Environmental Aesthetics

Notes for design ecology

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ENVIRONMENTAL AESTHETICS: NOTES FOR DESIGN ECOLOGY

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ABSTRACT

The philosophical subfield environmental aesthetics can contribute to the design of sustainable futures. Environmental aesthetics provides a conceptual framework for understanding the relationship between nature and culture. Current positions in environmental aesthetics are lined out and used as backdrop for contributing an ecological approach to design. Three green aesthetic design strategies are sketched: Coated Green, Green Core and Green Stream.

Environment is never 'out there', it is always 'here'
Arnold Berleant - Aesthetics Beyond the Arts (2012:197)

INTRODUCTION

There is a need to conceptualize nature-culture relations in new ways: to move from dichotomy and separation in order to envision sustainable relations. The philosophical subfield *environmental aesthetics* provides a conceptual framework for understanding the relationship between nature and culture, and with an ecological approach to the aesthetics of human environments, it also provides one potential account of how nature and design may be conceived in relation to each other.

The present paper lines out current positions in environmental aesthetics as consisting of two primary camps: cognitive and non-cognitive views. The line out of current positions in environmental aesthetics is used as backdrop for exploring how environmental aesthetics may contribute to developing sustainable design ecologies. Environmental aesthetics provides insights, which are helpful in rethinking the relationship between nature and culture, and between nature and design.

Central contemporary scholars in the philosophical subfield environmental aesthetics in each their own way contribute to discussions of how nature and culture may be conceived in relation to each other.

The anthropocentrism that design seeks to break with may be understood as a consequence of a relationship between humanity and nature, which is modeled on notions of distance and objectification.

Contemporary scholars of environmental aesthetics reject this separationist and distancing way of understanding human-nature relationships. Based on a critique of traditional aesthetics they put forward new aesthetic models that stress the interrelations between nature and humanity - nature and culture, nature and design. The three presented scholars are Carlson, Berleant and Saito. They each contribute with distinct but related views that help develop concepts for sustainable design ecologies.

Allen Carlson discusses what he calls a designerly approach to landscape and shows the depreciative effects of modeling appreciation of human environments on an arts-inspired aesthetic. Carlson argues that the art-aesthetic must be replaced with a natural aesthetic and suggests that inspiration may be found in landscape ecology.

Arnold Berleant demounts traditional aesthetic approaches by reversing the models of aesthetic appreciation of art and nature. Instead of modeling the appreciation of nature on art, Berleant suggests the reverse: appreciation of art should be modeled on the appreciation of nature. Berleant proposes a naturalized aesthetics of engagement, which encompasses sensory immersion, affective and somatic engagement, as well as perceptual intensity and connectedness.

Yuriko Saito – bridging cognitive and non-cognitive views in environmental aesthetics and drawing on landscape ecology – provides stepping stones for developing strategies for green design.

This article relates to the term aesthetics used also for non-art based experiences of everyday life and encounters with nature and natural phenomena. Our aim is to bridge knowledge from the field of environmental

aesthetic into further awareness of the philosophical background of green design strategies.

ENVIRONMENTAL AESTHETICS

Environmental aesthetics is a subfield of philosophy. The field has developed within the past two centuries. A central topic of inquiry in environmental aesthetics is the aesthetic appreciation of nature and natural environments, and an explicit goal in the philosophical development of the field has been to develop notions of aesthetic appreciation that are not modeled on the aesthetic appreciation of art (Carlson 2007).

One central work within philosophical aesthetics is the article "Contemporary Aesthetics and the Neglect of Natural Beauty" by Ronald Hepburn, from 1966. The article makes the point that the natural world is widely overlooked when aesthetics is reduced to philosophy of art. Hepburn argues that modeling the appreciation of nature on the appreciation of art is misleading. Hepburn's article was central in putting the appreciation of nature centre stage in philosophical inquiry, and in making the point that inquiry into aesthetic appreciation should take other topics than art into consideration. This supported a renewed interest in the aesthetics of nature and was fundamental to the development of inquiries into environmental aesthetics. Contemporary environmental aesthetics does not only deal with nature and natural environments, but also with designed environments. Environmental aesthetics thus links up with everyday aesthetics and seeks to describe and understand all aesthetic dimensions of everyday life (Carlson 2007, Saito 2007).

