

# The Eco-cathedral

## Louis Le Roy's Expression of a ›Free Landscape Architecture‹

*Louis le Roy's Eco-cathedral in Mildam, the Netherlands provides an answer to the continuing environmental degradation and the loss of ecological and cultural richness that have been built up over centuries, but are being destroyed as a result of industrial processes. It involves human beings as integral to providing environmentally sound resolutions. The Eco-cathedral was intended to be an example of the framework that was to contain the various small scale agricultural uses within the urban environment, as well as of an ecological network, as the means of nature penetrating the city. As an area that appears like something between a ›deserted Inca temple and a natural eldorado‹ the Eco-cathedral is not a cathedral in the conventional sense, but a metaphor for the cultural processes that established cathedrals, as a project that took place over many generations and where the finished result would never be appreciated by those who worked on it. Here the significance lies in the creative processes that produced it and the way it involved the community.*

When Louis le Roy was given an official decoration from the Prince Bernhard Foundation in 1972 it was allocated for his contribution to a ›free landscape architecture, which as a diverse counterworld can adapt itself to cities‹. By this stage he had tested his philosophies in his own gardens and in a public project in Heerenveen which had revealed a ›refreshing vision and appearance‹ that was considered as an ›innovative breakthrough in ecology.‹<sup>2</sup> Some professional landscape architects however were aghast, and rather than welcoming him as an innovator saw him as a threat to the profession. To them, instead of a more democratic approach towards the urban landscape,

›free landscape architecture‹, meant anarchical forces that rendered the profession of landscape architecture superfluous.<sup>3</sup> Yet Le Roy became more famous than any landscape architect.<sup>4</sup> Nowadays however his work is more seen as an early expression of ecological or environmental art and landscape architects consider him as someone who has made a valuable contribution to a wider environmental debate. These apparently contrasting perceptions are typical for the reception of Le Roy's ideas. This paper sets out to explore his philosophy and contribution by means of his prototype project in Mildam, Friesland, the Netherlands.

When Louis le Roy bought a plot of land of c.3 hectares near Mildam in 1966, his ideas for the future of cities had already well developed. He had been concerned about man's relationship with nature, the desecration of the urban environment and about large scale development that took no regard of ecological principles or natural processes<sup>5</sup> and excluded inhabitants from any say in the future of cities. In seeking a creative resolution he was inspired by small-scale and vernacular examples and instances of self-sufficient communities. This he saw as an antidote to the bleak monotonous left-over spaces between buildings that created such an inhuman environment which was car-dependent.

### Louis le Roy

Louis Guillaume le Roy was born in Amsterdam in 1924 as the last of a family of five boys from two marriages. In the early 1930s the family moved to The Hague, ending up at a location near the sea in order to combat Louis' chronic asthma.<sup>6</sup> His solitary half brother, ten years older

Figure 1: Louis le Roy (b. 1924) arts teacher, refers to himself as an ›ecotect‹, from ecology and architecture.







Figure 2: Louis le Roy started his experiments in his private garden at home in Oranjewoud, Friesland.

Figure 3: I order with the help of networks. These networks derive through connecting a number of the largest fragments that are deposited on my land by means of wide bands of bricks. On top of these bands I pile two or three layers of bricks. This way a vertical layer of brick ridges is being created. The open spaces between these ridges are filled in with bricks. On the first foundation layer thus created I pile the next layer the network of which has a different direction. When I also do this at the next layer, these diversely piled networks together form a solid foundation. When this foundation has reached the height desired, I can commence with laying the various walls. The base of the walls I leave irregular linear, and I pile every wall thus that it creates a certain angle with the foundation. These sloping walls are supported by the body of bricks that are laid behind them. (Louis G. le Roy, *Retourtje Mondriaan* [Heerenveen: Stichting TIJD, 2003], pp. 178-179)





