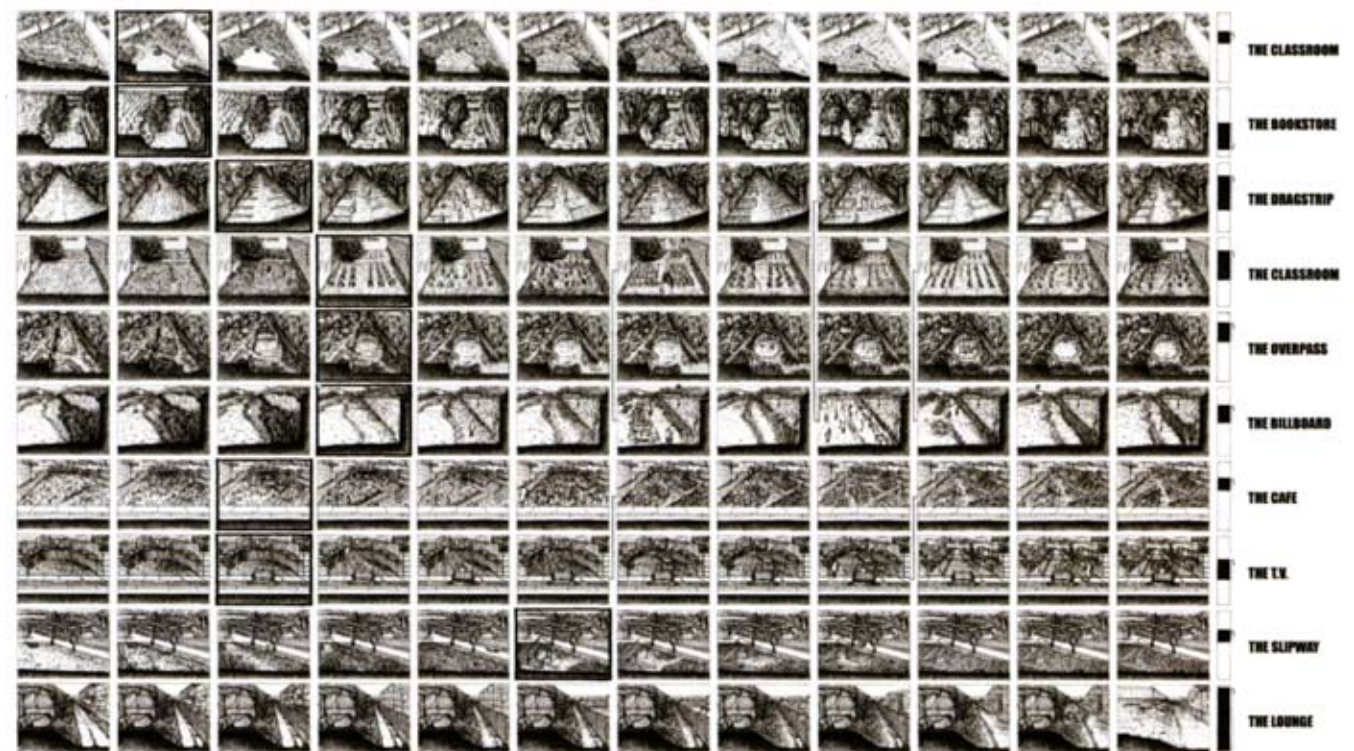
[34] Ibid.: 41.

[35] Ibid.: 36.

Fig. 5.7 **Image as taken from Nadia Amoroso,** *Representing Landscapes*. **Drawing by Alex Fossilo.**

that the debate in the US is ahead, as can be seen for example in Amoroso's *Representing Landscapes. A Visual Collection of Landscape Architectural Drawings*. Despite the lack of a larger framework, this book does demonstrate the renewal in representation over the last few years, and its relation to time also is underlined in Walter Hood's introduction: 'How do we graphically represent the environmentally dynamic, ever changing social, cultural and political landscape?' [36] Hood identifies landscape architectural drawings which no longer romanticize how one experiences landscape but which 'seek to elucidate landscape performance', and that word can be considered as one of the expressions of the dimension of time. [37] In this book, Richard Weller presents a drawing that is of interest because of its caption: 'We often hear that time is one of landscape architecture's most distinguishing qualities and yet, apart from the recent trend of producing long diagrammatic timelines to show the possible staging of a project and its increase in biota, there is still little representational attention to really engaging time in landscape imagery. This drawing introduces the problem of denoting time in landscape architecture.' [38] In fact, Weller confirms the challenges as posed by Torres and Balmori, of seriously engaging in the representation of time, but he does so in a book that at least manages to show several interesting examples. [Fig. 5.7]

Critique

There are obviously also reasons to be critical of landscape urbanism and the thinking as presented here. In 2012 Ian Hamilton Thompson formulated a critique that is of interest because of its accent on time. He states that 'there is much talk of process, de-

velopment, flux, duration and phasing, which draws attention to extension in time, but landscape urbanists (unwittingly perhaps) follow Heraclitus in believing that all is flux'. [39] Thompson is critical of the vocabulary, such as the word 'performance'. In the thinking on landscape urbanism, one can evaluate the performance of a landscape as if it was an engine or a machine. [40] Even if, according to Thompson, landscape urbanism consciously avoids talking about machines too much, it is still closely tied to philosophers such as Guatteri and Deleuze, who 'stretch the metaphor of the machine in ways it has never been stretched before.' [41] He also criticizes drawings by proponents of landscape architecture for neglecting human beings. And indeed, except for the introduction to Desvigne's book, Corner too in his texts pays hardly any attention to all the individuals and groups involved in making decisions about landscape architectural designs and to the demands that makes on representation. Alongside that, Corner speaks about growth, change and movement but hardly mentions the uncertainty accompanying them. In fact, Corner discusses landscape in an extremely architectural way. Landscape in his view seems to be more an object that can be moulded in terms of artistic perspectives, than a complex space with many parties trying to achieve their ideals by following a variety of scenarios. And is landscape always produced by design and drawings? The fact that Corner does not address that point probably has to do with his affinity with the artistic aspect of drawings. Yet even if it can be criticized, the work of Corner stands out in the discourse on landscape, representation and time. If, as we have to conclude having read Chapter 4, up to today the representation of time has a marginal position in both practice and theory, we urgently need a landscape architectural view on representation, and this *by default*

[36] Hood in Amoroso 2012: xi.

[37] Ibid.: xi.

[38] Amoroso 2012: 70.

[39] Hamilton Thompson, 2012: 11.

[40] Ibid.: 11.

[41] Ibid.: 13.

[42] Ingold 2013: 48.

[43] See Schön (1983) and Schön (1995) on 'messy practice'.

[44] Ingold 2013: 69.

includes time. In taking the necessary next steps, 'Representation and landscape' and subsequent texts are still signposts pointing in the right direction.

5.4 Actuality and afterlife: a conceptual contribution to theory

It is telling that a more theoretical approach towards time and landscape does not come from landscape architecture theoreticians but from adjacent disciplines such as anthropology and architecture. I come back to Ingold, Leatherbarrow and Hunt, who already figured in Chapter 3, as their theoretical concepts can be of help for the appreciation of some of the examples as presented in Chapter 4.

The fact that the theoretical concepts as presented here mainly derive from other disciplines could be seen as a sign for landscape architecture theoreticians, and it is. Yet there is also a possible explanation that runs the other way around. That is that the world is more *landscape* than we generally think. For example Ingold, as an anthropologist, discusses the building of a house and how the house is often regarded as a solid object, the unequivocal outcome of a design. Ingold sees it differently: 'Working in a fickle and inconstant environment, they have continually to improvise solutions to problems that could not have been anticipated'. [42] In reality, the building process is a 'messy practice', a concept also put forward by Donald Schön. [43] Ingold wants to look at design and at making in a way he borrowed from Spuybroek: 'forward-looking, in the direction of as-yet-unknown creation' and 'improvising a passage' instead of 'predetermining final forms'. [44] [Fig. 5.8ab]

Fig. 5.8ab Exercising with 'emergent form': Summer workshop in willow forest, Academy of Architecture Amsterdam 2007

Ingold concludes that design 'far from seeking finality and closure, would be open-ended, dealing in hopes and dreams rather than plans and predictions'. [45] And that is a way of reasoning that comes close to this study.

Ingold's approach has parallels with the argumentation put forward by Steward Brand in *How Buildings Learn* and by David Leatherbarrow who produced A*rchitecture Oriented Otherwise* and *On Weathering*, with Mostafavi. [46] 'Building is a present continuous', Brand states. Ideally a design should anticipate, or even invite, change. Leatherbarrow speaks about buildings as 'extended temporalities' - an original concept that also perfectly suits landscape. [47] He suggests that buildings are unavoidably subject to decay, only to be 'retarded'. We like to think that buildings are permanent structures, but that is not the case: 'No building stands forever, eventually every one succumbs to the influence of the elements, and this end is known from the beginning.' [48] Natural elements act upon the outer surface and this, if not stopped, will lead to failure of materials and the final dissolution of the building itself. This is an interesting piece of reasoning because it links maintenance with design, realization and survival – if we want to prevent decline, maintenance is necessary. [49] In fact all buildings have a 'provisional finality': The world in which buildings exist is 'not so lawful that there is never a need for continual adjustment'. [50] Leatherbarrow introduces a landscape component here. A building stands in a landscape where all sorts of forces are at work: 'The true measure of a building's preparedness is its capacity to respond to both foreseen and unforeseen developments.' [51] This amounts to a critical view on Modernism which reasoned in terms of homogenous spaces, whereas the reality of a building is

that it stands in a particular type of topography. 'If we understand topography as the milieu in which performance unfolds, it is very heterogeneous and concrete, and also made understandable only in time', according to Leatherbarrow. [52] The use of the word 'performance' certainly helps bring this idea closer to the ideology of landscape urbanism, as sketched out in the previous section. He concludes: 'There would seem to be three chapters in this story: before, while and after a work has been finished', a formulation which supports the central argument in this research. [53]

Actuality

An important concept here is 'concrete actuality': what the building is and how it performs, *at a certain moment*. [54] Architectural theory 'should focus less on what the building is and more on what it does'. [55] I suggest introducing this concept of 'concrete actuality' into landscape architecture. Designs made by landscape architects have to grow for years if not decades, and therefore they take a long time to become what they promised to be. That lengthy process of 'becoming' means that the end result will probably be different from the design, because new developments will have meanwhile taken place. It also means however that the whole concept of an anticipated final situation is a relative one. The perception of a project as a straight narrative, beginning and ending at precise moments, is rarely true. 'Concrete actuality' as a concept does not yet exist in landscape architectural theory. A framework for both the designer and the user to think about or optimize the concrete actuality is thus missing so far – but adjacent theories such as Leatherbarrow's writings offer at least the starting point to solve this.

[45] Ibid.: 71.

[46] See Brand 1994; Leatherbarrow 2009; Mostafavi and Leatherbarrow 1993.

[47] Leatherbarrow 2009: 46.

[48] Mostafavi and Leatherbarrow: 5.

[49] Ibid.: 5.

[50] Leatherbarrow 2009: 60.

[51] Ibid.: 60.

[52] Ibid.: 63.

[53] Ibid.: 101.

[54] Ibid.: 50.

[55] Ibid.: 43.

28/32. Als men in kleine tuinen een gunstige invloed wil uitoefe-
nen op de vorming van microklimaatsituaties dan kan meestal
worden volstaan met de inbreng van enkele stenen, wat puin,
grotere takken van bomen of boomstobben (foto 5).
Op grote terreinen wordt dit proces op natuurlijke wijze op gang
gebracht (foto's 2 en 6). Toch kan de mens ook hier een gunstige
ontwikkeling stimuleren. De grote hoeveelheden materiaal die
moeten worden gebruikt moeten zoveel mogelijk over het *gehele*
gebied worden verdeeld (geen hoge stapels vormen op slechts
enkele plaatsen – foto 28). Op deze wijze ontstaat tenslotte een
soort terrassenlandschap. Paden ontstaan tijdens de uitvoering
van het werk.
Wil men de paden op belangrijke punten duidelijker markeren
dan kan dit gebeuren door stapelmuren te plaatsen (foto 32).
Worden eerst terrassen gevormd met een geringe hoogte dan
wordt het geheel snel door planten overgroeid. De terrassen
moeten niet worden afgedekt door een laag aarde, omdat daar-
door de kansen voor het vormen van gunstige microklimaatsi-
tuaties weer zullen verminderen (hierdoor worden namelijk de
gaten opgevuld).
Wordt later opnieuw materiaal aangevoerd dan kan men zich
wat betreft de vormgeving richten naar de vorm van de inmiddels
gegroeide vegetatie. Op deze wijze ontstaat de vorm van het
landschap volgens een proces dat over een langere tijdsperiode
plaatsvindt (vorming in ruimte en tijd).

Fig. 5.9 How to create microclimates? Pages as taken from *Natuur uitschakelen. Natuur inschakelen* **by Louis le Roy. Photographs by Louis le Roy.**

Landscape architecture does not remain completely silent on this point. As mentioned earlier, Raxworthy has noticed that landscape architecture and architecture have recently been moving closer together, for the very reason that they both pay attention to process and change. Raxworthy speaks of 'the process discourse'. [56] Nevertheless, in projects that emerge from that discourse, the actual design does not necessarily target change or, as Raxworthy formulates it, 'the spontaneous emergence of novelties'. Raxworthy is interested in designs that really do target the latter. The set of drawings as presented in Chapter 4 gives various answers to this. Many of the drawings show how particular situations are to be changed. Some of the drawings however show an interest in change as such. Perhaps the RAAAF drawing of wheels patterns in the landscape is the most extreme example. [See Fig. 4.8 / drawing 8] Raxworthy argues that in landscape architecture 'change is an inherent part of the discipline' because of the role of plants in the landscape design, plants being 'the most tangible changing material in the landscape'. [57] Raxworthy is not so much placing landscape architecture and architecture in opposite corners as comparing these disciplines with gardening, and in that case, architecture and landscape architecture are not far removed from each other: 'Landscape architecture, like architecture, has become an office-based practice that uses drawings to guide later implementation, its role ending soon after construction.' 'Gardening', however, 'continues to operate in gardens over a long period of time. Gardening is able to work with change and to encourage novelty in real time in a way that landscape architecture and architecture cannot.' [58] This is an interesting link to the anthropologic perspective on the profession of landscape architecture as given in Chapter 3, and a relevant comment on most of the drawings as

presented here, as only in rare cases there is indeed a 'continuous operation'. Because of that, landscape architecture should seek to strengthen its links with gardening. It would certainly help increase the potential to integrate constant change.

Raxworthy also provides a fruitful link to the work of Louis e Roy with this thinking, and perhaps a more general reference to ecology for its interest in dynamics and change. Raxworthy took Le Roy's Eco Cathedral as one of three case studies. At the end of Chapter 3 I made a plea for reconsidering Le Roy's position on the history of recent landscape architecture. Le Roy has been applauded by many, often from other disciplines. Here we have a theoretical study in landscape architecture that puts Le Roy in focus. Le Roy himself describes the Eco Cathedral as a 'structure that is able to develop towards its natural peak form, endlessly in time and space, and based on cooperation between people, plants and animals.' [59] [Fig. 5.9] Formulas such as 'natural peak form' confirm the influence of ecological theory. Raxworthy believes that Le Roy is aiming for continual change: 'Le Roy regards the building at the Eco Cathedral as producing more novelty than design could, because design works via representation at scale and seeks to control effects, whereas the construction at the Eco Cathedral directly engages ecological relationships.' [60] Even if Le Roy remained an outsider in the recent history of landscape architecture, precisely because his projects are so far removed from more conventional design processes, other authors also invoke Le Roy as reference point. In 1988, Jörgen Milchert for example pleaded the case for 'die Ästhetik des Wachsens' [the

[56] Raxworthy 2013: 17.

[57] Ibid.: 18.

[58] Ibid.: 18.

[59] Ibid.: 133.

[60] Ibid.: 135.

Fig. 5.10 Drawing for *Greenwich Millenium Park*, **London, realized 2000. Michel Desvigne paysagiste.**

aesthetics of growth] and regarded Le Roy as an example of this. [61] Lucia Grosse-Bächle in her dissertation *Ein Pflanz ist kein Stein*, mentioned already in Chapter 3, also took Le Roy's work as a leading reference. [62]

Many of the drawings as presented here concern processes of becoming that take years if not decades. Unavoidably therefore actuality is a crucial concept when looking at these landscapes, if we want to understand the role of time. In several drawings we see attempts to at least come close to a sense of actuality. In conceptual terms the Desvigne drawing for Greenwich has to be put in the spotlight. This drawing not only represents the development over time -even if the individual drawings are not dated- but more than that, it presents the maturing landscape as having certain states that are *of equal significance*. [Fig. 5.10] That is an essential message: it is easy to deduce from an imagined final state that all early stages are less significant, as they are only steps to be taken towards the destination. This drawing proposes looking at landscape for what it is. Not because every landscape in all its states is OK - it is interpreted as a design challenge to make individual stages meaningful.

Afterlife
The existence of stages in the life of a landscape design can also be found in John Dixon Hunt's *The Afterlife of Gardens*. The title immediately introduces another interesting notion: afterlife. [63] On one hand Hunt suggests that 'both journalistic and academic approaches [of contemporary landscape architecture] privilege creators and designers'. On the other hand, Hunt is interested in

the fact that the way visitors receive a design will change over time and he asks himself how 'an interest in garden reception might effect the on-going practice of design'. [64] Here, Hunt is putting forward a problem that leads to heated debates in many forms of art: How important is the maker's intention and to what extent should the visitor be familiar with that intention? Taking this a step further: Do visitors ever get the chance to familiarize themselves with this intention? Hunt assumes that reception unavoidably changes over time, and moves away from 'authorized readings': 'So we must give some credence and support to the argument that over the *longue durée* of its existence a great design can stimulate a whole cluster of meanings that were not intended or envisaged for the original designs.' [65] The concept of an 'afterlife' is appealing as a means of distinguishing between the designed object and its actual life. This is crucial in the context of this research. Hunt, who in particular wants to reflect on the reception of gardens and parks, interprets his own concept rather narrowly. In fact, it is so limited that it hardly has any significance for more complex landscape designs. His 'afterlife' begins the moment a garden is 'ready'. The processes of laying out a landscape and allowing it to become mature may cover a period of many years, but Hunt takes no account of this. As I believe the concept of afterlife is a promising one, I would like to look at it in a broader sense. In more complex landscapes, the afterlife begins when the design is declared 'open' but at that point it is far from ready, or mature. That can be worrying because the way in which the design is received will then be determined by two forces. The designed landscape grows and changes, thus offering a variety of sensations. At the same time, the value users attach to the design shifts over time because the cultural context or the users' knowledge of the inten-

[61] See Milchert 1988.

[62] See Grosse-Bächle 2003.

[63] See Hunt 2004.

[64] Hunt 2004: 195.

