

ECOLOGICAL DESIGN – A NEW AESTHETIC

Although many garden designers today design within a sustainable¹ framework others are cautious about putting such principles into practice. One of the reasons for this is the perception that aesthetics, and more particularly contemporary aesthetics, must be sacrificed to sustainability. In the 70s and 80s there were attempts at ecological design on a large scale, Warrington New Town is an example, and it is easy to find examples of public spaces which have been designated as nature parks or wildlife gardens and which are well-used amenities for the local community, but few incorporate exciting design. This is not to say that all such public spaces should be designed, however for more adventurous sustainable projects to be accepted by the public they must also be understood by those that use them, and it is important to consider how they appear in relation to the surrounding environment. This is a particular challenge in urban spaces where architecture predominates.



This paper looks at the approach taken to the development of derelict industrial sites in Germany. Obviously this is a far reach from much of the work of garden designers in the UK; however the design decisions taken at these sites are relevant to both private and public landscapes. The German approach to their industrial past is very different from that of the UK and for me a great achievement of the sites in the Emscher Park, part of the industrial Ruhr Valley, is the avoidance of the ‘heritage’ label; this is something to which the British are

Figure 1. The blast furnace at *Duisburg-Nord*

¹ A sustainable garden is one in which inputs to and outputs from the garden are kept to a minimum both in the construction and in the maintenance of the garden. It can also apply to gardens which encourage wildlife and diversity whilst still ensuring that the garden benefits its human visitors.

particularly attached with the result that sites become part of a theme park heritage or obliterated altogether. Instead the German designs are contemporary and exciting as well as sustainable. The ruins of blast furnaces, coking plants and mines remain standing - a reminder to the history of the area – half hidden amongst a wealth a spontaneous planting.²

My analysis of these sites draws on a paper by Louise Mozingo, ‘The Aesthetics of Ecological Design: Seeing Science as Culture’³. Mozingo challenges designers of ecological landscapes to consider the aesthetic. She believes that such landscapes should be seen as authoritative and iconic designs; landscapes to be admired, preserved and imitated. They should promote environmental change and become integrated into stories of place.⁴ In order for this to happen the landscapes need to communicate. In the language of Western culture we all, even subconsciously, understand how to read more formal landscapes, the square, the alley, the harbour, the viewpoint etc. but it is often very difficult to read the environmental landscape. Many people do not understand the complex processes which are taking place and may see nothing but a messy space full of ‘weeds’ rather than a wildlife garden, or a muddy pond with some reeds rather than a water treatment works.

Mozingo suggests that iconic landscapes can be analysed in terms of visibility, temporality, reiterated form, expression and metaphor and she challenges designers of ecological landscapes to consider these qualities. This paper uses Mozingo’s categories to discuss the success of spontaneous planting in German landscapes.

The main site discussed is the *Duisburg-Nord Landschaftspark*⁵ designed by Peter Latz.⁶ The site is dominated by two blast furnaces and surrounded by spontaneous planting. It is

² This planting is often referred to as Industrial Nature. Gradually the huge ruins are engulfed by plants. Some maintenance takes places depending on the site. For more details about the whole of the Emscher Park see Topos No. 26.

³ Mozingo, Louise, ‘The Aesthetics of Ecological Design: Seeing Science as Culture’, *Landscape Journal*, Vol. 16, No. 1, 1997.

⁴ Ibid, p46.

⁵ See www.landschaftspark.de.

⁶ www.latzundpartner.de has more details of the landscape park and other projects by Peter Latz.

open 24 hours a day and there are cycle routes and walkways following the old railway lines which originally transported materials into and out of the site. Other sites in the Emscher Park are also mentioned; the *Kokeri Hansa*⁷, a coking plant which is gradually being hidden by planting, the *Kokeri Zollverein*⁸ a popular site for visitors with a cafe and other attractions, and the Dani Karavan installation at the harbour in Duisburg. The paper also refers to *Südgelände* nature reserve; a disused railway site in Berlin left as wasteland for many years. It is an extremely bio-diverse habitat and any design element is necessarily subtle.

VISIBILITY



Figure 2. The grid system of trees at the entrance to the blast furnaces

Mozingo's first category is visibility; how do we recognise a designed landscape as opposed to wasteland? Is it possible to 'read' the landscape and thus to understand it? Are there pathways and viewpoints?⁹ The designed landscape is seen in contrast to its surroundings. Latz at *Duisburg-Nord* emphasises the contrast between the chaos of nature and the drama of the industrial ruins; the plants encroach on the rusty buildings and silver birches find footholds on high platforms and in concrete bunkers. Latz highlights this contrast with his planting of trees, prunus and robinia, on a grid system in front of the blast furnaces.

