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Landscape and Urban Planning 54 (2001) 223–237

LANDSCAPE
AND
URBAN PLANNING

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Sustainable landscape use and aesthetic perception— preliminary reflections on future landscape aesthetics

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Received 23 October 1999; received in revised form 18 April 2000; accepted 21 June 2000

Abstract

In this paper, a conceptual framework is described for a better understanding of future landscapes as aesthetical objects. The paper is divided in four parts. In the first part, the poor aesthetic reality of today's landscapes is described and the consequences for aesthetic perception are explained. In the second part, a more sustainable use of landscape is discussed as developmental necessity for the next decades, and some aesthetic aspects of such a development are examined. In the third part, human aesthetic perception is described as a basic cognition process, differentiating between four major levels of knowledge or of sense (perception, expression, symptomatic information, and symbolic meaning). In the last part, all aspects of the first three parts are used to determine basic aesthetic categories of future landscapes. As the most relevant aesthetic categories are identified: the beautiful, the (new) sublime, the interesting, and the plain. Finally an attempt is made to derive from these categories the most important aesthetic prototypes of tomorrow's landscape. © 2001 Elsevier Science B.V. All rights reserved.

Keywords: Landscape; Landscape aesthetics; Aesthetic perception; Sustainability; Beauty

1. Introduction

In the following, an attempt is made to determine some key elements of a conceptual framework for a better understanding of future landscapes as aesthetical objects. Such a concept may help to develop landscape aesthetically in a more plausible and arguable way. With this intention in mind the paper deals with the following aspects. Firstly, the aesthetic reality of today's landscapes is described and the consequences for aesthetic perception are explained. Secondly, a more sustainable use of landscape is discussed as a potential reality for the next decades, which complements, or better, modifies the landscape reality

of today. Thirdly, the process of human aesthetic perception is described as a basic cognition process, which explains how aesthetic joy comes into being, differentiating between four major knowledge or sense levels on which aesthetic information may be gained. Fourthly, all aspects of the first three sections are used to determine some basic aesthetic categories for future landscapes. Finally an attempt is made to derive from these categories the most important aesthetic prototypes of tomorrow's landscape.

2. The aesthetic situation of today's landscape

In the first part of this (Section 2.1), the major changes in the aesthetically effective landscape which have occurred since the late 19th century will be

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summarized. In the second part (Section 2.2), the meaning of these changes to the aesthetic landscape perception of the beholder will be discussed, and in the third part (Section 2.3), it will be shown that with regard to the appearance of most of our today's landscapes the viewer runs the risk of an entire aesthetical insensitivity.

2.1. The loss of aesthetically effective landscape qualities

Especially in the last 50 years, the landscape in the Federal Republic of Germany has changed dramatically. Based on economic and technical rationalities the modern age has completely altered the traditional cultural landscape, which has existed that way more or less, since the classical period in the 18th century, and which was characterized poetically as "Gefilde" in a famous poem by Schiller, 1800 (undated, Vol. 2), i.e. the landscape of small fields. It was a landscape with a great richness of elements which were small, natural or embedded in nature. They were perceived by people as a comprehensive whole. If one compares the appearance of today's landscape with that of premodern and early modern time, one recognizes that the landscape did not only lose its wealth of elements but also its sense of unity which gave form to that variety. In the traditional cultural landscape (rural landscape up to the middle of the 20th century with natural elements, such as fields, meadows, ponds, trees as well as man-made elements, such as farmsteads, small roads, barns, churches), all single elements were part of this unitary and comprehensive context, joined together by the rhythmically organized way of life of rural and rustic people. Visually, the traditional cultural landscape presents itself as a structured wholeness, as a unity, which is experienced aesthetically as a harmonic and pleasing entirety, even today.

Aesthetically, the dissolution of this landscape unity can be experienced as several alterations. On the one hand, many elements, structures, and qualities of landscape have disappeared without any substitute, so that the original landscape has been reduced in diversity and simplified. On the other hand, completely new elements were introduced in many places because of new societal needs and the existence of new technologies. These elements are there to meet a multiplicity of new landscape functions, which coexist

in today's landscape in a more or less unrelated manner. Thus, we have, for example, agricultural landscapes, wind energy landscapes, traffic landscapes, recreation landscapes. This separation of functions ensured that the original comprehensive character of landscape was lost. For better understanding, the most important changes in the perceptual field of landscape can be summarized.

2.1.1. Loss of variety

It is quite obvious that the number of aesthetically effective elements in the cultural landscape has been reduced drastically in almost every landscape type. Since modern changes to the landscape are often very intensive and cover huge areas, many forms, for example, water elements, vegetation structures, types of cultivation, and settlement structures disappeared. Thus, in almost every landscape the informational content has been diminished, landscapes are not able to tell their stories any longer, or to deliver stimulating orientation patterns.