[65] Ibid.: 205.
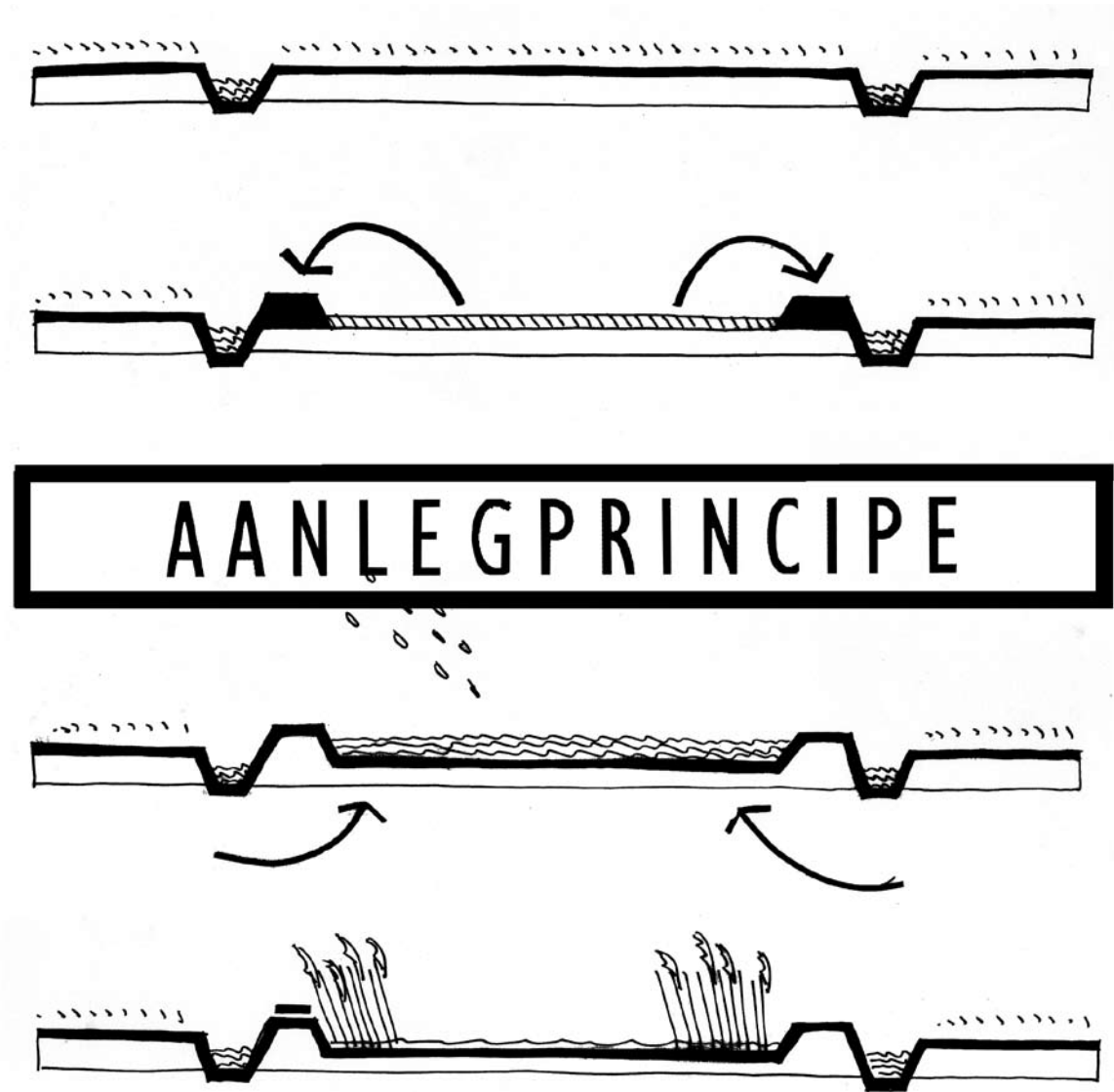
Fig. 5.11 Diagram for Barendrecht. *Aanlegprincipe* **is roughly translatable as 'realisation principle'. Drawing by Lubbers 1998.**

tion changes. And that is exactly what Olmsted tried to influence with his writings.

The works of Ingold, Leatherbarrow and Hunt all revolve around the idea of time, an idea that can enrich landscape architectural theory enormously, and concepts such as afterlife and actuality in particular are important contributions. In several ways the set of drawings as presented here respond to such concepts, even if they were never mentioned by their makers. For example Anouk Vogel's drawing for a garden [Fig. 4.1 / Drawing 1] communicates that actual states are more important than only one final stage, just as Lola wants to have us know that the public space design should be understood as having a diversity of characters, instead of only one. [Fig. 4.6a-d / Drawing 6] VPxDG's section for an estate in one way comments on afterlife. [Fig. 4.18ab / Drawing 18] The young trees need protection, and the designers take into account how the solution for that can just as well be part of the narrative of the mature design, even after decades. Quadrat treats afterlife in another way; the office tries to influence future readings of the project by speculating on useful further transformation. [Fig. 4.26ac / Drawing 25]

5.5 A Dutch angle

In my collection of drawings there is one that is eminently suitable for addressing the idiosyncrasies of Dutch landscape architecture in recent times, and as an example it therefore also represents a typical Dutch approach towards time, dynamics and change. Titled *Aanlegprincipe*, roughly translatable as 'realisation principle', the

drawing consists of four schematic sections. [Fig. 5.11] As the drawing as a whole explains the function or build-up of the plan in a schematic fashion, I classify it as a diagram. [66] This diagram describes steps in time, but in actual fact it is a short story or, if you like, an explanation that would run as follows: 'In this area we encounter meadows and ditches. As an intervention, we remove the top layer of soil and use this to make low embankments along existing ditches. In wet periods, water piles up between these embankments. As a result, an attractive and natural wetland vegetation develops'. [67] No time scale is indicated but anyone with some understanding of how reed vegetation develops knows that this can get going within one season of growth. The drawing comes from the Barendrecht project by Lubbers, drawn in 1998. This particular project can be regarded as typical of the design climate in the Netherlands of the 1990s. There was no single, specific question; the client - a developer - wanted a study of the possible uses of this area. Lubbers described it as an example of 'plans without a final picture'. [68] The idea was to aim for a phased approach without committing oneself to a final situation. There was a lot of interest in the project; it appeared a number of times in Dutch language publications and was included in the Dutch yearbook *Landschapsarchitectuur en Stedenbouw 97-99*. It was selected because of 'the integration of time as a factor in the planning'. Essayist Rik Herngreen complimented the plan as 'ever richer but never complete'. [69] Lubbers is mainly known for public realm plans, however, this office has also produced strategic studies. They originate in fact from Lubbers's own final-year dissertation study at the Amsterdam Academy of Architecture, in 1989. In this study, he mentioned the 'temporary usage of fields', fields here being an abstract term in the same way as landscape

[66] Garcia (2010: 18) provides a broad definition of a diagram: 'A diagram is the spatialisation of a selective abstraction and/or reduction of a concept or phenomenon. In other words, a diagram is the architecture of an idea or entity.'

[67] The drawing formed part of *Kansen in de Zuidpolder* [Opportunities in the Zuid polder], produced in 1998 for TRS Ontwikkelingsgroep.

[68] *Plannen zonder eindbeeld* [Plans without any final picture] is the title of a brochure the office published. To be found at: http://www.burolubbers.nl/projecten/projectbladen/419_BL_120807_Barendrecht_low.pdf

[69] See *Landschapsarchitectuur en Stedebouw in Nederland 97-99* (2000): 71 and 41.
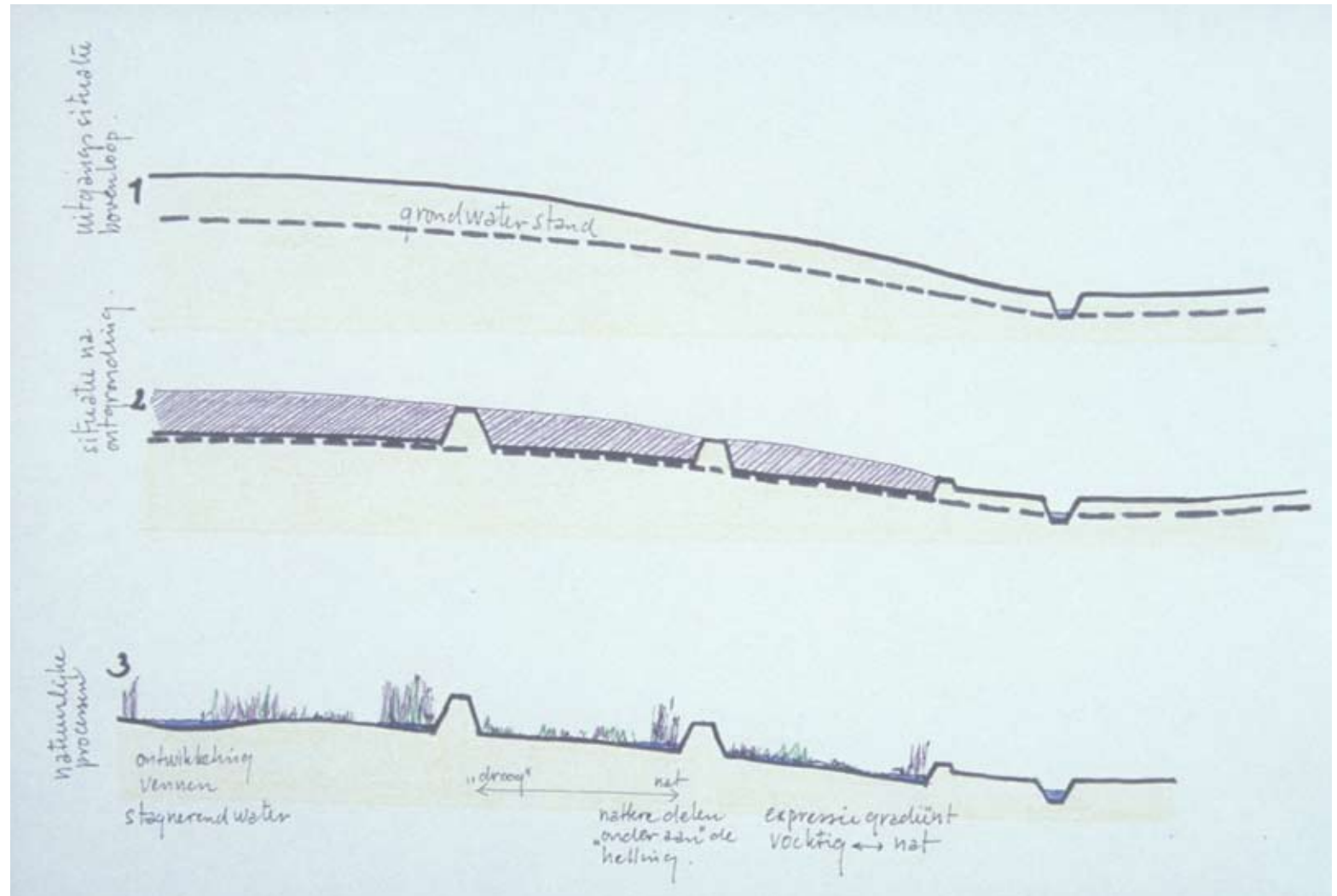
Fig. 5.12 Principle for nature development after sand mining in the *Ontgrondingen Brabant* project, H+N+S landschapsarchitecten, 1995.

urbanism uses surfaces, or grounds. [70]

The Barendrecht drawing stands for a crucial line of thought in Dutch landscape architecture: Landscape architectural measures, symbolized by the excavator, can remodel an area in such a way that precisely the right conditions result for particular ecosystems to come. In the rhetoric of Dutch landscape architecture this is spoken about as 'natuurontwikkeling' or developing new nature - a man-made act that for many outside the Netherlands still is a *contradictio in terminus*. In fact, we could connect this to a second line of thought which is that the landscape consists of supporting structures remaining in place for a long time, and within these, there are fields that can change in usage. By designing strong main structures, landscape architects can ensure the dynamics of the landscape are free to function, while at the same time the broad identity is retained. I will not pursue this second line here, but it is relevant to keep in mind that two opposing landscape criteria are satisfied in this second crucial line of thinking, more often referred to as the 'casco concept' or shell principle: New functions are given precisely the freedom our modern society demands, while on the other hand, the identity of the landscape is preserved. [71]

Developing nature

The first line of thought, creating conditions, may be traced back to 1926, the year Jan Bijhouwer obtained his PhD, and to his eleventh postulate, originally in Dutch: 'In the reclamation of the Zuiderzee, it is important to preserve some complexes for the study of plant community succession'. [72] In combination with a remark on the loss of peatland – Bijhouwer's advice is to look for a suitable place, stop farming it, and create the conditions which will lead to recovery of peatland growth¬ this can be understood as a first instance of developing nature. [73] In this study, the work of offices such as H+N+S and Vista most explicitly represents this line of thought in present-day Dutch practice. Early examples from the H+N+S office are the Westpolder design and Ontgrondingen: een bijdrage aan natuurontwikkeling [Sand removal: a contribution to the development of new nature]. H+N+S produced drawings that, according to present standards, may not be regarded as 'slick' but, even more successfully than in recent projects, these drawings provide a fascinating insight into the underlying ideology. Just as in the case of the Lubbers example it is actually a drawn argumentation in three steps: '(1) If this is the situation as we find it, and (2) if we alter it in a specific way like this, then (3) we would expect the following to happen, based on our expertise'. [74] [Fig. 5.12] In both H+N+S projects the aim was to combine sand extraction with the creation of new nature. The upper layer of soil is removed from all parcels of land. They become permanently wet due to seepage water. As the parcels are oriented variously, the predominant wind direction will cause erosion in different ways, allowing the element of chance to have free rein. The aspect of sand extraction also highlights another tenet of recent Dutch landscape architecture. Sand extraction is normally regarded as a hostile intervention in the landscape, but here it is deployed in a positive way: Sand extraction creates the conditions for interesting new nature, at no extra cost. In extracting the sand, the existing topography is adhered to, which is equally essential to the approach. It means there is no separate design for the sand extraction because the configuration already exists, being present in the landscape. In

[70] As discussed in the interview with the office in June 2011.

[71] See Vroom 2010. Both the founders of H+N+S and the Wageningen researchers Klaas Kerkstra and Peter Vrijlandt were engaged in the development of this concept.

[72] Bijhouwer 1926: 172. The original Dutch text is: 'Het is van belang bij de droogmaking van de Zuiderzee complexen te reserveeren voor de studie van de successie der plantengemeenschappen.'

[73] As quoted in Andela 2011: 76. The quote comes from *Vakblad voor biologen* 4: 46 (1943). The Dutch text is: 'We moeten vooruitzien; is er geen komveen zoals het Soesterveen meer over in gave toestand, dan zoeken wij een geschikte plaats op, nemen die uit cultuur en scheppen de voorwaarden, die binnen twintig, dertig jaar zullen leiden tot herstel van de veengroei'.

[74] This was part of the project *Ontgrondingen: Een bijdrage aan natuurontwikkeling* [Soil dispossession: a contribution to nature development], 1991. The client was the province of Brabant.

AT PRESENT

...IN 2 YEARS

...IN 5 YEARS
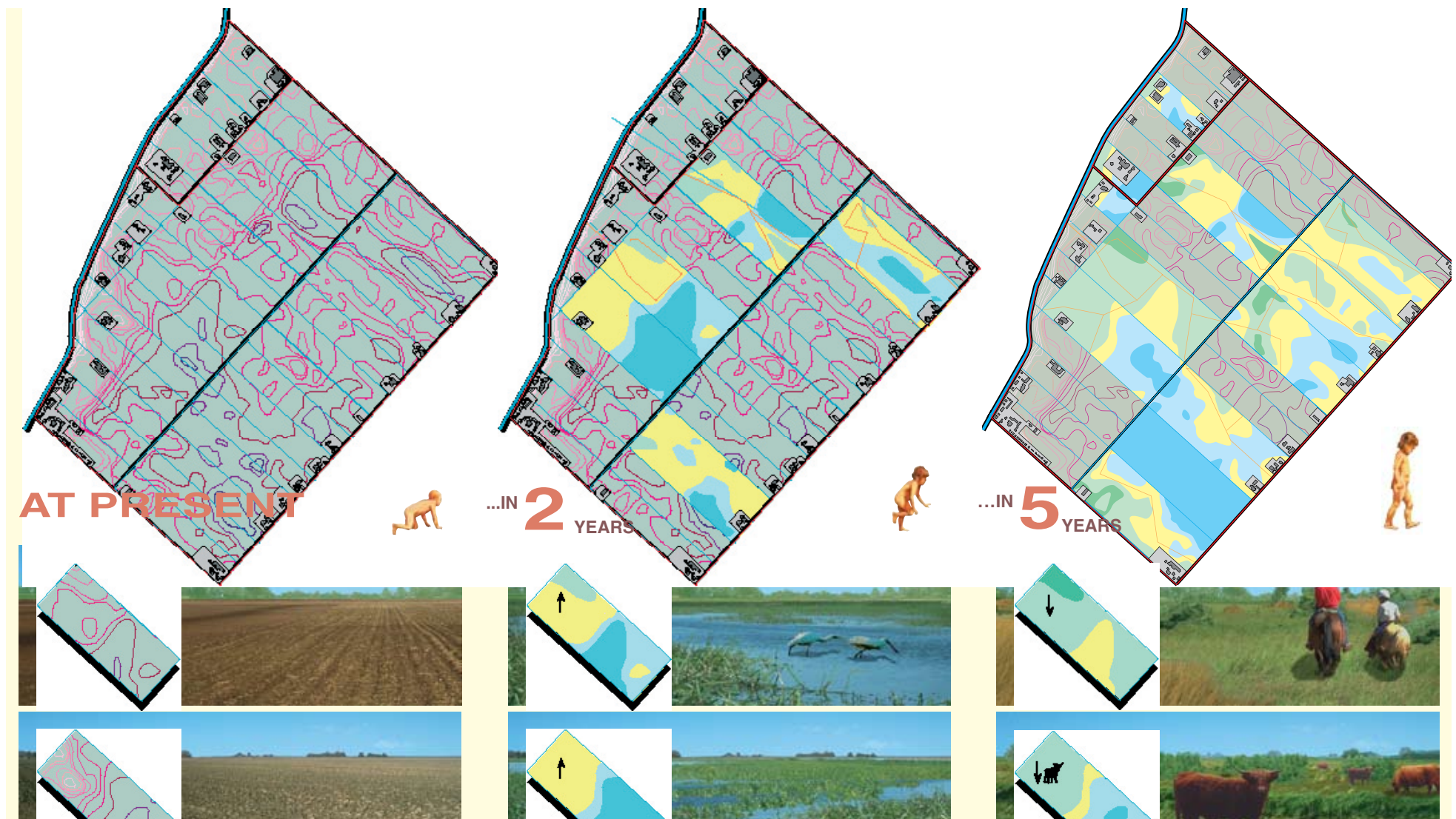
Fig. 5.13 Detail from study for *Uit de klei getrokken*, Vista 1996. See the entire drawing in Chapter 4.

'Nieuwe avonturen tegemoet' [Encountering new adventures] Dirk Sijmons refers to the popular philosophical writing of people like Ilya Prigogine, who makes the case for giving chance free rein. That does not mean that anything goes. Attention is given to creating a 'new-start' situation. Thereafter 'bifurcations can lead to developments taking place in completely different directions', which is another way of speaking about Zerabuvel's multilinear narratives. [75] Sijmons hopes 'to be amazed at development paths which were not predicted and which arise through self-arrangement'. Knowledge of the natural system makes it possible to describe what might occur, but it is impossible to say what is *really* going to happen. In designs like these you cannot therefore talk about the final picture; any plan map is only going to be indicative. This evidently also reminds one of Raxworthy, looking for landscape architecture approaches interested in change itself more than particular outcomes.

Not everything is left to nature in the Westpolder project. Sand extraction is the ultimate target, so the sand has to be removed, which requires access roads. These roads are then part of the design, built on low embankments planted with trees. The designers looked for a contrast between fickle, only partially predictable, processes and permanent, linear constructions that make it possible to experience what is changing. The 1996 project *Uit de klei getrokken* -a typical Dutch expression- by Vista illustrates the same theme, but in a slightly different way. [76] [detail, Fig. 5.13; See also Fig. 4.36] This study project for the Haarlemmermeerpolder offered a whole series of 'starting' situations, all of which dealt with the depth of soil removal and the level of the water that eventually stood in the dug-out area. A knowledge of the soil and of natural

processes makes it possible to predict the outcome reasonably well, but not completely. Events which are only partially predictable such as a storm, summer drought or a cold winter can have a big impact. However, more importantly, Vista added management to the project. If you try to predict developments over periods of 5, 50 or 100 years, some form of management is essential. Is a herd of grazing animals going to be deployed? Will the area be mown, or not, so that woodland arises? This study project aimed to provide a toolbox or – yet another much-used word – a recipe so that 'if you do this, you will get that'. This is exactly why this approach came in for criticism: It seemed as if natural environments could be made to order. To a certain extent this is true, but more importantly there are also many uncertain factors playing a role here. Within a framework that provides some certainty, the surprise element is challenged. A study like *Uit de klei getrokken* was not meant for direct implementation, which was in no way regarded as a disadvantage. On the contrary, it allowed more scope for committing innovative thoughts to paper, and for gaining insight into the consequences of certain measures. A recent final-year design study by Lieneke van Campen at the Academy of Architecture Amsterdam illustrates that this thinking has also engaged new generations of landscape architects. Her design aims to solve the need for coastal reinforcement. A huge sandbar in the North Sea, *De Razende Bol*, is cut in two. Knowledge of maritime processes aided the intervention. This basic intervention is 'designed', and thereafter the two halves are left to the mercies of sea currents which transport sand to the existing coast. [Fig. 5.14] This is a variation on the theme 'create the conditions'. Interestingly enough, a symbolic scissors is part of the main drawing, thereby emphasising that such plans are related to the process rather than the form. The scissors is

[75] Sijmons 1998: 96.

