

# The diabolic highway

On the tradition of the beautiful road in the Dutch landscape and the appetite for the magnificent highway in the big city

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# Abstract

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The highways of the Netherlands are used intensively, yet most of us are unable to summon up as much appreciation for them as we can for an attractive square, park or landscape. Highways may well be component parts of our public space, but they are not part of our aesthetic culture. From the history of the landscape we know that the impressionability of the poet and the depiction of the painting were needed to train the gaze. Appreciation follows representation. Is there a schematic organisation of visual perception that could assume the role of yesteryear's landscape painting in the present day? Here and there voices tenaciously proclaim that no aesthetic principles are applied in the laying of highways in the Netherlands, and that the road is purely the product of the art of engineering and the immanent logic of its technology. In the essay this myth is unmasked and brings an almost forgotten dimension into the limelight: the aesthetic design. Immediately after the Second World War, the engineer K.E. Huizinga explicitly gave shape to an aesthetic theory for the highway. So the design of highways in the Netherlands does indeed boast an aesthetic tradition of no small measure. Therein Huizinga's 'spatially expressive approach', the Dutch heir of the parkway and the Autobahn, has proven to be the leitmotif that courses from the beginnings right through to the present day. The parkway has found its counterpart in terms of landscape in the autonomous motorway. Aesthetic as well as sublime ideals of beauty are, however, carried to the grave by the urban counterpart, the highway in the big city: the Diabolical Highway. Take, for example, the Boulevard Périphérique in Paris, which is a Diabolical Highway without compare. We cast our minds back to Siegfried Giedion. The parkway, his parkway, as the backbone of a new city planning, gives the motorist the uplifting feeling of rust calm and freedom. The Diabolical Highway is, however, anything but that. There is no calm rust and everything is coincidental. They are roads in overly tight spaces, hectic experiences, but also metropolitan experiences. The essay makes a distinction between three types of highway, each of which is elucidated by an example: the parkway, the autonomous motorway and the diabolical highway. Thus in the design of the urban highway lies the greatest challenge, and as yet few principles have been devised for it.

## KEYWORDS

highway design; scenic road; urban planning; spatio-scenic approach

## 1. INTRODUCTION

Some seventy per cent of the world population will be living in urban areas by 2050, which poses the designers of these urban areas for major design questions. The future of the metropolis depends on the degree to which congestion can be addressed. Infrastructural networks are undergoing a development that is characterised by the pursuit of an optimisation of mobility by eliminating barriers and an increasing interdependency (Nijenhuis & Van Winden, 1996). Urban planning will be increasingly connected with the issue of mobility and the design of infrastructure.

Motorways are used intensively, yet most of us cannot muster as much appreciation for them as for an attractive square, park or landscape. Motorways may well be part of our public space, but they play no part in our aesthetic culture; they have to make do with the status of banal and cursorily perceived 'surroundings'. The history of the landscape has taught us that in order to train the gaze we need to have the receptiveness of the poet and the visualisation of the painting. Portrayal begets appreciation. So which schematic dispositions of seeing would today assume the role of the landscape painting of yesteryear? What makes a motorway attractive? What are the aesthetic paradigms of motorway design?

## 2. OUTLINE

This essay explores the development of motorways in the Netherlands, especially their aesthetic design, as a case study.<sup>1</sup> In comparison to other European countries during the interwar years, the development of motorways in the Netherlands and Germany was quite advanced. From the 1960s onwards the construction of motorways became more widespread across the rest of Western Europe (Crowe, 1960).<sup>2</sup> This essay reveals a modern visual experience that is universal: that of time and space and the experience from a dynamic perspective, against the backdrop of the specific historical development of motorway design in the Netherlands.

The motorway is attractive when the engineer has tailored his practical art to what the motorist racing along it will experience. The principles of the attractive motorway are a typical product of modernity: form is considered, as is time – their object being the spatio-temporal form. These principles show us how to bypass the mind and appeal directly to the heart, without the intercession of the intellect. It lends itself to comparison with listening to music or watching a film and the experience of architecture, but secretly its pact is with choreography.

The aesthetics of the motorway is partly due to a mysterious conspiracy between 'the desire for maximum velocity', the 'dynamic perspective' and

the irresistible 'kinetic thrust' of curves rolling onward without end.

The history of roads, from the *Via Appia* to the *Champs Elysées*, teaches us that endeavouring to create beautiful roads has been a constant, and this applies for the Netherlands as well: boulevards and avenues designed for the city and parkways for the countryside. Our day and age are in sharp contrast to this: we lack any concept of how the attractive motorway in the city, tailored to the speed of today, ought to look. We have no conception whatsoever of a contemporary motorway boulevard, motorway avenue or motorway lane. We are familiar only with tunnels, noise barriers, and poor and laborious attempts to tame and re-forged the motorway into a city thoroughfare with addresses.

Here and there one encounters stubborn opinions that no aesthetic principles have been employed in the construction of motorways in the Netherlands and that the road is merely the product of the art of engineering and the immanent logic of its technology. These criticasters are essentially arguing that there has been no conscious pursuit of beauty in the design process. This essay debunks this myth and brings a well-nigh forgotten dimension to the fore: the aesthetic design of the Dutch motorway.

Immediately after the Second World War, the civil engineer K.E. Huizinga, an employee of Rijkswaterstaat (the Directorate-General for Public Works and Water Management) explicitly fleshed out an aesthetic theory for the motorway, and not only with his designs – which were wonderful – but also in his writings, his lectures, his excursions and the course he taught about road design. The design of motorways in the Netherlands does actually boast a considerable aesthetic tradition. This has its origins in the 1920s and alongside Huizinga there were other designers within Staatsbosbeheer (the Dutch Forestry Commission) and Rijkswaterstaat, such as Overdijkink, Elffers, Zuurdeeg and Nakken, who were part of this ethos.