COGNITIVE AND NON-COGNITIVE VIEWS

Contemporary positions in environmental aesthetics can be grouped in two clusters: cognitive and non-cognitive approaches (Carlson 2007). Cognitive approaches have the assumption that it is central to have information and knowledge about a topic matter or object in order to be able to appreciate it. These positions typically reject arts-inspired models for understanding the aesthetic appreciation of environments, for example when aesthetic appreciation of a landscape is described as picturesque. One cognitive approach to the aesthetic appreciation of natural environments for example stresses natural history, biology and geology as central. Knowledge from these scientific disciplines is seen to be central in order to appropriately aesthetically appreciate a natural environment. This tenet of thought is called scientific cognitivism or the natural environmental model (Carlson 2007: 6). There are various cognitive approaches, and not all of them put emphasis on knowledge from the natural sciences. In general, however, cognitive approaches cluster around the conviction that information is central for appreciation. Information may be of varying character. As mentioned it may be provided by the natural sciences, but may also draw on cultural and historical traditions - folklore, myth and regional accounts. Carlson represents this position.

Non-cognitive approaches stand in contrast to cognitive approaches in that they do not give the same importance to information. These approaches do not deny that information about an environment can contribute to appreciation, but they do not see information-based ways of relating as being the core of aesthetic appreciation. Instead these approaches give priority to for example emotion. A central non-cognitive approach is Berleant's aesthetics of engagement (Berleant 2004). This approach breaks with traditional models of aesthetic appreciation. It for example argues that phenomena such as disinterest and objectified and distant gazing are inadequate descriptors of aesthetic appreciation of nature and the natural environment.

CARLSON: ECOLOGY AS FUNCTIONAL FIT

Drawing on landscape ecology Carlson develops an ecological approach to the aesthetics of human environments. The central tenet in this approach is that human beings and their environments form part of ecosystems. Nature and culture must be seen in relation to each other. Drawing on landscape architect Joan Nassauer, Carlson points out that it is necessary to develop some sort of cultural necessity which enables "culture to be seen as working in tandem with nature to produce our human environments" (Carlson 2001, 12)

Nassauer points to aesthetics as a way of making landscape ecology culturally necessary. Ecological health is attached to aesthetic conventions.

"Since she is concerned about not only appreciating, but also preserving and protecting desirable human environments, Nassauer works out links between aesthetic value and ecological goodness, developing the concept of "intelligent and vivid care." Her goal is human environments that are 'culturally sustainable' in that they are both ecologically sound and, in evoking human enjoyment and approval, '... more likely to be sustained by appropriate human care over the longer term.'" (Carlson 2001, 12)

Inspired by Nassau, Carlson suggests that an ecological approach to the aesthetics of human environments must bring ecological considerations into the appreciation of human environments. Carlson suggests that the notion of 'functional fit' is relevant: "Such an approach thus requires some kind of ecological necessity that will bring ecology and culture together by virtue of that necessity having a comparable application to culture, in particular to human environments."(Carlson 2001,13).

Functional fit is a term which describes the way that natural environments "are composed of many-layered, interlocking ecosystems" (Carlson 2001, 13). Thinking of nature as interlocking ecosystems pushes the aesthetic appreciation of nature from quasi-artistic notions such as the picturesque - as individual objects or landscape views. Carlson argues that the notion of

functional fit makes it clear that 'components' of ecosystems can not be appreciated in isolation. They are parts in a larger whole. And according to Carlson the notion of functional fit brings with it an orientation towards environments as dwelling, feeding and surviving spaces of organisms. Environments thus are ranges, territories and habitats (Carlson 2001, 13).