[76] *Uit de klei getrokken* is a sample study on the Haarlemmermeer, 1996. As an expression it refers to the assumed rustic or even lumpish manners, attributed to farmers acting in the clay polders of the low Netherlands.
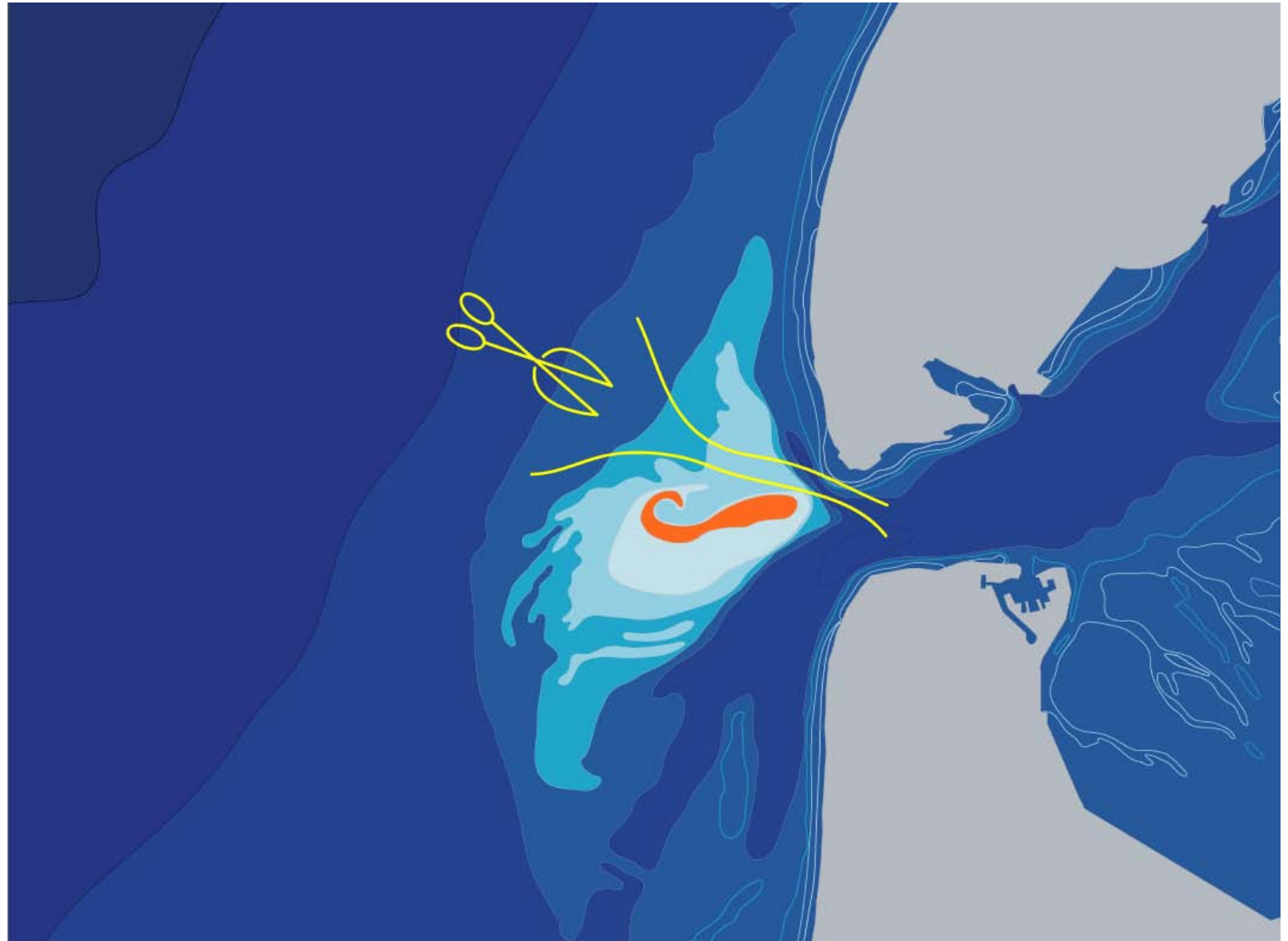
Fig. 5.14   Plan drawing for *De Razende Bol*. **Final work Lieneke van Campen, Academy of Architecture Amsterdam 2005.**

reminiscent of Christopher Tunnard's *The man-made landscape* diagram, as mentioned in Chapter 3, that also was a drawn argument: By this means...to this end. [77]

I have portrayed the approach used by a number of offices as specifically Dutch, but it would be wrong to claim that this approach is exclusively Dutch. In the work of Studio Vulkan and of Desvigne we find elements of this thinking, and even more if we would take the second line of thinking on the casco concept or shell principle also into account. We can thus observe that internationally there is a group of designers with related ideas, but so far this phenomenon has not been described. Therefore, if speaking of a Dutch approach to landscape architecture in which the key aspects are creating conditions for further development, often in relation to nature, this is not a geographic demarcation, but a conceptual familiarity that crosses borders. This approach is seen in texts, projects and drawings. The drawings combine traditional ingredients of landscape architecture (topography, composition, functions) with an unusual amount of attention being paid to processes and actions. This is partly to serve the general public, by giving them a better understanding of what is happening, but much more so, it is an approach that leads to another landscape. Obviously, time has an important role in this approach. Remarkably, so far this only incidentally led to radical changes in drawing. This may be due to the specific type of knowledge involved, but also to a preference for the element of surprise, and certainly current drawing standards are of influence. Given the recent developments in representation, especially sophisticated software that can help to run many possible scenarios, one may expect that future projects in the same category will be more likely to choose time drawings.

5.6 A project perspective: daily professional reality

The word 'project' in design professions generally refers to a specific design process that starts with an assignment -a request from a client for a particular place or subject- and ends in a drawn or built design, best illustrated by a large drawing displayed on a billboard at the site. [Fig. 5.15] Of course the designer may also start a project without a client requesting something either. However, the importance of the word project is, that it places the work of designers in the context of the real world. That is a world in which physical topography restricts design fantasy, people and politics may approve of designs or not, conditions change over time, money is scarce, and clients have expectations, many of which are only to be revealed during the design process. Several authors, such as Donald Schön, speak about design as happening in a 'messy' context, because of such restrictions [78]. If the role of time in landscape architecture drawings is studied, this messy context of practice must be taken into account, and projects are the most concrete instances of practice.

Cultural category

The project as an organizational category seems obvious, but how does one understand the project as a cultural category? In a fascinating essay, the German political scientist Wilhelm Hennis researches the roots of the project as an abstract entity. He argues that the renewed scientific thinking, which began with Descartes and Bacon, allowed the notion of the project to emerge: 'Man may undertake something, maybe utopically dream of it first, but will ultimately get to the realization of the project by means of scientific knowledge and properly applied technical means.' [79] *Projektmacherei*, as Hennis calls it, and best translated as projecteering,

[77] See Jacques and Woudstra 2009: 41.

[78] See Schön 1983 and 1995.

[79] Hennis 2000: 356. The original German text runs as follows: 'Die Menschen können sich etwas vornehmen, vielleicht zunächst utopisch 'erträumen', um mit Hilfe von wissenschaftlicher Erkenntnis und richtig eingesetzten technischen Mitteln zur Realisierung des Projekts zu schreiten'.

[80] Hennis 2000: 356.

[81] Ibid.: 357. The original German text runs as follows: 'Das ist ein Schalk / Der's wohl versteht / Er lügt sich ein / So lang es geht / Ich weiss schon / Was dahinter steckt / Und was denn weiter / Ein Projekt'. The English translation is taken from https://books.google.de.

[82] Ingold 2013: 21.

[83] Ibid.: 7.

[84] Ibid.: 21.

Fig. 5.15 Billboard with visualization of project at future building site, Slovenia. Festive start of the building process.

was applauded but also regarded sceptically. The *Projektmacher*, or project maker, was not considered completely reliable. In his famous play *Faust*, Goethe introduces the magistrate and alchemist Doctor Faustus as a modern *Projektmacher*. The Emperor gives a piece of coastline on loan to Faust, who then undertakes land reclamation as a large-scale project - in itself an interesting parallel with landscape architecture. [80] The project was greeted with much scepticism, as expressed by 'das Volk' [the people] in verse 4888, originally in German: 'That is a rogue / plays well his part / he works by lies / so long as they act / I know now what / there lies behind / and what is't more? / a project then.' [81] Ingold, who we have encountered already, examines the thinking involved in projects very critically. 'We are accustomed to think of making as a project,' Ingold states in *Making. Anthropology, Archaeology, Art and Architecture*. He proposes a different approach: 'I want to think of making, instead, as a process of growth'. [82] This criticizes 'the overwhelming focus on finished objects' so that 'processes of making appear to be swallowed up'. [83] Ingold rejects the notion that an architect or artist begins with matter and then proceeds to give it the stamp of an idea that has formed in his head, so that an object results - the aim of the project. Thinking in terms of processes of growth is 'to place the maker from the outset as a participant in amongst a world of active materials.' [84] By 'active materials' Ingold means that the artist joins forces with his materials 'in anticipation of what might emerge'. He illustrates this with basket making and brick making, but his argumentation applies, as far as I am concerned, to most landscape architectural projects. According to Ingold's approach, the designer is someone who intervenes in processes that are already taking place. This corresponds well with landscape architecture where, except for

Dutch Projektmacherei in which completely new polders are made, the landscape is always a given. A landscape architect intervenes in a system which already exists and which would also continue to grow without them. Ingold's approach assumes that the artist can see form as 'emergent' - 'a confluence of forces and materials'. [85] The project, therefore, is more than a practical vehicle in office management alone: it refers to a way of thinking. Obviously, this is of particular significance when studying landscape architecture in relation to its drawings and to aspects of time.

Case: Greenwich Millennium Park
Here, as an example, I want to examine Desvigne's *Greenwich Millennium Park* more in detail. The drawing as presented in Chapter 4 functions as a window to the project, and opens up a door for something that is in methodic terms best described as a case study, referring to Yin, in general, and Groat and Wang specifically for architectural research. [86] Flyvbjerg argues that a case is a good one, in theoretical terms, when there is richness of available information, and this information can play an important role in the process of verification. [87] Greenwich, indeed on the basis of rich information, serves as an example of how a case study provides the background for evaluating drawings, and it also invites us to take other drawings as a window to their respective project.

At the time when the design process for Greenwich started, the office had already a reasonable fame. The office started 1988, originally in collaboration with Christine Dalnoky. Michel Desvigne studied botany and geology before starting landscape architecture at the ENSP Versailles. This was influential for his approach.

Having graduated 1984, he was invited to study at the Academy of France in Rome. The *Jardin Élémentaire* drawings, resulting from this period, have been published numerous times and made the young landscape architect a well-known artist. [88] For the study at hand these *Jardin Élémentaire* drawings are of interest, as they research processes of transformation over time - in an abstract way, and from an artistic perspective, but certainly providing a basis for a later interest in processes in landscape. [Fig. 5.16]

Greenwich Millennium Park is the first of what, in retrospect, is a series of comparable projects. The *Bordeaux Rive Droite* project from 2004 is another example of this series. The park is part of the regeneration of a former industrial area in London. About one fifth of the 120 hectare area was re-designed by Desvigne. The plan introduced an urban forest. Due to serious pollution trees were planted in separate boxes with clean soil. To create a natural atmosphere both in the initial plantation and the subsequent steps, the office opted for planting large numbers of whips. [Fig. 5.17] As a consequence, many trees had to be taken out over time. This development process was considered a quality of the project – introducing a conceptual focus on aspects of time. It was expected that each new development stage of Greenwich would pose new design questions. Desvigne intended to have a role in this thinning process, but that was not granted. Therefore, the actual development of Greenwich is only to some extent as the designer drew it. It is not easy to convince clients that the long-term involvement of the designer is a necessary part of a project. It is telling that, for that reason, Desvigne started to review all projects in which the office chose a forestry approach. [89] The obvious goal is to map the development of these sites over time

[85] Ibid.: 21.

[86] See Yin 2009; Groat and Wang 2002.

[87] See Flyvbjerg 2006.

[88] Published in Desvigne, M. and Tiberghien, G. (1988) *Jardins élémentaires*. Since 2013 one of the drawings is part of the collection in the Musée national d'Art Moderne.

[89] As spoken about in our interview February 2014.
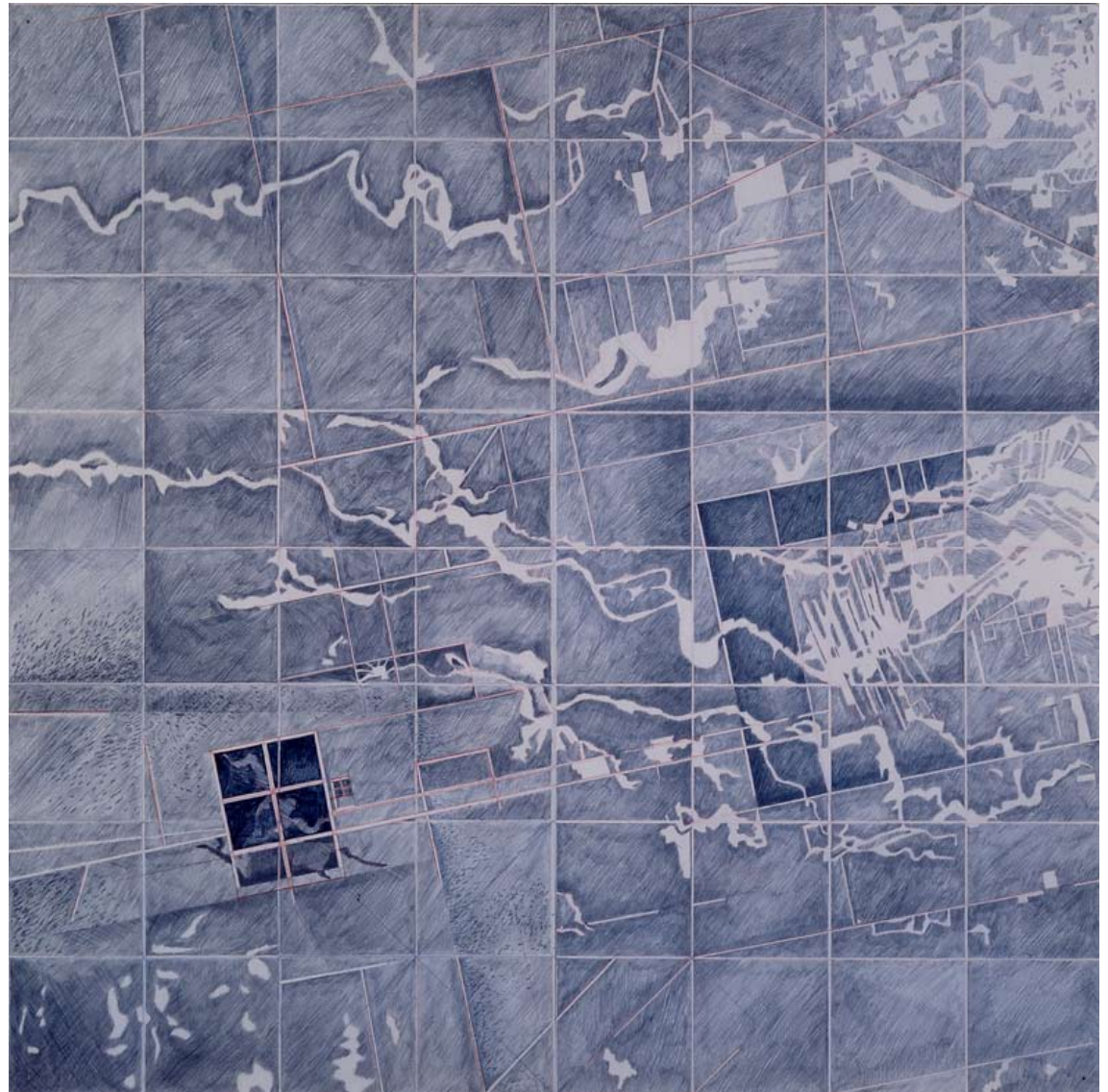
Fig. 5.16 *Jardin Élémentaire*. **Graphite and colour pencil on paper. Drawing by Michel Desvigne, 1987.**

Fig. 5.17 Massive planting of young trees in *Greenwich Millennium Park* **design. Michel Desvigne paysagiste, 1999.**

[90] See Goffi in Frascari, Hale and Starkey 2007

in relation to maintenance, and to arrive at successful recipes. In the more recent Bordeaux project Desvigne was appointed as advisor to follow the development of his own master plan. When a new part of the project is under consideration, the designers return to update the master plan for that specific part. That also allows for a check on how former parts developed, and whether they need adjustments. Generally, no specific drawings are made for the proposed changes in earlier developed parts; such changes are discussed and agreed on on site. Thus the actual development of these parts is not documented in drawings, and can only be followed via photographs and written notes.

The Greenwich project was started in a time during which the office made almost all of its drawings by hand. The main drawing for Greenwich as presented in Chapter 4 originates from an aerial picture of a poplar grove. [Fig. 5.18] Aerial photography as a way to study textures in landscape has had an important place in Michel Desvigne's office since his stay in Rome. Inspired by the aerial photo, trees were redrawn in a few basic types and photocopied to create a collage. This collage is the basis for the known drawing. Greenwich is a typical example of a project in which one drawing took on an existence of its own, no longer connected to the project documentation as a whole, or to the project actuality - an example of the 'twinned body' theory by Goffi. [90] By this, in fact an out-dated perspective on the project is kept alive. Other projects may even be more coherent in terms of their time-based character, but do not enjoy this presence in media. At the same time, because of this one famous drawing the project survives as an idea, even if the reality is different.

[91] See Davoine 1999: 60-67.

[92] See *Intermediate natures: The land-scapes of Michel Desvigne* 2009.

[93] Schmid 2001: 9-13.

In articles and lectures the background of the time aspect of Greenwich is described. Desvigne spoke about the central idea as 'how nature itself might have colonized the site': 'Our young forest, planted on a regular nursery grid, will develop in two successive phases: composed in the first instance of a homogenous stratum of 12,000 densely planted saplings, [would] over time [be thinned out] and be replaced by larger nobler species, birch, alder, oak and willow, [...]. These more mature woods will themselves be sculpted according to future urban demands that were impossible to predict at the outset.' [91] Desvigne started to address this type of temporality as 'intermediate landscapes', which also became the title of his recent book. [92] Much has been published on the Desvigne office, including the Greenwich project. André Schmid compares Greenwich with the Züricher Oerlikon Park by Studio Vulkan, at that time Schweingruber Zulauf, in 'Zwischen Kontrolle und laisser faire' [In between control and letting go]. [93] He cites Desvigne speaking about a 'strategie d'invasion', an invasion strategy, suggesting the plantation of numerous small plants that only later would evolve into a park that is adapted to the site. That the planting strategy and the thinking about time were noted by others, is certainly thanks to the verbal explanation Michel Desvigne gave.

It is by this extended description of Greenwich Millennium Park that we can appreciate the selected drawing even more, and understand that for many more drawings the history, the professional context of the office and the background narratives help to position them properly within the 'project reality'. At the same time it reveals the fragility of the drawing as a fixed object that becomes redundant when reality takes over. In this specific case however

Fig. 5.18 Aerial photograph of a poplar grove that was taken as a basis for the Greenwich drawing.

it 'proves' the position of Goffi that the drawing and the project reality can be a twinned body, and just as in other cases -think of early West 8 drawings- this drawing 'lives' autonomously, still embodying the ideas on processes over time it wants to express.

5.7 Towards time drawings in the representational system

Very early in this study the concept of the score emerged and was assumed to be an innovative option to represent time in landscape architecture. The word 'score' has many meanings, but in this context I refer to a notational form deriving from music and dance. [94] Dance performances do not need to be anticipated in notations, but if they are, these notations, more than in the case of music, include instructions for movement in time and space. Therefore, there is certainly a link with landscape architecture, and it was Lawrence Halprin who already saw this link decades ago in his 1969 *The RSVP Cycles: Creative Processes in the Human Environment*. [95] With this unique work Halprin introduced the score into the domain of landscape architecture as a new drawing concept. For Halprin, scores were '*symbolizations* of processes which extend over time'. [96] [Fig. 5.19] I propose to understand the score as a notation of *who* (the actor, the performer) is doing *what* (the gesture, the form), *where* (the place), and *when* (the moment). For that last aspect, such a notation incorporates time by default. What would happen if landscape architects would draw scores as easily as they draw plans? And what would such scores look like? These were the questions which provoked me to have an experimental track in this research, to test the idea of the score through design.

If a landscape architect draws a map, or a section, he or she operates within the taxonomy of landscape architectural drawings. Such drawings follow the conventions given by the taxonomy, often in an implicit way, as part of a professional culture that is handed over in schools and in practice. As was already argued in Chapter 3, such a taxonomy is neither fixed nor entirely clear and objective. Developments in representation challenge every taxonomy, there is always a danger of not being on a par with the latest techniques and opinions. Following Lipstadt, a drawing is an architectural drawing if it is made as part of an architectural production. [97] That is an approach that is as pragmatic as it is valid, but that does not imply that we know how to denominate and order such drawings. That may seem a rather academic concern from the perspective of practice, but in the end it is not. In this research the issue of time and its presence in landscape architectural drawings is studied, and it is assumed that issue of time is crucial for landscape architecture. Therefore, it warrants its own representational type that first and foremost enables aspects of time to be drawn. I consider the score a new type of representation. That is not without debate: Is the score indeed an autonomous type of representation in the range of plan-section-model-visualization-diagram or is it, from a different point of view, a specific form of diagram? Due to the vast range of information that can be visualized in a diagram, a score too would fit in the abstract diagram description just as easily. But the point is, that a score *requires* one to consider time – the diagram merely *allows* the depiction of time, and can very well do without. For that reason, I suggest seeing the score as an autonomous type.