### 3. METHODOLOGY

This tradition is not very well documented and has until now been charted only sketchily. No accessible archives have been collated and much material has been lost, because of reorganisations and the extended timelines of projects. The small amount of documentation has been general in nature, without mentioning names, never mind any critique. We therefore chose to interview as many of the people involved in motorway design as possible. In addition we made a study of the literature, collected widely dispersed documents and, of course, drove along all the roads.

The study proceeded from a widely accepted periodisation. The pre-war era, from 1920 to 1940, was reputed to be idyllic and romantic. The period from 1940 to 1960 was marked by the development of machine and technol-

ogy. The 1960s was the period of expansion in mobility and the 1970s was the period of democratisation and attention to safety. Ecology prevailed in the 1980s and the 1990s were typified by congestion and a cultural shift in the conception of the motorway.

It soon became obvious that this periodisation helped to organise questions on the planological level, but it does not dovetail with the subject of this study. It is impossible to divide the aesthetics of motorway design into periods: it is rather characterised by a limited number of road types, each of which represents a *beau idéal* that courses like a leitmotif through the various periods. We therefore made a distinction between three types of motorway, each of which is clarified by an example: the parkway, the autonomous motorway and the diabolic motorway.

The parkway has its origins in nineteenth-century designs by Frederick Law Olmsted (1822–1903) and Calvert Vaux (1824–1895), who coined the term for the idea of connecting the city with national parks by means of recreational routes. In the twentieth century Robert Moses (1888–1981) elaborated the idea for motor traffic in New York, while Sigfried Giedion (1888–1968) provided it with a theoretical framework and couched it in cultural terms. The American parkways, in turn, served as an example for the German designers of the *Autobahn*.

The autonomous road is as old as the road to Rome and in a certain sense it is also described in the four books by Andrea Palladio (1508–1580). Until far into the nineteenth century it was the basis of the European road network, which underwent a massive expansion during the Napoleonic era and provided the foundations for the system of national trunk roads in the Netherlands. The autonomous road is characterised by long, straight sections and monumental avenues of trees planted on either side.

Huizinga's 'spatio-scenic approach', the Dutch successor to the parkway and the *Autobahn*, has proven to be the connecting thread in the aesthetics of Dutch motorway design, running from its origins in 1920 to the present day. The design for the A1 near Naarden is exemplary for the parkway. The parkway has found its rural counterpart in the autonomous motorway, of which the A6 between Lelystad and Almere provides a fine example. The aesthetic and sublime *beau idéal*s were, however, consigned to their grave by their urban counterpart, the motorway in the major city: the diabolic motorway. The *Boulevard Périphérique* in Paris provides a perfect example of the diabolic motorway, while in terms of Dutch motorway design, the A10 West – the western quadrant of Amsterdam's orbital motorway – provides a striking example.

The description of the three cases employs the terms tectonics and ornament. The tectonics is the 'body' of the road, the route, the material form and its function as a carriageway. The ornament is the surface to which the

ornament can be appended, while the ornament is the make-up or costume that makes the road scenic.

#### 4. HISTORY

At the first Nederlandse Wegencongres (Dutch Road Congress) in 1920 it was the architect A.H. Wegerif (1888-1963) who drew attention to aspects related to the aesthetic values of roadways. His advice was recorded in a report entitled 'De schoonheid, in het bijzonder 't natuurschoon, in verband met beloop, beplanting en kunstwerken van en aan den weg' (The beauty, in particular the scenery, in relation to the course, planting and engineering of and around the road). In his elaboration he drew a distinction between road and furnishings, which should be understood as everything that is placed on, in or near a road or carriageway that is not a component of the road proper.

The engineer G.A. Overdijkink had worked as a forester for Staatsbosbeheer since 1929 and was involved in the introduction of plants along national trunk roads. In 1915, Cornelis Lely (1854-1929), as minister responsible for transport and public works, approached Staatsbosbeheer to serve as a permanent advisor to Rijkswaterstaat, with the intention of fostering greater unity in views about the integration of infrastructural projects into the landscape.

Initially the effect was minimal and that must also have been why Bond Heemschut, a heritage conservation organisation, established a permanent committee under the name 'De weg in het landschap' – The road in the landscape – in 1933. The committee was tasked with ensuring the proper landscaping and better care of roads and their surroundings. In 1935 this committee published an eponymous brochure, 'De weg in het landschap', in association with the Nederlandse Wegencongres organisers and the ANWB (Royal Dutch Touring Club), with Overdijkink serving as one of the editors. The intention, some 14 years after the publication of Wegerif's report, was to propagate interest for what was termed 'the road question'. The brochure's publication reveals how difficult it proved to attain the unity sought by Lely and to give aesthetics a permanent place in motorway design.

It was the landscape architect J.T.P. Bijhouwer (1898-1974) who, even before the war, broke a lance for the parkway in his contribution to the Commissie Wegbeplanting (Committee for Roadside Planting), which was established by the Nederlandse Heidemaatschappij, a nature development organisation (Andela, 2011). The cover of the 'Wegbeplanting' report features a drawing of a road that organically meanders, elegant and joyous, through the landscape. Road and planting had to be tailored to the surroundings wherever possible. Overdijkink's ideas clearly resonate in this. Bijhouwer produced a schema of landscape types and appropriate plants, complete with varieties, which was

added to the ‘Wegbeplanting’ report as an appendix. It was intended as a practical design manual, and shortly thereafter he put the advice into practice with his planting proposals for Rijksweg 52 (1940) between Arnhem and Nijmegen, and for Rijksweg 12 (1941) between Utrecht and the German border (Andela, 2011: 72–73). This is remarkable because such advice was the preserve of Staatsbosbeheer.

In 1941, two years after the release of the ‘Wegbeplanting’ (Roadside planting) report, Overdijkink published *Langs onze wegen* (Along our roads) in a series of books published by the Bond Heemschut cultural heritage agency. The aesthetic principles it mentions continue to serve as a guideline for road design. Decisive aspects in his discourse are the planting, the positioning within the landscape, direction, width, elevation, layout and character (figure 1).