2.1.2. Loss of naturalness

While the number of elements has been lessened, the chance of experiencing naturalness in the landscape has also been reduced enormously. This is due to the systematic removal of natural or semi-natural structures in the landscape, for example, unmanaged areas, various natural water features, paths and field banks, trees and tree clumps in fields and meadows. On the other hand, there has also been the mass introduction of large scale engineering elements and structures, such as buildings, streets, power lines, large-scale power plants, or sewage treatment plants. These have blurred the formerly sharp visual contrast between urban and rural landscape, thus, creating a new landscape type lying somewhere between the rural and the urban realm with reduced opportunity for naturalness (because of the many artificial structures).

2.1.3. Loss of 'rural' structuring

Many landscape elements that provided visually structuring and orientating effects were eliminated or have become ineffective. For example, many church steeples have lost their significance as visually patterning landmarks, because they are now surrounded by other high buildings. Tree rows along minor paths and roads in the agricultural landscape

have been cut down, because they were deemed as troublesome or inconvenient to the flow of traffic or the cultivation of fields. By contrast, many new visually dominating, large-scale technical elements with patterning and orienting effects have been introduced in the last decades (e.g. motorways, electrical power lines, radio and television masts); it has turned out since, that people do not accept them aesthetically at all, because of their oversized scale and their 'urban' character.

2.1.4. *Loss of regional identity*

Many spatial arrangements have disappeared, which moulded the specific character of the former landscape, and which gave it a unique and individual appearance. Since an element will be perceived and mentally accepted as a typical one, only if it has been experienced as part of the familiar landscape for some time, the many newly introduced elements of today, such as motorway bridges or wind power plants cannot serve as typical ones — at least, not yet. The (aesthetic) sense of place presupposes some history. On the other hand, we experience elements as typical, if they commonly occur in a certain region. The new technical elements, however, are very often standardized and made from (mass produced) prefabricated elements, and occur nationwide, so that they do not possess, as opposed to old churches or vernacular architecture, for example, any regionally or locally motivated characteristic traits and peculiarities.

2.1.5. *Loss of vista quality*

Vistas, prospects, or distant clear views occur more rarely today, due to ubiquitous air pollution. It is also true that today, the rapid urban development in the country has resulted in many buildings blocking the view. Furthermore, unreflected ecological thinking often brings about uncontrolled vegetation growth. One of the most disastrous examples are our motorways and highways, which often do not allow distant views out from them because of high noise barriers along both sides, or because they are deeply cut into the earth. Of course, this is done to screen roads in the landscape and to reduce their impact on the rest of the landscape. But by this "the view from the road" (Appleyard et al., 1964) into the landscape has become a myth, to a great extent.

2.2. *Consequences for the aesthetic landscape perception*

This is not the place for lamenting over the "deletion of the cultural–historical heritage" (Ewald, 1996) as the unique and only possible realization of landscape aesthetics, although a strong correspondence between the perceptual needs of people (e.g. for variety, naturalness) and the offer of perceptually effective elements and structures is quite obvious in the traditional cultural landscape. However, this is definitely the place for pointing at some aesthetic consequences which are tied to the wide-spread weakening of the perceptual conditions in today's landscape (see above). The fact is that today a beholders field of vision (perceptual field) is simplified, disturbed, and narrowed down in many of our landscapes. The effects of these visual deficits on the aesthetic perception may be described by the following four inadequacies of the human perceptual field: coarsening, impoverishment, destabilization, and alienation (Nohl, 1998).

2.2.1. *Coarsening of the perceptual field*

The losses of landscape quality described above are the results of modern land management, which requires huge, uniform landscape areas to be economically successful. The tendency has been for all uneven spots to be removed, cut or filled, smoothed, and changed into large homogeneous areas for agriculture and for other large-scale functions. Therefore, the field of vision in such landscapes consists of only a few but large scaled areas whose informational contents will soon be revealed to the viewer. A "sense of mystery" (Kaplan and Kaplan, 1989) cannot occur. In place of a richly patterned view, which corresponds to the curiosity of man, the beholder is confronted with single percepts of vast and disconnected landscape areas, and his needs for information remain quite unsatisfied.

2.2.2. *Impoverishment of the perceptual field*

Furthermore, these few large scale landscape units are not only greatly expanded, at the same time they are perceptually very monotonous. The multiplicity of different elements and structures, such as terraces, trees, tree groups, small hedges, ponds have been removed or replaced by a few large, yet simple and repetitive vegetation structures which do not interfere with the processes of modern land use, especially of

agricultural cultivation. Therefore, the field of vision of a beholder is not only coarsely partitioned, it is also extremely impoverished.

