

A Dutch perception

A rational interpretation of the formal language of the landscape.

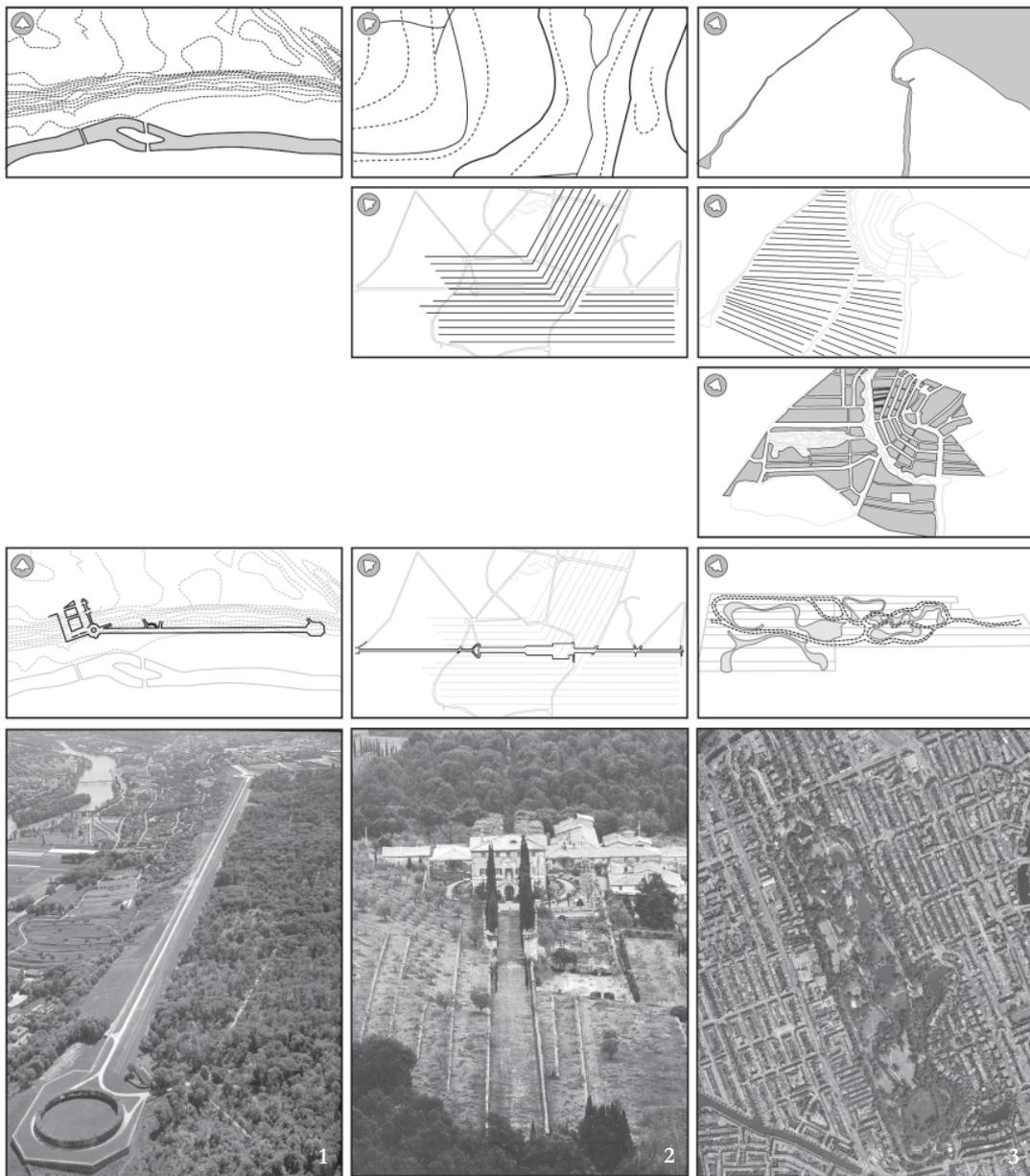
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The landscape speaks many different languages and we all hear a different one. To communicate our different perceptions and interpretations of the landscape it is necessary to translate those different languages into one of our own. That language could be an artistic language, a historical one or a formal one. At the Faculty of Architecture in Delft, at the Chair of Architecture and Landscape, we have developed a method to understand the formal language of the landscape. The systematic unravelling of the formal characteristics results in a design toolbox. This toolbox enables us to address present problems of urbanisation, de-urbanisation, restructuring of agriculture, water management, etc.