⁷ See www.route-industriekultur.de/karte/kokerei-hansa.

⁸ See www.zollverein.de.

⁹ Mozingo, 'The Aesthetics of Ecological Design', p50.

By using the rectilinear grid Latz is forcefully stating that there is a designer's hand at work here. Too often designers feel compelled when working with nature to use organic shapes. Here Latz imposes his grid on the chaos of spontaneous planting and immediately signals to the visitor that the design of the space is intentional.

As well as the grid system which reappears around the site, Latz also uses the formality of clipped planting such as beech, privet, field maple and rowan, to contrast with the wildness of the site. Again the visitor is aware of the design element at work. These clipped masses contrast with reclaimed blocks of concrete, forming low benches or positioned as sculpture might be in a more conventional landscape.



Figure 3. The clipped privet frames a concrete block which serves as a bench and reclaimed concrete blocks are placed as a sculpture to be viewed both from above and from the low walkway

Latz uses the lines of the original railway tracks into the site as pathways and cycle routes and also utilises the high level tracks over the coal bunkers as walkways. In some of the bunkers he has designed small traditional gardens which serve to emphasise the contrast with both the spontaneous planting and the recent industrial landscape. The evident design of these gardens encourages the visitor to look for the design elements in the wider landscape. Clipped box echoes the clipped hedging mentioned above but by using box here rather than privet or maple, Latz is reminding the visitor of the language of the formal garden. In another bunker an immaculately mowed lawn serves the same purpose. This contrast between the formal and the wild and decaying creates a tension which is both edgy and inspiring. I found myself both analysing the structure of the formalised

elements and romanticising the 20th century ruins, whilst always aware that these are ruins of an industry that was very far from the romantic in its working conditions and the pollution which resulted.



Figure 4. The bunker gardens subvert the language of the formal garden

In her paper Mozingo issues a challenge to designers to make the ecological processes themselves visible and understandable. At the Emscher Park sites the processes of succession, decay and birth are evident and echo the decay of the industrial ruins themselves. The story of the industrial history of the region can perhaps be read in the landscapes; the huge buildings remain as monuments to the past rather than being erased completely from the site.¹⁰ Other processes however are not so obvious; the gradual cleaning of these highly polluted sites is something which proceeds quietly unnoticed by the visitor.¹¹

TEMPORALITY

The temporal element of biological processes has always informed the structure of space and today many landscape designers strive for a constancy of visual image with

¹⁰ I have no space to discuss here the value of land; in the UK where space is at a premium, it may be considered a luxury to leave such large areas of land undeveloped.

¹¹ The Emscher River and the surrounding area were highly contaminated and processes have been put in place to gradually mitigate the pollution.

maintenance processes aimed at preserving the designer's intent. However more and more designers are now recognising change as a dynamic force which can add excitement to the space. Gilles Clément's *Jardin au Mouvement* at the Parc André Citroën is an early example of such a garden.

Mozingo states that 'the acceptance of change, of moving beyond the fixed vision of landscape, is ecologically necessary'.¹² However as Anna Jorgensen writes if the benefit of an ecological, naturalistic approach 'is not accepted by those that have to live, work and play in such a setting, then these plantings can never be truly sustainable.'¹³ In order to celebrate the temporal, the visitor must not only find aesthetic value in the landscape but also understand the elements of change and the processes behind them. James Hitchmough states that when people understood that what was perceived as 'messy' vegetation in the winter gave way to a mass of colourful flowers in the summer, they became more tolerant of the winter aspect.¹⁴

This understanding of the process needs however to be supported by a framework of design statements which signals to the visitor that the landscape is intentional and not merely left to run wild. Joan Nassauer explains how 'cues to care' can provide this framework for urban ecological landscapes.¹⁵ These can take the form of mown paths, neat edges, clipped hedges, formal boundaries, hardlandscaping. Nassauer suggests that the 'orderly frame needs to be constant, and the messy ecosystem is allowed its dynamic.'¹⁶

At *Duisburg-Nord*, Latz has included many of these cues to care; the clipped hedging is described above and paths and open areas are laid with well maintained grit surfaces. The *Kokeri Hansa* is a very different site, the spontaneous planting is gradually concealing the vast coking plant and the site is not open to the public except on guided tours. Here there

¹² Mozingo, 'The Aesthetics of Ecological Design', p52.