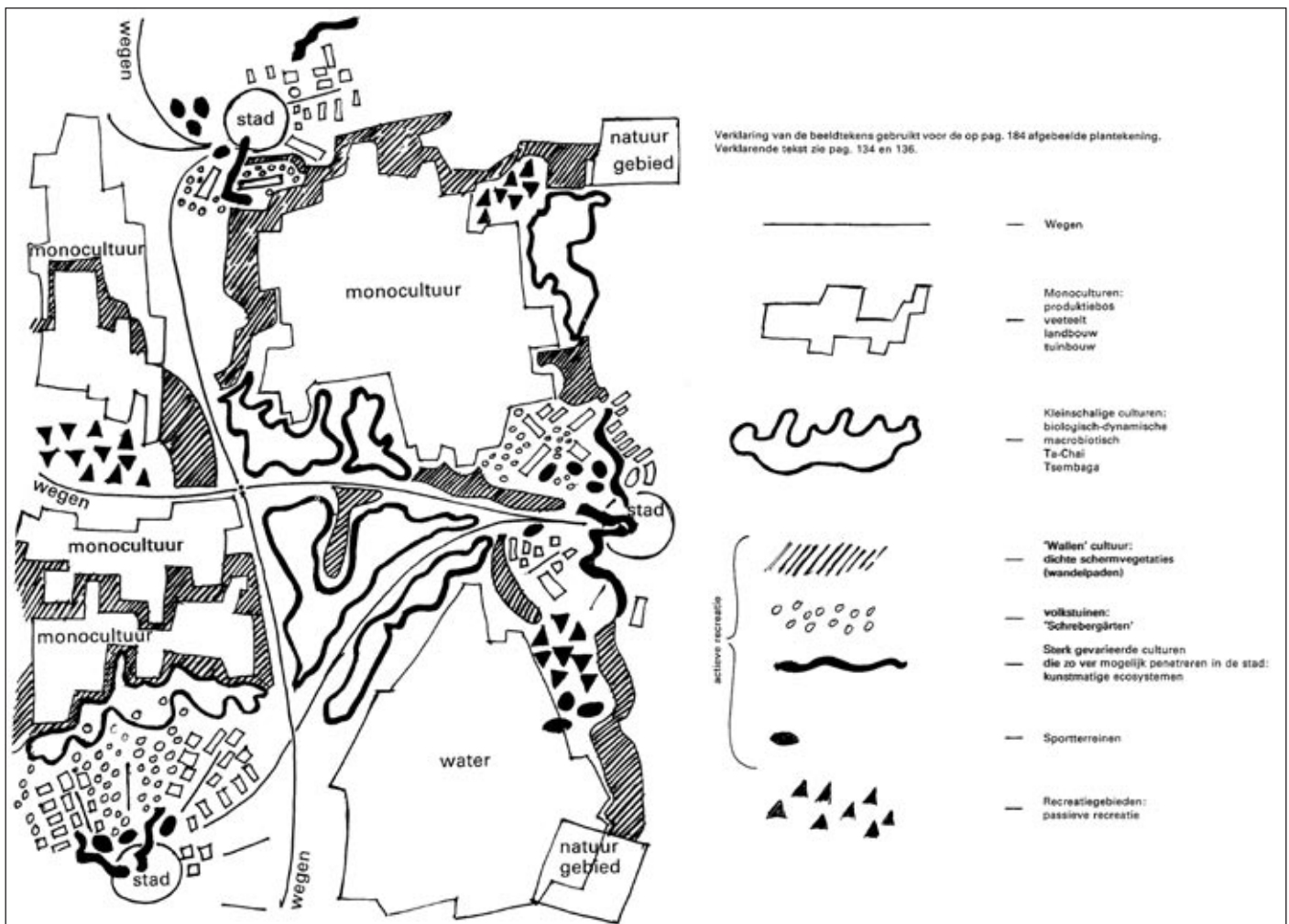


Figure 4: In his visionary diagramme for cities Le Roy respected existing patterns of monoculture as well as cities, but proposed them to be surrounded by integrated networks of artificial ecosystems. These would be formed through artificially raised embankments that contain a wide variety of uses including allotments and organic farms, while they would be separated from existing monocultures by dense planting. This duality of cultures was initially referred to as ›counterculture‹, but he now refers to this as ›double culture‹. The Eco-cathedral serves as an example of these artificial ecosystems as ›a centre for our future urban society‹ (Source: Louis G.le Roy, Natuur uitschakelen: natuur inschakelen [Deventer: Ankh Hermes, 1973], pp. 184-5)

than him, occupied the attic, which he, being interested in the sciences, had turned into a laboratory. He appears to have inspired his younger brother in natural history and the sciences<sup>7</sup> and in 1936 when the family moved to Deventer, Louis joined natural history associations which increased his ecological understanding. During this time he also met Klaber, an eccentric baker's assistant who traded art and lend this to the family.<sup>8</sup> Probably due to this influence Louis collected art books during war years in exchange for tobacco points, and later chose to study at the Arts Academy in The Hague, with the intention of becoming an arts teacher.

In 1949, as a result of financial problems, and three years in his five year course at the Arts Academy he took up a temporary position as a supply teacher at the secondary school in Heerenveen<sup>9</sup>. In 1951 he completed his exams on a part-time basis, being encouraged to do so after having been offered a full-time teaching appointment. He bought an old farmhouse in nearby – then rural – Oranjewoud, where he moved with his young family, converting the house and starting to experiment in the garden to

create a suitable microclimate to encourage ecological processes. Becoming more concerned about the environment generally, he joined the local Arts Commission of Heerenveen as chairman in 1961. This position enabled him to increase and strengthen his political awareness.