Landscapes in this analytical sense can be regarded as accumulations of systems or treatments that have piled up and acted upon one another over time informed by a succession of functional-morphological transformations.

That this method is developed in Delft is understandable since the Dutch lowlands incontestably have their own formal system which can only be defined by unravelling it into layers. Its physical-spatial development, rather than following an unbroken course, crystallizes in stages and it is here that this layeredness characterizing every landscape is most clearly visible. The natural landscape, cultural landscape, urban landscape and architectural landscape (whether latent or present) each has an organization and form of its own.

The whole steps off from the *natural landscape*. The natural landscape has a form that reflects its geological evolution but has no formal determinants. We can imagine this form as being built up from a number of 'basic forms' whose physical appearance is defined by the relative strengths of land, water and wind. The basic form of the lowlands combines the arabesque shape of the coast with the peat cushion beyond it and the triangle of the delta. The



Layering of the landscape: the natural, cultural, urban and architectural landscape

The architectural landscape is a transformation of the foregoing three layers.

1: St. Germain-en-Laye in Paris (1665/1669) is a direct transformation of the natural landscape of the River Seine.

2: Villa Cetinale near Siena (1678) is a transformation of the cultural landscape of agricultural terraces, which in itself is a transformation of the natural landscape.

3: The Vondelpark in Amsterdam (1864-1877) is a transformation of the urban fabric, which is an adaptation of the cultural landscape of peat reclamations, which again is an adaptation of the natural landscape of the rivers IJ, Amstel and Schinkel.

cultural landscape arose out of a process of cultivation enacted on the natural landscape. The *urban landscape* for its part arose out of a civil engineering process enacted on both natural and cultural landscapes. The historical layeredness and spatial cohesion of the geomorphogenetic system of nature, the land development system of agriculture and the civil engineering system of the city together constitute the rural-urban system. One might describe the layer where the form is most consciously created as the *architectural landscape*. Landscape architectural quality arises where the architectural treatment of the basic forms in the successive layers (the *genius loci*) renders the landscape 'lucid' or 'legible' as an identity in its own right.¹

This stratification is not harmonic, not an endless reflection of the 'sub-structure' in the 'superstructure', the ground in the form; rather it is accompanied by reworkings, transformations. These can be first-hand topographical renderings, architectural transformations or visual references. Topographical renderings are technical and in landscape architectural terms one- or two-dimensional; architectural transformations bring to bear a three-dimensional, architecturally controlled cohesion. Visual references are associative and 'four-dimensional', being about time or the history of the place.²

We can distinguish four aspects in a landscape architectural design. These are the *basic form* (the ground plan), the geometric treatment of the topography; the *spatial form*, the architectural treatment of the spatial system or three-dimensional space of the landscape; the *visual structure*, the treatment of the metaphorical images of the natural, cultural and urban landscapes; and the *programmatic form*, the spatial organization of the programme. By distinguishing these aspects we are able to further explore the interaction at every scale between the architectural form and the underlying landscape structure.³

Implicit formal moments reside in the natural, cultural and urban landscapes. Whenever these moments are made explicit in a design, when the natural, cultural or urban landscape are given expression in the design, we can describe it as an *architectural landscape*.

