

Sustainable City, Appealing City

Reconnecting people to their environment by a new ecological aesthetic design language

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In order to create a more sustainable world, the relationship between human and their environment needs to be reconnected and strengthened. People in cities become less and less connected to the natural and cultural aspects of their environment. This disconnectedness might be one of the reasons why we have problems with our environment nowadays. We believe that designers can contribute to the improvement of the human-environment relationship by using a new design language based on ecological aesthetics. Yet how can an ecological aesthetic design language contribute to naturally and culturally sustainable cities?

Last decades the attention for our environmental problems, like pollution, loss of biodiversity, and climate change has steadily grown into a global concern for sustainable development. Al Gore's campaign made it clear that in order to combat climate change 'strict government policies and the diffusion of proactive environmental practices by private firms will not be sufficient'. To confront the environmental problems 'substantial changes' have to be made 'in the way we live and consume' (Mol, 2009). Therefore it is essential that civil society is engaged with its environment. Nowadays more than half of the world population lives in urban areas. Moreover urbanization is still growing, in particular in developing countries. This means that for the majority of the world population the built environment has a large influence on how they live their life. 'It is in the city that the challenge' to reconnect people with their environment 'is both the greatest but often not recognised' according to MIT Professor of Landscape Architecture Anne Whiston Spirn (1988).

In order to change society's manners towards environment, people should feel the need to make their way of life more sustainable. When people feel connected to their environment and to the natural world they will appreciate it more, handle it with more respect and sustain it for future generations. Yet, to connect people to the natural world, nature needs to have cultural value. Like Paul Gobster, a social scientist specialised in people's experience of environment, (2007) stated, an environment 'that is ecologically functioning is unlikely to last in human dominated' environments 'if it is aesthetically unattractive.' Most of us will be encouraged to act responsibly and respectfully regarding the natural and cultural aspects of their environment if we find them aesthetically appealing.

Aesthetics as significant part of sustainability

More attention should go to the importance of people's aesthetic reaction towards the natural and cultural aspects of their surroundings. This is also recognised by landscape architect Joan Iverson Nassauer. She points out that environments, that are both ecologically sound and evoke enjoyment, approval and admiration are more likely to be sustained by appropriate human care over the long term. If people find an environment attractive they tend to cherish, maintain, care for, and protect it, rendering it "culturally sustainable." However aesthetics are often neglected in and do not coincide with the concept of sustainability. Nonetheless aesthetics are a significant part of sustainability.

Sustainability is defined as 'forms of progress that meet the need of the present generation without compromising the ability of future generations to meet their needs' (World Commission on Environment and Development, 1987). This definition shows how close related sustainability and landscape are. It is namely through the land- and cityscape that people leave their heritage consisting their values and beliefs. Through the landscape they share their experiences with future generations. Consequently, it is of great importance how we design our landscapes. Designs can change a person's aesthetic appreciation of landscapes as he observes and interacts with his surroundings. Designs can help people become more aware of the environment and their impact on it. In this way aesthetic experiences can help to promote a more sustainable world.

Ecological aesthetics as a tool for designers

Landscape designers and urban planners are the ones that shape the street where people live, the square where people meet, and the park where people relax. They deal with people's everyday environment and life. Designs of everyday environments have a major influence on how people perceive and experience the natural and cultural aspects of their surroundings. Designers need to understand that 'aesthetics have a powerful influence on how society perceives the natural world and on how individual people experience ecological processes in their daily life' (Forman, 2002). 'Ordinary people are influenced in their choices by aesthetic considerations', while designers, on the other hand, need to 'deal with aesthetics professionally' (Koh, 1987). Aesthetics are a helpful tool for designers to let people value all the different aspects of their surroundings.

In order to design naturally and culturally sustainable cities designers need a new 'design language that fuses form, feeling, meaning and human and ecological functions' (Spirn, 1998). We believe that a design language based on ecological aesthetics can 'address all these functions' (Spirn, 1998). Ecological aesthetics have the aim to strengthen people's relationship with their environment and make them more aware of their environmental impact on the natural world. An aesthetic experience is caused by sense-perception of certain qualities. With sense-perception we mean not only visual perception, but also sound, taste, smell and touch. The aesthetic experience evokes a certain feeling, either positive or negative, in a person. We concentrate on positive aesthetic experiences which make a person 'feel good and encourages' a person 'to continue or return to the experience which gives it pleasure' (Leath, 1996). In the

case of ecological aesthetics these are aesthetic experiences that make a person feel good and in this way engage this person with his environment.