It was this insider political knowledge that led to the first of his public projects in Heerenveen in 1966. Contrary to contemporary views Le Roy considered humans as a product of culture and nature and thus part of a global ecosystem. Assessing the countryside as a large scale industrial dominated monocultural agriculture that contributed little to either wildlife or for the purpose of recreation to the citizens, Le Roy devised an innovative vision for the edgelands of the city. These would provide a location for rich and varied ecosystems formed through artificially raised embankments, which incorporated a wide variety of uses. These included small scale organic farms, which ensured that transport between production and consumer would be kept to a minimum, and allotments, which jointly

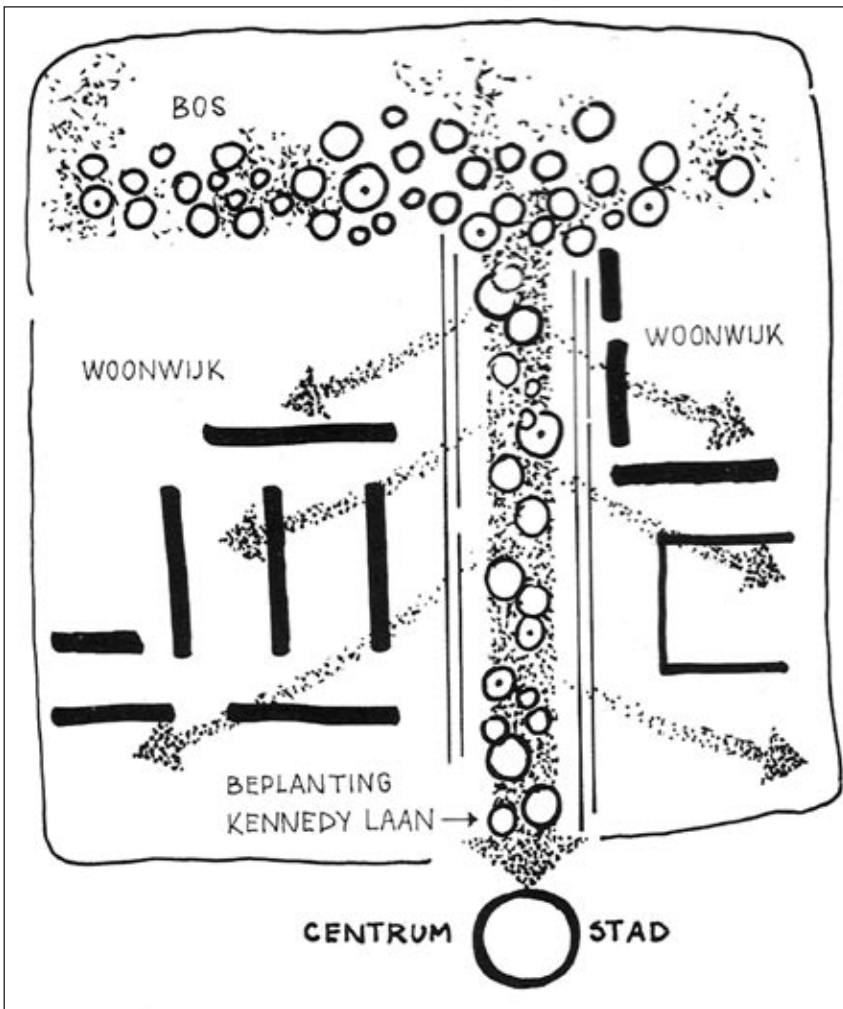


Figure 5: The project at the Kennedylaan, Heerenveen demonstrated some of Le Roy's main theories, with nature penetrating deep into the city. (Source: Louis G. le Roy, *Natuur uitschakelen: natuur inschakelen* [Deventer: Ankh Hermes, 1973], p. 190)

provided a buffer zone to the city. The embankments would be densely planted with vegetation and provide public walks, which linked the organic farms and allotments, but also sports areas and areas for passive recreation into one cohesive network, which additionally included green fingers that penetrated deep into the city.<sup>10</sup>

#### Kennedylaan, Heerenveen

Le Roy sought for a site in Heerenveen to first bring his theories into fruition. The Kennedylaan, a central verge between two new housing developments was selected on the criteria that it stretched from an area of woodland, and penetrated deep into the centre of Heerenveen.<sup>11</sup> It also was a boring grass strip of 18 metres wide and just over a kilometre in length that provided no ecological interest, but that did provide potential links, both physical and conceptually, with nature. Yet despite his political skills and the support of an enlightened Head of the Parks Department, debates with councillors lasted some six years before his project was finally given consent in 1966, and even then he initially had to make some important concessions.<sup>12</sup> It had been Le Roy's intention to conceive the project with voluntary labour of local residents, but a condition of the consent was that it was to be carried out

by the parks department.<sup>13</sup> Yet through them some voluntary involvement took place.