¹³ Jorgensen, Anna. 'The Social and Cultural Context of Ecological Plantings', *The Dynamic Landscape*. N.Dunnett, J.Hitchmough, (Eds), London, Spon Press, 2004, p295.

¹⁴ Hitchmough, James. 'Naturalistic Herbaceous Vegetation for Urban Landscapes', *The Dynamic Landscape*, p 135.

¹⁵ Joan Nassauer. Seminar at the Department of Landscape, University of Sheffield, 2003

are also signs that the space is cared for and that design is considered, however subtly; a path of reclaimed metal panels leads into the ruin, the open area is laid with fine grit through which the original railway lines run before gradually petering out, art installations appear out of the planting and rusty planters are set in a strict line beside a rectangular bed of coal, an allusion to the history of the site.



Figure 5. Spontaneous planting at the *Kokeri Hansa*

Many of the Emscher Valley sites remain at present in the same state as the *Kokeri Hansa* and it is probable that as the land gradually becomes less polluted some will be redeveloped. It is not financially possible to create landscape parks on every site and therefore these ruins gradually decay behind flimsy keep out signs. Entering this forbidden territory is easy and, as seen in these pictures, I could walk around the site unhindered. The experience is reminiscent of exploring ruins and wasteland as children; slightly scary and exciting with the anticipation of something unexpected around each corner. The signs of intervention at the *Kokeri Hansa* served to enhance this feeling of the unexpected; had someone just left before I appeared or was someone hidden watching whilst I explored?

¹⁶ Mozingo, 'The Aesthetics of Ecological Design', p53.

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Figure □ SEQ Figure * ARABIC □6□. Reclaimed metal slabs are used to create a path and rusty planters sit in neat formation beside a formal bed of coal whilst a simple artistic intervention crosses the tracks amongst the spontaneous planting

These cues to care are also very evident and successful at *Südgelände*, a disused railway site which has now been developed as a nature reserve with the help of landscape architects, Grün Berlin.□ The photos show the site in more detail but it is worth mentioning the graffiti which adorns much of Berlin and is at its most artistic at *Südgelände*. The entrance to the site is simple, static but effective, a mown lawn, a mass of large chippings and a bright orange wall. This wall is kept immaculate. The visitor enters through an arch in the wall and the landscape changes to one of dynamism and excitement. The spontaneous planting of the nature reserve is mirrored by the outburst of energy evident in the spontaneous graffiti on the reverse of the long wall.

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Figure □ SEQ Figure * ARABIC □7□. The front entrance and the rear of the wall once inside the *Südgelände* nature reserve

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Figure □ SEQ Figure * ARABIC □8□. Birch trees grow through and around the tracks at *Südgelände*.



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www.gruen-berlin.de□ has an English version of the
so www.gardenvisit.com/ge/sudgelande.htm.

However the Ruhr also has an example of the problems which can occur with such designs when the cues to care are not maintained. Dani Karavan, an Israeli environmental sculptor¹⁸, has designed a ‘Garden of Memories’ in the inner harbour at Duisburg. Karavan has used parts of the ruined buildings on the site and created areas of grass and wild planting cut through with paths leading from the houses and offices to the quayside.



Figure 9. Dani Karavan's Garden of Memories includes this ruined dockside building carefully planted with three trees in neat squares, an indication that this is not a mere ruin but a designed space

Like Latz, Karavan uses the rectilinear line to contrast with the wild planting and also to make direct walkways for the public through the site. However unlike the landscape park this area is not so well maintained and the importance of Nassauer's cues to care becomes evident. The boundaries between the static framework and the wild have become blurred and the site itself is therefore more difficult to understand; is it merely a group of strange ruined buildings and wasteland?

Figure 10. Poor maintenance blurs the boundaries between the wild and the contained; the grass is weedy and unmown and the edges of the paths are also less well defined.



¹⁸ www.danikaravan.com, Dani Karavan's website has examples of his work and it is a shame that the Duisburg project has not been well cared for. At first the unkempt look of the site detracted from what is a very interesting spatial sculpture.

REITERATED FORM

Mozingo's third category is the reiterated form. The general public can appreciate the cultural patternings of traditional designs, lawns, squares, parterres etc. and the repetition of these forms enables an understanding of complex environments. In an ecological environment these forms may not exist and new forms may not be so readily understood.¹⁹ Marcia Eaton suggests that ecological designs can 'only exist within an already existent language and cultural sign system'.²⁰



Figure 11. The pool at *Duisburg-Nord*

Latz uses many of these cultural forms at the landscape park; the lawn, the courtyard, the pool, the orchard, the allee, the arbour, the enclosure. Several of these have been described above but it is worth mentioning here the pool and the courtyard, both of which successfully use reclaimed materials from the site.