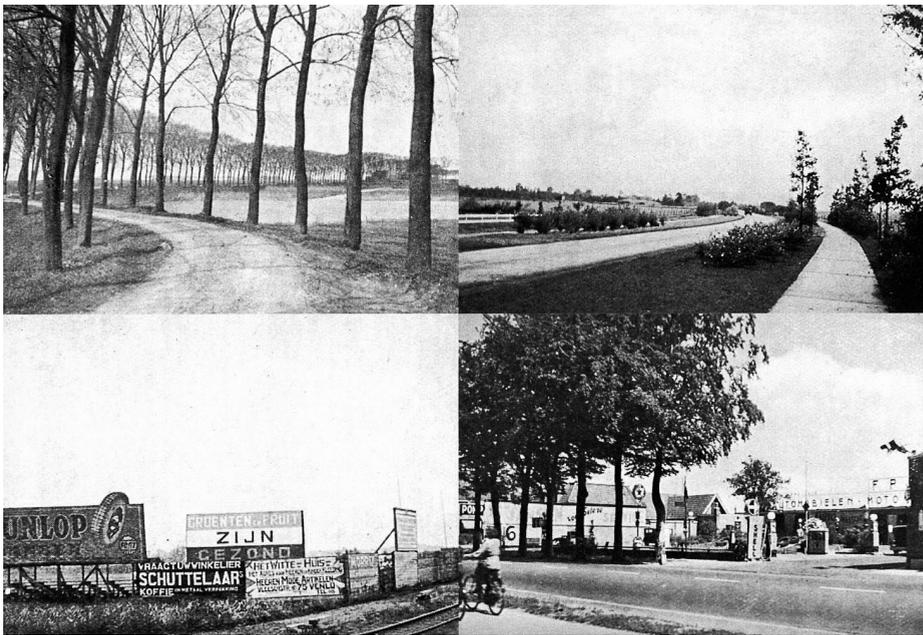


Figure 1 Right and wrong. From: ‘de Weg in het Landschap’, in: *Wegen*, 1936 (source: Archive ANWB)

Overdijkink advocated the regionalist approach. The planting must correspond with the character of the landscape that the road travels through. The character of the region must be expressed in the road design. This adaptability paradigm does not substantively differ from the directives that were drawn up for the *Autobahn* in Germany. For example, a 1934 article in the *Reichsautobahn*’s periodical *Merkblatt* states that the roadway must possess a beauty in keeping with the surrounding landscape and that the planting should include

only those species that would also grow and flourish somewhere naturally in accordance with their phytosociological make-up (*Merkblatt*, 1934).

After the war Overdijkink gained the support of the engineers H.P. Bakker, A.E.J. Nap and K.E. Huizinga. The latter in particular became a champion of the regionalist approach, which he later referred to as the 'spatio-scenic approach' (*ruimtelijk beeldende benadering*). Overdijkink, Bakker and Huizinga formed a close triumvirate who went on an excursion to Germany every two years. The first time was in 1952, at the invitation of Lorenz and Seifert, who visited the Netherlands in the alternate years. The civil engineer Hans Lorenz (1905–1996) and the landscape expert Alwin Seifert (1890–1972) worked for the Organisation Todt in the 1930s (Seidler, 1986), which partly explains why these contacts with Germany were kept quiet.

Alwin Seifert had already adopted a stance against the rectilinear nature of roads, advocating a more organic alignment – *Schwingungen in der Linienführung* – in 1935. The renouncement of straight roads as a functional and economic principle was a significant shift. With regard to *Nurautostrassen* – car-only streets that were composed of straight sections of road, in 1936 he commented: 'These roads may well be at home in the steppe, but they are foreign to the German landscape and alien to the German soul. [...] Curves in the roads, similar to the course of rivers, would be more proper to the German landscape.'

Seifert also referred to Hermann Fürst von Pückler-Muskau's 1834 manual for the landscaping of parks (Pückler-Muskau, 1834), *Andeutungen über Landschaftsgärtnerei* (Hints on Landscape Gardening). In a discussion of how to lay paths he mentions that the straight road divides the space and places the observer on that road between two spaces, while the curve unfurls an ever-changing perspective, giving the observer the feeling of travelling through space. In the pre-war years a strip of land at least 40 metres wide was set aside on either side of the *Autobahn* for the planting of trees and shrubs. These generous roadside verges, which were used to create the illusion of the German *Wald*, were called *Pücklerstreifen*. With the introduction of the German *Autobahn* it seemed it would be possible to transform Germany into a huge national park, reinforced by moving ever onward through the illusion of the German forest.

## 5. THE PARKWAY

Bijhouwer published an article with the title 'Autosnelweg of Parkway?' (Motorway or Parkway?) in 1949: 'In the regimented manmade landscapes of the West as well as in the picturesqueness of the Veluwe and East-Utrecht, the speedway remains an alien, tough and impliable element that bores through

the land like a chute for traffic. The predominance of technical insight, the influence of the technical norm, is so strong that it would barely be possible to find roads that are more dignified or more fitting to the landscape's character (Bijhouwer, 1949).<sup>1</sup> This is once again a championing of the parkway in which the words of Alwin Seifert resonate and the work of Robert Moses for New York is cited as a shining example, and for which Giedion's *Space, Time and Architecture* probably served as a source of inspiration.<sup>3</sup>

In the development of the American parkway from the 1920s on, Giedion saw a new urban element born of the vision of the new era. Giedion tied in his parkway with the notion of space-time (i.e. dynamic observation, as developed in futurism and cubism), which he situated over against the central perspective of the Renaissance and the *rue corridor*. In order to save the idea of the city from the metropolis threatened with demise, Giedion argued that the first priority was to abolish the *rue corridor*, 'with its rigid lines of houses and its intermingling of traffic, pedestrians, and houses' (Giedion, 1954).