[94] The *Oxford student's dictionary of current English* (1978, p.586) for example gives 'Cut, scratch or notch made on a surface' or 'Mark made by whipping', and, apart from various other meanings, 'Copy of orchestral, etc. music showing what each instrument is to play, each voice to sing'.

[95] See Halprin 1969.

[96] Halprin 1969:1.

[97] Lipstadt in Blau and Kaufman 1989: 110.
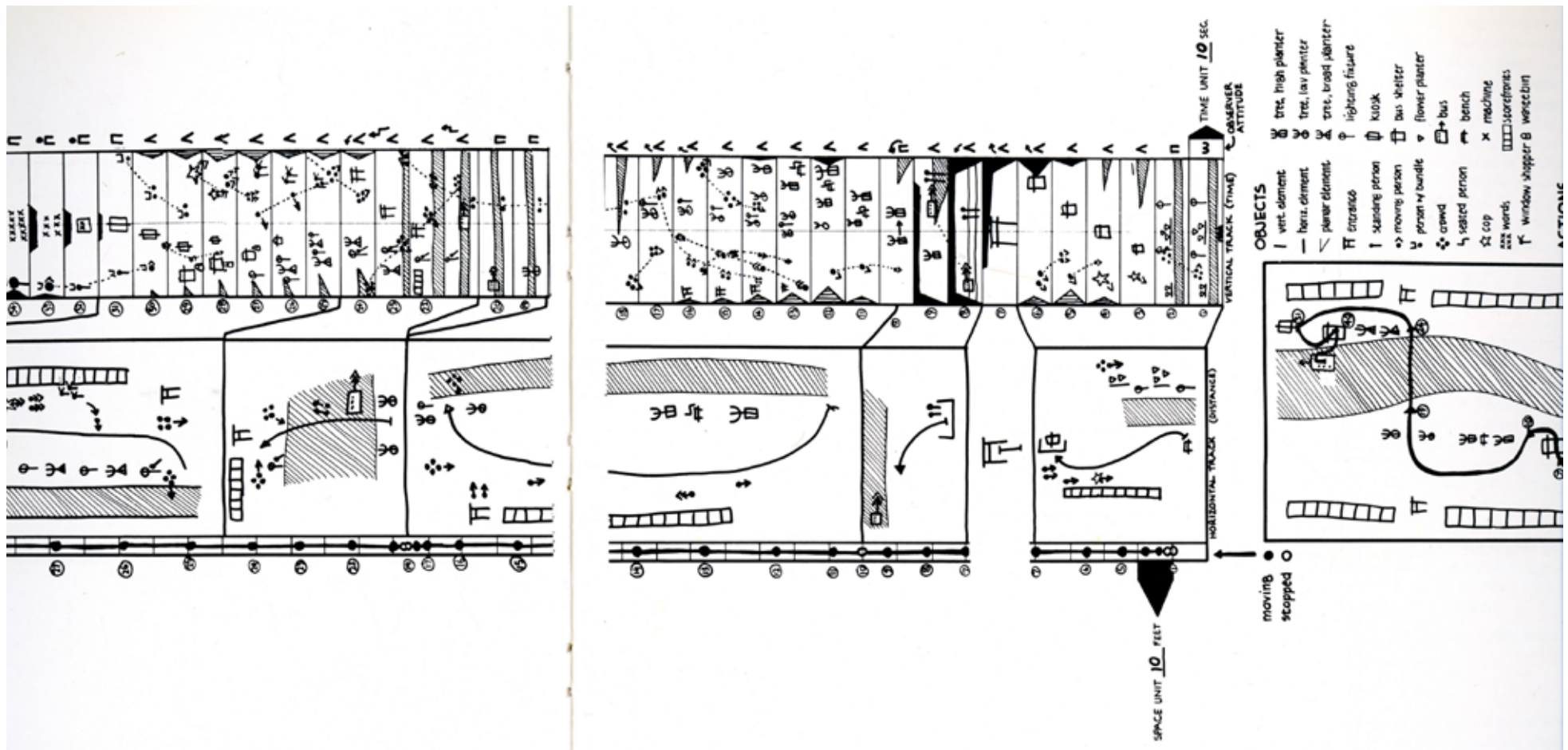
Fig. 5.19 So called *Motation Study* of Nicolett Mall between 16th and 17th Street, Minneapolis. Drawing by Lawrence Halprin, 1969.

Aspects of time

The results as presented in Chapter 4 suggest that the issue of time is dealt with effectively by using existing types of representation. But this does not address the crucial point: Within the landscape architectural taxonomy, there is up to today no drawing type that, in a compulsive way, asks for aspects of time, just as drawing a section is an imperative to come up with information on the vertical plane. I consider this a weak point in landscape architectural theory and in practice. Experiments as done in the context of this research suggest that, for the creative designer, there is a whole spectrum of ways to draw time. Many of these do not fit, for the moment, in existing traditions of drawing, and therefore do not relate to a certain type. An interesting example of this is a drawing made in the *Drawing Time Now!* experiment. [See Fig. 4.71abc / Exp. 11abc; detail Fig. 5.20] This drawing represents time as evolving from zero to 25 years, if you read from left to right. It may stand for a type of its own, or remain an incident. It certainly is, however, an interesting response. If we take a wider area into account, several representational strategies taken from other domains seem to be able to support the representation of time, next to the score.

Timelines, animation, comics

One could position timetables as contemporary management solutions, used to get to grips with the work to be done, and on that basis argue that such 'drawings' are common practice in landscape architecture. Both information design specialist Tufte and historians Rosenberg and Grafton convincingly show that one should understand timetables also, or mainly, as part of a very old drawing tradition, just like the way we can trace the history

Fig. 5.20   Detail from plan. Astrid Bennink, Valentina Chimento and Hannah Schubert in design experiment *Drawing Time Now!* **2013. See Chapter 4, Fig. 4.71.**

MANAGEMENT + IMPLEMENTATION STRATEGIES

stage 0

events installations

raise curiosity

site prep

site protection during construction

stage 1

budgeted phase of landscape development

initiate transformation

first wave of landscape construction

stage 2

expand physical, ecological, and hydrological systems

re-use + re-program historic structures

stage *n*

social + ecological adaptations:

intensive re-use of reservoirs 1 +6

re-use 'recharge fields' (current maintenance)

openings + closings

reservoir groundbreaking
reservoir construction complete / water re-routed
reservoir construction
waterworks tours
windows into gatehouses, inlet/outlet buildings
fence installation (construction + wildlife)

reservoir 1 vernal pool: semi-annual release release + fill

foundations + frameworks

public meetings, programming, design
interest groups activate
financing package / federal permitting

major earthwork + retaining walls
seeding + planting
furrow installation
stormwater terraces + habitat zones
surface + equip terraces + gathering areas
boardwalk + pier into reservoirs 5 + 6
(landbank reservoir 1)

program of restored gate structures
expand power plant

growth + succession

funding / capital campaign (public + private)
revenues from power plant expansion

sale of historic tax credits

reservoir 1 access ramp + stage
reservoir 1 events + concerts
extend physical strategies + elements to north + south
reservoir 6 water terrace and filtration waterfall
extend of water cleansing system to reservoir 6

historic restoration of reservoir 1 gatehouse walls, fence
historic restoration of reservoir 6 outlet house, walls, fence

recharge fields

elaboration + adaptation

public meetings, programming, design
funding / capital campaign (public + private)
revenues from power plant expansion

reservoir 6 performing arts retrofit

reservoir 1 water sports retrofit

→ plant growth and habitat succession → habitat and wildlife adaptation and evolution →

cultural + arts grants / national endowment for the arts
neotropical migratory bird conservation program / us fish + wildlife
urban forestry grants / us forest service
habitat restoration grant / acorn foundation

clean water state revolving loan fund / us epa
watershed protection / us dept of agriculture
community-based restoration / noaa

sustainable communities grant / penney family foundation

concession operations revenue
revenue from additional power generation
historic structures tax credit / nps

nikebiz.com / nike corporation
water quality management planning / us epa

revenue from additional power generation

Fig. 5.21 A timeline as a forward-looking instrument. Drawing for Mount Tabor reservoirs, 2005, Stoss Landscape Urbanism.

of drawing plans and sections. [98] Tufte digs into the history of public transport timetables and their graphical development. Some of his examples are far removed from spatial systems, but they teach us ways to graphically represent time. As Tufte's last chapter is titled *Narratives of space and time* it is evident that such representations can also come close to (landscape) architecture. [99] Rosenberg and Grafton go further back, and show how mainly typographic approaches evolve towards diagrammatic drawings and illustrated text. In later ages, both genealogical charts and the desire to depict human history graphically inspired new solutions for the depiction of time. Tufte speaks about such illustrations as 'envisioning information' - also the title of one of his books. [100] Text, tables and illustrations are combined in these solutions, but without any doubt we must look at them as 'drawings'. Many of such drawings could certainly inspire landscape architectural drawings, if we postulate that timelines can be used not only to depict history, but also to represent the future. In fact, some of the representational strategies chosen in landscape urbanism indeed seem to interpret the timeline as a forward looking devise. [Fig. 5.21]

Today's animated film is often made with sophisticated software, with specialist's input. That is one of the reasons that animated film is not deployed very often in landscape architectural productions. Yet animation does not have to be that complex, if we look at the 'flip book' for example, which is, as Paul Wells notes, an elementary form of animated film. [101] In fact, several animated films take the act of drawing as a subject, like J. Stuart Blackon's *The Enchanted Drawing*. [102] A drawing comes alive and starts to interact with the hand drawing it. One of the pioneers of ani-

mated film was Oskar Fischinger (1900-1967). His aim was not so much to create narratives but 'cinematic abstraction'. Fischinger's employed techniques close to painting, but paintings in his view should start to move: 'paintings in motion'. [103] It is fascinating that Fischinger also used drawings that certainly are scores. Many of his films take existing music as a starting point. Scores were the perfect representational technique to notate the correlation between music and image in a very precise way. Joseph Hyde in an essay on this specific notational technique notes that Fischinger's scores were 'time-accurate': They were drawn on graph paper, and every block represented a frame of the animated film. [104] However, we have to see that even if the Fischinger scores are rather beautiful, they are means not ends. [Fig. 5.22] Time is essentially part of the notational system that supports animation. It is necessary to distinguish between different types of time. Animation often is short -only a few minutes- and needs smart cuts that signify the passage of time. Condensation 'prioritises the most direct movement between what may be called the *narrative premise* and the *relevant outcome*'. [105] Wells puts it this way: 'The idea of "a story" may be understood as a sequence of events taking place over a particular period of time. [...] Such events may play out in a number of ways - in a straightforward linear progression, as a parallel series of related scenes, as past events (memories, dreams etc.) re-told in the present context, as implied "off-screen" occurrences etc.' [106] It recalls the vocabulary of Zerubavel.

In terms of notational systems, comics are very close to animation. The suggestion of time is, as McCloud argues in *Understanding Comics*, done with help of induction, using our mental capacity to finish an unfinished image, or to link two images and thereby

[98] See Rosenberg and Grafton 2010 and Tufte 1990. The first book dedicates a separate chapter to timelines: 26-69.

[99] Tufte 1990: 97-120.

[100] See Tufte 1990.

[101] Wells 1998: 11.

[102] This short film, made around 1900, can be seen at https://www.youtube.com/watch?v=rYDmH2B9XJw

[103] An exposition was dedicate to the work of Fischinger in Eye in 2012. See also Keefer and Guldemond (Ed.) 2012.

[104] Hyde in Keefer and Guldemond 2012: 149.

[105] Wells 1998: 76.

[106] Wells 1998: 68.
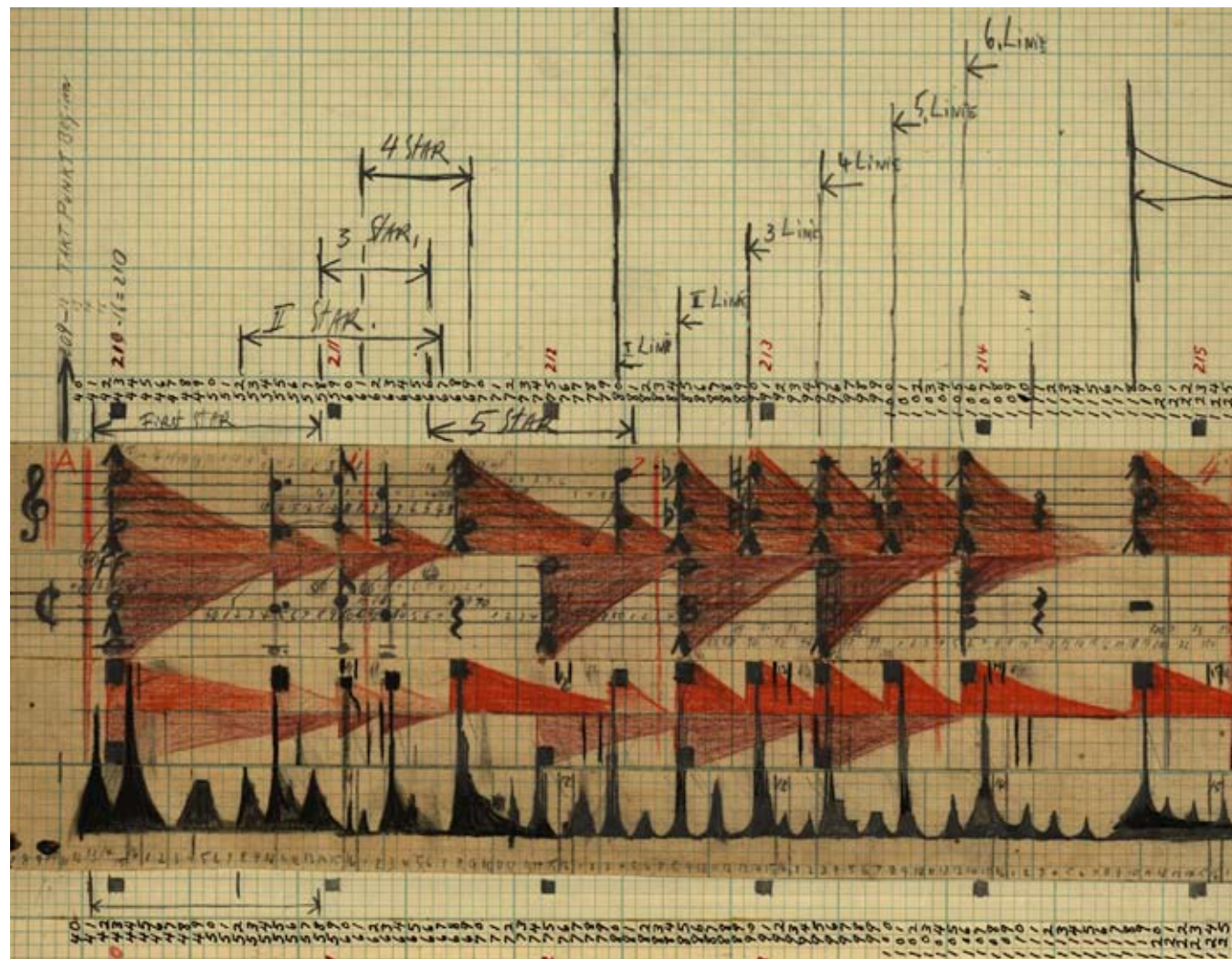
Fig. 5.22 Oskar Fischinger. Graph paper fragment, untitled, believed connected to score for *An American March*.

create a story. [107] As McCloud observes, the white space between the individual frames is vital in this. [108] Comics deploy written text, and therefore the graphical arrangement of text and image elements both shapes and restricts comics. It is very instructive that comics use a range of indications for the progression of the story: 'the next year' or 'hours later' or 'he had no feeling how much time passed since', and by that overcome the limitations of the medium. Generally a frame is seen as describing only one moment, but McCloud notes that in this way text and image can imply a certain span of time even in one frame: 'Just as pictures and the intervals between them create the illusion of time through closure, words introduce time by representing that which can only exist *in time - sound*.' [109] 'Action lines' are a very specific comic tradition to suggest the span of time and more particularly, movement. In fact, the technique is not far from the experiments of Futurism, but used in comics in a more practical way. [110]

A division into two domains
What does all this tell us about the taxonomic system of types of representation? I arrive at the tentative conclusion that this system needs to be updated in a conceptual way: a division into two domains at the highest level. These two domains would comprise a group of *spatial* representations, such as the plan and the section, and a group of *temporal* representations, such as the score and the timeline. Divided in such a way, a diagram would be an intermediate type, as diagrams can depict aspects of time, but do not necessarily do so. Drawings in the temporal group enable all relevant aspects of time in a design to be shown. These drawings also clarify the time scale at which the design operates, and

the nature of time: progressive or cyclic, seldom or often, long or short and so on. Actions that provoke or manipulate or prevent the dynamics in a design are listed in these temporal representations, and the persons or institutions doing so are also addressed. By that these drawings can enlighten the way a design grows, develops and evolves. Such temporal representations also speculate on the (un)certain events that may occur over the lifespan of the design and the designed landscape, and they indicate the relevant phases up to maturity and decay. As with every type of representation, they can have an explorative role during the design process, or be part of the presentation to the client and the public. Perhaps such a domain of temporal representation would also be relevant for architecture, and certainly is for urbanism. But diverging from the history of drawing to date, this time the discipline of landscape architecture could take the initiative, as it certainly concerns a niche in the theory of representation that specifically addresses the character of landscape.

It is telling that after Repton's invention of the score it took more than a century for an important conceptual innovation with regard to the representation of time in landscape architecture to follow: Halprin's manifesto for the score. Even then, it did not result in a fundamental renewal of the taxonomic system. Corner and Balmori did not ask for scores specifically, but at least their work can be seen as a convincing argument to embark on this renewal. Yet up until today it has not been done, and therefore the main conclusion after exploring the history and theory, and after investigating current practice is in fact that we face a challenge: It is time to realize this thought, now, in theory, practice and education.

[107] See McCloud 2001.

[108] McCloud 2001: 75.

[109] McCloud 2001: 95.

[110] McCloud 2001: 112.

6. Future outlook

6.1 The end of an era?

In September 2008 Lehman Brothers went bankrupt. [1] It took quite a long time before the realisation came that this was by no means a problem exclusive to the financial world.

In that same autumn of 2008 a proposal for this research was prepared. Initially, it focussed on representation only, motivated by a lecture on drawing(s) developed for a series on design methodology at the Amsterdam Academy of Architecture. [2] A second inspiration came from taking part in the Artist in Residency program in 2006 with Krisztina de Chatel, a choreographer whose work has a strong relationship with space and architecture. This collaboration between dance and (landscape) architecture brought the issue of notation to my work. [3] [Fig. 6.1] How far, in comparison to the case of a building, can dance be represented in a drawing, and how do such drawings operate? A third starting point was given by earlier research into the work of Dutch landscape architect Alle Hosper. A publication on his work motivated both an interest in the specificity of landscape architecture as a profession between architecture and urbanism, and in Dutch landscape architecture as a regional culture. [4] Hosper had experienced a diverse range of professional settings since the beginning of his career in 1967. Therefore, his work spans a huge variety of drawing types and drawing media. Both the nature of his work and his drawings can be seen as rather Dutch. Landscape is seen as a system, in which the landscape architect intervenes to create a new starting condition, and provides his expert knowledge on what the outcome might be in due time. It is in this observation that landscape architecture must be distinguished from architecture. Products of landscape architecture are realized over time, and change over time. The research at that moment found its working title Drawing Time, a title that later evolved into *Drawing Time. The representation of growth, change and dynamics in Dutch landscape architectural practice after 1985*.