The pool is part of a ruined building now host to a mass of water lilies. Broken concrete columns on a grid rise from beneath the water and the grid pattern is repeated in the planting.

¹⁹ Mozingo, 'The Aesthetics of Ecological Design', p53. Mozingo has an interesting explanation of how many of the now accepted cultural forms had their origin in ecology.

²⁰ Eaton, Marcia. 'Responding to the Call for New Landscape Metaphors'. *Landscape Journal*, Vol 9(1), 1990, p23.

Overflow water from the surrounding buildings and the blast furnace drips into the pool from overhead pipes. Not only does Latz use the traditional form of the pool and the water feature but he also draws attention to the environmental processes in his use of runoff water.

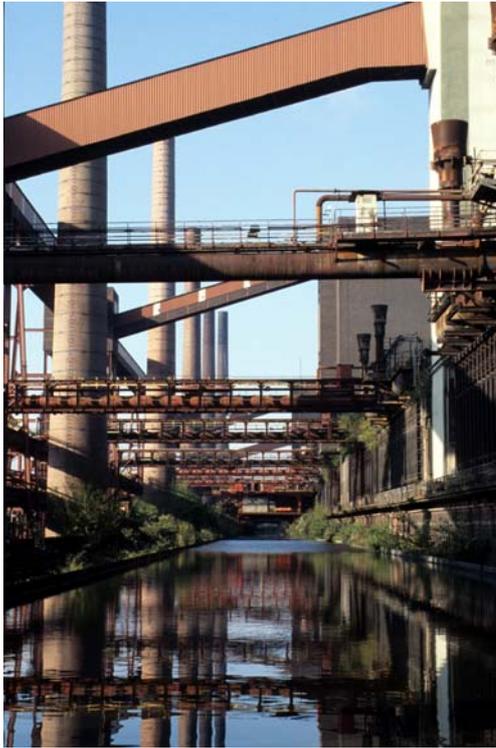


Figure 12. An illusion to the classical at *Kokeri Zollverein*

Another traditional form of the pool is seen at the *Kokeri Zollverein*. Here the canal which originally ran along one side of the coking plant and was a part of the coking process has been transformed into a reflecting pool with a café at one end. Visitors can sit beside the pool in the sun watching the reflections of the five huge chimneys. The experience was akin to sitting in a huge cathedral and is perhaps an example of the industrial sublime; the danger and drama of the ruin combined with the beauty of the reflections create feelings of wonder and awe. I was also reminded of the water gardens at the Alhambra although it is curious to think that a place which was once so noisy and polluted can now conjure up feelings of peace and harmony.



Figure 13. The Piazza Metallica

The courtyard at *Duisburg-Nord* is a simple but extremely effective use of reclaimed materials from the site. Latz has taken 49 huge metal slabs and arranges them in a grid in the square. This area, the Piazza Metallica, is used for public events just as a more conventional square.

Although Eaton believes that ecological landscapes should draw on existing sign systems it is surely worth exploring new or revised forms appropriate for the sustainable landscape. This perhaps should be the subject of further discussion; however a good starting point would be to consider the walkway at *Südgelände*. This long straight metal path raised a couple of feet from the ground, stretches across the nature reserve. We understand it as a path or perhaps an allée through the trees, but by raising it above the surrounding planting we also understand the importance of the biodiversity of the site. The intention is that we keep to the path, there is in fact a small notice to this effect, but the simple fact of raising it encourages us to place more value on the plants around us. Its resemblance to a railway track also reminds us of the history of the site, something which is reinforced by the continual sound of trains running on both sides of the reserve.



Figure 14. The raised walkways at *Südgelände*

EXPRESSION

Mozingo describes expression as the desire to evoke feeling; the pleasure and sensuality that landscapes can evoke.²¹ She questions whether ecological landscapes can become part of the ritual of human existence rather than a didactic statement imposed on the public. Many people enjoy ecological landscapes for the wildlife and the diversity; such

spaces are an essential amenity within the urban environment with local people offering their help with maintenance and improvements. However these spaces are often small oases in largely built-up areas and human interaction is based around primarily ecological concerns.

The ritualisation of landscapes cannot be enforced and must grow from the sites themselves as part of the dynamic changes that occur over the years. At *Duisburg-Nord* one ritual has been developed at the request of the local community. The blast furnaces used to work throughout the night casting huge flames into the sky and lighting it up from a great distance in reds and oranges, and now a lightshow echoes these colours reminding the viewer of the history of the site.