2.2.3. *Destabilization of the perceptual field*

Modern land uses do not show much consideration for typical and characteristic key stimuli and landmarks in a landscape, for such elements also disturb agricultural and other modern land use processes. Therefore, large parts of today's landscape especially lack unique and peculiar structures. Thus, the sense of place has gone, and landscape has lost its ability to tell specific and individual stories to the beholder. The field of vision of many landscapes is not only coarsened and impoverished. Since it lacks unique and unmistakable visual structures and fixtures, it is also weakened or destabilized, often creating a feeling of being lost and homeless in the beholder.

2.2.4. *Alienation of the perceptual field*

Apart from agriculture more and more new land uses find their way into the rural landscape. These uses often result in large-scale and visually overwhelming engineering facilities, such as radio masts, wind power plants, motorways. The relationship of form and function of these huge mass production structures can hardly be grasped by our senses, because the complicated techniques and technical processes involved in their creation and function are hidden behind more or less unrelated and nondescript surfaces. Wherever these elements and structures occur in a landscape, the beholder is made an alien in a double sense: he is not only deprived of the experience of a rich and informative environment. He is also expected to relate visually to an abstract, overscaled, and repetitive landscape. Thus, the beholder's field of vision is alienated from his own perceptual desires and preferences and vice versa.

2.3. *The 'an-aesthetic' state of today's landscapes*

To summarize, many landscapes are visually reduced to such a state of poverty today, that the elementary conditions of perception are called into question. The main reason for this is the rigorous technical and profit-oriented rationality of the present landscape economy, which also controls many new and often incompatible landscape functions. In its more or less homogenized and alienated state, today's

landscape is no longer able to deliver relevant (aesthetic) knowledge to the beholder, who, in turn, is often aesthetically unsure because general aesthetic standards can hardly be found today. Thus, he tends to perceive the modern landscape as a terrain of sheer individual fictions, which have little to do with real landscape but much with subjective arbitrariness. That is what the saying of 'anything goes' really means.

As in a psychological laboratory, where the wish for measurable results often leads to very simple experimental situations, similarly modern agriculture and the other modern land uses reduce and standardize the sensuous stimulation in landscape to a minimum. This minimum consists of a few more or less disparate elements, and is unable to arouse positive aesthetic feelings. While the rich and meaningful traditional cultural landscape is experienced as aesthetic, many of our modern landscapes can be judged as 'anaesthetic' (Welsch, 1993). As the original sense of the word "anaesthetic" suggests, many of our modern landscapes are simplified to a degree that a beholder feels insensitive to any perceptual stimulation by our present landscapes. The beholder is no longer able to attach his aesthetic feelings to landscape, and the landscape is unable to tell anything to the beholder, neither perceptually nor symbolically. In this anaesthetic state, landscape has lost its narrative aspects (informational content) as well as its poetic aspects (expressiveness, see below).

Experts in landscape planning and nature conservation often think that the lost aesthetic qualities of the traditional cultural landscape can be restored, automatically, by implementing so-called ecological measures and planning solutions. But this is a big mistake (Schüpbach, 1999), which is even worse, because by this attitude the aesthetic issue is treated as casual, and therefore, unimportant. As a consequence, we do not only lack public interest for this aesthetic disaster (Perpeet, 1992), we also lack any successful concepts and strategies to draw improving consequences out of this detrimental situation.

3. Aspects of a new paradigm of sustainable landscape aesthetics

The removal of the traditional aesthetic qualities in the landscape and the shortage of perceptual challenges

have reached such a scale that only a drastic change to the aesthetic paradigm may be helpful. But a new aesthetic paradigm can only develop if the factual landscape and the uses of landscape can be changed. With this in mind, I assume that an improvement of landscape aesthetics will have much to do with a sustainable development of landscapes. Sustainability is an all embracing principle for developing and managing nature and resources. There is no reason that it should not also affect the aesthetic perception of nature and landscape. Whether people care for nature is a question of mental attitude that includes aesthetics, too.

Up to now, there has been no binding theory of a sustainable use of nature. But most concepts agree what a sustainable landscape should be (Arlt and Siedentop, 1995), that is to say, economically functioning, ecologically sound and socio-culturally useful. Thus, sustainability can only be achieved if economy, ecology and culture are coordinated in the sense that economic processes will take place without nature and resources being destroyed, and that all this will happen to the benefit of man. Then present people as well as future generations will have a chance of planning their lives themselves and of carrying out their plans according to their own needs.

As to the aesthetic perception, this should mean that modern land use processes will be performed with care. In particular, the ecological regeneration capacity of land will be maintained, and all land use processes will respect nature. This interplay of land use and nature is an essential prerequisite for the emergence of perceptually informative structures in the landscape, i.e. nature-compatible land use processes will decisively improve the aesthetic situation of landscapes.