Although it is a point to draw out an aesthetic appreciation of nature that is distinct from aesthetic appreciation of art, Carlson mentions that the notion of functional fit is in fact quite similar to the term organic unity which is used in aesthetics of art. Organic unity is a key concept in the aesthetics of art.

"Aesthetician John Hospers, for example, spells out the considerable significance of organic unity in the appreciation of modern art and makes clear its connection to the natural world, summarizing the concept as indicating '...the kind of unity that is present in a living organism'." (Carlson 2001, 14).

From this Carlson concludes that if organic unity works as a key concept in the appreciation of art, then functional fit can work as a key concept in the appreciation of natural and human environments. Organic unity / functional fit thus becomes a key aesthetic guiding concept.

Carlson suggests that using organic unity / functional fit as a guiding aesthetic concept points towards an ecological approach to the aesthetic appreciation of human environments. These environments should be appreciated for their functional fit / organic unity. Human environments should be aesthetically appreciated for their organically emerging characteristics. Carlson opposes this to what he calls the deliberate designer approach.

"In many cases a human environment, a landscape, a cityscape, or even a particular building, has developed, as it were, 'naturally' over time - has 'organically' grown - in response to human needs, interests, and concerns and in line with various cultural factors. It thus has a fit that is not primarily the result of the deliberate design valorized by the designer landscape approach and by the traditional aesthetics of architecture. Rather it is the result of those forces that have shaped it over time such that a fit of the different components has come into being. Such fits are explicitly functional in that they accommodate the fulfilling of various interrelated functions." (Carlson 2001, 14)

Carlson's functional fit has to some degree a limited and, some would argue, problematic structure. His reasoning draws on an biological and science centered view on adaptive mechanisms where the functional fit becomes a fitness maximizing structure. Even though the adaptionist view makes an effort in transcending the nature-culture dichotomy and a transition into a biological ecological approach was explicitly outspoken with the ambition to be "*not* just another swing of the nature/nurture pendulum (Tooby & Cosmides 1996),

Carlson does not overcome the dualistic notion. Primarily because of his preference to functionality and his main focus on the distal senses that limits the perspectives when seen in a full scale approach to design ecologies[1]. We will return to this matter further in the text.

IMPLICATIONS FOR DESIGN / CARLSON

Carlson's ecological approach to the aesthetics of human environments argues against and is in opposition to what Carlson calls *designer landscapes* and *a designer landscape approach*. Carlson's critique is that human environments in this designer landscape approach in general are seen as being 'deliberately designed' and that human environments are only worthy of aesthetic appreciation to the extent that they *are* deliberately designed. Human environments as such are likened to works of art, and aesthetic appreciation of human environments thus is subjected to criteria of art aesthetics.

Carlson says that there is a long tradition of thinking of human environments as designed environments. He exemplifies this with landscape architecture, where he uses the book "The Landscape of Man: Shaping the Environment from Prehistory to the Present Day" by Susan and Geoffrey Jellicoe as an example. According to Carlson the book beautifully explains the development of human landscapes through perspectives such as geography, economy, philosophy and art. Nevertheless, says Carlson, a landscape has to be *designed*, it has to be *deliberately shaped* in order to qualify as a 'landscape of man'. And this, according to Carlson is problematic because it implies that environments are only thought worthy of aesthetic consideration in so far as they are designed. Which again has the implication that human environments are evaluated according to art aesthetics.

The reason why human environments are measured up against aesthetics of art when they are seen as deliberately designed, has to do with the affinity between architecture and art - and the orientation in architecture towards viewing buildings as works of art.