In 2010, when this study officially started, the profession of architecture in the Netherlands seriously felt the consequences of this financial crisis, but it was still unclear if, how, and when Dutch landscape architecture would be affected. In the end, the economical crisis eventually hit Dutch landscape architecture severely. There is some irony in the fact that this body of research is about time, and nevertheless the effect of time on the research itself was not anticipated; the economic crisis fundamentally changed the profession. The offices that participated in the research are not the same today as they were in 2008. All interviewed offices still exist, but many of them have had to cut back severely, to move to more affordable locations, to let staff go and to adapt their strategy towards clients. In so far as the effects of these changes can be framed at this instance, both a negative and a positive interpretation seem possible. The negative one is that space to manoeuvre became more restricted, and space to manoeuvre is an important aspect of drawing. The sheet of (virtual) paper is the designer's

[1] See for example an analysis in *The Guardian* 5 years after: http://www.theguardian.com/business/2013/sep/13/lehman-brothers-collapse-five-years-later-shiver-spine

[2] See http://www.studiegids.academievanbouwkunst.nl/en/2015-2016/study-programmes/landscape-architecture/study-programme-year-2/c3/

[3] See http://www.ahk.nl/en/research-groups/art-practice/artists-in-residence/2006-2007/de-chatel/

[4] See Van Dooren and Van Leeuwen 2003.
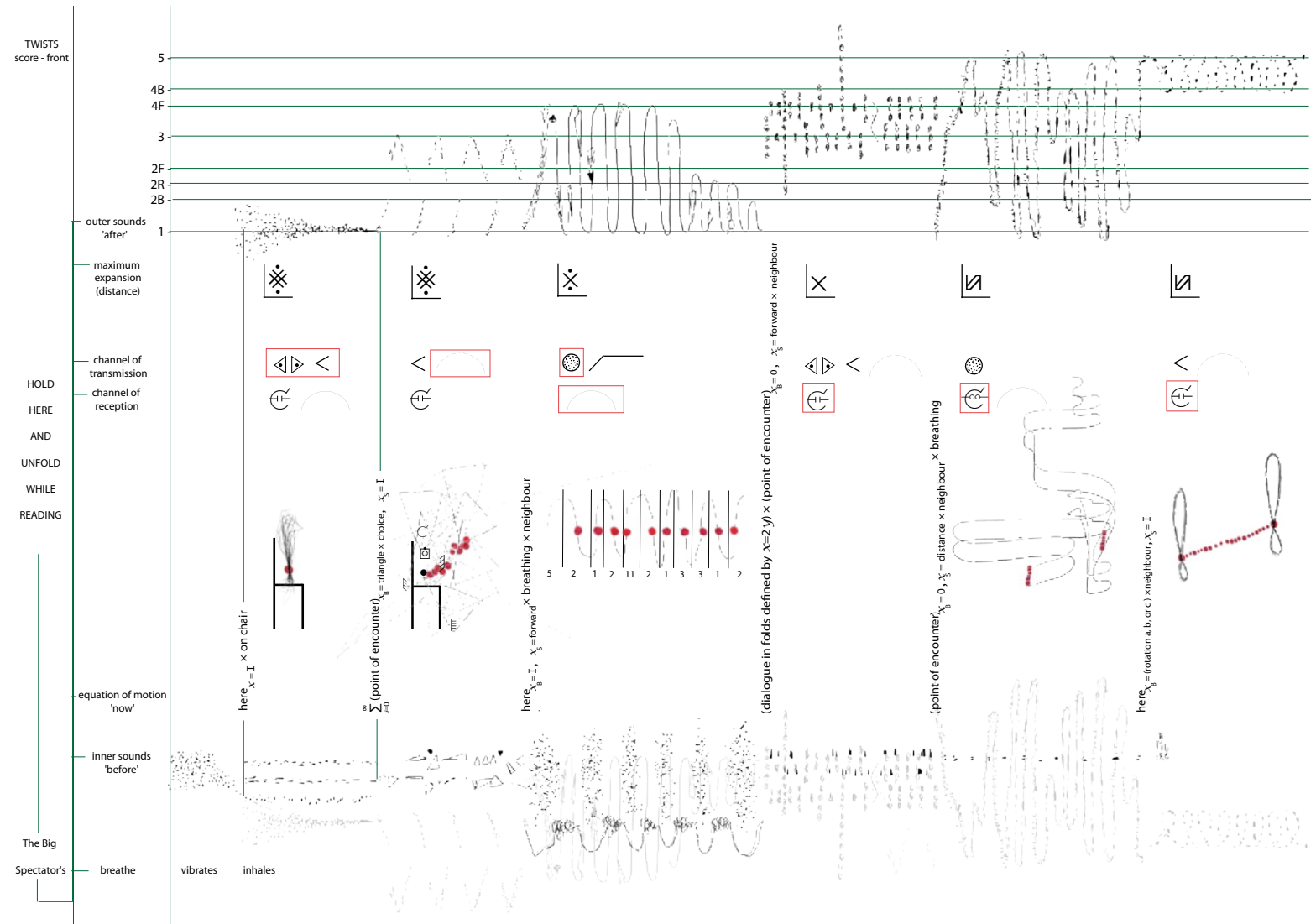
Fig. 6.1 Example of a notation of a dance performance. *Twist* **by Emilie Gallier, 2013.**

experimental space, but today there is less room for disagreement with the client, just as presenting unexpected discoveries or proposing diverging new insights is less appreciated. The positive interpretation is that the crisis forces all parties to opt for slow and careful transformations. One could say that many developments during this period became more 'landscape' in their character. Instead of aiming at one final image by a complete and quick realization, developments start to be spread out over time, step-by-step, with in-between stages, temporary uses, and open ends. I assert that this is a strong invitation to landscape architects to be more explicit on the specific contribution their profession can give, and to address and exploit the issue of time. Seen from that point of view this research is very timely.

In ten years time, will we look back and speak of these years as the end of an era? That remains to be seen, but there are reasons to assume we will. If we look back at the mid eighties, and specifically the years around 1985, key in this study, we can note that the Netherlands recovered from years of economic stagnation, resulting in positive stimuli for landscape architecture. Will the same happen now? There are similarities between now and the mid eighties, in terms of landscape architecture development. Again, a substantial shift in organization can be observed. [5] In contrast to 1985, today it is not so much the office that is the new organizational unit, but the independent landscape architect, operating in networks or offering his services to larger offices. [6] Many offices sought their fortune in other countries, and tried to conquer terrain in other fields, just as adjacent disciplines hoped to take a piece of the remaining landscape architectural work. Disciplinary borders became less clear, and national cultures

faded. The acquisition of design work changed drastically, both due to European rules and to the new economic reality. Already in very early stages convincing descriptions of the final product are now required, stimulating a large production of seductive visualizations. More and more frequently design processes are broken down into phases. This could be an interesting development, as it would fit with Ingold's critique of the project, but that is too optimistic. [7] What we see instead are attempts to control design processes in their organizational and financial aspects. Generally, the position of the designer has become weaker. The larger political and cultural context with its emphasis on avoiding risks demands from designers the certainty that their design works, and is safe. To some extent that could stimulate time drawings - but it only did so in some cases. Clients expect a clear message, no uncertainties. However, the new era about to start may suit landscape architecture, if slow transformation, temporality and stepwise development become mainstream. The expansion of texts that speak about time, representation and landscape supports such a reading. Also looking at the larger context it seems that landscape architecture has entered a new phase, as for example expressed in the word 'Anthropocene'. This term had been used before, but it only recently came into the spotlight due to the work of scientists Paul Crutzen and Eugene Stoermer. [8] It suggests that human influence on the earth's geology, ecosystems and climate became dominant enough to address that with a new geological period, and obviously, that is quite a statement. This reflects the extent of dynamism we have to face, but also a radical change in our perception of the world we live in. Perhaps this asks again landscape architecture to make an 'emancipatory jump'.

[5] The yearbooks *Landschapsarchitectuur en Stedebouw in Nederland* from 2012, 2013 and 2014 document this shift, both in reflective essays and the nature of the selected projects.

[6] Many offices reduced staff, but at the same time needed immediate solutions for short peaks in work load. A substantial number of the newcomers on the market are hired for such peaks.

[7] See also Chapter 3, and more specifically paragraph 5.3.

[8] See for example https://en.wikipedia.org/wiki/Anthropocene.

Fig. 6.2a-c *Planet Texel*, **3 out of 9 visualizations for a seasonal camping site. Project by La4sale and Faro architects.**

6.2 The future of drawing

Innovations within architecture -generally preceding changes in landscape architecture- and new approaches in adjacent professions, ranging from the arts to gaming to geography, caused drawing to evolve at a rather high speed, these years. In what way should the actual state of representation in (landscape) architecture be described? In 2014 the professions of landscape architecture and architecture shared their recent production at three biennales: those of Rotterdam, Venice and Barcelona. [9] Biennales in these professions have a role comparable to competitions and yearbooks: They present an overview of the production, nominate best practice and indicate trends. Although the events may be very different in nature, they provide a cross section of ways in which design projects are conceived and drawn today. Issues of time are explored in a substantial number of the projects presented at the Venice and Rotterdam biennales. The Rotterdam biennale is a point in case, if only because landscape architect Dirk Sijmons was asked to curate this traditionally very architectural event. His motto *Urban by nature* implied a perspective on our urban surroundings that is by definition engaged in issues of time, as processes, spontaneity, growth and change were implicitly part of this maxim. In Venice, curator Rem Koolhaas asked participating countries to present 'the history of their modernization' between 1914 and 2014. [10] This revealed how, over time, the Modernist tradition lost its pureness and opened itself for adaptations in space and time. Insofar as the decades of Modernism have been an impediment to the inclusion of change and developments in landscape design the Venice biennale seems to mark the end of such an impediment.

One of the projects presented at the Rotterdam biennale was *Planet Texel*, design research focussing on the Dutch island of Texel as a self-sufficient, sustainable landscape. [11] *Planet Texel* is strongly time-oriented in its thinking. Both in terms of climate and in terms of a tourism-based economy, seasons are the rhythm of the landscape, and now this rhythm is taken as the basis for a future perspective. Participation of inhabitants of the island is seen as essential. Therefore, the design was not communicated with traditional means only, such as maps and sections, but also by means of a multimedia presentation for which a 'pavilion' was built. [Fig. 6.2a-c, 6.3] In terms of representation, this illustrates the rapidly growing influence of related fields such as film, gaming, industrial design, information design and geography. This can also be experienced in a Venice contribution, *Sales Oddity:*

Fig. 6.3   Presentation of *Planet Texel* **in pavilion at IABR Rotterdam 2014. Pavilion by Event Architecture in collaboration with La4sale.**

[9] International Biennale of Architecture Rotterdam 2014 *Urban by Nature* May 29-August 24. 14th International Architecture Exhibition of Venice 2014: *Fundamentals*, June 7th - November 23rd. 8th International Biennial of Landscape Architecture Barcelona 2014: A *landscape for you* September 25-September 27.

[10] See *Fundamentals* 2014: 17, 22.

[11] Projectatelier *Planet Texel* was made by a team consisting of La4Sale (with students of the Academy of Architecture Amsterdam), Texel municipality and IABR.

[12] *Sales Oddity. Milano 2 and the Politics of Direct-to-home TV Urbanism* **was** made by Andrés Jaque/Office for Political Innovation. See also http://www.german-architects.com/architektur-news/insight/2014_Venice_Biennale_Monditalia_550.

[13] As noted in Chapter 3, the role of collage in (landscape) architecture has never been documented very precisely, but its role in the visual arts is presented in Klanten and Gallagher 2011 and Taylor 2004.

[14] The *AlpTransit Depot Sigirino* is documented at http://www.girot.ch/wp-content/uploads/2013/04/Sigirino-portfolioE.pdf

[15] *Italian Limes* was made by Folder's (Marco Ferrari, Elisa Pasqual). See http://socks-studio.com/2014/08/28/moving-boundaries-in-the-alps-italian-limes-venice-architecture-biennale-2014-by-folder-and-collaborators/ or http://www.labiennale.org/en/mediacenter/video/fundamentals32.html

Milano 2 and the Politics of Direct-to-Home TV Urbanism. [12] In this piece, traditional architecture drawings -plans and sections- mingle with collages, advertisements and photos in a documentary form, presented on a screen that in itself is three-dimensional. These two projects highlight important on-going changes. The growing influence of representational approaches from other fields is not new: We only have to look at the history of collage to see precedents. As new way of creating art works in the early 20th century, collage slowly entered architecture, as can be seen in the work of Archigram, before becoming manifest in landscape architecture, for example in the work of West 8 and B+B. [13] [Fig. 6.4] Such cross disciplinary influence also happens today. These examples from Rotterdam and Venice show that the (landscape) architectural project today seems to be immersed in a broad range of media and presentational techniques. A second change is the

Fig.6.4   Study for K-Buurt, Bijlmermeer Amsterdam by B+B, 1998. Collage.

evolution in technical terms. Mixtures of moving images, sound, installation and real-time production allow for sophisticated multimedia 'events'. A third change is the character of the event. One could go so far as to state that it is *presentation* that changed, more than re-presentation. The classical architect's presentation (a set of panels containing plans, sections, diagrams, visualizations and text, combined with free-standing models) is now integrated into complex installations. This is a dramatic shift in the interface with clients and the public, and it will certainly affect design education. It is a development that urgently needs a theoretical framework. These biennales have learned that projects presented through such complex installations seem to be both more and less accessible. In terms of the public's interaction with the projects, the use of very different media and the attention given to the different senses of the spectator means these projects certainly are more accessible. At the same time, clear information on basic facts, such as what exactly the scope of the project is, who commissioned it, and what is its current status, easily get lost within these intuitive documentary settings, making it much more inaccessible.

The Rotterdam biennale presented the *Sigirino* project by Atelier Girot. [14] This project concerns a hill made of waste material from a new tunnel in the Swiss Alps. The latest GPS techniques, visualization software and computer numerical control (CNC) milling to make models, are used to visualize the project but even more so to be able to conceive the project within complex topographic conditions. Italian limes, a Venice biennale project, also shows the new possibilities offered by satellite based GPS and the real time rendering of such information in and on a terrain model. [15] [Fig. 6.5] The project questions the stability of the border of

Fig. 6.5   Model of *Sigirino* **project with time-based projection of sunlight. Design by Atelier Girot for Alp Transit San Gottardo, currently in construction.**

Italy. Intellectually, its background argument can be related to an essay on the instability of coastlines by Carter, as mentioned in Chapter 3. [16] Coastlines, and borders, seem by their cartographic depiction steady and secure. But they are not, in reality. The Italian border seems to be defined forever by mountain peaks, but the glaciers at these mountain tops have changed substantially, and are still changing. Measured with GPS technique the *actual* border can be represented on a mountain model, and drawn on a map that is given a very precise time tag. [Fig. 6.6] These projects show the influence of techniques from adjacent disciplines, the on-going innovation in question and the changing concept of what (re)presentation is, or should be.

A crisis in representation?
These examples do not so much prove anything - they mainly suggest. Torres, in 2009 in the Australian journal *Kerb*, claimed that there was a crisis in representation. [17] In contrast with that article, I would say that the examples mentioned above, and elsewhere in this research, show that the scene is rather vivid. Discussing drawing, in an article in the Spanish journal Paisea, some of the conversational partners declared that 'drawing is dead', because of, for example, the rash development of the so-called Building Information Model (BIM), GPS techniques and 3D printing. We might conclude that we can do without drawings, and interact more directly with the process of making. [18] However, as a drawing by Txell Blanco Diaz shows, drawings can also be used to efficiently guide 3D printing. As an effect, such drawings tend to lose every connotation to three-dimensional space. [Fig. 6.7] Indeed, in the future, drawings, and particularly drawings on paper, will not be

[16] See Carter in Cosgrove (Ed.) 1999: 125-147.

[17] See Torres 2009.

[18] See Van Dooren 2013 in *Paisea* 27: 4-12.

Fig 6.6   Installation by Folder for *Italian Limes*, **drawing the real time border of Italy, 2014-2016. Photo by Delfino Sisto Legnani.**
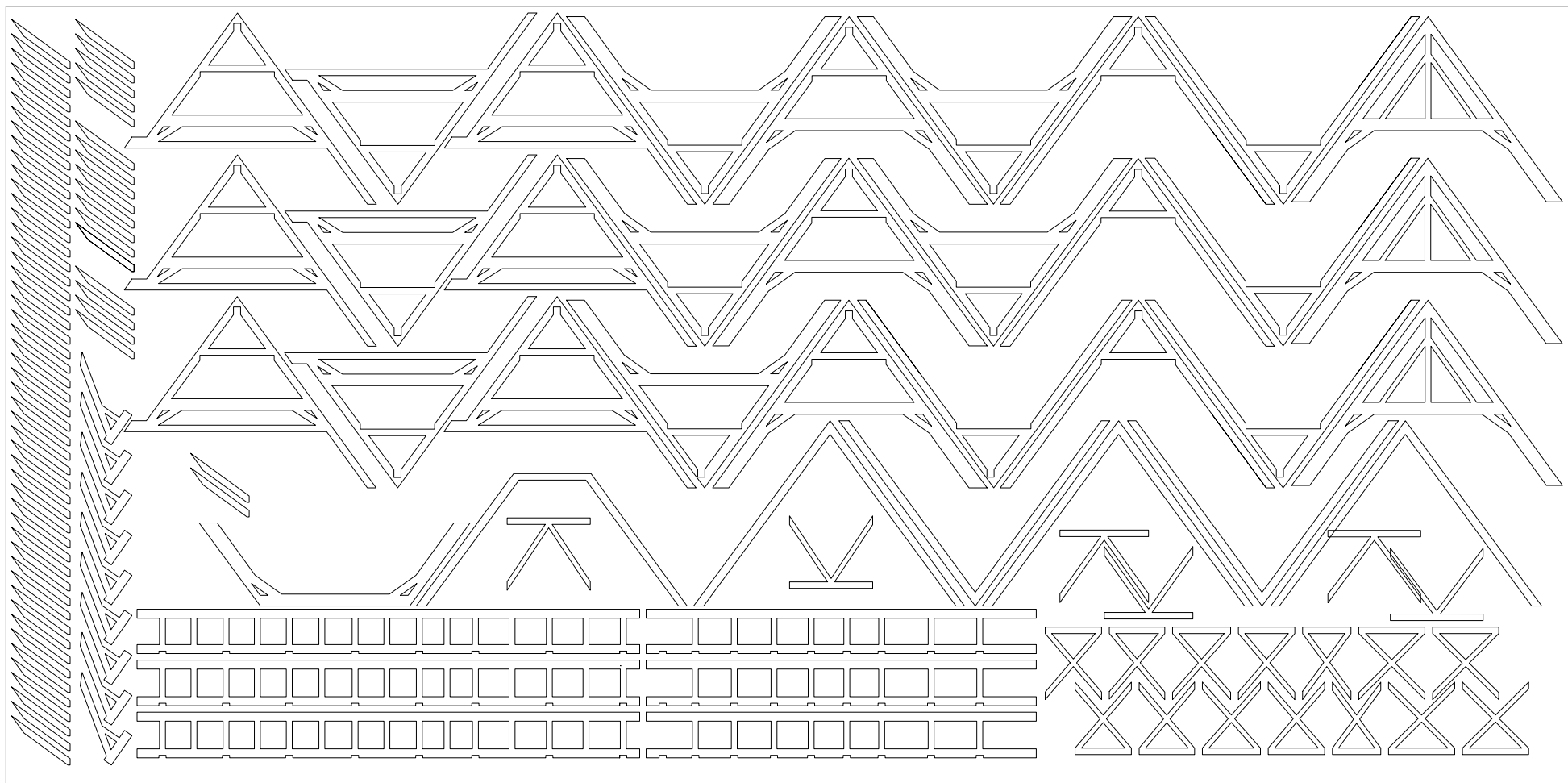
Fig. 6.7   Working drawing by Txell Blanco Diaz as an instruction for printing individual parts of a model, 2013.