The 20th-century large-scale landscape design admits to such moments in which the essence of the landscape finds expression. There is also a string of examples among small-scale designs, villas for instance, that we can justifiably

¹ Wouter Reh, Clemens M. Steenbergen and Peter de Zeeuw, *Landschapstransformaties*, Publicatiebureau Delft, 1995, p. 10

² Saskia I. de Wit, *Typology of the Dutch Lowlands*, Publicatiebureau Delft, 2005, p.6

³ Clemens M. Steenbergen and Wouter Reh, *Architectuur en landschap, het ontwerpexperiment van de klassieke Europese tuinen en landschappen*, Uitgeverij Thoth, Bussum, 2003, pp. 383-385

describe as architectural landscapes. The most explicit architectural form in the Dutch lowlands is that of the villa landscape, whose impact extends consistently through the scales from delta to individual plot.

A pantheon of the lowlands

The lowlands villa or *buitenplaats* (literally, a ‘place outside’) evolved from a medieval fortified manor into a type that reflected and intensified the cultural landscape, the *plantage* (Dutch for plantation). Here, productive landscape (*negotium*, work) and pleasure ground (*otium*, restorative relaxation) joined forces in an enclosed orthogonal composition of house, orchards, avenues, woods, vegetable gardens, formal gardens and water features. Concentrations of these lowlands villas sprang up round Amsterdam, The Hague and Utrecht.

The villa landscape expresses Holland’s lowlands at different scales. The first level is that of the plot and the layout of grounds, proceeding from the two-dimensional grid of the cultural landscape.

The second level is that of the villa landscape, the constellation of villas as these interact in an interpretation of the landscape. The third level is that of Holland’s delta region as a whole.

The villa

The precursors of the villas were the medieval manors, estates with a feudal agricultural background. These manors were sparsely fitted out and their gardens were small and contained mainly agricultural features, such as an orchard and a kitchen garden. They were located around the towns in the Dutch lowlands located at strategic places along key routes. Many manors sprang up in the river landscape, whose higher-lying banks could be used to control the water routes. In later periods the old manors were often transformed into villas and any one manor was soon joined by more. This gave rise to strings of villas.

The villa reached its apogee in the 17th century. A powerful economic growth brought an increase in the number of villas and enlargement of the existing ones. The money earned from trade in tropical products was invested in the secure commodity of land.

Most 17th-century villas stood in claylands and peatlands whose luxurious appearance offered the appropriate context for the mood the villas were to project. Besides, these flat regions were suitable for laying out formal gardens and were easily reached by barges towed from the shore by horses and the principal means of transport in those days.

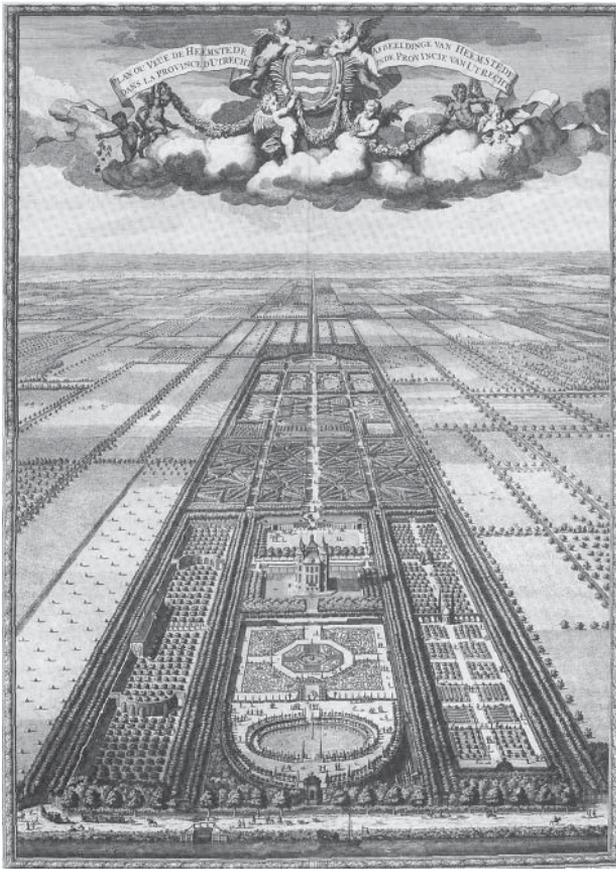


Fig. 2. Villa: Heemstede, the villa as developed from the peat landscape (copperplate etching by I. de Moucheron and D. Stoopendaal, 1700/1702).