Towards a new design language

By analyzing five existing theories concerning ecological aesthetics and case-study research we developed a basis for this new ecological aesthetic design language. The five existing theories ensured an input of already recognised ecological landscape aesthetics which consisted mostly of descriptive theory. Actual areas which are known for their aesthetic and ecological qualities have been analysed to help turning the descriptive theory into prescriptive design principles.

To apply aesthetics into the design of people's everyday surroundings a division has to be made between aesthetic experiences and experiential qualities. In the studied theory, aesthetic experiences were often described as feelings, like 'feeling in unity with nature'. Such strong feelings that have a strong tendency to connect people emotionally to their environment we call "aesthetic experiences". For designers it is hard to design with feelings, as feelings can be different from person to person. Yet an aesthetic experience is caused by the sense-perception of certain qualities which we call "experiential qualities". These are qualities that in themselves can cause an aesthetic experience. Yet, a certain combination of experiential qualities can cause an aesthetic experience like "a sense of being part of nature". The advantage of experiential qualities is that they can be described in a neutral, more concrete way, which makes them more applicable for designers. The division between aesthetic experiences and experiential qualities has been set in a chart (Fig. 1) and shows how these are related to one another.

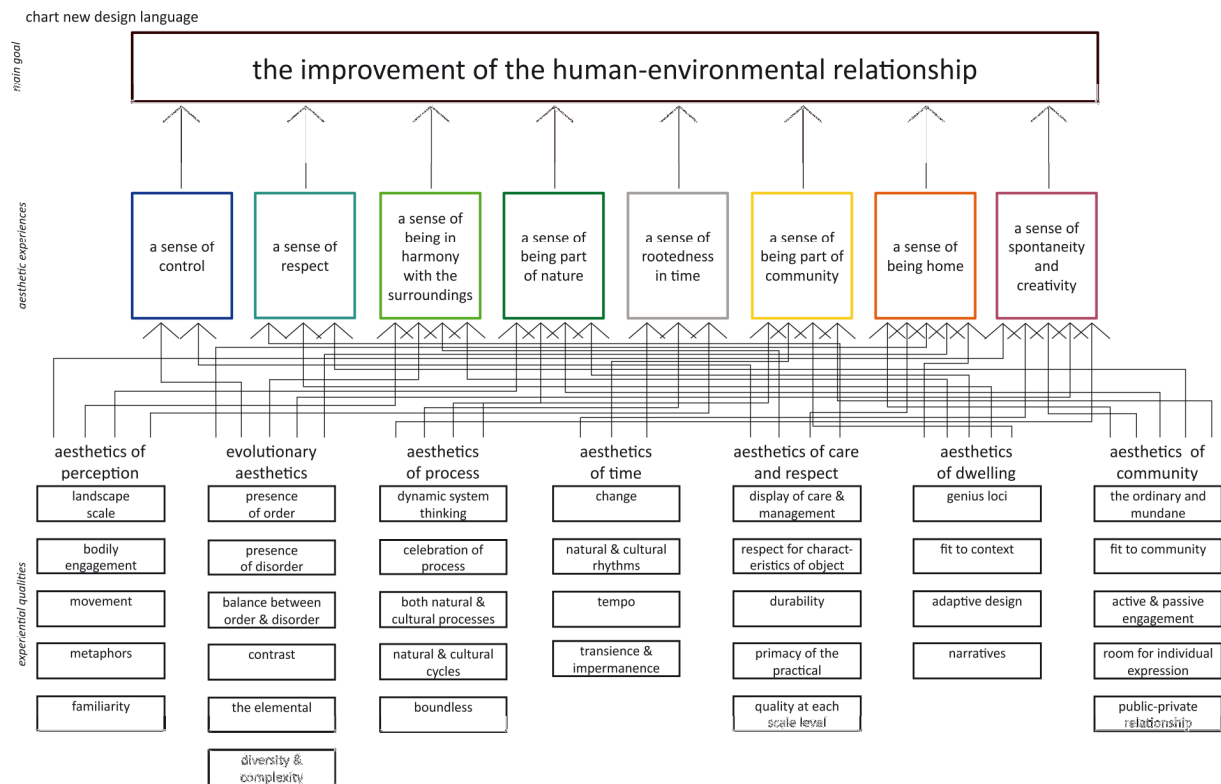


Fig. 1 The chart with the new ecological aesthetic design language.