4:00 AM   5:00 AM   6:00 AM   7:00 AM

8:00 AM   9:00 AM   10:00 AM   11:00 AM

12:00 PM   1:00 PM   2:00 PM   3:00 PM

4:00 PM   5:00 PM   6:00 PM   7:00 PM
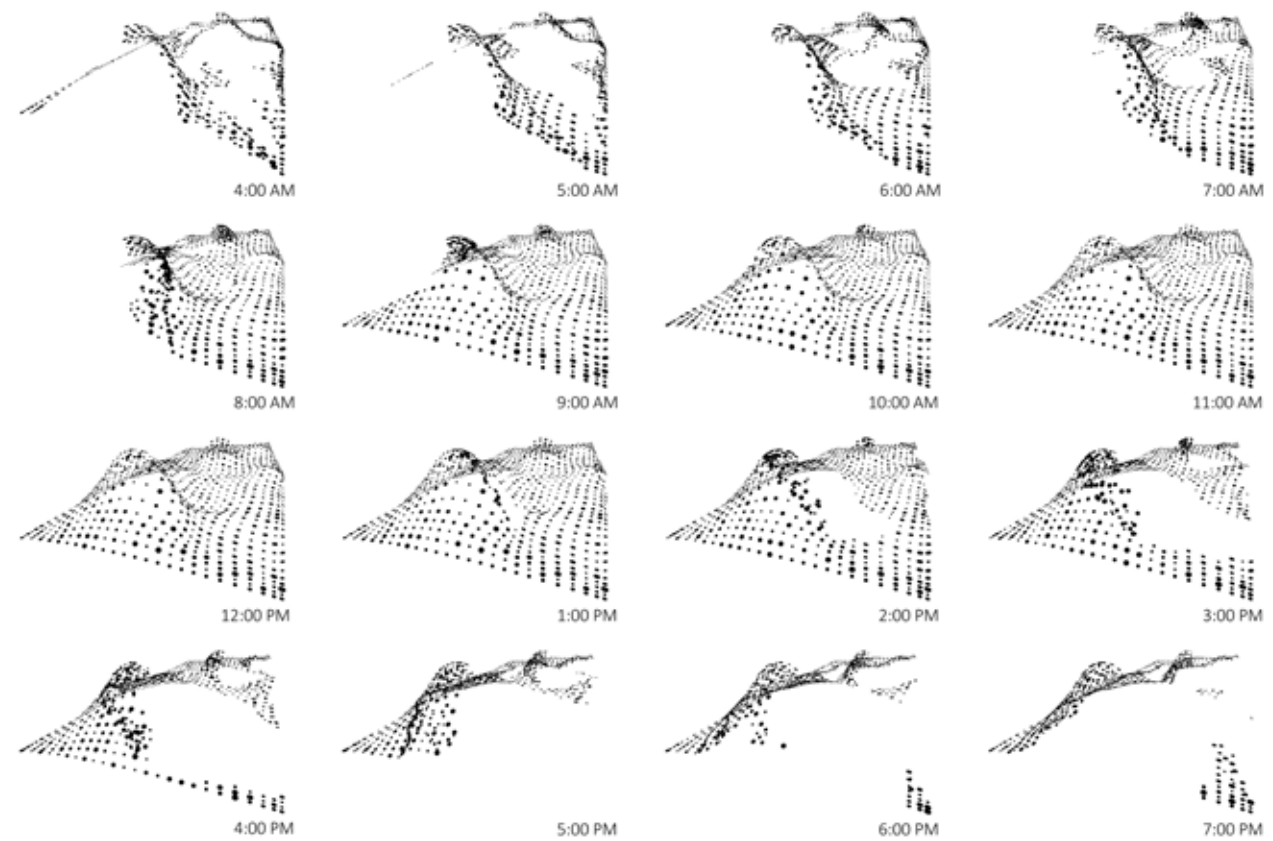
Fig. 6.8   Time lapse of sun exposure for the *Wave Garden* **project at 9th Chines Garden Expo, Balmori 2012.**

the sole intermediate agents in the production of landscape. But instead of becoming obsolete, drawing seems to be integrated into new collaborations with other media-productions. As Balmori puts it, landscape architecture changes profoundly due to the current acknowledgement that nature is 'heterogeneous and constantly changing', and this has 'a profound impact on the forms of representation in landscape architecture'. Yet in this, drawing still is 'its main tool of expression'. [19] If we should diagnose a crisis, it is the confusion on what exactly is part of the repertoire of architectural representation, and what is not. Should landscape architects make films or develop games to represent their designs? To some extent, that problem has been 'solved' by Lipstadt. The 'psycho-social conditions governing the production of the object' are essential to 'differentiate representations by architects from other representations of architecture'. [20] In other words: A drawing, even if very different from our traditional understanding of the word, belongs to the repertoire of architectural drawings if it is made part of the production of architecture. Conventional drawing types will be integrated in 'media productions', as shown by the 2014 biennales. Remarkably, these biennales reveal that the visualization as a type is not as dominant as it was a few years ago. In recent decades the visualization became the most present drawing due to the rapid innovation of CAD and Photoshop - but its taxonomic position became unclear: Is it a reliable perspective drawing and simulation of reality, or mainly an instrument to seduce? This problem will now concern new presentation forms such as films and games. It is up to the profession itself to define its intentions with all drawing means and drawing techniques available. However, if it is about aspects of time, these new options will without doubt enlarge the scope in an interesting way.

Even if instructional drawing might become redundant in the production of landscape due to innovations in measuring and making, the role of representation in exploring, communicating and debating the new landscape will continue to be essential. And, even if the role of representation changes and a drawing is of less importance, the understanding of the issue of time still has to be addressed.

6.3   Outcome

Two sets of questions guide this research. One set addresses landscape architecture in general: What exactly is the role of time in landscape architectural design, what is the nature of drawings in landscape architecture, and can aspects of time be conveyed via such drawings? The other set relates to today's practice: Are aspects of time present in drawing in today's landscape architecture practice, and in what way? And if they are not, then why not?

Concerning the role of time in landscape architectural design, the most striking outcome of this research is the deep ambiguity in both the theoretical foundation of landscape architecture and current landscape architectural practice. For many practitioners today, it is obvious that landscape is understood in terms of change, process and dynamics. This is also confirmed by recent literature, such as the publications of Amoroso and Balmori. [Fig. 6.8] Yet such an understanding is not reflected in the theory that frames drawing in landscape architecture, and it is only occasionally visible in drawings made by today's landscape architects, except for certain offices and certain fields, such as landscape

[19] See Balmori 2014: 30.

[20] Lipstadt 1989 in Blau and Kaufman: 110.

[21] As discussed in paragraph 5.3.

[22] See Leatherbarrow 2009 and Mostafavi and Leatherbarrow 1993.

urbanism. It may be that landscape architectural projects are approached implicitly as developing over time, as is the case in a number of projects taken into account here, but formally, if seen via drawings in project publications and on websites, landscape today is predominantly approached statically, as a ready-made final product. Landscape architecture's strong tie to the system of representation as developed in architecture is one explanation, given that in architecture issues like growth and change have a less important position.

Next to this, both a professional culture, strongly related to architecture, and an implicit idea of what is expected by clients and the larger public seem to strengthen this absence of aspects of time. Although Ingold never spoke about landscape architecture, his analysis makes sense: Designers predominantly think in terms of projects with a clear starting point and a well-defined end. That may be correct in organizational terms, but the nature of landscape is different - it changes during the project, and after the project ends. In that context I very much value the concept of *actuality* as put forward by Leatherbarrow. [21] That concept suggests that during the process of becoming something it is intended to be in future, there is always the reality of the 'now', and in landscape architectural plans, taking decades to mature, such actualities define our daily awareness of landscape. I also value the concept of *afterlife* as proposed by Hunt. Although my interpretation of the concept is a bit different from Hunt's original intention, the concept makes us realize that even if a landscape architectural plan has become sufficiently mature to fulfil its original intentions, it does not stop evolving. The landscape will be evaluated by its future users, and in that evaluation design intentions certainly will be less important than the landscape's actual meaning. A conclusion of this research is therefore that the strong orientation of landscape architectural drawing on the architectural tradition has been very helpful, but a widening of the focus is necessary now, in view of the tasks ahead. One could argue that the profession of architecture should also integrate change into its thinking and drawing more often. That may be true, but I leave that point to architectural theorists, and it must be acknowledged that architecture contributed substantially to the debate, as the work of Leatherbarrow and Mostafavi shows. [22]

Concerning landscape architecture, I arrive at the conclusion that the lack of attention paid to the representation of time is simply is a weak spot in landscape architectural theory that has to be repaired. If we accept the premise that landscape changes, both cyclically and progressively, quickly and slowly, on a large and on a small scale, staccato and legato, regularly and irregularly, this should be reflected in its thinking and drawing. To do so, a vocabulary that integrates the dimension of time in a systematic way is necessary. I have shown that Zerubavel, and also Lynch, offer a useful set of terms, and provide a starting point for such a vocabulary, to be integrated into the theory of landscape architecture. Obstructions to the depiction of time today are mainly situated in the nature of practice. That at least is revealed by the interviews held in this research. But the history of ideas as given in Chapter 3 suggests that there are other areas of disciplinary development that are not solely dependent on transactions with clients, like research, education, workshops, and competitions. In certain periods of history in such areas explicit attention to the subject of time was given, helping to nurture daily practice with

innovative, efficient, and realistic solutions. The design experiments conducted in this research give an initial indication of new options that may enrich the palette.

The representation of time
The abstract question if aspects of time can be present in landscape architecture drawings is easily answered with yes. The fundamental idea of representing time has been dealt with in the arts, and since then, it has been done in many different ways in several disciplines. The more difficult part of the question shifts the attention to types of representation, and to current practice. Chapter 4 has shown that it is done in current practice, and at the same time that it is still a rare phenomenon. With regard to types of representation as they are currently in use, and the question of if these types are sufficient for the representation of time, the answer is ambiguous. In taxonomical terms the system of types of representation in (landscape) architecture is incomplete and not on a par with recent developments in both drawing technique and presentation, as there is no specific type (or group of types) dedicated to this important topic of time. Entirely solving this problem exceeds the scope of this research, but the road to take has been pointed out. On the basis of the work of Halprin, I put forward the score as, potentially, a very complete solution. [23] Preceding a formal definition of this new type of representation, I propose to understand the score as a drawing type additional to plan, section and visualization (*what* and *where*), inviting designers to be explicit about moments in time (*when*), and about agents that act at such moments (*who*). This is very instructive both in the conception of designs and in the information on designs. But the

score is not the only option, as became clear. Timelines, animations, comics and other comparable drawings are also suitable for the representation of time. Therefore, the point of departure is a division at the highest level of abstraction in between spatial and temporal types of representation - the latter being absent in the system as it was. We might conclude that there is no urgent need to fix it, as landscape architects work with today's types of representation to represent time and do so successfully and pragmatically. As has been argued, such a pragmatic view neglects the core issue, which is the lack of specific representational solutions for the aspect of time, and the integration of such solutions in the presentation of landscape architectural work. Awaiting such a structural change in the taxonomic system, the representation of time seems possible, and within the current taxonomy. Indeed, that makes the fact that it only happens once in a while even more astonishing. Solutions can be utterly simple, like the repetition of plan, section or visualization in series connected to specified moments. For some, this may be an almost too simple solution, but such a qualification neglects that the drawing is a carrier of knowledge. Organizing drawings in sequences requires the consideration of evolution in time and forces the appropriate choices to be made for whatever moments and processes are relevant. Therefore, such series can be very clarifying for both the designer and the client or public. The presence of solutions deriving from animation, comics, gaming and such domains in the drawings as collected in this research was poor. However, events such as the 2014 biennales suggest that that may be a problem of timing. If a survey like this one is to be repeated in a few years' time, the outcome might be fairly different. We will probably see more installations, films, games and other crossover productions. Trying

[23] See Halprin 1969, and the discussion in Chapter 3 and 5.

out these different representational strategies should at least be on the agenda of the discipline of landscape architecture, with respect to the tasks ahead.

The position of drawings
In its original inception, this research implicitly gave drawings a dominant position, in accordance with the general approach to drawings, at least by members of the design community themselves. However, the role of drawings is more complex. Better said: A conclusion of this research is that drawings are important in the production of landscape, but they are only one means among others. To properly see this complexity, landscape architecture must be looked at from the perspective of other sciences, such as anthropology and ethnography. Interviews help to do so. To study drawings in the broader realm of the humanities helps to show that drawings tend to be overrated by designers as the sole medium in which designs are represented and in which design considerations are laid down. At the same time it can be concluded that drawings are underestimated in their autonomous power to transport and convey messages, and to be a realm of innovation. Therefore, in the course of this research the thinking about time and its role in landscape architecture design became an independent area of study. Apart from being present in drawings, attention to aspects of time may be taken care of in very different ways of communication, ways of acting and moments of acting. That is to say that text can represent issues of time very well; time issues may also be addressed within the field of management and they may be taken care of decades after the design has been drawn and executed. Both the interviews and the literature make clear that

such 'silent' ways of caring are hardly visible and not traceable if not fixed in drawings or text, and therefore they are generally not a part of a shared body of knowledge. So, even if it seems like landscape architects can do without these records, drawing as a verb and the drawing as a noun could be looked at as a cultural responsibility to archive the change of landscape.

It can be concluded that a lack of drawings depicting time is not the same as an absence of thinking about time. This again points out the ambiguity in landscape architecture. Drawings are not the only means in which stances are taken or approaches are reflected. Texts offer an alternative source, but the interviews show that without exploring the 'hidden thinking' and the implicit considerations, we only know part of how designs are conceived. It is true that this confronts us with the difficulties of the interview, as a research strategy, but even if this strategy sometimes meets reservation, for its qualitative character (in certain circles of scientists) and for its 'truth' (in circles of designers) it is a ripened and valid instrument in research. This research shows that it is not so much reliable truth in statements of designers that is the important thing, but coherence between approaches, drawings, realized projects and statements.

Professional history
Concerning landscape architectural theory, an important outcome of this research is a new reading of professional history. Both literature and interviews reveal that often the history of landscape architecture is defined as a rather recent history, referring to the introduction of the word 'landscape architecture', as manifest

in names of educational programs, offices and organizations, at some moment between 1900 and 1960, and in the Netherlands shortly after the Second World War. As a consequence the realm of garden architecture, generally considered as preceding landscape architecture, is looked at as 'prehistory', meaning that immediate links with our time seem to be absent. Even if it is acknowledged that steps forward were taken in previous centuries there seems to be an enormous distance from these early forms of landscape architecture to today's practice. This study did not intent to re-write a professional history, but in a search for the role of time and its relation to representation, this perception of the professional history should be reconsidered. The example of Humphry Repton comes to be seen in a new light. His writings in particular show an engagement with time, landscape, drawing and professional practice that is still relevant today. A conclusion from this research is that a revised view on his role in the development of the profession is necessary. [24] The same can be said in a different way for Frederick Law Olmsted, whose writings are hardly known in today's design community, and yet again show a surprisingly modern engagement with issues of time and professional practice. Such examples offer a new and fresh perspective on both the issue of time and of representation, remarkably relevant for today's practice. Therefore, the perception of the history of the profession should be reconsidered: The 19th century seems to be crucial for a basic understanding of landscape architecture, and more than that, in this basic understanding coming from this period aspects of time are important. Such reflections on the history of the discipline also address Modernism. The research makes it clear that the Modernist era did not support a time-based approach. Precedents such as Repton and Olmsted lead us to the tentative conclusion that the age of Modernism must be positioned as merely a temporary neglect of the issue of time.

6.4   Future challenges

This study raised as many questions as it answered, thus offering a wide array of appealing starting points for future research. Some of these questions expand on theoretical or practical issues in this research, others are chance discoveries: I stumbled upon many subjects that invite our attention. The issue of Modernism with which 6.3 ended is a good example: It seems that the specific topic of time invites a new way of understanding Modernism in landscape architecture. Issues related to nature and ecology challenge the general reading of this movement or style. As already remarked, the 1991 Danish version of the biography of C. Th. Sørensen carried the subtitle *Havekunstler*, to be understood as 'garden artist'. The English version from 2001, however, was *C. Th. Sørensen – landscape modernist*. Ann Winston Spirn explains this shift as a conscious claim that several landscape architects were clearly Modernists, a fact neglected for a long time. [25] At the same time, a reading of *Modern landscape architecture. A critical review* reveals how ambiguous American landscape architects from the early Modernist period were in describing their position towards landscape and architecture. [26] As the 2014 biennale of Venice also suggests, a precise study of the role of Modernism in landscape architecture may even suggest a more nuanced reading of Modernism in general. [27] In contrast to the discourse in architecture, landscape seems to oppose a strictly purist application of Modernist principles, and as such, a study from the landscape

[24] As discussed in Chapter 3 and 5.

[25] Spirn in Andersson and Høyer 2001: 12.

[26] See Treib 1993 and the discussion in Chapter 3.

[27] See *Fundamentals* 2014.

Fig. 6.9 *Jederman Selbstversorger*, **diagram by Leberecht Migge, 1918.**

perspective could deliver a much more pragmatic reading. Such observations only provide a few threads with which to start to unravel the complex and highly ideological debate on Modernism in order to arrive at a more nuanced reading of the specific position of landscape architecture.

Again the word landscape architecture is mentioned, but which landscape architecture? Building upon an interest in Dutch landscape architecture, and framing that in an Northwest European perspective, this study only briefly touches on the very different situations in other landscape architecture cultures. Perhaps the most intriguing area to explore is that of Chinese and Japanese garden art, with a fundamentally different approach towards both time and drawing. More familiar in cultural terms is American and Australian landscape architecture, but the development of landscape architecture in these countries and Europe has diverged in recent decades, and more particularly in relation to the landscape urbanism debate. In this context, the issue of time has gained a more important place. North American and Australian landscape architecture practises deserve to be studied as separate relevant areas, if we are discussing time and representation. This is a challenge for future research. The focus in this research on the Netherlands is legitimate from the perspective of a restricted research capacity, and even more so as I claim a specific Dutch tradition. At the same time, the example of C. Th. Sørensen suggests a particular Danish tradition, and characteristic engagement with time and representation. [28] The same applies to the French tradition, in relation to engineers educated in the tradition of the École des Ponts et des Chaussées, and to French practice. There are slight but meaningful differences between national histories.

In my focus on the Netherlands, I have taken 1985 as an important year, and this is most likely not such a significant year for other European countries.Of course, one should be careful about using exact years when speaking about processes of change, as they tend to happen gradually, and over a number of years. Even more important than the varying pace of change is the fact that the agents of such changes can substantially differ among countries. The shift in professional organization from civic institutions to private offices can certainly be read as a manifestation of the international phenomenon of privatization processes, although this is more likely to apply to the Netherlands than to Germany or France. In the same way, the re-establishment of the ENSP Versailles as a leading school by Michel Corajoud in the early seventies is vital for French landscape architecture - but as an expression of a very French narrative. [29] The research also taught me that these traditions share a body of precedents and have, at the same time, their very own identities. The German tradition, for example, offered the particular view of Hirschfeld on issues of change in landscape, and the remarkable work of Leberecht Migge - a very modern and interdisciplinary contribution decades before Dutch landscape architecture found its own identity. [30] [Fig. 6.9] It would enrich the understanding of landscape architecture if a comparative study of the European traditions were undertaken. Within these slightly different traditions, an undisputed shared point of reference is the 1984 Parc de La Villette competition. It is striking that interviews in this research reveal that Parc de la Villette, as an actual park, but even more as a representation of thinking about parks, is still key for many practitioners in their understanding of the disciplinary development in the recent decades. Today, 30 years later, it is time for a reflection on how exactly this competi-

[28] See Chapter 1.

[29] Corajoud was introduced at the ENSP Versailles by Jacques Simon in 1976. Together they reformulated the landscape program. This is generally seen as the starting point of a new era.

[30] See Haney 2010.

[31] See Barzilay, Hayward, and Lombard-Valentino 1984. Vesna Jovanovic and Celine Baumann formulated a reflective critique 'Modern Concessions. The Operative Reality of Park de La Villette' to be published in *Journal of Landscape Architecture* 2015/3.

[32] See Goffi in Frascari, Hale, and Starkey (Eds.) 2007.

Fig. 6.10ab *Parc de La Villette*, **situation 2014. Photograph by Céline Baumann and Vesna Jovanovic**

tion shaped the development of landscape architecture after 1984. [31] [6.10ab] It is a typical example of the theory of the 'twinned body' by Goffi. [32] The park is there: we can experience it in reality, as it is now. At the same time, the thinking about the concept of parks and the specific drawings of Tschumi and OMA are still influential, independent of the actuality of the park. Even if today we probably do not experience La Villette as very remarkable in terms of what we see on site, it is as an event, as a type and as a point of reference of unequivocal importance. Drawing is a particular aspect of this importance. The way OMA represented their Parc de la Villette in 'layered diagrams' has been very influential. Less known on a global level, but relevant for the Dutch situation are the drawings of B+B; this office clearly 'defined' itself by its La Villette drawings, and renewed ideas on landscape architecture in relation to urbanism and architecture using specific aspects of these drawings, such as the colour green, and the way trees were drawn. [33] A study into the significance of Parc de La Villette, the competition as a vehicle for disciplinary innovation and the novelties in drawings for La Villette would be a great contribution to the theory and history of landscape architecture.

Following Patricia Leavy, this research has 'knitted and weaved' threads coming from very different disciplines. [34] Being a first overview of the related issues of time, representation and landscape architecture, it is very broad, and a number of issues have not been covered in depth. This research shows for example that an ethnographic or anthropologic perspective can generate important new insights into how designers think, how design processes run, and how design operates. We only have to mention Emily Gomart's work, which so far is about the only precise anthropologic survey

into landscape architecture, to claim that there is work to do. This study especially points out the many smaller and larger differences between landscape architecture and architecture - the discipline that attracts somewhat more attention from anthropologists. A lack of drawings depicting time is not the same as an absence of thinking about time, as discovered in the early phases of this research. Drawings are not the only means in which stances are taken or approaches are reflected. Interviews show that without exploring the 'hidden thinking' and the implicit considerations, we only partially know how designs are conceived. This research shows that 'truth' in statements of designers is not the important factor, but coherence between approaches, drawings, realized projects and statements. The perspective from ethnography, sociology and anthropology can be very valuable. Any interest shown by these disciplines in landscape architecture should receive a warm welcome. [35] Chapter 5 provided starting points to re-assess the history of the discipline via a number of precedents such as the work of Repton and Olmsted. It also proposed to strengthen the theoretical foundation by deepening and implementing very relevant concepts such as actuality and afterlife, and, in the concept of design processes, backtalk. In the context of this research they serve to construct an argument on time, representation and landscape, but it is easy to see that they can be agents to innovate the theory of landscape architecture itself.