Carlson takes buildings and architecture as an example of the designer landscape approach, reasoning that buildings are perhaps the most central deliberately designed component of human environments. Carlson argues that the aesthetics of buildings is the aesthetics of architecture, and that the aesthetics of architecture

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[1] The adaptionist view on functional fit and aesthetics have it offspring from the fields of psychology. Evolutionary Psychology and Ecological Psychology has both independently developed on the concept. The cited scholars in the text are from evolutionary psychology, but also well known references from ecological psychology is perceptual psychologist J. J Gibson's 'affordances' (1977/79) and later his student cognitivist Donald Normann's work of 'perceived affordance'(1988), that both relates to the term of functional fitness. Current attempt to a reconciliation of the functional fit and affordances are made with the concept of fitness affordances (Miller 2007).

typically is an aesthetics of art, rather than an aesthetics of the everyday. Broadly speaking the aesthetic concepts and assumptions of fine art have also been put to work in relation to architecture. The consequence being that the aesthetics of architecture has generally focused on 'works of architecture', (comparable to works of art): solitary, monumental, and unique sculpture-like structures created by artist-architects.

This, according to Carlson, completely misses out on the web of interrelationships, which these 'works' are embedded in. Buildings are unlike works of art in a number of ways. They are intertwined with cultures and people, who use them (functional entities). Furthermore they are related to other buildings, those standing next to them for example, and to the places in which they are built.

"When the aesthetics of human environments is closely aligned with the aesthetics of art and the theories, concepts, and assumptions of the aesthetics of art are brought to the question of how to aesthetically appreciate such environments, problems similar to those evident in the aesthetics of architecture also infect the aesthetics of human environments." (Carlson 2001, 11f.)

Carlson argues that the designer landscape approach to human environments brings with it a wrong model for the aesthetic appreciation of human environments. The designer landscape approach models everyday life up against art, and this makes us not appreciate the aesthetic qualities of the everyday. Human environments are judged as works of art. They are seen as worthy of aesthetic appreciation only to the extent that they measure up against deliberate artist-architectural design.

"...when seen through the eyes of the designer landscape approach to human environments, such environments typically do not seem to look as they should. The upshot is that we frequently find our human environments aesthetically unsatisfactory and overlook much that is of potential aesthetic interest and merit. In short, with the designer landscape approach, there is the danger that, since we bring the wrong model to the aesthetic appreciation of our human environments, we will find little to appreciate, and thus little to value." (Carlson 2001, 15).

Carlson offers an interesting and important approach to discussions on appreciation of landscape and built environments, but his definition of the aesthetic holds limitations, mainly because of his interpretation of functional fit and adaptiveness, which for a larger part of his argument focus on the visual and (as the latest) 'functional beauty' (2008). Who set the standards for functional? On which premises and qualifications are functionality valued? The ability or existence of disinterestedness and objectification then becomes an issue (again). A response to that question could be drawn out from McDonough and Braungart (2002). Their approach introduces the concept of eco-

effectiveness that aims for development without harmful effects on the environment.

BERLEANT: IMMERSIVE ENGAGEMENT

As a contrast to Carlsons science-based accounts one can find Arnold Berleant. From a button point they both agree that environments are systemic, that they are living systems in which all the physical and organic constituents function in a complex reciprocal interrelationship" (Berleant 2012: 196f) and they stand on common ground rejecting an aesthetic that makes the concept of *environment* into an object, an isolable thing.

Like Carlson, Berleant also builds on Hepburn's insights, but from here they go in different directions as Berleant developments his engagement theory of aesthetic appreciation.

The engagement approach stresses that human beings are immersed in natural environments, and thus it stresses multi-sensory experience. The engagement approach challenges dichotomies between subject-object and nature-culture. The appreciating human subject should try to minimize the distance he or she experiences in relation to the natural environment. Appreciation of the natural environment happens through boundaryless immersion. In this approach the environment is seen as intertwined perceptions, organisms and places.

Berleant (2004) claims that the current view of aesthetic appreciation cannot fulfill the need to articulate the environmental experience impact, since a bodily response building on multisensory layers connects to the mind in a more transforming way than just a visual representation will do. One of the main differences between Carlson and Berleant is that Carlson only operates with the inclusion of the distal senses whereas Berleants devotion to a complete sensorical input-model and emotionally awakening is of a central matter.