These villas, the *plantages* described earlier, can be construed as a landscape architectural treatment of the plot, or alternatively as the projection of a rational plot onto the natural landscape. They were based on an ‘ideal’ plan which was technically and formally optimized and as such self-sufficient. This schema was carefully laid in place in the natural framework of the landscape so that both it and the form of the natural landscape became clear. The unity of the space was achieved by a water system that ‘mediated’ between the ideal plan and the natural landscape. Here, differences between the different landscape types need taking into consideration.

The peat matrix consists of clusters of elongated peat excavation fields, the treatment of the peatland plot in the lowlands villa being such as to subdivide it into a chain of garden ‘rooms’. The grid of reclaimed land consists of polder modules that together approximate a square and accommodate the ideal plot size. The polder villa in the reclaimed land proceeds from a subdivi-

sion of plot measurements into the square of the parterre, an architectural reduction of the polder module. On the river banks mediation is between the linear land divisions of the hinterland and the bend in the river. The lowland villa on the beach ridges consists of a rectangular plot draped over the contours of the landscape so as to best exploit the view across the lowlands. The differences affect both the scenography and the way the garden composition is articulated.

After a relapse in the 18th century, the following century saw the Dutch economy flourish anew. It was the dawn of the industrial age, and a fresh and vigorous period for trade with the East Indies. This prosperity was once again reflected in the villas. Many old villas were spruced up and enlarged and a string of new ones built.

The differences between the villas of the 17th century and those of the 19th can be related to changes in garden design, the cheap sandy sites that became available and the town-dweller's widening radius of activity. Unlike the 17th-century lowland villas, where nature was the 'improved' man-made variety - the productive landscape - and wild and chaotic nature was regarded as incomplete and to be looked down on, the garden art now prevailing was an idealized natural landscape: a man-made natural prospect with a mix of woods, meadows and buildings and structures in a rustic setting. This new garden art required another, more uneven landscape, namely the sands along the coast and on Utrechtse Heuvelrug, the ridge of hills passing between Utrecht and Amersfoort. The arrival of the train and the tram (horse-drawn at first) opened up these areas to the towns.⁴

The landscape types of the Dutch lowlands have produced a wide array of villas. Here the natural geomorphology and colonizing techniques were decisive for the variety in their architecture. In that sense the villas of Holland were architectural 'observatories' from which the delta landscape's spatial qualities could be scrutinized. Together they presented a 'pantheon of the lowlands' that illustrated and recorded the architectural wealth of the delta.

geography of the villa landscape

Wherever several villas were laid out in proximity, they grew into an architectural aggregate. Responding to each other, they interpreted the spatial structure of the cultural landscape. In a deeper sense they interpreted the form of the natural landscape. A succession of villas arose on the beach ridges.

⁴ Bart Bordes, *Het Hollandse buitenplaatsenlandschap, geografie en ontwikkeling in de tijd*, unpublished, Delft, 2001



Fig. 3. Villa landscape along the inner edge of the dunes, thereby exploiting the differences in height among the dunes for optimum views across Wijkermeer and to Haarlem and Amsterdam. (copperplate etching from Brouërius and De Leth, *Het Zegepralant Kennemerlant*, 1729. drawing: Sandra van Assen)



Fig. 4. Distribution of the villas in the delta (17th century). (drawing: Bart Bordes)

These were linked breadthways with the lagoon and the dune landscape in terms of views and/or by the network of avenues in the beach plain. Along the inner edge of the dunes, at Wijkermeer (then an inland sea), a regional landscape theatre took shape that visually tied the inner dune edge to Amsterdam. Strings of villas sprang up along small rivers south of Amsterdam with cross-views across the water. In the land reclamations villas lined the polder avenues with the drainage system linking them at the rear. Along comparable lines, the villas in the sand excavation at the edge of the peatland are strung together by drainage ditches and avenues in parallel marking as this does the transition between the Utrechtse Heuvelrug and the peat lands.