By far the most important conclusion of this research is in itself a challenge for the future: I intend to define a realm of temporal types of representation and to experiment with the score as an example within that domain. To define a realm of temporal representations in addition to a realm of spatial representations

[33] See Steenhuis 2010.

[34] See Leavy 2009 and the discussion in Chapter 2.

[35] See Gomart in Hajer, Sijmons and Feddes 2006.

[36] See the discussion in Chapter 3.

[37] See Ingold 2013, Hunt 2004 and the discussion in paragraph 5.3.

is crucial, and here only the first outline could be given. It is crucial, as it solves structural weaknesses in the taxonomy of types of representation and as it marks a definitive liberation from the architectural system, in which this division is absent. It inevitably leads to a fundamental renewal of the representational system, and that is a task that largely exceeds the boundaries of this study. The first area in which such a theoretical renewal should find its application is landscape architecture education. Most landscape architecture schools teach their students the basics of representation in the tradition of architectural representation, and therefore the specific demands of landscape in terms of representation are not explicitly addressed. This research inevitably asks for a change. It has been pointed out that regardless of opinions on the exact boundaries of landscape architecture, the absence of a proper theory on the representation of time can no longer be neglected. In the tradition of the École des Ponts et des Chaussées, schools of landscape architecture should be aware of their important position with regard to the innovation of both theory and practice. [36] Landscape does change and evolve, in many ways. This not only applies to drawing. It also concerns the artificial boundaries in most landscape architecture schools between design and maintenance. Ingold's critique on the rigid notion of the project, and Hunt's afterlife concept, throw light on the act of maintenance and its meeting with the process of design and making. [37] Some designers, for example atelier le balto and Desvigne, were specific about maintenance and the development of their work over time, and in the example from Sørensen he also speaks about an integration of making and maintenance. In general however, design, making and maintenance are separate worlds. A theoretical concept to understand them as part of the same landscape is lack-
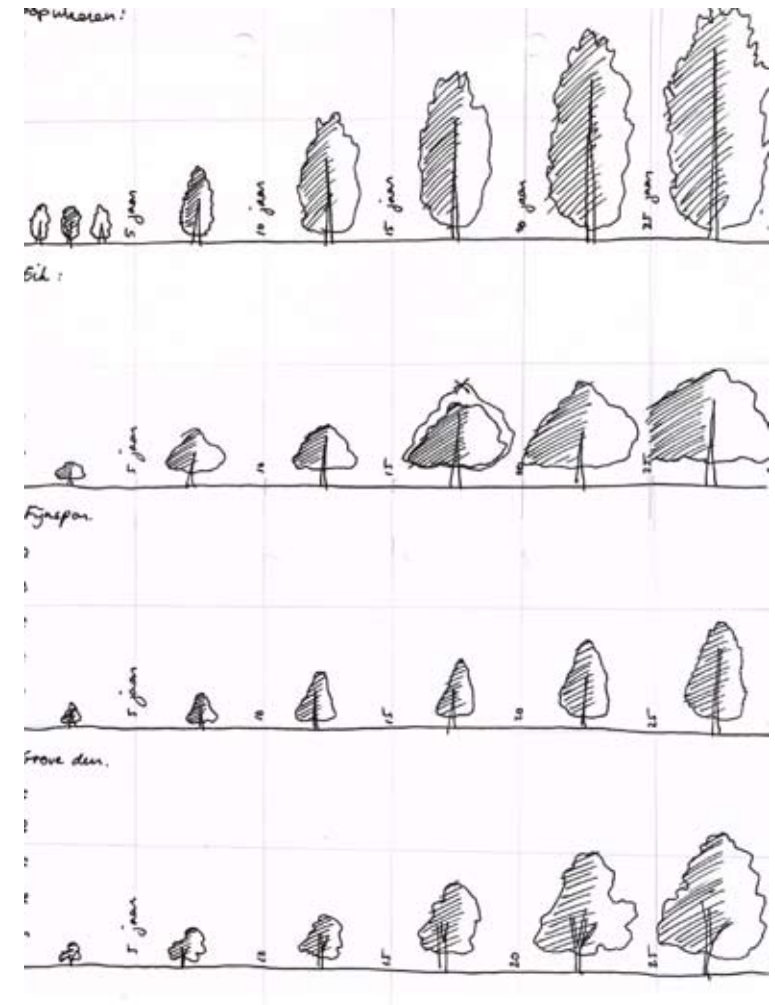
Fig. 6.11   A study of the growth of different tree species in sketch book. Thijs Fris, second year project at Academy of Architecture Amsterdam, 2012.

ing. In general the collaboration between the areas of design and maintenance is fragile. Seen from the point of view of the issues in this research, these subjects should be theoretically linked - as the afterlife unavoidably connects design considerations, usage and management. But primarily the challenge for education is to implement in terms of theory and method this idea of spatial and temporal representations, and to experiment with the different temporal options such as the score. That will support an on-going innovation of drawing itself, but will certainly also help reflection on the nature of landscape. A drawing by -notably- an architecture student shows how a simple sketch can contribute to knowledge of time. [Fig. 6.11] Students must be able to reflect on the dynamic character of landscape in their drawings, and they must be able to communicate it in a convincing way to their teachers, their clients and their public. There is a strong chance that noting specific aspects of landscape – like time – in a conscious and innovative way will influence not only their designs, but also the position of landscape architecture as a design discipline facing a challenging future.

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Appendix 1. Interviews, data and persons

NL 1985-1995

Atelier Quadrat, Rotterdam
Paul Achterberg, Stefan Gall
20 June 2011

Bosch Slabbers landschapsarchitecten,
Den Haag
Steven Slabbers, Jan-Willem Bosch
5 October 2011

Buro Lubbers, Den Bosch
Peter Lubbers , José Vorstermans, Froukje
Nauta
16 June 2011 (PL); 16 June 2011 (JV, FN)

DS landschapsarchitecten, Amsterdam
Maike van Stiphout, Bruno Doedens
1 November 2011

H+N+S landschapsarchitecten, Amers-
foort
Dirk Sijmons, Lodewijk van Nieuwenhui-
jze, Nikol Dietz, Claire Laeremans
13 July 2011 (DS and LvN); 14 July 2011
(ND and CL)

**Hosper landschapsarchitectuur en
stedenbouw**, Haarlem
Patrick Verhoeven, Hanneke Kijne, Ger-
win de Vries, Petrouchka Tumann
29 April 2011 (PV and HK); 29 April 2011
(GdV and PT)

karres + brands landschapsarchitecten,
Hilversum
Sylvia Karres, Bart Brands
24 June 2011

OKRA landschapsarchitecten, Utrecht
Christ-Jan van Rooi, Martin Knuyt, Bou-
dewijn Almekinders, Hans Oerlemans,
Wim Voogt; Zineb Segrouchni, Pierre-
Alexandre Marchevet, Andreija Pinheiro,

Andrew van Egmond
Book interviews January 2010 (BA and
MK); Februari 2010 (CJvR and MK); April
2010 (ZS, PM and AP); April 2010 (HO);
April 2010 (WV)

**Vista landschapsarchitectuur en steden-
bouw**, Amsterdam
Rik de Visser
2 June 2011

**West 8 Urban Design and Landscape
Architecture**, Rotterdam
Adriaan Geuze
6 August 2011

NL 'young' offices

Anouk Vogel, Amsterdam
Anouk Vogel
7 March 2011; additional interview 14
July 2011

Lola landscape architects, Rotterdam
Peter Veenstra, Erik-Jan Pleijster, Cees
van der Veeken
24 March 2011

RAAAF
Ronald Rietveld
17 March 2011

van Paridon x de Groot, Amsterdam
Ruut van Paridon, Karen de Groot
17 March 2011

NL 'traditional' offices

Hubert de Boer, Amsterdam

3 June 2011

**Buys & Van der Vliet tuin- en landschap-
sarchitecten / MTD landschapsarchi-
tecten**, Den Bosch
Pieter Buys, Bob van der Vliet, Frank
Meijer, Ferry Aerts
23 May 2011 (BvdV at his private house);
30 May 2011 (FM and FA at MTD); 9 June
2011 (PB at his private house)

Copijn tuin- en landschapsarchitecten,
Utrecht
Lia Copijn, Jörn Copijn, Marc van der
Zwet, Carola Rijpkema
4 April 2011 (MvdZ and CR at Copijn);
18 April 2011 (LC and JC at their private
house, Groenekan)

Dienst Landelijk Gebied, headquarters
Utrecht
Wim Boetze, Jannes de Vries, Kees van
der Velden
16 May 2011 (interview at the Zwolle
office)

Foreign offices

Great Britain

Grant associates, Bath
Andrew Grant (director)
14 February 2012

GROSS.MAX landscape architects,
Edinburgh
Eelco Hooftman (director)
17 February 2012

informant: Kathryn Moore, Birmingham
City University

2 March 2012 (at Antwerpen Central
Station)

Switzerland

Studio Vulkan, Zürich
Lukas Schweingruber
30 Januari 2012

Vogt Landschaftsarchitekten, Zürich
Alice Foxley
30 June 2011

informant: Johannes Stoffler, Zürich
28 June 2011 (in Grand Café Motta,
Zürich)

Scandinavia

Arkitekt Kristine Jensens Tegnestue,
Aarhus
Kristine Jensen
16 January 2012

infomant: Thorbjörn Andersson, Stock-
holm
18 January 2012 (at Sweco office, Stock-
holm)

Germany

atelier le balto, Berlin
Marc Pouzol, Veronique Faucheur
19 December 2011

Latz + Partner, Ampertshausen
Peter Latz
27 January 2012

informant: Thilo Folkerts, Berlin
2 November 2011

France

Michel Desvigne paysagiste, Paris
Michel Desvigne, Martin Basdevant
7 June 2011

informant: Karin Helms, Bernadette
Blanchon, ENSP, Versailles
31 March 2011 (KH at Gare de Lyon; BB
at ENSP)

Appendix 2. Example of questionnaire

2011 - Questionnaire offices main group 1985-1995

The office / the profession

- When was your office founded; who founded the office and are they still in the lead? If not, how do you relate to the founders? Is the scope of the office still the same?
- What schools were followed by the founders; did they have earlier jobs? Where? Or did they work as independent designers?
- How did you find your name; has this remained unchanged? When and how and why did you develop things like business cards and logos?
- What was your portfolio in the first years? Was this coincidental, or planned?
- Did your portfolio change? Were reasons for this very practical, or was this due to changes in society and profession? Were you active or did it just happen?
- What moments, plans, persons or publications were guiding your idea of landscape architecture?
- Did you think, looking back, you founded the office because you had a certain idea on Dutch landscape architecture and felt the new office would have a niche within that idea? Is this documented?
- Was there also a very concrete reason? Did other than landscape architecture motivations play a role?
- Would you in general understand the period since your start as coherent, without large paradigm shifts, or do you wish to define several periods?
- What relevant changes in organisationof

the office can be observed in these 10-20 years?
- What part of your portfolio do you consider to be representative for your office?
- Do you think this corresponds with how you are perceived by colleagues, critics and clients?
- Did you try to maintain or change this image?

About drawing

- Could you describe the way of drawing in the office? Is there something like an office style, or is it more personal? Would you consider certain drawings as 'typically the office'? Why?
- Did this change over the years?
- How is the drawing process organized in the office?
- Does hand drawing play a role? How is this related to computer drawing?
- Do you/the office prefer certain drawing means and certain representation modes? Is this related to the type of assignment, or not at all?
- What sort of meanings or functions do drawings have in your opinion? What message or information is transported? Did this change over time?
- Do you consider drawing to be instrumental, as a practical device to get plan processes done, or has it more ideological and theoretical meaning?
- How would you balance the meaning of drawing(s) versus written text and oral speech, as in presentations? Do you have strong opinions on presentation and the means to use in presentations?
- How did you learn to draw in school? What drawing means and representation forms were learned? Did this evolve during your study/internship?

- Did practice, or your professional environment, change your way of drawing?
- Do you see development in drawing? Is this related to software, drawing means or representation forms?
- Are you influenced in your drawing, or could you position your way of drawing?
- Would you say your way of drawing is a generation item?
- Would you consider your way of drawing to be typical for landscape architects, compared to other design disciplines? If not, would you position it differently?
- Do you think one could speak of 'a Dutch way' of drawing in landscape architecture? If so, what would be its characteristics? Is it related to certain assignments? If not, would you state landscape architects all over the world draw the same, or do you see categories?

About time

- What are your associations when speaking about time in landscape?
- Does time play a role in your work?
- Do your projects have to grow, or are subject to change, literally or metaphorically?
- Do you experience landscape architecture in this respect being different from other design disciplines?
- Do you undertake certain work, in which time does not play a big role, for instance because it is very architectonic?
- If time plays an important role in certain categories of projects: is the importance you give to time obvious, given your general interpretation of landscape architecture? Or is it a precise and particular interpretation of your office?
- Would you mark some projects as having a clear accent on the subject of time?

- If time plays a role in those projects, is this reflected in drawing?
- If so, would this be in sketches and/or presentation drawings?
- If you would draw time aspects, would you prefer certain drawing techniques, like diagrams, visualizations, plans or sections?
- Are these time aspects relevant in the exchange with the client and the public? Were they asked for by the client or public? Or were they mainly relevant in an internal setting?

Background / Professional development

- Do you think you are part of a generation, and in what way would this generation be different from those before you?
- Do you see clear tendencies in the period in which you studied and worked?
- If taking into account some decades of landscape architecture, would you say there are periods, and if so, which period are you in?
- What did inspire your thinking; your position; your decision to start an office?
- Did certain persons/moments/competitions/books/travels clearly influence this?
- Are other than landscape architecture motives important for your work?

Background / Landscape architecture

- Do you feel the category 'landscape architecture' is in general appropriate for the way designers function nowadays; and is it appropriate for your work?
- Do you consider yourself as a 'mainstream' office in terms of assignments and approaches, or would you say your

work represents a particular niche?
- Which offices/designers are important for you to mark your position, because you consider them to play in the same league?
- Definitions of landscape architecture are hard to give, but what sort of words would you use to describe the essence of the profession?
- Do you feel there is something like 'Dutch landscape architecture'? If so, describe. What would be clearly different from Dutch landscape architecture? Is this necessarily foreign landscape architecture, or could this also relate to certain assignments, or certain design styles?
- Would you consider yourself to produce 'Dutch landscape architecture'?
- Do you have a clear image of landscape architecture outside The Netherlands? Which offices/places/institutions are leading in your eyes? What is the source to arrive at this opinion (for example magazines)?

Appendix 3. Tag system

1. Time

1.1 Observations on time
1.1.1 Role of time
1.1.2 Perception of time
1.2 Time and landscape (architecture)
1.2.1 Time and landscape
1.2.2 Time and landscape architecture
1.2.3 Time and representation
1.2.4 Time and design
1.2.5 Position
1.2.6 National cultures
1.3 Categories of time
1.3.1 Cycle
 - Season
 - Days of week
 - Events
 -Natural cycles and regular peaks
1.3.2 Growth
 - Growth of tree
 - Development (nature)
 - Development (urbanism)
1.3.3 Temporality
1.3.4 Narrative
1.3.5 Timelessnes
1.4 On time
1.4.1 No specified moment
1.4.2 A specified moment
1.4.3 More specified moments
1.4.4 Continuous
1.5 Acting with time
1.5.1 Making
1.5.2 Steering
1.5.3 Manipulating
1.5.4 Flexibility
1.5.5 Management

1.6 Time in a professional context
1.6.1 The client
1.6.2 The public
1.7 Assignments
1.7.1 Garden
1.7.2 Forest
1.7.3 Water
1.7.4 Urbanism
1.7.5 Tree plantations

2. Drawing

2.1 representational types (general)
2.1.1 plan
2.1.2 section
2.1.3 model
2.1.4 visualization
 - perspectve drawn by hand
 - 3D digital image
2.1.5 collage
2.1.6 diagram
2.1.7 map
2.1.8 photo (referential image0
2.1.9 other (birds eye, exploded view
2.2 drawing means
2.2.1 pencil
2.2.2 chalk
2.2.3 adhesive film
2.2.4 acquarel
2.2.5 other
2.2.6 mixed
2.2.7 software
 - illustrator
 - photoshop
 - sketch up
 - autocad
2.2.8 mixed software
2.3 Color
2.3.1 Green
2.3.2 Blue
2.3.3 Red
2.3.4 Black and white
2.3.5 other
2.4 drawing techniques
2.4.1 by hand
2.4.2 digitally
2.4.3 techniques (dotting, striping)
2.5 materiality
2.5.1 paper
2.5.2 photo
2.5.3 other (film)
2.5.4 digital file
2.5.5 size
2.6 drawing tools
2.6.1 reproduction
2.6.2 light table

2.7 Drawing conventions
2.7.1 The north
2.7.2 Legend
2.7.3 Scale
2.7.4 Line thickness
2.7.5 Line symbols: slopes, height lines
2.8 Drawing process
2.8.1 Velocity
2.8.2 The act of drawing
2.9 Role of drawing(s)
2.9.1 Exploration
2.9.2 sketch
2.9.3 Presentation
2.9.4 Experiment
2.9.5 Communication
2.10 Design phase
2.10.1 Exploration
2.10.2 Analysis
2.10.3 Concept
2.10.4 Design
2.10.5 Presentation
2.10.6 Execution
2.11 Drawing context
2.11.1 As piece of art
2.11.2 As piece of work
2.11.3 As piece of communication
2.11.4 As part of a project
 - booklet
 - powerpoint
2.11.5 Isolated
2.12 Drawing style
2.12.1 Strip
2.13 Signature
2.13.1 personal signature
2.13.2 Office style
2.14 Professional context
2.14.1 The office
2.14.2 The client
2.14.3 Competition
2.14.4 education
2.15 Drawing background
2.15.1 The arts
2.15.2 Architecture
2.15.3 Inspirations

2.15.4 Influences
 - Modernism
 - La Villette
2.15.5 Drawing cultures
2.16 Iconology
2.16.1 Realistic / naturalistic
2.16.2 Impressionistic
2.16.3 Associative
2.16.4 abstract
2.17 Meaning
2.17.1 Seductive
2.17.2 Impressionistic
2.17.3 Predictive
2.17.4 Informative
2.17.5 Narrative
2.17.6 Message
2.17.7 Selective
2.17.8 Iconic

3. Landscape architecture

3.1 Landscape architecture
3.1.1 History
3.1.2 Position
3.1.3 today
3.2 Subject
3.2.1 Garden
3.2.2 Park
3.2.3 Urban Extension
3.2.4 Forest
3.2.5 Nature area
3.2.6 Water Body
3.2.7 Regional plan
3.2.8 Other
3.3 Character of intervention
3.3.1 New development
3.3.2 Alteration
3.3.3 Transformation
3.3.4 addition
3.4 Partner
3.4.1 Client
3.4.2 Public
3.4.3 Politics
3.4.5 groups
3.5 Context
3.5.1 Generation

3.5.2 Era
3.5.3 Education
3.5.4 Nationality
3.5.5 Inspiration
3.5.6 Influence
3.5.7 Adjacent professions
 - architecture
 - urbanism
 - arts
3.6 Professional context
3.6.1 The office
3.6.2 competitions
3.6.3 Communication

4. The office

4.1 Office
4.1.1 Organization
4.1.2 Debate
4.1.3 Social
4.1.4 Name, website
4.1.5 Portfolio
4.1.6 start
4.1.7 education
4.1.8 career
4.2 Client
4.3 Work context: competition
4.4 Influences
4.5 Represntation

Appendix 4. Processing interviews in Scrivener

This screenshot illustrates how Dutch interview text has been reorganized into English tagged fragments in Scrivener software (2012). The next step involves collecting together and tagging all the office fragments. The main themes for the narratives are selected from these collections. The narratives presented in Chapter 4 probably only represent 10% of the entire tagged material, other material being either too fragmentary or not important enough for that specific context.