The aesthetic of disinerestedness rests on the assumption that it is possible to objectify the 'designed object', but our encounter with environment is also a sensory and emotional engagement, which depends on and is intertwined with bodily movement. We are immersed in 'landscape' when we move in it, and for this reason it becomes more than 'landscape'. It becomes environment.

Indeed, our full sensibility is affected by these and other such conditions, since we perceive sensorically not through discrete and separate channels but rather synaesthetically in perceptual wholes. In addition to the customary list of senses that include sight, hearing, smells, tactility, and taste, there are modes of organic sensibility. We have a kinesthetic sense that involves muscular awareness, and we experience skeletal or joint sensation through which we perceive position and an awareness of solidity through the degrees of resistance of surfaces (Berleant 2012:99)

Like Carlsons objection to appreciating architecture on the premises of an artbased-aesthetic Berleant takes the discussion into the field of the experience of appreciation of nature, but his use of a terminology that incorporates e.g. the negative sublime takes the criteria of appreciation to a more aesthetic philosophical domain that usually is invoked in relation to the arts. This as a deliberate method to raise a more complex question of the true 'beauty' of nature and to challenge our tendency to romanticize the encounter with nature as either plain scenes of picturesque beauty or as background for leisure activities. Both exemplify how this lead to a staging of nature as a set piece, as a 'framed landscape'.

With an agenda to introduce the emotional and the sensory as the aesthetical apparatus where the perceptual immersion and bodily experience has precedence, Berleants non-cognitive view is in basic opposition to Carlsons science- and information-based theory of an ecological functional aesthetic.

IMPLICATIONS FOR DESIGN / BERLEANT

Environments are perceived from within. We are embedded, situated, immersed in our 'surroundings'. This implies that nature and the natural environment is transformed to a realm we – without purity – are intertwined in – not as observers, but as participants.

"Perceiving environment from within, as it were, looking not *at* it but being *in* it, nature becomes something quite different. It is transformed into a realm in which we live as participants, not observers" (Berleant 2004:83)

The complexity of this is taken up one notch further by the fact that 'landscapes' (environments) are in continuous flux, never stationary, always in transition.

"Some changes are predictable. There are the complex, superimposed cyclical patterns that result from planetary motion, such as the diurnal cycle of light and darkness and the succession of seasons. To these we must add the biological cycles that all living things follow, from inception through growth to inevitable decline and death. Besides these regular, predictable changes, catastrophic changes irregularly intrude on those patterns in the form of both natural disasters and human-caused environmental calamities." (Berleant 2012:195f)

A conservative aesthetic meaning of landscape "excludes from consideration much of our present, actual experience of nature. Because its meaning is honorific, landscape has no place for scenes of natural devastation: earthquakes, forest fires, flooded city streets, and tornadoes. Nor does landscape easily embrace most of the scenes of human life. While the picturesque allow us to include bucolic settings of rural cottages, flocks of sheep, and perhaps even charming village scenes, there is no place for the daily habitation of most of the world's population in cities and their peripheral suburbs and slums. It has been necessary to

device new terms, and expressions such as "cityscape" or "urban landscape" have come into use." (Berleant 2012:195).

We agree that environmental aesthetics need to develop a discourse that unfolds the natural (and cultural) as interrelations and not only as panoramas. According to Berleant contemporary aesthetics suffers from a lack of an explicit 'language' that earlier philosophies that concerned the noumenal and transcendent experience, could express. Furthermore traditional aesthetics have been insufficient in accounting for "occasions that seem to test the extent of the aesthetic response, such as extreme environmental conditions"(Berleant 2012:76). The inclusion of the unpleasant or uncomfortable experience as an aesthetic response, are similar to the ones expressed in Saito (2007) and Leddy (2008).