It was exactly through the alienation caused by conventional planning processes which excluded citizens that Le Roy wanted to involve them, since he felt this ensured a continuing relationship with nature and harnessed 'free energy' into creativity. By inference this was criticism on the traditional way of designing parks, in which citizens had little say on their environment. This was so felt by some short-sighted landscape architects who criticized the lack of professionalism and considered it as a threat to the profession, yet others saw the positive aspects when Le Roy was singly able to mobilise public opinion by questioning established systems.<sup>14</sup> It was the screening of an hour long programme on the creation of the 'wild gardens' at the Kennedylaan in the context of a television series celebrating the N70 – European Nature Year 1970 – that had meant a breakthrough and launched Le Roy as a national personality.<sup>15</sup> Further television programmes and wide news coverage kept Le Roy topical, and soon after the so-called 'Le Roy Garden' became a generally understood concept, with people everywhere following his example.

Yet criticism continued to be voiced also, culminating in a 'Report about natural gardens according to the ideas of Louis le Roy' by landscape architect L. F. J. Vanderveken, which shows





Figure 6: The project at Kennedylaan, Heerenveen (1966) was intended to reconnect people with nature by encouraging to participate with the project. Unfortunately Le Roy had to make some important concessions here with the majority of the work being carried out by the local parks department. Yet it did catch the popular imagination and the so-called ›Le Roy Garden‹ soon became a generally understood concept. In 2005 the mayor of Heerenveen signed an agreement guaranteeing the continuity of this project for one hundred years. Since then there has been increased activity that appears to be utilizing the creative potential.



Figure 7: Le Roy's book *Natuur uitschakelen; natuur inschakelen* (Deventer: Ankh Hermes, 1973), translated in German in 1978, enabled him to broadcast his theories.





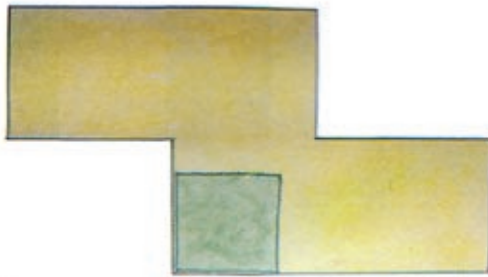




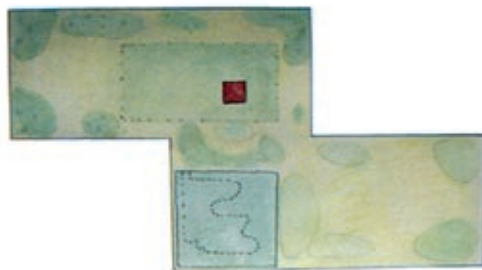
Figure 8: Following the acquisition of the site for the Eco-cathedral in Mildam in 1966 and an initial impetus in building structures, the site was left for many years in which the grass grew tussocky.



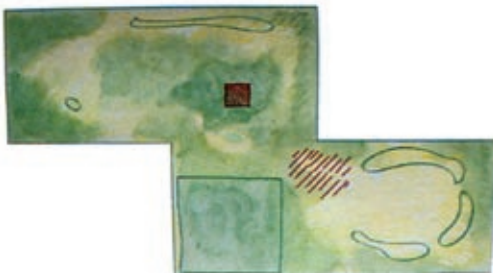




1. situatie 1960/1965  
**geelgroen** - Grasland  
**groen** - Bestaand bos  
**donkergrijs** - Openbare weg



2. situatie 1965/1970  
**groen rechthoek** - Beschermd plantvak  
**rood vierkant** - Atelier  
**groen donker** - Willekeurige randbeplanting



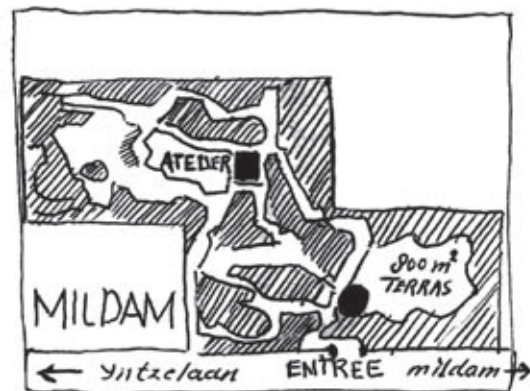
3. situatie 1970/1980  
**groen donker** - Randbeplanting, aangevuld, verdicht  
**omlijnd** - Speciale soorten  
**rood** - Stapelbouw, fundering van voormalige gevangenis van Heerenveen



4. situatie 1980/1990  
**rood** - Massief gebouwde elementen.  
 Stapeling langs een netwerk van wegen die ontstaan door de transporten van materiaal, die sinds 1983 zijn begonnen.