On the other hand, sustainable landscapes will contain many areas and places where nature can develop freely and spontaneously. Such parts of landscape can be very informative, even if the beholder often has to work hard at getting the aesthetically relevant information through his senses. That means areas close to spontaneous nature let the beholder participate in perceptual processes, which may lead to a particular aesthetic attractiveness (compare the “sublime” in Section 5.2).

As suggested above, nature and landscape should become perceptually more attractive under sustainable

conditions, and landscapes should then play a much more significant role as a cultural and aesthetic goods than it has done so far. There is hope that landscapes will then be able to tell their stories again, and that people will have appreciation for their narrative and poetic qualities once more. It is also foreseeable that people will engage in the aesthetics of landscape much more than today. These connections between aesthetically perceivable landscape and people with growing aesthetic interest make clear, what can be understood by the socio-cultural usefulness of sustainable landscapes in the aesthetic sense.

4. Aesthetics as cognitive process

It has been suggested that such “sustainable aesthetics” can be a helpful tool in landscape planning. Since planning heavily depends on communication, a conceptual approach is needed, which explains landscape aesthetics in a more rational way. Therefore, perception is considered as a special cognitive instrument, and landscape as a special cognitive object. This means that aesthetic perception involves extracting information, knowledge and stories from the landscape as much as possible. The more a beholder is successful at this, the greater is his emotional and expressive benefit.

My starting point for such a concept of aesthetic perception is the notion of the philosopher Baumgarten (1714–1763) that aesthetic perception may be viewed as a way of gaining sensory cognition or information by perception. The usefulness of a cognitive approach in landscape aesthetics has empirically been demonstrated, e.g. by Kaplan and Kaplan (1989). Since perception is always connected with feelings and emotions, sensory cognition cannot be completely explained by logic: it does not reach the “high” level of logical truth. As a consequence Baumgarten, 1988 discriminated between a logical truth (*veritas logica*) and an aesthetic truth (*veritas aesthetica*). Obviously, the aesthetic truth is not based on principles which follow the laws of logic; it cannot be grasped by the abstract scheme of “right or wrong”: it is rather characterized by more personal schemes like “interesting or boring”, “like or dislike,” etc.

Since an aesthetic object is always characterized by its outward appearance as well as by the meaning it bears, we have to differentiate between several levels of aesthetic cognition. In terms of the landscape and its aesthetic value, there can be four different levels at least, from which a beholder may draw specific information or knowledge as a prerequisite of aesthetic joy (cf. Nohl, 1980). These are as follows in subsections.

4.1. *Perceptual level*

On this level, the beholder of a landscape gains immediately relevant information through the senses, such as by viewing, hearing or smelling. Thus, he perceives that a landscape is mountainous, forested or dissected by motorways, for example. At this level, he gets knowledge about single elements, complex structures and about the whole composition of the field of view. In general, the aesthetic joy is greater, the more we are able to perceive elements, structures, and processes in the landscape on this level.

4.2. *Expressive level*

At this level of aesthetic cognition all perceived elements and structures are associated by the beholder with feelings and emotions. Thus, the mountains may appear magnificent to us, the forests eerie and strange, and the region, dissected by motorways, threatening. Of course, there is much information contained in these feelings, and the more positive we may interpret the perceived landscape elements, the higher is the aesthetic delight, in general.

4.3. *Symptomatic level*

Here physical things of the landscape refer to something beyond themselves. Objects are understood as signs or symptoms indicating something else. Thus, a sandbank may talk of the rivers low water power, or a seabird in the sky may point to the nearby ocean. It is obvious that we already have to know something about the landscape, if we want to be successful on this level of aesthetic cognition. It is easy to understand that the aesthetic joy as a whole is greater, the more and the more often the beholder meets objects characterized with such signs, and the more he is able — or thinks he is able — to interpret them.

4.4. *Symbolic level*

On this level of aesthetic cognition, visible things in the landscape indicate something else, too. However, the contents, attached to the indicating or symbolizing things, are not landscape realities, as they are at the symptomatic level. Here they become ideas, imaginations, utopian pictures, which are generated in the head of the viewer. Thus, a perceived overgrown natural pond may stir up the picture of a free and easy life, or a small intact village may symbolize a peaceful existence in a better world.

In sum, in the aesthetic experience of a landscape quite different information or cognition is evoked, and the aesthetic pleasure is the larger and more moving, the more a person is able to extract aesthetic knowledge from the landscape on all of these aesthetic cognitive levels.

As shown in Fig. 1, the perceptual and the symptomatic levels, together heavily contribute to the narrative function of a landscape (aesthetic information with reference to the factual landscape), while the expressive and the symbolic levels, explain its poetic function (information with reference to the psyche of the viewer) (Aristoteles, 1976; Tangay, 1995).