Some aesthetic qualities are more fit to certain contexts than to other contexts. Some places call for “a sense of control”, while other places can use “a sense of being part of community”. We defined for which context the aesthetic feeling is most appropriate and most likely to strengthen the human-environment relationship. For example, “a sense of spontaneity and creativity” is most suited for places where there is development, physical or psychological. This can be temporary places like construction sites or where people develop like school yards, play grounds or places of artistic freedom. “A sense of spontaneity and creativity” always gives new experiences and helps to turn people into creative human beings.

Design vocabulary

With experiential qualities designers are able to create optimal conditions in their designs for people to undergo an aesthetic experience. The experiential qualities are the design vocabulary with which designers can add feeling and meaning to people’s everyday environments. This design vocabulary consists of seven families of experiential qualities, like “aesthetics of process”. The experiential qualities in one family are close related to each other. A combination of several experiential qualities can evoke an aesthetic experience. It is not necessary that the combination have to come from one family. For instance the aesthetics of perception are related by how they make certain qualities perceivable for people.

Despite the subdivision in families, all experiential qualities are interconnected in a certain way. Some experiential qualities are more connected to each other than others are. The experiential qualities often influence and even strengthen each other. Yet it is important to keep the connected experiential qualities separate so the designer has to consider both qualities individually. For example the experiential quality “both natural & cultural processes” and “landscape scale” are strongly connected to each other. By keeping these two experiential qualities separate a designer has to consider both natural and processes in his design, but also how to make these processes perceivable for people by bringing them into the landscape scale.

People, preferences and processes

For every individual an aesthetic experience can be different dependent on the experiences a person gained in life (Leath, 1996). The experiential quality “narratives” can be about the story of an individual person whose story may engage other people to a place or object. For example, in the city of Zwolle people told their personal stories about particular trees in the city. With such stories a tree gets meaning. Not only for an individual anymore but also for a neighbourhood or a city. Yet what also can be seen is that people from one culture have a certain aesthetic preferences which are different from other cultures. The private-public relationship for instance is in Western cultures different then in Eastern cultures. The cultural context is an important



Fig. 2 With heavy rainfall the statue seems to give water to the pond (Monnikenhuizen, Arnhem, The Netherlands).

influence on how people experience their environment. This suggests that designers also need to take into account the cultural preferences of the community for which he makes the design. The experiential quality “fit to community” states that a designer should take the aesthetic preferences of the community into consideration. Other theories suggest there are also experiential qualities that are preferred by all people no matter what culture they are from. These preferences are more instinctively and are developed during our evolution. Examples of such preferences are the “presence of order”, “balance” and “the elemental”. Therefore we call these preferences evolutionary aesthetics.

Weather conditions have a big influence on how people perceive their environment. But weather conditions can hardly be influenced by a designer. Yet for designers it is easier to affect people's

experience of the weather conditions. An environment can be designed in such a way that people gain a positive aesthetic experience even in “bad” weather conditions (Fig. 2). The experiential qualities “natural & cultural processes” and “natural & cultural cycles” help to make a designer aware of the different processes and cycles that can affect his design. Processes and cycles which are linked to the weather, climate, the water system are getting more important in times where climate change is a big issue and should therefore be involved into people’s everyday environments . By using “adaptive design” designers are stimulated to think consciously about how the design can be integrated into these natural processes and cycles.

Design guidelines

The design vocabulary is developed to makes designers more aware of the different experiential qualities that exist in people’s everyday environment. For each experiential quality one or more design guidelines are set up. These design guidelines consist of a definition of the experiential quality, a description of how the experiential quality can be implemented and which results can be expected. Practical examples gained from the case study research help to illustrate and communicate the design guidelines. The design guidelines are rather broad explanations because the actual implementation of the experiential quality is depending on which natural and cultural aspects are present at a certain environment. In our research the design guideline also served as a design hypothesis which helped us to test the experiential qualities. In this way the design vocabulary could be adjusted and improved while more and more experiential qualities will be tested by design.

The design vocabulary can not only be used for making a design that engages people to the natural and cultural aspects of their environment. Next to this, it can also be used for analysing a project area or for evaluating an actual design. In this way a designer is stimulated to look in an aesthetic way to an environment. The designer questions himself which experiential qualities are present in an area and which possibilities are there to further improve the human-environment relationship. To help designers analysing and evaluating an environment a questionnaire is made. This questionnaire contains a short description of the experiential qualities and how they can be perceived in the design. By rating whether the experiential quality is present, present but unconvincing, or not or too strong present, the questionnaire easily provides the designer with an overview of the aesthetic quality of the environment.