Samenvatting

Tekenen en tijd. Het ontwerpen aan groei, verandering en dynamiek in de praktijk van de Nederlandse landschapsarchitectuur na 1985

Landschapsarchitecten maken tekeningen om ingrepen in landschap te onderzoeken en wereldkundig te maken. De aard van zulke tekeningen veranderde ingrijpend door de decennia heen, net als hun rol in ontwerpprocessen, maar tot op de dag van vandaag blijven tekeningen cruciaal in de productie van en het debat omtrent nieuw landschap. We spreken over zulke tekeningen als representaties. Ze verwijzen naar landschap dat nog niet in de werkelijkheid bestaat. De meeste representaties passen in de taxonomie zoals die zich in de architectuur ontwikkelde - zie auteurs zoals Perez-Gomez, Hewitt of Fraser en Henmi. Dit taxonomisch systeem bestaat in de kern uit de ortografische projecties aanzicht, doorsnede en plan, waarbij het aanzicht in de landschapsarchitectuur een secundaire rol heeft. Door de eeuwen kwamen daar visualisaties, maquettes, collages en diagrammen bij.

Landschap heeft een overduidelijke tijdsdimensie - archeoloog Barbara Bender spreekt over landschap als gematerialiseerde tijd. We kunnen tijd in zijn cyclische vorm onderscheiden zoals de seizoenen, en menselijk gebruik van landschap, maar ook aan minder voorspelbare fenomenen als pieken in neerslag en waterafvoer. Anderzijds zien we tijd in zijn progressieve gedaante, zoals in de groei van bomen en planten, of de groei van steden, en op een meer abstract niveau de organisatie van planprocessen in fases en stappen. Historicus Eviatar Zerubavel presenteert een categorisering van aspecten van tijd, net zoals stedenbouwkundige Kevin Lynch deed. Gebouwen lijken minder beïnvloed door

patronen in de tijd. Architectuurtekeningen weerspiegelen dat veronderstelde statisch karakter, en besteden weinig aandacht aan de tijdsdimensie. Geworteld in die traditie blijft ook in landschapsarchitectuurtekeningen het onderwerp van tijd vaak buiten beschouwing. Dat althans was de situatie in de afgelopen eeuw.

Bij het aanleggen van tuinen en parken -als ontworpen landschap één van de tradities waaruit landschapsarchitectuur ontstond- speelden voor 1850 tekeningen geen belangrijke rol - in ieder geval werden ze vaak niet bewaard. Maar parken werden ook meer in situ gemaakt met hulp van handboeken zoals Erik de Jong beschrijft in Landschappen van verbeelding. Deze achttiende-eeuwse tuinhandboeken besteden opmerkelijk veel aandacht aan tijd als onderwerp. Teksten van belangrijke 'vroege landschapsarchitecten' Humphrey Repton en Frederick Law Olmsted bevestigen deze aandacht. In de twintigste eeuw ontstond de hedendaagse landschapsarchitectuur als een discipline waarin theorie, ontwerp en uitvoering verbonden zijn, van de kleine schaal van de tuin tot aan de grote schaal van het landschap. De bekende techniek van architectuurtekeningen werd door de nog jonge discipline overgenomen. Maar deze architectonische benadering van representatie bood weinig ruimte voor het integreren van aspecten van tijd, en het veranderlijke en efemere karakter van landschap paste niet goed in het dominante Modernistische discours van de voorbije eeuw. Dat zou kunnen verklaren waarom expliciete aandacht voor het onderwerp tijd mist in de landschapsarchitectonische theorie, en de dubbelzinnigheid waarmee dit thema in de beroepspraktijk wordt benaderd. Het werk van bijvoorbeeld C. Th. Sørensen laat zien dat hij zich zeer bewust was van de rol van de tijd, maar dat niet toont in zijn tekeningen.

De opkomst van landschapsarchitectuur als discipline veranderde ook de professionele praktijk: het bureau werd de gangbare omgeving om het werk te verrichten. Dana Cuff beschrijft het bureau als een complex sociaal web van vakkundige medewerkers met idealen, vaardigheden en behoeftes - een ethnografische kijk. Naar buiten toe reageert het bureau op vragen die cliënten stellen, en communiceert het met het grote publiek over haar ontwerpen middels tekst en tekening. Opleidingen tot landschapsarchitect trainen nieuwkomers in het vak om in de gangbare professionele praktijk te passen -zie Donald Schön- en geven de theoretische dimensie van landschapsarchitectuur en het tekenen door.

Nederlandse landschapsarchitectuur na de Tweede Wereldoorlog ontwikkelde zich stap voor stap tot een volwassen discipline, en maakte een sprong naar een nieuw niveau van opereren rond 1985. Deze sprong hield een uitdijing in de richting van stedenbouwkundige vraagstukken in, net als de verovering van de grote schaal en het overnemen van een artistieke benadering van representatie zoals ook zichtbaar was in de architectuur. Tekeningen begonnen, meer dan alleen het ontwerp- en maakproces te ondersteunen en zich ook te manifesteren in een eigen domein. Berger, Mitchell en Lipstadt beschrijven hoe aan tekeningen betekenissen worden toegekend, en hoe ze deel worden van een levendige visuele cultuur. Door zijn eigen geschiedenis heeft Nederlandse landschapsarchitectuur tot op de dag van vandaag een particulier karakter, zoals dat blijkt uit het woord 'natuurontwikkeling' bijvoorbeeld in het iconische Plan Ooievaar. Tegelijkertijd zijn de vragen zoals die in dit onderzoek gesteld worden geenszins gebonden aan een Nederlandse ontwerpcultuur. Vragen met betrekking tot tijd en tekenen gaan landschapsarchitectuur wereldwijd aan. Mede daar-

om is hier gekozen voor een afbakening tot Noordwest Europa.

In dit onderzoek werden 28 landschapsarchitectuurbureaus uit Nederland en de omliggende landen geïnterviewd omtrent tijd, representatie, de beroepspraktijk en de ontwikkeling van de landschapsarchitectuur. Het onderzoek beperkt zich niet tot tekeningen, maar gaat via kwalitatieve interviews ook in op het denken achter deze tekeningen. Swaffield en Deming noteerden in hun leidende beschrijving van de landschapsarchitectonische theorie al dat heel verschillende theoretische domeinen daar invloed op uitoefenen. In het geval van dit onderzoek kunnen etnografie en kunstgeschiedenis genoemd worden als de basis voor een theoretische benadering van tekeningen als zelfstandige objecten. Ongeveer 500 tekeningen werden verzameld om de interviews letterlijk van beeld te voorzien. Binnen deze grote groep treffen we tekeningen met een tijdsdimensie aan. Die zijn gecategoriseerd en geëvalueerd, om te begrijpen hoe ze functioneren in ontwerpprocessen. Via interviews werd geregistreerd waarom deze tekeningen in bureaus werden gemaakt en waarom ze in andere gevallen niet werden gemaakt. Uit de interviews kwam naar voren dat aan het niet-maken van tekeningen met een tijdsdimensie zowel een gebrek aan goede voorbeelden alsook een idee over de rol van opdrachtgevers ten grondslag ligt.

Een historisch en theoretisch frame maakt het mogelijk om deze voorbeelden van het tekenen van tijd in de hedendaagse praktijk in perspectief te zien. Het staat ook toe om te reflecteren op gaten in de theorie, zoals het gebrek aan een eigen landschapsarchitectonische beschouwing van representatietypes. Lawrence Halprin duidt met zijn pamflettistisch boek The RSVP Cycles uit 1969 een

nieuwe richting aan. In dit boek, geïnspireerd door choreografie, stelt Halprin de score voor als een nieuw representatietype in de landschapsarchitectuur. De gangbare Nederlandse vertaling van score is partituur. Tijdsaspecten zijn leidend bij het tekenen van scores. Daarom wordt de score in dit onderzoek als een belangrijk theoretisch concept beschouwd en uitgetest in een reeks van 'tekenkundige experimenten' met studenten van verschillende opleidingen. Zulke experimenten en voorbeelden verzameld uit andere domeinen zoals de cartografie, reiken veelbelovende 'tekeningen' aan waarin het tijdsaspect zeer effectief is verbeeld. Dat laat zien dat nieuwe wegen voor ons open liggen. De conclusie is dat het tekenen van tijd zeer wel mogelijk is - er is geen technische of theoretische rechtvaardiging dat niet te doen. Hierop voortbouwend doet dit onderzoek ook een theoretische propositie met belangrijke consequenties voor het onderwijs in de landschapsarchitectuur. Het voorstel is om de taxonomie opnieuw in te delen en een kopje in te voeren dat in het bijzonder landschapsarchitectuur dient: temporele representaties, naast een kopje ruimtelijke representaties. Plan, doorsnede en visualisatie vallen dan onder dat laatste kopje terwijl score, tijdslijn en film voorbeelden zijn van de eerste groep. Dit zijn allemaal types die reeds zijn uitgetest en een plaats hebben in de theorie. Tussen de temporele en ruimtelijke representaties situeert zich dan het diagram, als een type dat zowel ruimtelijke informatie (wat en waar) en tijdgebonden informatie (wanneer en wie) kan weergeven. Net als het diagram kunnen we tussen de beide groepen ook series van tekeningen plaatsen, waarin traditionele types zoals de doorsnede een tijdsdimensie kunnen krijgen als ze verbonden worden met bepaalde momenten, zoals T=1, T=10, T=50. Edward Tufte spreekt in dit verband van small multiples.

Dit onderzoek nodigt uit tot het kritisch heroverwegen van de fundamenten van de landschapsarchitectonische representatie. Dat kan alleen gedaan worden door ook de landschapsarchitectuur zelf onder de loep te nemen en in te zoomen op de relaties tussen landschap en tijd. Aspecten van tijd kunnen alleen deel worden van tekeningen wanneer we ons bewust zijn van de verschillende tijdgebonden mechanismen die aan het werk zijn in landschap. Dat impliceert wellicht een heel nieuwe opvatting van landschapsarchitectuur, waarbij tijdsaspecten op de voorgrond treden. Er is een wederkerige relatie tussen nieuwe landschapsarchitectonische benaderingen en het nieuw overdenken van de theorie van representatie. Die vernieuwing is zichtbaar in teksten van James Corner. 'Representation and Landscape. Drawing and making in the landscape medium', een essay uit 1992, is een sleuteltekst. Landschap wordt hierin zeer expliciet als een op tijd gebaseerd fenomeen voorgesteld. Dit is uitgewerkt in de recente theorie van landscape urbanism maar wordt ook beschouwd door een reeks van theoretici in andere domeinen zoals antropoloog Tom Ingold. Zijn werk, en dat van Leatherbarrow en Hunt, positioneren de ontdekkingen in dit onderzoek in een bredere intellectuele context. Bijvoorbeeld het concept van actuality is van belang in dit verband, als een focus op wat een landschap nu is. Zulke nieuwe benaderingen vragen mogelijk om andere manieren van tekenen en andere types van tekeningen.

Het tijdframe van dit onderzoek, 1985-nu, is relevant voor de Nederlandse landschapsarchitectuur. Het beschrijft een duidelijk te markeren tijdperk dat, mede door de economische crisis, in de afgelopen jaren ook weer tot een einde kwam. Het tekenen van

tijd zou wel eens betere kansen kunnen krijgen in het tijdperk dat nu in het verschiet ligt. In dat opzicht wordt dit onderzoek op het juiste moment gepresenteerd. Het is tegelijkertijd tijdloos, omdat het een eeuwenoude traditie van tekenen in beschouwing neemt. Het voorstel om de taxonomie te herschikken in ruimtelijke en temporele representatietypen daagt de conventies van de vanuit de architectuur overgeleverde benadering van tekenen uit. Daarenboven is het een impuls tot het vernieuwen van manieren van presentatie. Veranderingen in de opleiding van jonge landschapsarchitecten op het gebied van representatie en presentatie ten gevolge van dit onderzoek zijn bijna onvermijdelijk. De aard van de beroepspraktijk is geen stimulans voor de representatie van tijd. Het is juist in de opleidingen dat vernieuwing moet worden gesitueerd. Dit onderzoek legt, door aandacht te vragen voor de tijdsdimensie, een fundamentele dubbelzinnigheid bloot in de theorie van de landschapsarchitectuur in relatie tot tijd, tekenen en landschap. Dat noodzaakt ook een herziening van de professionele geschiedschrijving, met name voor wat betreft de rol van het Modernisme en de positie van 'vroege landschapsarchitecten' zoals Repton en Olmsted in de context van de geschiedenis van de tuinkunst. Recente publicaties zoals die van Mertens, Amoroso, Balmori en Treib laten zien dat er een groeiende interesse is in het landschapsarchitectonisch tekenen, en laten feitelijke voorbeelden van de representatie van tijd zien. Dit onderzoek versterkt de theoretische basis als voorwaarde voor de verdere ontwikkeling van deze groeiende interesse in de tijdsdimensie van landschap en landschapsontwerp.

Summary

Drawing Time. The representation of growth, change and dynamics in Dutch landscape architectural practice after 1985

Landscape architects employ drawings to explore and communicate interventions in landscape. Over time, the nature of such drawings and their role in design processes changed considerably. Nevertheless, up to today drawings are crucial in the production of and the debate on new landscape. Such drawings are representations. They refer to landscapes not existing yet. As representations they generally fit in the taxonomic system for representations as developed in architecture - see Perez-Gomez, Hewitt or Fraser/Henmi. The core of this taxonomic system consists of orthographic projections such as the elevation, section and plan, the elevation being secondary in landscape architecture. During the ages visualizations, models, collages and diagrams were added.

Landscape has a strong time dimension - archaeologist Barbara Bender speaks about landscape as 'time materializing'. We can distinguish cyclical patterns related to seasons and human usage, but also less predictable phenomena - think of water peaks. At the same time we can observe progressive patterns such as the growth of trees and plants, but just as much of entire cities, and on a more abstract level the organization of plan processes in phases and stages. Historian Eviatar Zerubavel provides a categorization of aspects of time, as is also done by urban theoretician Kevin Lynch. We may state that buildings are less influenced by temporal patterns. Architectural representation reflects the assumed solidness of buildings, and pays minor attention to the issue of time. Rooted in architectural drawing, also landscape architectural drawing leaves the issue of time aside. That, at least, was the situation for the past century.

In the making of gardens and parks, as designed landscapes one of the roots of landscape architecture, before roughly 1850 drawings did not have an important role - at least they often were not archived. Gardens often were made in situ, with help of handbooks, as described in Erik de Jong's Landscape and Imagination. Eighteenth century handbooks for gardening reveal a remarkable attention for time issues. Texts by formative 'early landscape architects' Humphry Repton and Frederick Law Olmsted confirm this attention. In the twentieth century the profession of landscape architecture formally emerged as a discipline in which thinking and making were connected, from the small scale of a garden up to the large scale of landscape. The already known techniques for architectural drawings were adopted by the young discipline of landscape architecture. However, the architectural approach of representation did not accommodate time issues, and the changing and ephemeral character of landscape not fitted in very well in the dominant Modernist discourse of the last century. That could be an explanation for the lack of explicit attention for issues of time in landscape architectural theory, and the ambiguity in landscape architectural practice. The work of for example C. Th. Sørensen shows a great awareness of time, but that is not displayed in drawings.

The emergence of landscape architecture as a discipline also came with new forms of professional practice, in which the office became the major working unit. Dana Cuff describes the office is a complex social web of trained people with ideals, abilities and needs - an ethnographic perspective. In the outer world, the office

responds to demands made by clients, and communicates with a larger public on its designs. Landscape architectural educational programs train young designers to fit into professional practice -see Donald Schön- and hand over the theoretical dimensions of landscape architecture and its drawing.

Dutch landscape architecture after World War 2 developed step by step towards a mature design discipline, and 'jumped' to a new level of operation after about 1985. This jump comprises an expansion towards urbanist problems, the conquest of the large scale and the adoption of a artistic approach of representation, as also happened in architecture: drawings more than only supporting the making operate also in an own domain. Berger, Mitchel and Lipstadt describe how drawings are given meaning and become part of a lively visual culture. For its specific history, Dutch landscape architecture up to today has its own character, as becomes manifest in the 'making' of nature as seen in the iconic Plan Ooievaar. At the same time the questions put forward in this research are not tied to a national culture. Questions of time and representation address landscape architecture internationally. Therefore, a northwestern European perspective is taken into account.

In this research 28 offices from the Netherlands and surrounding countries were interviewed on time, representation, professional practice and the development of the discipline. The research is not restricted to drawings, but also explores the thinking behind drawings by qualitative interviews. Swaffield and Deming, in their seminal description of landscape architectural theory, noted already that very different theoretical realms influence the developing landscape architectural theory. In this case ethnography, but also art history, framing a theoretical approach of drawings as autonomous objects. Some 500 drawings were collected to illustrate the interviews. Within this group of drawings, several examples of time-based representations were found. These are categorized and evaluated to understand how they operate in actual design processes. Interviews registered why offices made them, and for what reasons they were not made in other cases - as interviews shown, both a lack of examples and ideas on the role of clients are influential in this.

A framework of landscape architectural theory and history enables to put these examples of drawing time in today's practice in perspective. It also allows speculating on gaps in this theory, such as a landscape architectural perspective on types of representation. A new direction is given by Lawrence Halprin. In his 1969 pamphlet on The RSVP Cycles, inspired by choreography, Halprin puts forward the score as a new type of representation in landscape architecture. As the dimension of time drives the drawing of scores, this was taken as a theoretical concept and tested out in a number of 'drawing experiments' with students of different schools. Such experiments and examples collected from other disciplines -cartography shows promising drawings in which the aspect of time is effectively displayed- indicate new roads to take. The conclusion is that the representation of time is very well possible - there is no technical or theoretical justification for not representing time. It also leads to a theoretical proposition with important consequences for landscape architectural education. The proposition is to introduce a new header that is especially useful for landscape architecture: temporal representa-

tions, next to spatial representations. The latter comprises plan, section and visualizations; the temporal category includes score, timeline, and film. As approaches of representation these have been practised and described in theory. In between the spatial and temporal representations is the diagram, a type capable of displaying both spatial (what, where) and temporal aspects (who, when). Also in between are series in which traditional types of representation can become a temporal representation if they are given a precise time tag, such as $T=1$, $T=10$, $T=50$. Edward Tufte coined small multiples.

This research invites critical rethinking of the fundaments of landscape architectural representation. This cannot be done without critically rethinking landscape architecture itself, for the relations of landscape with time. Aspects of time can only be drawn when aware of the different time-based mechanisms at work. It potentially implies a new approach of landscape architecture, in which time aspects come to the front of design reasoning. There is a dialectal relation between new landscape architectural approaches, and rethinking the theory of representation. A new approach can be seen in the written work of James Corner. His 1992 essay 'Representation and Landscape. Drawing and making in the landscape medium' is a key source. Landscape is explicitly formulated as a time-based medium. This is applied in landscape urbanism, but it is also acknowledged in the thinking of a range of theoreticians from other domains, such as anthropologist Tim Ingold. His work, and that of Leatherbarrow and Hunt, places the findings in a broader intellectual context. The concept of actuality is interesting in this, as a focus on what a designed landscape is now. Such new approaches may ask for other types of drawings, and other ways of drawing.

The research was given a time frame that is relevant for the Netherlands: 1985-now. Induced by the economic crisis, this era seems to have ended. The drawing of time may have better chances in the era that is about to emerge. In that sense this research is very timely, but it is also timeless, as it reflects on the centuries old theory of representation. It is proposed to re-order the taxonomy in a set of spatial representations and a set of temporal representations. Temporal representations challenge the conventions of presentation in architecture. Therefore, this also gives an impulse to the renewal of presentation forms. A change in the education of young landscape architects is inevitable with regard to representation and presentation. The nature of professional practice does not stimulate the drawing of time for itself. It is in landscape architectural education that he foundations for this must be laid. This research lays bare a fundamental ambiguity in landscape architectural theory with regard to time, drawing and the nature of landscape. This also forces to rethink professional history, the role of Modernism and the position of earlier professionals, such as Repton and Olmsted, and garden theory. Recent publications like those of Mertens, Amoroso, Balmori and Treib show a growing interest in landscape architectural drawing, and first examples of actually drawing time. This research provides a stronger theoretical basis to further develop this strand.

Acknowledgements

Curriculum vitae

Noël van Dooren was born on 12 July 1967 in Ewijk, the Netherlands. He finished his Master's in Landscape Architecture at Wageningen University in 1991. In the 25 years since graduating, his career has spanned all aspects of the discipline of landscape architecture, starting in an office, shifting to his own practice, joining the Dutch professional magazine *Blauwe Kamer*, leading a landscape programme, coordinating a professional practice programme, and being involved in producing the *Journal of Landscape Architecture*. In these years he produced numerous articles and co-authored several books. These very different activities always relate in some way to his core strengths: an interest in solving complex problems, especially those related to water, a love of teaching, a need to think critically and a dedication to staging events. His choice for landscape architecture has been lasting and of increasing relevance. The last few years have added a substantial presence in disciplinary networks, a role in the international arena, and this dissertation on the issues of time and representation - a timely contribution to theory and practice, two areas we should look at as a continuum. Currently, he holds the professorship *Sustainable foodscapes in urban regions* at VHL University of Applied Sciences in Velp, the Netherlands.