'Hausmann's endless streets belonged not only in their architectural features but also in their very conception to the artistic vision born of the Renaissance: perspective,' Giedion continues. 'Today we must deal with the city in a new aspect, dictated originally by the appearance of the motorcar and based on technical considerations, and belonging to an artistic vision born out of our period – space-time.' Nature seems to stream in spontaneously through the street frontage's broken-open perspective. Traffic and housing should be separated from each other by liberating the house from the street profile and accommodating it in large complexes set in open, natural surroundings. According to Giedion, the reason was that 'man demands for his existence quietude and the companionship of growing things'.

An exhilarating effect is ascribed to the parkway. The road Gideon describes in his *Space, Time and Architecture* could be described as sublime. (The effect of the angel is exhilarating, a theme also explored by Rilke and Benjamin.)

For Giedion, who envisaged the parkway as a component of the city of the future, its essence is to be found in the separation of motor traffic from pedestrians, which reclaims the freedom that is implicit in the unobstructed circulation for both functions: 'Out of this separation has come the fundamental law of the parkway – that there is to be unobstructed freedom of movement, a flow of traffic maintained evenly at all points without interruption or interference. To secure this steady flow, no direct crossing is permitted, nor do the owners of abutting property have the right of direct access; at intersections the conflicting or converging lines are disposed separately through the use of overpasses with their cloverleaves of intersecting roads.' (Giedion, 1954: 728). In contrast to the laying of railways or straight roads, the parkway is much more humane. Inserted between green hills, it follows the

contours of the landscape. Between the carriageways runs a central reservation that is planted with trees. Here the ideal is the total convergence of the road with its surroundings: the road becomes part of nature. The scale that is specific to the parkway is so at variance with the existing city that its whole structure would have to be reconsidered.

Huizinga's spatio-scenic approach is imbued with the scenic effect and the motorist's experience rather than the implications for society and urban development (figure 2).

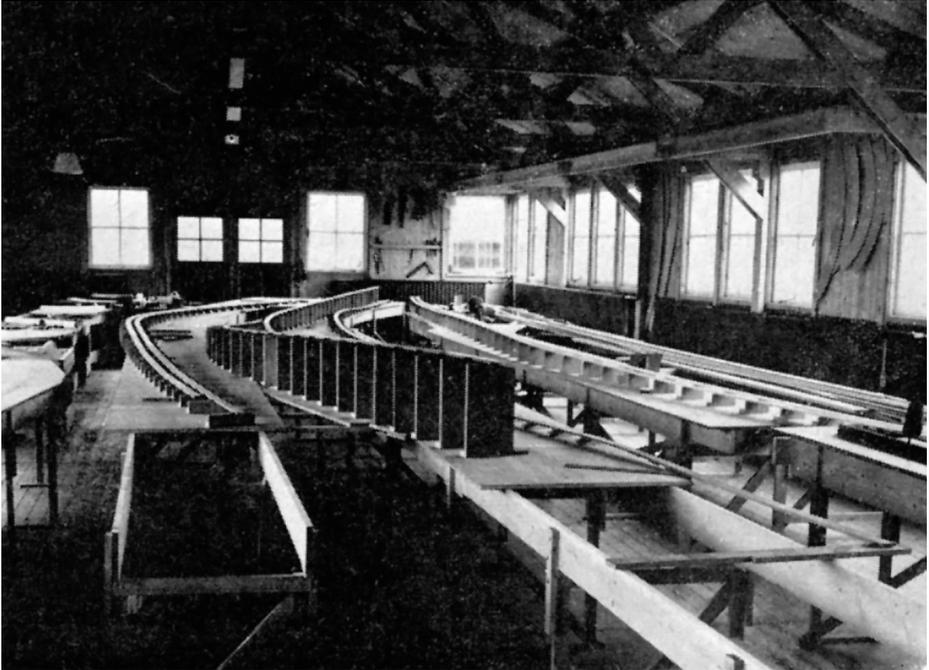


Figure 2 Model research of alignment ca. 1970, by Ir. K.E. Huizinga

An attractive road is a fine road when the embellishment, the scenic entourage, has a calming effect. His maxim: 'A road must fascinate, without causing tiredness.' The beautiful road harmonises with the landscape and merges with it. It is a road that seems 'self-evident' and looks natural there, as if it was not made by human hands. This calls to mind the *Bodenständigkeit* – groundedness or autochtony – that was propagated by Alwin Seifert, as well as the expressionist theme of productive nature. The underlying idea is that there is a structural kinship between technology and nature, which are acted on by a similar force. Humankind is merely the vector through which the object assumes a form that is organic and dictated by nature.

In the spatio-scenic approach the planting of avenues of trees is forsworn and replaced by elements within the depths of the landscape that match its scenic structure. The aim is to produce an experience of freedom, similar to that of the *Wanderer* in German Romanticism. The landscape must continue in the roadscape and the motorist must have the exhilarating feeling of being in the midst of the landscape. It is important that the eye should roam. No obstacles, but space for the unfettered gaze. No harsh lines, but vague contours that cause the road to integrate into the landscape (figure 3).



**Figure 3** Parkway, RW 4, Zoeterwoude 1958 (source: Archive ANWB)

The A50 near Renkum, the A58 between Bergen Op Zoom and Vlissingen and the A1 near Naarden are among the most successful examples of the Dutch parkway. The landscape architects A. Elffers (of Staatsbosbeheer) and J. Nieuwenhuizen (of Rijkswaterstaat) stated that they were able to exercise plenty of influence over the A1's tectonics and ornamentation (figure 4). They had the opportunity to make decisions about the width of the verges, the

alignment and the integration into the landscape. They acquired land that penetrated deep into the surrounding countryside in order to offer the motorist the desired aesthetic experience.