5. **Aesthetic categories for recording sustainably organized landscapes**

5.1. *The emergence of new landscape aesthetic preferences*

If we speak of a “beautiful” landscape, we may immediately think of the traditional cultural landscape (Hard, 1970). However, only a few intact cultural landscapes remain. Technical progress has changed our landscapes to such an extent, that most of today’s landscapes could not be restored to traditional cultural landscapes, even if we tried hard. Will we, therefore, have to do without aesthetically attractive landscapes in future? We should not have to, nor need we.

The emergence of new aesthetic values or preferences is not a completely arbitrary process, although values are of a subjective nature. New aesthetic orientations occur, as a rule, when significant landscape changes have taken place, and when there is a population group who have strong, but not necessarily

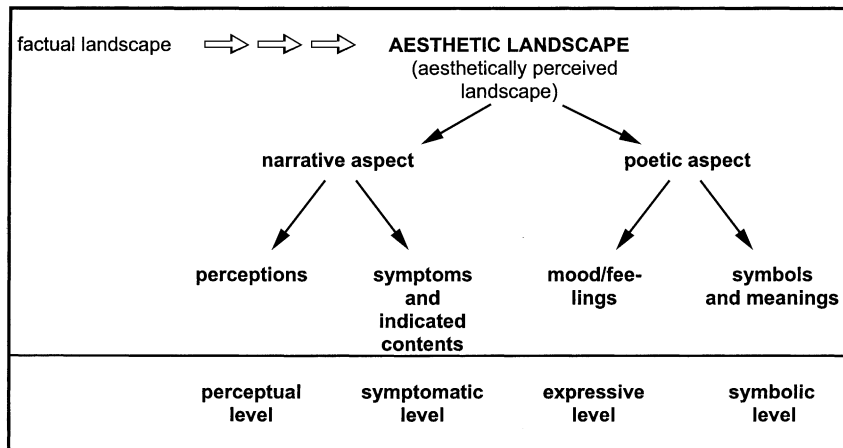


Fig. 1. Aesthetic perception of landscape and levels of aesthetic cognition.

aesthetic interests in the new landscape. For example, it was only when the forests of England were cut down, the medieval subdivision of fields was changed, and a hedge row landscape had appeared (enclosure acts), that the English landscape garden of the 18th century could develop as an attractive aesthetic object (Däumel, 1961). On the other hand, the propertied classes (industrialists and landed gentry) participated in the emergence of this new landscape, because they were interested in a more rational and economic cultivation of the land, and at the same time they had a strong need for a life style corresponding closely to the Principles of the Enlightenment. That led to a wide-spread planting of trees in the open, deforested English landscape, as early as in the 17th century (Däumel, 1961). Based on this new land pattern of the park-like landscape the English landscape gardens developed (Gothein, 1926, Vol. 2), and were enriched with the well-known natural and man-made elements, such as tree clumps, irregular lakes, temples, and ruins in different periods.

It is to be expected that the new aesthetical appearances of tomorrow's sustainable landscapes will similarly develop. Of course, the basis for this development will be our present landscapes, even if they are so coarsely divided, reduced, weakened and alienated, as described above. If sustainable thinking will succeed in society, and the need for sustainability guides the use and the cultivation of landscape in future, then this negative aesthetic state of today's

landscapes can be overcome and new aesthetic preferences will develop.

Of course, this does not mean that the traditional cultural landscape, and the preference for it, will completely disappear. However, we must get used to the idea, that the concept of unity, which was so typical for the traditional cultural landscape, will only play a minor role in future. Not only are today's landscapes characterized by a multiplicity of functions, which are scarcely compatible with each other, and therefore, build separate landscape aesthetic worlds of their own, but in the growing individualization of society, people will supply each of the different landscape types with their own aesthetic understanding and appreciation. In place of the ardent desire for unity, which dominated the aesthetic understanding of people in early modern times, there will be, as is assumed, a strong sense for plurality, as contemporary philosophy suggests (Welsch, 1993). That means, tomorrow's landscapes will not be recognizable by a single aesthetic category, will not be perceived and enjoyed by a single mode of aesthetic preference, as will be explained further down; what they should have in common, however, is a strong sustainable orientation.

5.2. *The beautiful, the (new) sublime, the interesting, and the plain*

Derived from the appearances of today's dominant landscape types some basic aesthetic categories of

sustainable landscape perception can be suggested (cf. Nohl, 1998). These may become the aesthetic categories into which future sustainable landscapes will be predominantly perceived. It may be possible to use only one of these categories, but often several or all of them will be necessary, to characterize the aesthetic state of a certain landscape. These categories are:

- the beautiful;
- the (new) sublime;
- the interesting;
- the plain.

In the following, I can only give an overall picture of these categories. It is left to future research to derive

workable and empirically safe indicators for each of these categories as a basis of landscape planning (Fig. 2).