Integration of aesthetics into the design process

The ecological aesthetic design language can easily be integrated in the design process. The use of aesthetics can be seen as an extra layer that brings meaning and feelings into the design. The experiential analysis is added to the analysis phase of the project. In the concept phase the designer can determine which aesthetic experience would be most appropriate to engage people with the environment of the design project. To evoke this “aesthetic experience” a certain combination of experiential qualities is needed (Fig. 3). These experiential qualities are the ones to focus on in your design. For each “aesthetic experience” this combination of experiential qualities is set in a scheme. Although every experiential qualities can be used in the design these are the ones that need to be implemented in order to evoke this aesthetic feeling. In this

way, the design guidelines can help to implement the experiential qualities in the design phase. After realisation of the design, the design can be evaluated by experiential evaluation. Dependent on the outcome of the evaluation the design and design vocabulary can be adjusted.

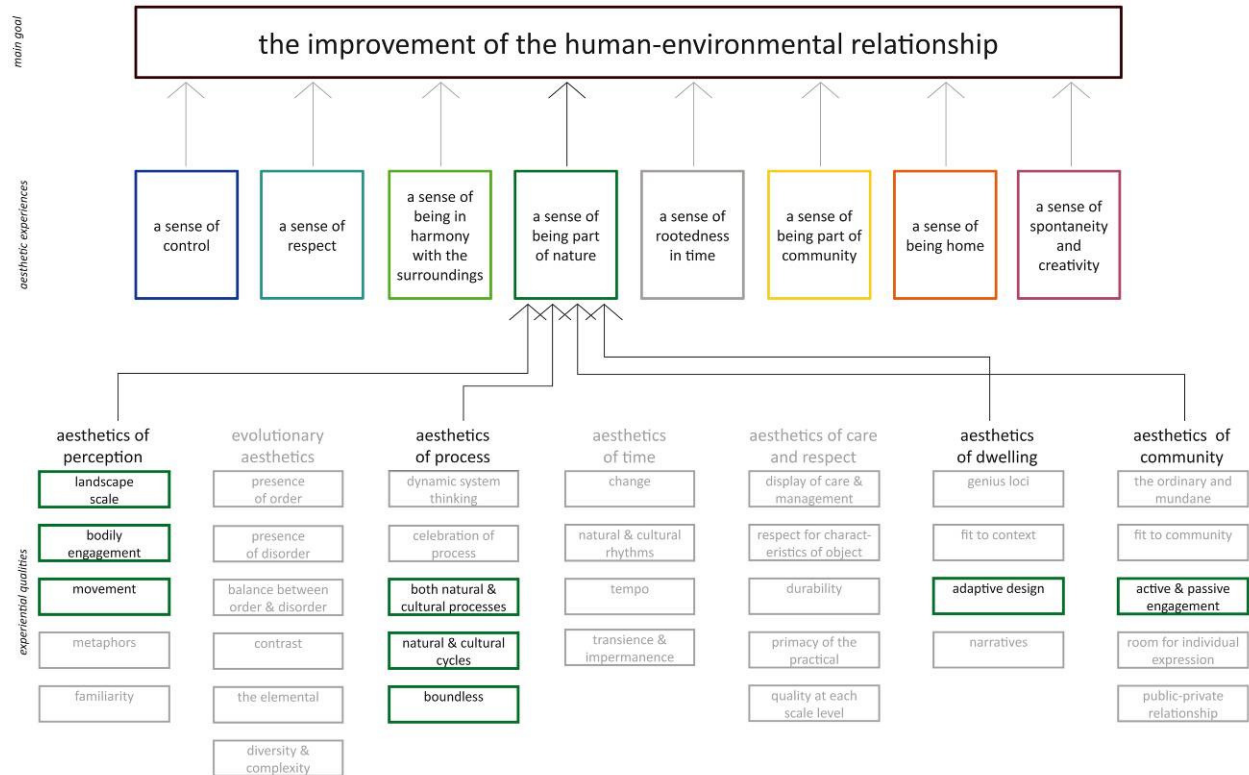


Fig. 3 A combination of experiential qualities is needed to evoke "a sense of being part of nature".

Designing with an ecological aesthetic design language can contribute to a more sustainable world. A world where people are engaged with their environment and care for it. However, we also understand that ecological aesthetics are just a part of the solution to solve environmental problems we are facing. Problems like climate change, pollution and loss of biodiversity need to be solved in a holistic way, including all aspects of life. This asks for new technologies, techniques, legislations and policies, but also for a new design language. If designers and planners want to contribute to a more sustainable world they need to bring the cultural and natural aspects of the world into the everyday life of people. If designers and planners want to contribute to a more sustainable world, they should use the new ecological aesthetic design language to reconnect people with the natural world and bring everyday environments back in people's hearts.

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