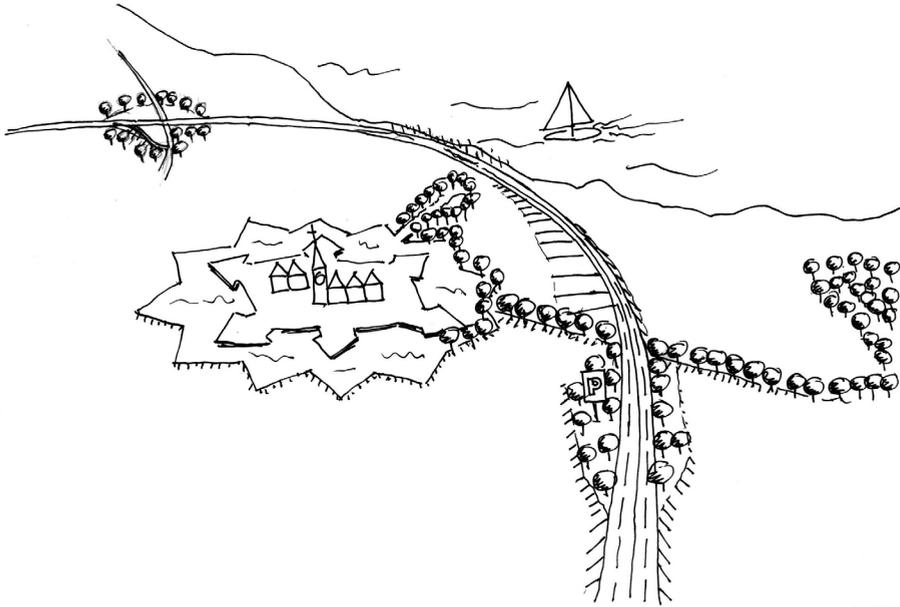


Figure 4 Icon Parkway: RW 1 Naarden (illustration: J. Beljaars)

The earliest designs for the A1 were produced in the late 1930s, but the decision about the route was not reached until the 1960s. The northern route, running between Naarden and the Gooimeer lake and wetlands, was preferred on Huizinga's advice. Travelling from south to north, after the northern Bussum exit the motorway curves gently towards the left, towards the Oostdijk. Here the road is raised on a dike. After the Oostdijk the road describes a sweeping arc around Naarden. What is unusual about the tectonics here is that the roadbed descends and narrowly skirts the Gooimeer lake. The designers created a very gradual incline in the western inside bend, in order to draw the surface level and the fortress town of Naarden into the field of vision (figure 5). The road then rises again and where it passes the marina it again runs along a dike embankment. After crossing the Naarder Trekvaart, the road continues parallel to this waterway towards Amsterdam.



Figure 5 Panoramic view Naarden, 2007 (photo: Piet Rook/Robert Nagelkerke)

The ornamental layout is intended to surprise the motorist. Trees were planted to the south of the Oostdijk to connect the rest area to the road in an aesthetically pleasing manner. On the Oostdijk itself there are rows of trees set square on either side of the road, thus forming a coulisse. The motorist approaches a semi-closed frontage, and on breaking through it a resplendent panorama opens up across the Gooimeer lake and the gently rolling, elegant curve of the road that unfurls itself within that panorama.

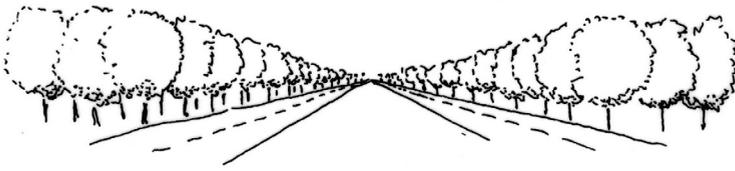
The design is a renaissance of the idyllic concepts from the 1930s, in line with G.A. Overdijkink's regionalist approach. The aesthetic surprises tumble into the field of vision of the unsuspecting motorist. It is like racing along in a great sweeping curve, in a centrifugal movement that is counterbalanced by a centripetal force. It resembles a gravitational field with the fortified town of Naarden at its magnetic core.

The motorist is repeatedly involved with the surrounding landscape in a scenography that alternately turns the gaze inward and outward. The parkway as a *paysage parlante* connects the motorist with the surroundings.

## 6. THE AUTONOMOUS MOTORWAY

The autonomous motorway is a type that makes the road independent of the surrounding landscape. It is a monumental approach that involves striv-

ing after a strong visual form, which can be explained from the road itself rather than from the surrounding landscape (figure 6).



(RW6 / Lelystad)

Figure 6 Icon Autonomous Motorway: RW 6 Lelystad (illustration: J. Beljaars)

Notable examples include the A2 near Boxtel, which in part follows the historical route of the Napoleonic highway, and the A6 near Lelystad.

The A6 is an interesting case because it was conceived to traverse newly created land and sparked heated debate. Its design was by N.M. de Jonge and was supported by Elffers. The idea was to treat the A6 between Lelystad and the A1 as a gateway to the northern part of the Randstad conurbation. This could be achieved by creating an avenue-like corridor with six rows of oak trees. The trees would be set 14 metres from the edge of the road, four metres further away than the 10 metres that was deemed safe, so that the motorist would be able to appreciate the whole tree in its full glory. This idea marks the return of the time-honoured socialist ideal of overcoming the antithesis of countryside and city, in this case by turning the route between the 'new land' of Flevoland and the Randstad conurbation into a metaphorical monument for the connection of city and countryside. For the designers the priority was to treat the Rijksweg 6 as an autonomous body, as an urban umbilical cord, a road that would be without precedent.