5.2.1. The beautiful

Even today landscape aesthetics is understood by many people not only as the experience of sensuous cognition (see above) but also of beauty, tied to cognition. In landscape “the actuality of the beautiful” (Gadamer, 1983) has, indeed, not disappeared completely, but the concept has rather been broadened. The motivation of perceiving beautiful landscapes is bound to a specific state of landscape: people experience those landscape areas as beautiful, in

aesthetic perceptual category	narrative aspects of landscape as aesthetic percept (perceptual and symptomatic effects of landscape)	poetic aspects of landscape as aesthetic percept (expressive and symbolic effects of landscape)	landscape prototype
the beautiful	culturally caused typical patterns of order, consisting of natural and man-made elements, allowing an easy recognition	<ul style="list-style-type: none"> – blissful feelings (eudaimonic feelings) of harmony, identity, of being part of a whole; – symbol of ‚home‘, safety, and of being socially integrated 	traditional cultural landscape
the (new) sublime	unusual patterns of spontaneous, wild or overgrown nature, demonstrating self-dynamics, self-organisation and self-productivity of landscape	<ul style="list-style-type: none"> – pleasant feelings towards „disharmony“, „disorder“, unsteadiness, and surprisingness; – symbol of freedom, of the alien and the different 	succession landscape
the interesting	chaotic multiplicity of (apparently) desintegrated elements and structures mostly of technical origin	<ul style="list-style-type: none"> – thrill (exciting feelings) for risk, uncertainty, and (limited) „catastrophe“; – symbol of necessary technical progress 	urban-industrial landscape
the plain	simple, coarse-meshed patterns with repetitive, yet rich and natural (subdividing) structures	<ul style="list-style-type: none"> – comforting feelings of contentment, of gratitude; – symbol of existential usefulness, of the reconciliation of technical progress with nature 	rural functional landscape (e.g. modern agricultural landscape)

Fig. 2. Aesthetic perceptual categories under sustainable landscape conditions.

which — like in the traditional cultural landscape — all elements are more or less known, and in which they are arranged in a balanced and harmonic, that is in a beautiful order (Sieferle, 1986; Ritter, 1974; Thoene, 1924). The beautiful urges the viewer to grasp its harmonic pattern just in one view. This explains why so many observation towers, vantage points and scenic roads were built in the 19th century.

Since a traditional cultural landscape is easily to understand, in general, many symbolic meanings are tied to its elements, which people are able to understand, still today. Because of this richness of symbolic meanings we talk of the “utopian surplus” of the traditional cultural landscape (Nohl, 1988a), today. Beautiful landscapes do not make great demand on variety and diversity of elements, here a ‘medium dose’ of elements is asked for. Using the preference concept of Kaplan and Kaplan (1989) the perception of beautiful landscapes “makes sense”, immediately and without effort, because everything is in the right place, i.e. in the expected place.

This specific state of order can often be found in familiar and traditional environments. That is the reason why the aesthetic category of the beautiful, as it is explained here (namely historically), is limited almost exclusively to the traditional cultural landscape. This does not mean that the term ‘beautiful’ cannot be used in experiencing a contemporary landscape. But in this case, it means something else. In this type of landscape, harmony and perfection are sought and easily found. It is probably not a mistake to assume that behind the aesthetic longing for harmony in such landscapes the still wide-spread desire for unity of man and nature is hidden. Because this unity went astray in real life by the human total functionalization of nature, it is expected to be restored in the aesthetic perception of the beautiful. Everything — including the beholder — is experienced here to be a part of the whole. In terms of landscape the beautiful is the only aesthetic category in which unity and harmony have survived up to our days.

Closely tied to the desire of unity is the wish for home in this landscape type. Thus, the category of the beautiful owes its existence very much to the strong need of people for home. It is this view of “home” (Heimat), which prefers harmony and balance in the aesthetic perception, and which causes most delight in viewing beautiful sceneries.

In the past, ‘beautiful’ landscapes were not per se sustainably organized landscapes, as the problem of overuse in earlier times makes clear. However, today we may assume, that the remainders of traditional cultural landscapes correspond more or less with the model of sustainably organized landscapes. Under this point of view, we may suppose that the remnants bear a certain future orientation.

5.2.2. *The (new) sublime*

The beautiful, as described here, is the typical aesthetic category of the past, which maintains a certain significance for the future, too. Today, and even more in the future the motivation of a beholder for aesthetic perception can produce a preference for quite different aesthetic categories, depending on the perceptual offer in the landscape and on the prevailing value orientations in society. Thus, the strong nature orientation, which was produced by the huge destruction of nature and environment after the World War II, let a new aesthetic perceptual category come into being. This category may be best characterized, I think, by the (old) term of the sublime.

In the traditional aesthetics, the sublime expresses that certain aesthetic states, first of all nature, are too great, too huge, and too terrific to be perceived by the senses of man. To really understand them it is rather necessary to use the abilities of thinking and reasoning (Kant, 1964; Burke, 1980; Mendelssohn, 1986).