One of Berleants major key points is the re-thinking of the concept of landscape on the basis of a principle of multisensory experience to 'transform our idea of landscape from a visual object to a setting as part of which humans are actively engaged'. Landscape is in every way a human artifact. That goes 'whether framed by a camera, cultivated as farmland, conserved as a nature reserve, or preserved as so-called wilderness, every landscape is identified and chosen by humans, and embodies and displays the effects of human action." (Berleant 2012: 196)

Berleant suggests that the term landscape is replaced with the notion of environment since the concept does not tend to constrict our experience to the natural world, as the cultural connotation of landscape does. The agenda is to move focus from visual perception alone to an engagement of all the sensory receptors. Not being confined to visuality has a strong position in environmental aesthetics and is continuously on debate within the field. There is an overall common wish to move away from the art-based criteria dominated by late western aesthetics, but the extent and the role of the sensory impact as a key figure is a topic of ongoing discussions at the core of 'environmental aesthetics'.

An ecological design needs an environmental aesthetic that supersedes the artistic paradigm, that does not subscribe to a conservative architectural view on landscaping and built environments. It needs to contain characteristics, which are liberated from the restrictions and inadequacies of 'framed' appreciation.

ENVIRONMENTAL AESTHETICS FOR ECO-SENSITIVE AESTHETIC APPRECIATION

These contemporary perspectives from environmental aesthetics form the ground for a reassessment of the ways in which environmental aesthetics may contribute to environmentalism. Proponents of environmentalism have criticized traditional aesthetics for inadequacy in contributing to the value assessment of environments – and animals – that do not fit conventional aesthetic conceptions (Carlson 2007, 9). This point has been

made for example in relation to the conservation and protection of wetlands (Saito 2007).

Contemporary scholars in environmental aesthetics are devoted to developing notions of aesthetic appreciation which encompasses environmentalism (Carson 2007, 10). One contemporary scholar who indicates future directions for environmental aesthetics and relates these to design is Yuriko Saito. Her work furthermore bridges cognitive and non-cognitive views in environmental aesthetics.

SAITO: THE AESTHETIC REACTION – AN EVERYDAY ENTANGLEMENT

" Liberating the aesthetic discourse from the confines of a specific kind of object or experience and illuminating how deeply entrenched and prevalent aesthetic considerations are in our mundane everyday existence, I hope to restore aesthetics to its proper place in our everyday life and to claim its status in shaping us and the world" (Saito 2007:12)

Expanding the aesthetic experience to any given 'aesthetic reaction', even how seemingly insignificant it may be, to functions of everyday life, Saito seeks to convert her concept of aesthetics and the environmental into a framework of design practice, trying to bring new reflections on everyday actions.

Drawing on attributes from both cognitive and non-cognitive views, she "encourages us to meet the objects at its own terms and appreciate what it has to offer, even if some of its attributes at first may not be appreciable for various reasons" (Saito 2007:6). The need to develop an ecologically minded sensibility (with reference to Leopold and Nassauer), towards the environmental, accentuates the importance of cultivating 'informed' perception. Information though, is not seen as superior to perception and Carlsons point that 'given relevant scientific information, such as ecological values, every part of nature is aesthetically appreciable' is opposed and warned to be a mind trap that encourages an environmental determinism where any of object of a given ecological value also determines its aesthetic value. On the contrary to this, Saito stresses the importance of multiple relations in an informed perceptual experience.

Aesthetic experiences are often interpreted as a positive result "from a successful achievement brought about by an object and our interaction with it." (Saito 2007: 46) but it cuts out the possibility of dealing with engagement of everyday actions which also are influenced by aspect of aesthetically valued choices, whether conscious or unconsciously motivated. Those are e.g. decisions about what to wear, live in, how to decorate and what to purchase in material and non-material forms. Decisions made about style and comfort to signify social appearance and money spending in general.

Not only as consumers, but also as lived life and attitudes to being, society, nature and environment. This favoring the extraordinary has parallels and 'whether regarding history, landscape, object, or experiences, the ordinary and mundane that are often overlooked need to receive equal attention as the dramatic and extraordinary' (Saito 2007:49) and the same perspective can be held for the environmental within aesthetics.