5. situatie 1999/2000  
**rood** - Stapeling verder uitgebreid evenals het wegennet. Intensivering van het wegennet.



6. situatie 1999/2000  
 Vorming van 3 meter hoog terras met een oppervlakte van  $\pm 800 \text{ m}^2$ .  
 ● Plaats waar de pelgrims van Simmer 2000 met de stapeling van een monument beginnen.

Figure 9: Small diagrammatic plans illustrate the progress of the development of the Eco-cathedral in Mildam, prepared by Le Roy for the 2000 summer celebrations, of which this project was selected as one of the five venues. (Source: L. G. le Roy, Ekokathedraal [Leeuwarden: Friese Pers Boekerij, 2000], p. 72)





Figure 10: Since the year 2000 there has been considerable progress in building the foundations for the Eco-cathedral. During the summer of that year a large platform or terrace was created by a reunion of Frisian in an open area.

that by 1973 there was still a considerable misunderstanding by the profession.<sup>16</sup> Vanderveken launched his criticisms mainly on ecological and vegetational principles, which were only partly substantiated<sup>17</sup>, and discussed the approach taken at the Kennedylaan as an alternative to a conventional *beem* or nature garden for which he was responsible in The Hague. He also noted that public interest was traditionally limited and that he doubted that based on experience with conventional greenspace responsibility for the care of areas could be left to the citizens. However by pursuing a balance between man, soil, plants and animals, Le Roy aimed to change this relationship to a constantly creative one, rightly noting that the Kennedylaan project could not be taken as representative for his principles, but that these should also be compared with his own gardens in Oranjewoud and Mildam. During this time his slide lectures drew hundreds of people.

By then Le Roy gained an increasingly international reputation, with projects in the Netherlands and abroad and more frequent lectures. Due to this progress with his own gardens was limited. His *Natuur inschakelen; natuur uitschakelen*, 'Switch

on nature, switch off nature' which had been published in Dutch in 1973 and in German five years later, further elaborated his principles. Soon there were projects in Austria, Germany, Switzerland, Belgium and France. Some noteworthy projects included those in Lewenborg, Groningen; Technical University Eindhoven; Regenboogkerk, Leeuwarden; Cergy-Pontoise; Woluwé-St Lambrecht, Brussels with the architect Lucien Kroll; and Hamburg-Veddel.

#### Eco-cathedral, Mildam

When after 1983 Le Roy recommenced his work at Mildam the majority of his projects had run into problems with the establishment, which he had reported in a constant output of articles in which he presented himself as a self-styled latter day Eulenspiegel, intending to expose and ridicule aspects of officialdom.<sup>18</sup> In doing so he intended to promote greater democracy or self-governance with respect to open space policy, 'convincing people that they could be responsible for their environment'.<sup>19</sup> As it proved impossible to separate this from short termism of politics,





Figure 11: Until recently the Eco-cathedral had progressed away from the edge of the road, and fairly well hidden from it by vegetation.













cf. fig. 11







Figure 12: More recently however the entrance has been marked by some archetypal brick and slab constructions.









and with more time on his hands due to his retirement as a teacher, his work at Mildam became more important as an example. This was to be used as a model project and as an experimental site where he would be able to verify his theories and the impact an individual might make to this process.

Since its acquisition in 1966 it had had little in terms of creative development and besides the building of a studio from recycled materials and the dumping of a limited amount of bricks deriving from a demolished jail in Heerenveen, not much else was done. Some of the materials were, over a period of years, used to create dry brick constructions in the area near the studio, and he planted some woody plants along the edge of the plot in order to provide a screen from the outside world. Meanwhile the larger area of grassland grew tussocky, while in the small block of primarily oak woodland holly gradually emerged as a domineering species in the understorey. The holly and the new planting provided a screen behind which Le Roy continued to build mostly solely for the next fifteen years. His main aim was to establish how much one human being might achieve in space and time, and while there was always free access there was little public participation during this time. Between 1983 and 1999 Le Roy estimates that some 1300 lorries with 15,000 tons of waste from street refurbishments in and around Heerenveen had been deposited on the site, instead of disposing of this in landfill sites.<sup>20</sup> This included kerb stones, brick setts, concrete slabs, drainage materials and sewerage pipes and manholes, all mixed up with sand, soil and weeds. These formed the building materials for the Eco-cathedral, which were arranged in interconnecting networks of layers of materials that were used by Le Roy as metaphors for the ecological and cultural networks that interact with them.