However, today it is not so much the greatness of nature, which inspires people aesthetically, and carries them along. The today’s aesthetic fascination lies very often in the self-dynamics, in the self-productivity and in the self-regulation power of nature (Nohl, 1995), as they may be experienced on fallow fields, on succession areas, or on derelict areas of strip mining, that means on landscape areas, which are taken away from the control of men, at least temporarily.

This spontaneity of nature is obviously understood as an aesthetic symbol, which indicates to a beholder that not everything on this earth depends on human will and human power. It is a cipher that there are forces in this world which are able to escape mans clutches (Nohl, 1988b). These hints of freedom, of the alien and the different, symbolically mediated by spontaneous nature, are the contents of the new sublime in the perception of landscape. Thus, in the aesthetic perception of the sublime the wish for a

(free) partnership with nature takes the place of the more regressive desire for the submission in the whole of nature, as it is typical for the beautiful.

Therefore, the aesthetic organizing principles of self-dynamic landscapes cannot be order and harmony (which are typical of the traditional cultural landscape); rather disharmonic, unordered, fragmented and unstable situations lure people in such landscapes (Welsch, 1993). Of course, the new sublime can procure an order for the beholder, too, but it cannot be grasped so much by perception, it calls for cognitive work (ecological considerations, for example). Spontaneous landscapes are mysterious landscapes, they get us continuously caught up in aesthetic effort. They make us “getting involved”, to use the formula of Kaplan and Kaplan (1989) again, and they encourage us, to tackle with them. In contrast to a beautiful landscape it is not so much the embracing view from the distance, which is aesthetically attractive, here; this new type of the sublime rather fosters an aesthetic experience of being “right in the middle” of the landscape as the perceptual field. Similar to the interesting as aesthetic category (see below) the new sublime very often includes the experience of spacious narrowness and missing transparency, generated here by irregular vegetation structures. That means the new sublime landscape is often not easy to read.

As it is the case with beautiful landscapes sublime landscapes, too, correspond under aesthetic points of view with the principles of sustainability. For what could be more sustainable in the sense of future orientation than, for example, an area which is left to natural succession? Of course, such areas will have to be functionally integrated into the greater landscape, if they are also to meet the economic requirements of sustainability. For example, such areas will have to be accessible by paths, if they are to be part of a recreational landscape.

5.2.3. *The interesting*

As a further relevant category of landscape aesthetic perception the interesting must be mentioned. This aesthetic category, which was already investigated in a more abstract way by Berlyne (1960) and other psychological researchers, plays an important role in landscapes, in which a multiplicity of land use processes generate confusing, incoherent, labyrinthine, apparently chaotic chains of events. At the same time

the beholder knows, that there are “insiders”, who are informed about the ordering principles behind the chaos. The interesting may happen in areas with large construction places, at the urban fringe, in the suburban hotchpotch, on derelict areas or on nobody’s land.

The interesting at the right place strikes us often in a positive way, even if it includes ugly things. Conceptionally, the construction place can be considered as the most informative model of the interesting (Nohl, 1998). As everybody knows, construction sites are very attractive to people. That is the reason, why in many cities they are opened to the public to see what is going on. Although they are distinguished by a multiplicity of objects, materials, machines, processes, events, workers, which can be sensuously and intellectually coordinated only under great difficulties by a beholder, many people like such places. The peculiarity of construction sites is the sensuous confusion, which however is tied to the knowledge, that the construction, once finished, will deliver a consistent and visually more easily perceivable picture. In that respect, they often symbolize the necessary technical progress. Construction sites are most fascinating, because they include designed and undesigned, beautiful and ugly, new and familiar, bizarre and usual, known and mysterious things. It is exactly this motley collection of elements and processes, combined with the knowledge of the existence of an organizational plan, it is this organized chaos, which determines the aesthetic attractiveness of a construction site.

In terms of the landscape, the aesthetic category of the interesting plays an important role in urban-industrial landscape areas, especially in the transitional area of city and surrounding countryside. These areas possess a certain attractiveness because of the organized confusion of railways, streets and highways, large infrastructures, industrial areas, residential areas, biotopes and agricultural land. They are often areas in which the aesthetic need for information may be satisfied quickly and thoroughly. As in the case of the sublime, the order “behind the things” can only be recognized by considerable cognitive work, and very often there will be only a partial success. In this regard, both the sublime and the interesting differ fundamentally from the beautiful, in which order can immediately be understood. The aesthetic attractiveness of the interesting is the greater the more relationships can be

perceptually discovered. For the category of the interesting “getting involved” is an important aesthetic rule, too. But in the case of the sublime all perceptual contents are nature, while in the case of the interesting engineering structures are preavailable. The interesting as well as the new sublime also challenge the direct manipulating intervention in the surrounding landscape, they both are genuine parts of a participatory aesthetics (Berleant, 1984; Nohl, 1987).