The factor binding all types is their close link with the city. The territory of the city related directly to the position of the villa in the environs. In the 16th century, when wars still made the open country a dangerous place, there were limits to the urban territory. It increased in the 17th century and in a few cases territories met. Villas sprang up throughout the areas surrounding the towns. The Amsterdam territory was particularly expansive and the villas of Amsterdam merchants could even be found near the town gates of Utrecht. In the 19th century even larger areas became accessible and the territory reached far beyond the confines of what are now the Holland provinces. Territories began to overlap and the borders between towns became blurred, generating a Dutch urban landscape, a Delta Metropolis.

the delta

Here, an aggregate of villas gave rise to architectural landscapes of a wide-ranging scale, surface area and composition stepping off from different cultural landscapes. The distribution pattern of the 17th-century villas in the coastal landscape was directly related to the beach ridges, peat rivers, reclaimed polders and natural water network of the lagoon. In regional terms they amount to a unitary whole, presenting in all their typological wealth an architectural rendition of the morphology of the natural landscapes of the delta. As such, these villas mark the architectural limits of the urban territory in Holland's delta landscape.

Current landscape transformations

Tools generated from the classic repertoire are proofed in an experimental way, like in the University of Hannover in the department of 'Garden art and Landscape architecture'.

There are a number of basic forms to be discerned in the montage landscape of today's metropolis. The *landscape of flows* is the landscape architectural

staging of the urban machinery of motion; as such, it arranges the urban field in accordance with the mobility scenario of the metropolis. The *plantage* organizes the colonization of the urban field using the new programmes of the metropolis. The *landscape theatre* for its part contains the visual-spatial expression of the genius loci of the polder plain.

landscape of flows

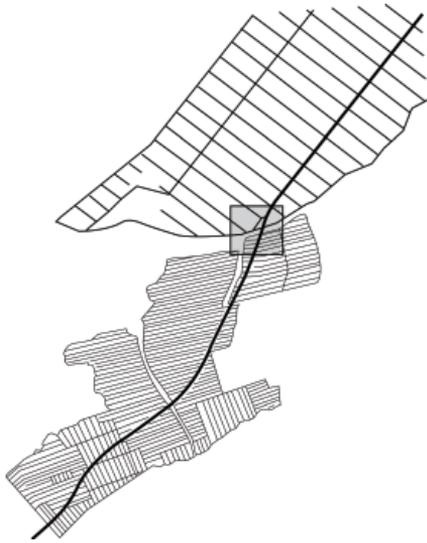
Kinetic perception is the stepping-off point here; it relates to the town-dweller's movements by car, tram, train or airplane, seen from which the urban landscape flashes by episodically. How these glimpses are perceived depends on the way the route crosses the natural landscape, towns and cultural landscape. The landscape of flows is in fact an enlargement of the principle of the route as basis for a succession of 'scenes', as in the 18th-century landscape garden. The locomotion is motorized and en masse; just as the 'scenic drive' threaded through the landscape garden, so the motorways of today wind like human rivers through the urban landscape.⁵

The infrastructure has become self-sufficient, taking up ever more physical space and becoming visually dominant. The regional transport network steps outside both the morphology of the natural landscape and the architecture of the city. The nodes in this network - structural works and roundabouts, intersections with railways and waterways and the sculptural-looking buildings and ensembles of the motorway decor - are not directly bound to the rural and urban topography but constitute a new metropolitan *topology*.

The motorways of Holland make their way with maximum efficiency through the dense cultural landscape. Agricultural lots are laid out at right angles whenever possible to minimize loss of land. In the reclaimed polders the road is set low and straight; at their edge it rises to adopt a direction towards another polder where the most expedient direction is often not on axis with the existing stretch. These alignments must be reconciled - hence the gentle curves designed into the route.

Often, in the straight lines we can recognize elements of formal staging such as viaducts, sight lines to towers or chimneys and the sometimes rigid lines of poplars. Changes in direction are often picturesque moments; a bend disappears in the trees around a water crossing to reappear with a new line of sight.