The general public consideration for endangered species are an example of the romanticizing and stereotyping of 'landscape' that makes some species more aesthetically attractive and thus more important to preserve than others. Creatures that seem insignificant or not beautiful/spectacular are not offered the same interest even though their 'functionality' is of very high importance in the ecosystem. But they do not have an appealing appearance in the scenery. Everyday aesthetic deals with those matters within the field of environmental aesthetics.

Challenging anthropocentrism is not a matter of making more natural parks, but much more about turning the eye towards own backyards, while "the focus on wilderness confines our environmentally relevant aesthetic life to a special experience with nature" (Saito 2007:57) and are only leaving og room for the image of snowcapped mountain tops and safari-like scenarios where majestic lions are gazing in the sun. Challenging is more about pointing to the significance that lies in the ability of everyday objects and matters to raise the ecological awareness through environmental aesthetics compatibility with futures of green design.

The (aesthetic) attention to objects and environments ordinary experienced is important because the consequences of the enacted living have serious pragmatic impacts. Our everyday lives and the choices we make has substantial environmental, social and moral impact on the global living. The aesthetic are embedded in our everyday life ubiquitously and following our every act in a several-way-direction interacting with both material and non-material systems, hence in an ecological order or disorder and "…despite the absence of established discourses providing the context for our experience, our everyday aesthetic choices are neither uncomplicated nor insignificant." (Saito 2007:55)

Due to Saito Green strategies must implicate two key notes:

- Increase of ecological literacy
- Redirection/change of popular aesthetic taste

Our aesthetic relation is intertwined with an emotional relation. Ecological literacy is most successfully awakened through emotional attachment and interest in certain features that we feel attracted towards. Saito thus stresses the bridging of cognitive and non-cognitive aspect of the aesthetics, which should not been seen separately.

Saito argues that environmental aesthetics throughout the last decades indeed successfully has expanded the scope of the aesthetic tradition, and that this forms important stepping stones for building further understanding of the diverse aspects that constitute an environment – including human activity and designed artifacts (Saito 2010). Saito furthermore discusses distinct strategies for sustainable design, and argues that aesthetic appreciation which is guided by environmental values should be promoted, and put to work both in relation to the design of built environments and artifacts (Saito 2007, 84).

In the promotion of aesthetic appreciation guided by environmental values, consumers should build knowledge about the ecological effect of aesthetic choices. Appearance which we are accustomed to perceiving as aesthetically attractive – for example a green weed-free lawn – should be revalued, because of the environmental harm that comes with obtaining this weed-freeness. Artifacts and environments, which obtain their appearance through environmentally harmful processes, should be aesthetically revalued.

"While green aesthetics regarding nature can help render seemingly unattractive objects aesthetically appreciable, due to their environmental values, green aesthetics regarding artifacts has an additional mission: to render initially attractive objects not so aesthetically positive if they are environmentally harmful. That is, green aesthetics must make it the case that, in Marcia Eaton's words, "what is ecologically bad begins to be seen as aesthetically bad." (Saito 2007, 85).

Saito remarks that no such discourse has yet been established on consumer choices and green aesthetics.

In relation to developing green aesthetics for artifacts and the built environment, Saito suggests that there is a careful balance to navigate between ecological consideration and other aesthetic criteria.

Saito points to the crucial role of designers in advancing balanced design ecology. Society, humanity, technology and environments are shaped by design and with reference to Victor Papanek, Saito point out that this 'demands high social and moral responsibility from the designer.'

"Designers hold both the power and responsibility literally to shape our world; hence developing green aesthetics of artifacts and built environment poses a challenge, as well as an opportunity, to them." (Saito 2007, 86).

Design is a practice where supposedly incompatible concerns between nature and culture are welded together– molded into plastic designer chairs, dyed into neon colored clothing, or sprinkled out as droplets of pesticide.