However, the designers encountered Huizinga along the way. On Overdijkink's retirement from Staatsbosbeheer, Huizinga had transferred to Rijkswaterstaat with the intention of assuming overall control of the aesthetic treatment of roads. In informal discussions Huizinga dismissed the design as too fascistic, overly monumental and too static because of its long straight sections. He managed to thwart the plan with arguments about a lack of safety, criticising aspects such as the 'wall effect' and 'tunnel effect'.<sup>4</sup> He also had a negative opinion of the supposedly limited view of the surroundings. The

minimal variation would cause a slackening of the motorist's concentration and driving past rows of trees at high speed would have a restless stroboscopic effect. "An avenue-like planting along Rijksweg 6 kept as regimented as possible. Where possible consisting of seven rows of trees set 8 x 8 metres apart and approximately 20 metres from the side of the carriageway means that road users, especially the drivers, many thousands per day, will for fifteen to twenty minutes, depending on their speed, be able to observe practically nothing but trees and more trees – besides the road, the wide verges and a little bit of sky. [...] The field of vision thus restricted by trees will have so little to offer visually that the attention quickly wanes and any initial appreciation for the monumental form of the roadside planting will presently turn into boredom. [...] There is nothing else for it but to wait until the passing of the trees is brought to an end by one reaching one's destination."<sup>5</sup>

Huizinga's safety-based arguments meant he was able to settle the dispute to his advantage, so in the end just one stretch of motorway near Lelystad was executed as an autonomous design (figure 7).



**Figure 7** Autonomous Motorway, 2007 (photo: Piet Rook/Robert Nagelkerke)

While planners debated and fought out the general introduction of the 'spatio-scenic approach', in the field totally different questions arose to which no answer was found: the birth of the diabolic motorway.

## 7. THE DIABOLIC MOTORWAY

Until the 1960s the motorway system in the Netherlands served roughly two purposes: providing a connection between major cities and opening up the hinterland. The route came to an end at the municipal boundaries of a major town or city. The local council was deemed responsible for an effective handling of traffic within the municipal boundaries. This system could not cope with the explosive increase in road traffic in the early 1960s, and during the 1960s these sections of motorway that were interrupted as they approached the cities were interconnected.

Construction of the West Axis, which constituted part of an orbital road for motor traffic around Amsterdam, was begun in the early 1960s. However, in 1968 the minister responsible decided that the ring road would become a *Rijksweg*, a national trunk road, with far-reaching implications for its position within the urban fabric.

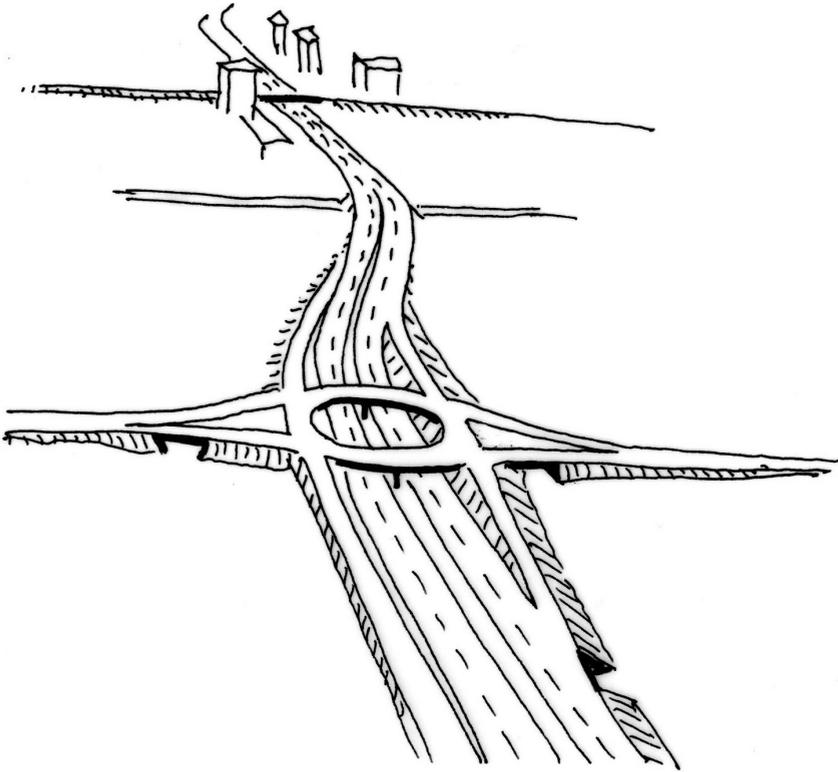
It was designed by the engineers A.H.C. Kandelaar (of Rijkswaterstaat) and W.A.G. Blom van Assendelft (of Amsterdam City Council). In the history of Dutch motorway design it is an exemplary route, because for the first time the concept of the ring road was applied to the routing of a motorway and because in part it cut straight through existing urban areas.

The design of the motorway in densely developed urban areas is, as we shall see, of a different order and significance to the urban thoroughfare that received more attention from the 1960s due to publications such as Kevin Lynch's *The View from the Road* and Robert Venturi's slightly later *Learning from Las Vegas* (Appleyard, Lynch & Myer, 1964; Izenour, Scott Brown & Venturi, 1972).

During studies into fixed cross-channel connections for Amsterdam's North Sea Canal, Rijkswaterstaat had preferred a link near the Hembrug and Schellingwoude, set on the city's periphery as envisaged in the *Algemeen Uitbreidings Plan* (AUP, or General Extension Plan). The city authorities preferred the more easterly position, using the spatial reservation for *Ceintuurparkweg*. This was the first time that a concession was made to the motorway, which can be neatly laid down in Holland's panoramic landscape, where it is subject only to the logic of its own internal laws, such as those of the 'spatio-scenic approach'. According to Rob Nas and Jan Nakken (who were both employed by Staatsbosbeheer) we should not understand the insertion of the West Axis as an exercise in landscape architecture. There was simply no space for it and there was a lack of aesthetic resources with which to approach the task. Considered from the perspective of engineering theory and the aesthetic paradigms of integration with the landscape, the A10 West can only be described as a failure. Here a successful insertion literally meant that it fitted.