⁵ Reh/Steenbergen/de Zeeuw, *Landschapstransformaties*, 1995, p. 64; Ministerie van Landbouw, Natuurbeheer en Visserij, *Vormgeven aan stadslandschappen; Visie stadslandschappen 2*, LNV Directie Natuurbeheer, Den Haag, 1995, p. 25



Figs. 5, 6. Landscape of flows. Crossing the natural framework of the landscape can sometimes lead to dramatic moments, such as when the A4 leaves the peat landscape at Roelofsarendsveen to enter the plains of Haarlemmermeer, dramatized by the narrow passage where the A4 slips under the belt canal and by the bend made by the motorway to move into alignment with the land divisions of the polder.



Fig. 7. Plantage. Ellen Marcusse's design (2001) for Almere-Hout, a district of Almere, is based on an trade-off between a simple urban grid and an invisible landscape layer composed of the many archaeological sites in the plan area, the former bed of the Zuiderzee. Holes are to be scooped out of the urban fabric to receive public gardens at key archaeological sites to enable future excavations there. The location of these sites is as yet unknown, so that the resulting pattern has a major element of unpredictability built in.



Figs. 8, 9. Landscape theatre. In ‚Deltawerken 2.0‘ (final year design by Ronald Rietveld, Amsterdam Academy of Architecture 2004), for an area between the Rijn and Waal rivers separating Arnhem and Nijmegen, an expanse of 3000 ha has been secured within the small-scale urban landscape. The design targets a flood bypass proposed to counter the threat of peak discharges from the Rijn and Waal. This civil engineering intervention comprises an empty ‘green river’ which is expected to fill every 20 years with excess water from the rivers. The void is contained by a 200 metre wide dyke planted with 50,000 elms. The existing settlements seem to float as islands in the void.

plantage

This is the urban colonization grid whose programme is staged in landscape architectural terms. In its basic form the *plantage* harks back to land reclamation, the colonization of the cultural landscape and the rational pattern of the 17th-century Dutch town. The term *plantage* (plantation) evokes associations with markets and production, and denotes that the underlying landscape has been technically modified. The *plantage* is the ordering principle in urban programmes for dwelling, work and leisure (as regards plot subdivision, dimensions, form and alignment) but also for programmes geared to intensive cultivation such as forestry and glasshouse horticulture. These programmes lay down rules for the physical environment that give rise to regular patterns (grids) placed upon the existing natural and cultural landscape.⁶

The basis for spatially organizing the urban programme is an imaginary rational grid of squares laid over the existing landscape. The grid module derives from the dimensional characteristics of the urban programme but is carefully balanced against the grid dimensions of the cultural landscape. This landscape gains architectural expression in the interaction of new grid and existing landscape. This in turn gives rise to urban and rural fragments with an active duty to perform and able, together with the *plantage*, to effect a new compositional equilibrium.

landscape theatre

In the landscape theatre, the city-dweller stands face to face with the landscape of the plain. The word theatre refers to the spatial staging of the panorama, the 'scene'. The theatre is conceivable at every scale within the panoramic range, with the confrontation with nature, the silence and the emptiness the main points of contact. At centre stage in the urban field is the phenomenon of the 'inverted horizon' internalizing the physical horizon of the cultural landscape.

Landscape of flows, *plantage* and landscape theatre can be regarded as landscape architectural prototypes of the urban transformation. Described here as complete and more or less self-sufficient landscapes, in reality they are impossible to distinguish geographically. In the villa landscape with its intense relationship between villas (*plantage*), the view across the open landscape (landscape theatre) and the transport arteries formalizing the urban territory (landscape of flows) we can see how an ingenious interplay between the prototypes can breach the scales defining the landscape and endow that landscape with architectural form.

6 Reh/ Steenbergen/de Zeeuw, *Landschapstransformaties*, 1995, p. 64; Ministerie van Landbouw, Natuurbeheer en Visserij, *Vormgeven aan stadslandschappen*, 1995, p. 24