In proposing to consider the creation of the garden as the foundation for an eco-cathedral, Le Roy saw this as a spatial landscape or urban structure which, based on mutual participation between humans, plants and animals which may develop – endlessly in space and time – to a natural climax form.<sup>21</sup> For the year 2000 the Eco-cathedral was proposed as one of five venues for the gathering of émigré Frisians returning to their fatherland during the summer celebrations that year. In order to prepare this gathering Le Roy was associated with the architect-artist John Körmeling, who had completed his studies with a thesis on Le Roy and the monk-architect Dom van der Laan. To enable a large gathering to take place they envisaged the creation of a large raised platform of about 800m<sup>2</sup>. This terrace was to be created by and for this gathering. For this purpose large quantities of waste materials were deposited on the site, which in 2000 were being transformed by the congregation of volunteers. This work has continued since, with from 2002 volunteers being co-ordinated by the Stichting Tijd, the Foundation Time. Set up by Le Roy, his wife and four associates, this foundation aims to guarantee continuity of the Eco-cathedral after Le Roy's death.<sup>22</sup>

With its future guaranteed, the Eco-cathedral came best to express his theories. Here man could be demonstrated as a product of nature and culture, and Le Roy considered this as a model for greenspaces in an urban environment. With greenspaces as proposed the city might be considered as an oasis, as a contrast to the surrounding modern agricultural land that was an ecological desert. Large fields with single crops in modern farming provide a true

challenge to nature and thus were vulnerable to pests and diseases. Considering the ecological and cultural development as continuous processes, Le Roy stressed the importance of their relationship in space and time which he emphasised with the fact that there was not a defined outcome for the Eco-cathedral. No drawings were produced showing proposals for example; sketchy plans that were produced were there to convey rough ideas, or were produced as a record. This again is in contrast to conventional landscape practice that is plan based, associated with tight specifications, and did not enable flexibility or participation with creative expression by others. The only suggestion for vegetation was that natural processes would be followed with respect to striving after climax vegetation.

Le Roy has continued to broadcast his philosophy and expand this, publishing them in English for the first time in a publication that focuses on the Eco-cathedral, and encouraging the use of the site as a venue for artistic projects. When in 2000 the site was selected as one of the locations of a pilgrimage of emigrated Frisians they were encouraged to participate and built their own venue, thus enabling them to re-connect with Frisian soil, both physically as well as mentally.<sup>23</sup> It also served as a location and backdrop for experimental dance performances in 2004, which has highlighted and linked the creative forces that work on the Eco-cathedral to those present in choreography. In this way Le Roy connected various strands of his work as well as retaining a focus on his ideas for the environment, and keeping them in the popular imagination.<sup>24</sup> This has led for example to a re-assessment of his first project, at the Kennedylaan, that has been provided with a new impetus along the eco-cathedral process. Aspects highlighted in this process include the co-operation between natural and creative processes; a process that is defined neither in time nor space; utilisation of 'free' human energy, of both amateurs and professionals.<sup>25</sup>

### Reception of Le Roy's work

Le Roy's concepts were clear and tied in well with contemporary environmental concerns. The latter are reflected in the wave of publications that emerged in the 1960s and '70s which tackled pollution by industry and pesticides, issues about the loss of species resulting from this and from general environmental degradation as a result of exploitation.<sup>26</sup> In this respect to raising the concerns he posed nothing new; what was innovative, however, was the way in which he involved a large section of the population in these issues by providing a positive solution. For the first time he showed that everyone could make a difference either by involvement in communal projects or by creating a small microclimate themselves. It was this participatory element that included man as actor in ecological processes that distinguished him from contemporary nature conservation concerns. In this respect the 'Le Roy garden' is proving to be a lasting concept that has participated to a more liberal view of what 'nature' entails.

This departure from the usual trend of seeing nature as something distanced from human culture rather than as a process, in which one might partake, was far removed from popular culture. Additionally the general public, used to well-ordered parks, received a bit of a 'culture shock'<sup>27</sup> and took some persuasion that the naturalistic unkempt places provided an appropriate setting for



their lives. This deeply rooted aversion to this ›confusing wilderness‹ was perhaps not always fully recognized by Le Roy, whose scientific theories underlying the emerging aesthetic were rarely enough to appease criticism.