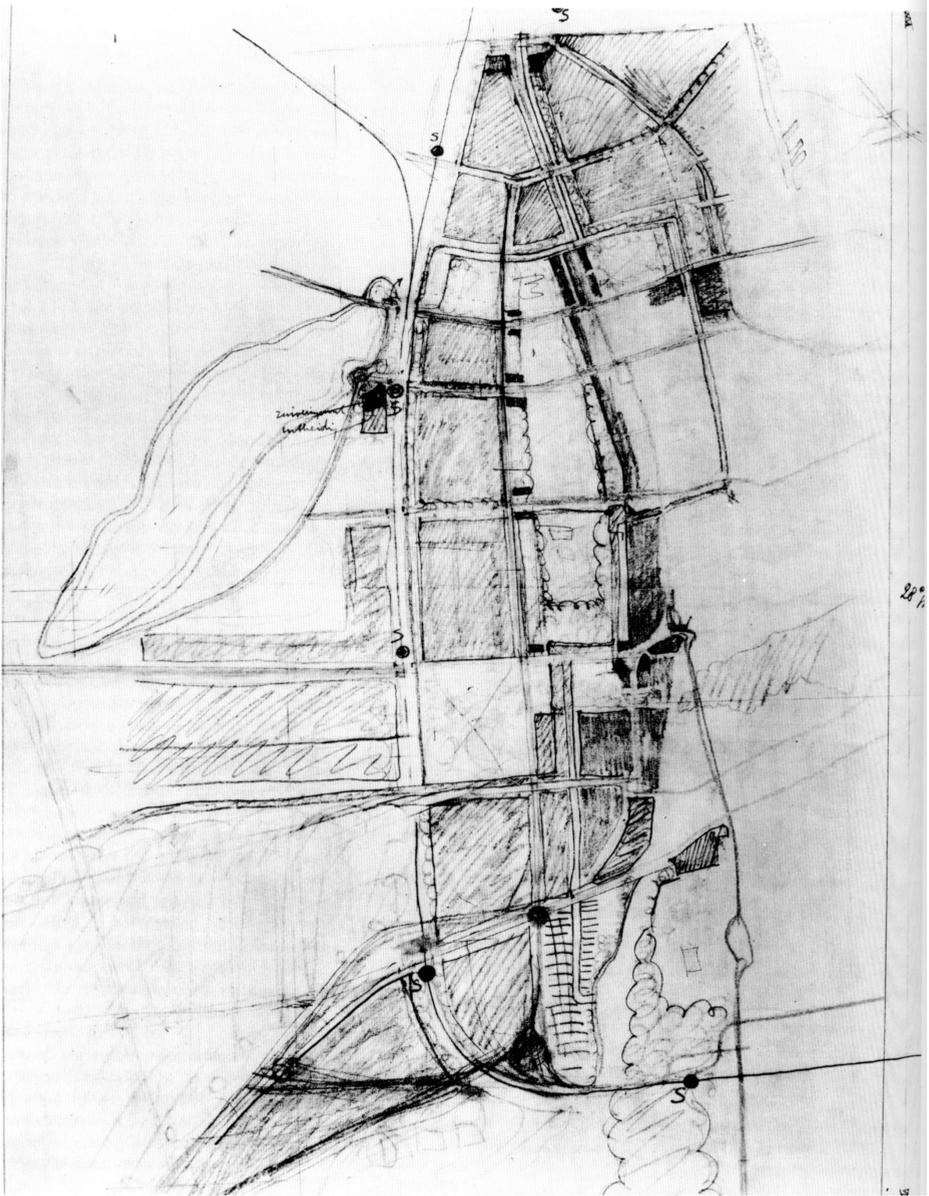
Let us cast our minds back to Sigfried Giedion. The parkway – his parkway – as the backbone of a new urban disposition gives the motorist the invig-

orating feeling of calm and freedom. His parkway heralds the demise of the concentric city. The Renaissance perspective is supplanted by space-time in which there are objects interconnected by the parkway. The A10 West displays the hallmarks of those separate streams of traffic. On the A10 West there is no calm and everything is coincidental. It is a motorway that is challenged by a severe shortage of space, overly confined slip roads and plenty of traffic filtering in and out (figure 8).



**Figure 8** Icon Diabolic Motorway: RW 10 West, Amsterdam (illustration: J. Beljaars)

With his design for Ceintuurparkweg, Cornelis van Eesteren wanted to reconcile the modern motorway, Giedion's parkway, with the city. The road runs between the ring-line railway and the existing city like a thin spindle. Van Eesteren designed various profiles with the intention of making Ceintuurparkweg alternately narrow and wide (figure 9).



**Figure 9** Scetch Cornelis van Eesteren Amsterdam West, 1929 (source: Gemeente Archief Amsterdam)

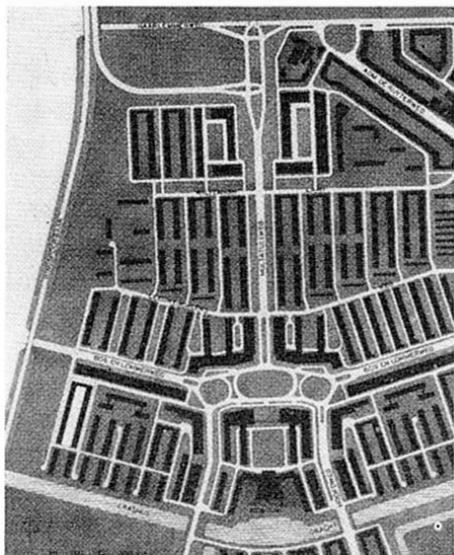
Through to Heemstedestraat he planned a relatively enclosed profile, with buildings ranged along the building line, while to the north of this the profile is open, with vistas to urban chambers in the west and the marina in the east. In Rembrandtpark there are four rhythmically placed high-rise blocks and here the profile becomes park-like in character. Further north Ceintuurparkweg describes an arc as it enters into the residential district of

Bos en Lommer. From the bridge across the Erasmusgracht canal as far as the intersection, the road's perspective is once again hemmed in between edifices. Van Eesteren's Ceintuurparkweg ended at this monumental junction in Bos en Lommer. His design was a deliberate attempt to choreograph the cityscape as it is dynamically perceived in motion. However, this design met with its ruthless demise during the road's transformation into the Rijksweg 10 orbital motorway.