Mozingo is perhaps too didactic herself about the need for ritual; the temporality and dynamism of ecological sites can lead to a greater freedom in their uses and therefore many individual rituals may grow up around such sites making them important in different ways to differing groups of people. The graffiti artists of *Südgelände* are one example, creating ritualised paintings understood within their group and nevertheless encouraged and tolerated by other users of the nature reserve. The local community is gradually developing rituals around the sites in the Ruhr; on my first visit wedding photos were being composed around the rusty buildings, art students enacted gritty dramas in front of video cameras and aging leather-clad bikers posed for their photos beside the mine shafts.²² I discussed the new landscapes of the Ruhr with a local woman who was born and brought up in the area. She spoke of her memories as a child of coming back from holiday. Her father would stop the car before reaching home and they would see a low brown cloud extended across the horizon; the whole of the Ruhr Valley was enveloped in pollution. However she and much of her family remain in the area and now she visits *Duisburg-Nord* every few weeks with her daughter and together they invent stories about how things they find on the site might once have been used.

²¹ Mozingo, 'The Aesthetics of Ecological Design', p54.

²² I saw examples of these on my first visit to the Ruhr in 2005. Unfortunately the weather was so bad on this visit there were few people about and hence the photos show an unpopulated landscape.

METAPHOR

The final category discussed by Mozingo is metaphor; she states ‘ecological design ignores metaphorical content as an organising principle and focuses on ecological function. It does not stand for something else; it *is* the thing.’²³ Mozingo uses the expression the ‘aha factor’ to describe the metaphorical insights possible and it is easy to understand this in other contexts, for example when reading great literature or discussing artworks. It is a challenge to today’s designers to create the aha factor in all their works but it is interesting to look at examples of contemporary and ecological design where this has happened. And again Latz seems to have achieved this on various levels in *Duisburg-Nord*. The gradual colonisation of such vast buildings as the blast furnaces by spontaneous vegetation becomes a powerful statement about the destruction of industry. Human interaction with the site is almost unbelievably unconstrained; it is possible to climb the blast furnace alone, even at night, the park is open 24 hours a day and the public can access most areas. The freedom this engenders can be seen as a metaphor for the freedom of the plants to cross boundaries and leap walls.²⁴ As Latz writes, ‘Accepting a fragmented world means doing without the complete overall picture and leaving room for the coincidence of nature...’²⁵. Like the planting, human interaction and participation is dynamic rather than controlled and the uses people make of the park are varied and unpredictable.

As well as the rather romantic idea that nature is taking back what was wrenched from it by intensive industrialisation, the park and indeed much of the Emscher Valley project, is also about using nature to help to clean up the large scale pollution of the area. Much of this ‘clean up’ is happening on a micro scale and thus is not visible to the public, nevertheless it may be that the act of exploring, questioning and imagining the industrial processes which once took place on the site can lead to a similar questioning of the ecological processes which are now taking place.

²³ Mozingo, ‘The Aesthetics of Ecological Design’, p56.

²⁴ An unforeseen consequence of the industrial process is the establishment of plants from other parts of the world which were brought into the site with the raw materials.

²⁵ Latz, Peter. ‘The Idea of Making Time Visible’, *Topos*, No. 33, p97.

Not all private gardens aspire to the status of iconic landscapes nevertheless the criteria for judging landscape design suggested by Mozingo are worth considering when designing ecological and sustainable gardens and public spaces. Although the general public may not appear to analyse gardens in this way, subconsciously we are all trying to read and understand the landscapes we live in. If the visitor can begin to understand ecological landscapes they can also start to value them.

Latz emphasises contrast at *Duisburg-Nord* and this is one strength of his design approach. Such an approach helps to make the sustainable elements of the design both visible and readable and links these elements with more ‘traditional’ readings of the landscape. Whether they are using reclaimed materials, creating wildlife areas or incorporating more complex ecosystems such as reed beds for water filtration, designers can exploit contrast in much the same way.

Contrast also runs through the thinking behind Nassauer’s cues to care; by creating a static framework which contrasts with the comparative disorder of the wild landscape, the designer can not only make the ecological design more aesthetically acceptable to the public but can also make it more understandable.

A challenge for designers is to begin to create recognisable forms which can help the visitor read the ecological landscape whilst still relating to the more traditional language of the garden. It is hoped that as these new ways of designing landscape develop so to will the aesthetic which celebrates the dynamic and the temporal.

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