SAITO'S GREEN DESIGN STRATEGIES

Saito discusses green aesthetic design strategies, but does not label or schematize them. We have elaborated on this by extracting three distinct design strategies for green aesthetics from Saito's discussion, put them in a table for overview and provided them with a title (see Table 1). The first design strategy is what we have chosen to call Coated Green. A Coated Green design strategy maintains current aesthetic taste and seeks to develop eco-friendly design which is in accordance with prevalent taste. There are several examples of this strategy. In relation to the built environment for example incorporating solar power into current architectural design. In relation to artifacts, for example developing fabric and clothing which is dyed with non-toxic substances. The problems and possibilities of this approach go hand in hand. There are technical limitations – for example in relation to the hues one may obtain with non-toxic substances. There is the possibility that such technical limitations may be overcome with further research and development. The Green Core design strategy is a kind of anti-aesthetic cult of the natural. This design aesthetic radically breaks with prevalent taste. In relation to the built environment an example of this is eco-friendly housing built of with straw and clay and recycled materials. In terms of artifacts examples are clothing made from recyclable materials and organic make-up. The possibilities in this approach is that it may push the boundaries for what is considered 'normal', and may provide show cases, examples and experiences to more conventional design discourse. The problem is that the design aesthetic appeals to a limited number of consumers. A general point Saito makes is that green aesthetics need to be both culturally and ecologically sustainable. Although the design strategy which we have labelled Green Core is ecologically sustainable, Saito argues that it holds the risk of consumers rejecting its appearance, and for this reason such a design strategy is inadequate in terms of obtaining the necessary massive redirection of design and consumption towards sustainability. The Green Stream design strategy seeks to make ecological values mainstream. The goal here is to develop green design which simultaneously operates with familiar design cues and clues. Saito mentions several contemporary design principles which may contribute to this kind of – yet underdeveloped – mainstreamed green aesthetics. Characteristics which may help mainstream green aesthetics are: minimalism; durability and longevity; fittingness, appropriateness and site-specificity; past-present contrast; perceivability of natural processes; health; and fostering a caring and sensitive attitude (Saito 2007, 88ff.)

Table 1: Design strategies for ecology / green aesthetics. Table developed by authors, based on Saito (2007, 86ff.)

Design Strategy	**Coated Green**	**Green Core**	**Green Stream**
Characteristics	Conventional made green Maintain current aesthetic taste Develop eco-friendly design according to prevalent taste	Cult of nature (Anti-)aesthetic cult of the natural	Green made popular Develop green design vocabulary with recognizable / familiar cues and clues
Examples	Contemporary green buildings incorporating for example solar power Fabric dyed with non-toxic substances	Lip sticks made of beet juice Face powder made of oat flour Unbleached, plain brown biodegradable textile (non-toxic, formaldehyde free) Cotton made from recycled materials Environmentally sensitive dye	Design products that embody environmental values which are made attractive without conforming
Problems	Technical limitations For example in relation to fabric dyed with non-toxic substances: limited color spectrum	Disenfranchised aesthetic status makes these green products specialty goods for select consumers Risk that consumers are 'turned off' by the appearance, making it culturally unsustainable	
Possibilities	Technical limitations may be overcome in the future	Markedly different design stands out from prevalent taste.	Ecological problems addressed by mainstream society. This is what Nassauer calls 'culturally sustainable design' (87), which is not too alien or unfamiliar.
Sustainability	Ecological ? Cultural +	Ecological + Cultural -	Ecological + Cultural +

CONCLUSION

The contribution of environmental aesthetics to design ecology is to sketch how design practice may be sensitive to ecological sustainability. Highlighting the work of three contemporary scholars in environmental aesthetics, different ways of thinking about nature, culture, design and aesthetics are accounted for. New approaches to appreciating nature are developed by rejecting traditional aesthetic models where nature is appreciated with point of departure in art aesthetics.

A central point made by the field of environmental aesthetics is that humanity and nature should be seen as closely intertwined. This applies conceptually, but also in terms of design. Designers have crucial roles to play in advancing balanced design ecology. Design strategies for Green aesthetics may be promoted through design strategies such as Coated Green, Green Core and Green Stream; the latter strategy urging that green aesthetics need to be mainstream.

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