The projection of the West Axis of Rijksweg 10 onto the route of Ceintuurparkweg prompted no modification to the AUP's urban composition, as if the designers were insufficiently aware that here the motorway was entering into a totally different world. The road surges onward, traversing slow-traffic routes and passing beneath the radial urban thoroughfares. It is an interlacing of motorway and local roads that run perpendicular to it. The motorway's undulating grade, which at no point converges with the surface level of the surroundings, divorces the road from the urban context.

The Rijksweg's indifference to the surroundings turns the Bos en Lommerplein into a spatial chaos. Sections of this symmetrical plaza were adapted to the turning curves or disappeared altogether (figures 10 and 11).

Plan Bos en Lommer 1935



Plan Bos en Lommer 1961



**Figure 10** Bos en Lommerplein, 1935 & 1961 (source: Stadsarchief Amsterdam)



Figure 11 Bos en Lommerplein North direction, ca 1969 (source: Stadsarchief Amsterdam)

The road occupies its own space, separate from the surroundings. As seen from the city, the road is concealed behind buildings and amid greenery.

This involved the projection of a foreign element that, because of its idiosyncratic patterns, could not be inserted into this composition as an urban element, at least not in terms of a controlled and orderly urbanity. An object has ended up being laid across the grid of the “*functional, aesthetically pleasing and hygienic city*”, an object that is indeed interwoven with the city in terms of road and traffic engineering, but aesthetically speaking it placed a bombshell under the idea of marshalling the cityscape. They are two relatively autonomous systems, two ‘worlds’ that have been brought into each other’s proximity by superposition, and are subsumed in their mutual negation and rejection (figure 12).



**Figure 12** Bos en Lommerplein superposition of two 'worlds', 2007  
(photo: Piet Rook/Robert Nagelkerke)

It is the obtrusive, pre-existing urban conditions that determine the road's course rather than its immanent logic. There is no calm and everything there is coincidental. It is such states of mind that distinguish the hybrid urban motorway from the motorway in rural areas, beyond the parkway of Giedion, Bijhouwer and Huizinga, and beyond the autonomous highway of De Jonge and Elffers.

It is typical of the arguments of Giedion, Seifert and Huizinga that they strove after the continuity of the network and the cohesion of the road system as a whole. For them it was about the eradication of barriers by means of the parkway, and about the motorist's experience of speeding along – an experience that speaks directly to the heart, without the intervention of the conscious mind.

The aesthetics of the future recognises just one important parameter: the elimination of anything that impedes. In the post-war years Giedion's modern aesthetics of space-time dissolved into panoramic vastness. Brasilia, the only city that has managed to absorb the speed harmoniously, attests to this.

It is the outcome of a sought-after model, the embodiment of a pre-existing idea. Its soporific scalar excess and unfolding of functions has been carefully preserved by designating the city as a protected monument and fixing its population at 500 000. 'Shadow cities' where two million people live in an improvised infrastructure have developed around this utopia.

In urban areas it is a matter of maintaining control of the tectonics. There one finds a paradoxical relationship between the road and the environs, that we cannot describe as harmonious, nor can we wholly disregard it as if it were non-existent. Consider, for example, the Kleinpolderplein near Rotterdam or the Utrechtse Baan in The Hague, hemmed in by the obtrusive mass of the city, but an independent space nevertheless. Or take the freeways of Los Angeles: superimposed on the city, they nevertheless form a separate world. The lack of space means that the usual landscaping resources are inadequate and unforeseen effects arise there.

## 8. IN CONCLUSION

According to the French philosopher Alain Badiou, the twentieth century has been dominated by paradoxical connections that he calls 'disjunctive syntheses' (Badiou, 2006). The surrealists created disjunctive syntheses by conjoining objects from different worlds, without striving after an overarching harmony or idea. Coincidence and semantic interferences detach the component parts from their usual identity.

Something similar occurs with the diabolic motorway. City and roadway are linked but remain autonomous, the embodiments of two worlds. The relationship between city and motorway is a disjunctive synthesis. Its identity is not the product of the establishment of a harmonious ensemble, but is shaped by a memory of a hellish experience. The friction of coincidence and the wonder of inadvertent effects are hallmarks of the disjunctive synthesis. A dichotomy that refuses to resolve into unity is something in which the devil must have had a hand.

Tectonics and ornamentation can feed upon this disjunctive synthesis, meaning that things can stand face to face without any similarity, provided that this does not hamper movement or the experience of racing along.

In Europe it is the French architect Paul Andreu who has demonstrated that stark juxtapositions of distinct worlds can offer exciting design solutions. In his design for Roissy-Charles de Gaulle Airport he merges road and building, for example at Terminal 2, where the motorway crosses the TGV station.

By comparison with the tectonics, the ornament can behave freely. Who would want to rein in the bad taste and the supposed shambles of the *Boulevard Périphérique*? The metropolitan experience that the road offers is its very

identity. Using the technique of disjunctive synthesis, the ornamentation could be radicalised even further into a magnificent motorway in the big city. The motorway of the future lies in urban territory and the diabolic motorway is its guiding principle.

#### ENDNOTES

- 1 This essay is an adaptation of the study conducted by Wim Nijenhuis and myself. Nijenhuis, W. & Winden, W. van, (2007) *De Diabolische Snelweg – over de traditie van de mooie weg in het Nederlandse landschap en het verlangen naar de schitterende snelweg in de grote stad*. Rotterdam, Uitgeverij 010.
- 2 Crowe's introduction notes that England lags behind when it comes to the design task of integrating motorway and landscape. The book primarily refers to parkways in the USA and Germany.
- 3 Bijhouwer often used this book for teaching purposes. The quote is taken from G. Andela (2011): 127.
- 4 Interview with the engineer K.E. Huizinga in 1998 at De Bilt.
- 5 From an internal memorandum by Huizinga in the archives of Stichting VIA.

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