As a result of his innovative perspective Le Roy represents different things to different people and his work has received criticism from a wide range of viewpoints, which value various aspects of his work. The popular perspective has been and will remain the ecological-environmental context and the rejection of the values of the modern consumption society, which remains an important theme in press articles which have had a most significant impact and is perhaps where his most important contribution lies. Yet this provides only one aspect of his complex standpoint. His work has recently been re-appreciated as an expression of environmental or ecological art, and in this context Le Roy is being considered as one of its pioneers.<sup>28</sup> Similarly he has been acknowledged as one of the pioneers in public participation that encouraged the questioning of the conventional planning process, and provided a model in which citizens became an integral part of the process, rather than an adjunct or hindrance to it.<sup>29</sup>

To landscape architects he has had a mixed reception; receiving ›stern opposition amongst some landscape designers and park officials who believed that he sought to replace design with anarchy‹<sup>30</sup>, and it was some time before he managed to dissuade them that his vision did not foresee redundancies in the profession, but rather that this would involve them as facilitators of democratic processes. Now few of the older objections that he made the profession redundant, and ›stole‹ their potential projects by a participatory process, remain. Some of the more visionary landscape architects, who recognized that Le Roy was questioning the whole system rather than challenging the profession, welcomed him as a breath of fresh air and as someone who confronted environmental implications of modern life that were being taken for granted. The considerable contribution he made in this respect

can hardly be overestimated, but this has caused a groundswell that has also affected the profession. Participatory processes are now fundamental to many projects and in their scope and perspective are more advanced than what occurs elsewhere abroad. In late 1970s, early 1980s Germany Le Roy's ideas were similarly seen as the crest of a new wave in natural garden design, thereby perhaps slightly losing perspective of the long history of nature gardens, both in Germany and the Netherlands, but it emphasizes the innovation that was felt as emerging at the time.<sup>31</sup> Similarly Le Roy is nowadays credited with initiating naturalistic play opportunities for children, while the result differs not that greatly from what was achieved in adventure playgrounds after the Second World War.<sup>32</sup>

From a visual perspective Le Roy changed the perception of the appearance of greenspaces. At the time his small scale organic shapes and constructions softened by uncontrolled vegetation were found to be provoking, aiming to serve as a contrast to large scale rectilinear housing developments that surrounded it.<sup>33</sup> It is this archetype provided by small scale brick and slab constructions with unkempt vegetation that has been copied in many projects, both public and private. It has become a particular signature of the dozens of community projects that have sprung up everywhere in Dutch towns, particularly over the past twenty five years.<sup>34</sup> These projects appear to be continuing to answer many of the environmental and social concerns raised by Le Roy, and to the people who initiated them he was often one of the main sources of inspiration.

The Eco-cathedral is a monument to Le Roy's endeavours and it symbolises environmental and social concerns, many of which remain current today.<sup>35</sup> Yet while it is clearly the project for which he wants to be remembered it is likely that this is mainly for its legacy as a prototype. There is no doubt however about his significant contribution to various fields, including that to Dutch landscape architecture, that in the past 25 years has made it to the rich and varied profession that it now is; perhaps not ›free‹, but definitely more varied and complex.

## Notes

- 1 Huub Mous, ›De Ekokathedraal: eindbestemming van een hedendaagse pelgrimage‹, in L. G. le Roy, *Ekokathedraal* (Leeuwarden: Friese Pers Boekerij, 2000), pp. 4-5 (p. 4).
- 2 Prins Bernhard Cultuurfonds, correspondence 2006; see also: <http://www.cultuurfonds.nl/content.asp?path=bcoap99f>.
- 3 this was also observed by for example Allan R. Ruff, *Holland and the Ecological Landscapes: a Study of Recent Developments in the Approach to Urban Landscape* (Stockport: Deanwater Press, 1979), p. 32.
- 4 Han Lörzing *Van Bosplan tot Floriade: Nederlandse park- en landschapsonwerpen in de twintigste eeuw* (Rotterdam: Uitgeverij 010, 1992), p. 62 notes that ›it was not long that he [Le Roy] was more popular than whichever professional landscape designer ...
- 5 Louis G. le Roy, *Retourtje Mondriaan* (Heerenveen: Stichting TIJD, 2003), p. 59.
- 6 Biographical information derives from Le Roy's autobiography: Louis G. le Roy, *Retourtje Mondriaan* (Heerenveen : Stichting TIJD, 2003).
- 7 Le Roy, *Retourtje Mondriaan*, p. 13.
- 8 Le Roy, *Retourtje Mondriaan*, p. 17.
- 9 Le Roy, *Retourtje Mondriaan*, p. 38.
- 10 Louis G. le Roy, *Natuur uitschakelen: natuur inschakelen* (Deventer: Ankh Hermes, 1973), pp. 134, 136, 184-185.
- 11 Le Roy, *Natuur uitschakelen: natuur inschakelen*, p. 190.
- 12 His project on the Kennedylaan, Heerenveen started on 1 September 1966; B.Hartstra, ›Heeft Heerenveen met Louis le Roy goed gegokt?‹, *Gemeentewerken* 1:12 (1972), pp. 283-287 (p. 283).
- 13 B. Hartstra, ›Heeft Heerenveen met Louis le Roy goed gegokt?‹, *Gemeentewerken* 1:12 (1972), pp. 283-287.
- 14 P. A. M. Buys and B. van der Vliet quoted in Marten Bierman and Dick A. van Ruler ›Met Louis G. le Roy sleutelen aan de consumptiemaatschappij‹, *Plan* No. 7 (1973), pp. 33-37.
- 15 Le Roy, *Retourtje Mondriaan*, pp. 91-93.
- 16 L. F. J. Vanderveken, ›De chaos van Le Roy kan geen success zijn in stedelijke milieus‹, *Plan*, No. 7 (1973), pp. 55-60.
- 17 see: H. Doing, ›Rapport –Vanderveken doet Le Roy niet voldoende recht‹ *Plan* No. 7 (1973), p. 61.
- 18 Louis G. le Roy, *Uilenspiegeltes: Onze creatieve potentie misbruikt?* (Deventer:



- Ankh Hermes, 1984).
- 19 Ruff, *Holland and the Ecological Landscapes*, p. 32.
- 20 Le Roy, *Ecokathedraal*, p. 36; compare this with Le Roy, *Retourtje Mondriaan*, pp. 69, 97.
- 21 Le Roy, *Ecokathedraal*, p. 36.
- 22 <http://www.stichtingtijd.nl/en/index.php>
- 23 Le Roy, *Ecokathedraal* (Leeuwarden: Friese Pers Boekerij, 2000).
- 24 Pierre Mansire, Abe Bouma, Peter Brinkman, Louis le Roy, Huub Mous and Henk Pleijter, *Dansen tussen Fundamenten* (Heerenveen: Stichting De Tijd, 2004).
- 25 Karin de Mik, ›Slooptuin van Le Roy eeuw lang behouden‹ *NRC*, 2 July 2005; *De Eeuwige Tuin van Le Roy in Heerenveen: Openbare Ruimte als Proces* (Heerenveen: Stichting Tijd, 2006).
- 26 See: Jan Woudstra, ›From counter culture to eco-cathedral: The continuing legacy of Louis Guillaume le Roy‹, *Dutch Crossing* 27:2 (2003), pp. 269-280.
- 27 Han Lörzing, *Van Bosplan tot Floriade: Nederlandse park- en landschapsonwerpen in de twintigste eeuw* (Rotterdam: Uitgeverij 010, 1992), p. 63.
- 28 Manja van Herpen, ›Ecologische kunst: exploitatie van ecologische processen als kunstuiting‹ (2006 web version of Masters thesis, Faculty Cultural Sciences, Open University Heerlen, 2005), chapter 5, p. 4 (<http://www.earthpo.com/scriptie/hoofdstuk-5.html>).
- 29 Jan te Velde, *Meedoen met groen: Samenwerking tussen overheid en burger bij het beheer van de openbare ruimte* (Haarlem: Schuyt & Co, 1995), p. 15.
- 30 Ruff, *Holland and the Ecological Landscapes*, p. 32.
- 31 Gert Groening ›Ideological aspects of nature garden concepts in late twentieth-century Germany‹ in Joachim Wolschke-Bulmahn *Nature and Ideology: Natural Garden Design in the Twentieth Century* (Washington DC: Dumbarton Oaks, 1997), p. 222.
- 32 Marianne van Lier, Willy Leufgen, *Oasegids: Natuurrijke parken en tuinen in Nederland en Vlaanderen* (Beuningen: Stichting Oase, 2003), p. 18; In 1972 Hartstra already noted the attraction of the Le Roy areas in the Kennedylaan as children's playgrounds. Adventure playgrounds or Robinson playgrounds were invented by the Danish landscape architect C.Th. Sørensen with the first example appearing during the Second World War. They were widely promoted after the war.
- 33 B. Hartstra, ›Heeft Heerenveen met Louis le Roy goed gegokt?‹, *Gemeentewerken* 1:12 (1972), p. 283.
- 34 Oase, the organisation that promotes more naturalistic parks and gardens sees them as largely community based and lists 160 in their publication: Marianne van Lier, Willy Leufgen, *Oasegids: Natuurrijke parken en tuinen in Nederland en Vlaanderen* (Beuningen: Stichting Oase, 2003).
- 35 A well produced source for English readers is: Esther Boukema and Philippe Vélez McIntyre, *Louis G. le Roy: Natuur, Cultuur, Fusie/ Nature, Culture, Fusion* (Rotterdam: NAI Publishers, 2002); more information may also be had from the website of Foundation Time: <http://www.stichtingtijd.nl/>.