However, under sustainable conditions the aesthetic category of the interesting will be lasting only if the chaotic areas can be coarsely structured by larger landscape areas (open spaces) and landscape elements. This is the way in which a beholder can try to find out the existing order of smaller parts without getting bored. Since the chaotic and confusing complexity of interesting landscapes mostly consists of technical elements and material, as a rule, the structuring elements to be introduced should be natural elements and areas (the whole range from urban open spaces to succession areas being used). Allowing nature here to develop unhindered wherever possible, an exciting interplay can perceptually develop between man-made elements and natural elements, softening perceptually the original ubiquitous chaos. Thus, the interesting may deliver a certain thrill and fascinating feelings for risk, uncertainty, and controlled “catastrophe”.

5.2.4. *The plain*

Looking at the areas of intensive agricultural production and other modern land uses, which will characterize large parts of our landscape in future, it might be useful to point at a fourth aesthetic category, relevant to landscape perception. In the following, the aesthetic quality of such areas will be called the “plain”. Today, these areas belong to the aesthetically most unattractive landscapes. Because of the intensive land uses they are void and empty with regard to natural structures, and/or filled up with large-scale engineering structures (highways, electrical power lines, masts, power plants), which make them perceptually monotonous and boring. The above mentioned homogenization, reduction, weakening and alienization of the perceptual field is especially true of this landscape type. Here the elementary conditions of aesthetics are largely destroyed. It is no longer possible to make perceptual

distinctions, which would be necessary for perceptual orientation and aesthetic joy.

From the aesthetic point of view such “chemically clean functionality” (Adorno) of these areas, stemming from a short-term profit seeking, has an abstract and detrimental effect. However, this would change if these areas were managed and cultivated in a sustainable way. Sustainability stresses “alliance-techniques” with nature (Bloch, 1973), which brings the productivity of nature back into play. A reasonable way to gain such sustainable conditions would be to enrich the intensively used areas with a sufficiently dense net of natural and visually concise elements and structures. Thus, the landscape would be ecologically improved without disturbing modern management. At the same time the open and empty fields would be perceptually patterned (again), which would restore their dignity as aesthetically attractive landscapes. This would be the way to show how nature and the man-made could be reconciled, aesthetically. Landscapes of this kind would not evoke exciting emotions, but they would be able to arouse feelings of contentment and of gratitude in the beholder. This modest yet important aesthetic perceptual quality of landscape is the content of the “plain”.

Of course, plain landscapes would continue to be shaped by a rational land use planning and management, but this would not be an aesthetic deficiency. On the contrary: in this way the necessity of sustainable land use could aesthetically be made visible (Hoisl et al., 2001). To perceive this necessity would be part of the special content of the aesthetic category of the plain. In sum: plainness is a new visual experience, which is still waiting to be realized.

6. Final remarks: aesthetically oriented prototypes of future landscape

These aesthetic categories, which take the sustainability of landscape for granted, make clear that tomorrow’s landscape could be aesthetically subdivided into a series of basic landscape prototypes (Hoisl et al., 2001). Of course, these prototypes should be differentiated by local or regional (physical, social, cultural, ecological and/or economic) variations into a multiplicity of single landscapes. Following the presentation of these aesthetic categories above, we may

differentiate at least four prototypes of sustainable landscapes, which may evoke quite different aesthetic perceptions in a beholder. Since they are implicitly described above, I only will give a brief statement of each of them as follows.

6.1. *Traditional cultural landscape*

As we have seen, the beautiful aesthetic category refers mainly to the type of the traditional cultural landscape, which is — as a remaining stock — still in existence. It will also be an important landscape type in the future. This future significance is given because of the role of recreation and tourism in modern society. Traditional cultural landscapes often possess a “utopian surplus”, for they are considered as a symbol of peace and of social care. That means we should protect and sometimes even restore these rare landscapes, if there are good reasons to do so (recreation, historical interest). But, we should not treat them so much as museum exhibits but as life spaces for people with genuine interests in the preservation of this landscape type (Fig. 3).

6.2. *Spontaneous landscape*

With the sublime the spontaneous landscape as a relatively new landscape type becomes visible. Fallow

lands, succession areas, spontaneous woods are examples that belong to it. It is expected that, especially in the highlands, large parts of today’s agricultural land will be given up, and that these areas will be partly changed into such landscapes. The point is not to develop huge wilderness areas in the near future, this option is unlikely in a densely populated country like Germany. The important thing is to enrich the existing landscape mosaic by introducing suitably sized areas of wild and spontaneous nature, and by making these landscapes accessible and visible, up to a certain degree (Fig. 4).

6.3. *Urban-industrial landscape*

The interesting aesthetic category reflects the fact that the wide-spread urbanization of the last five decades has created a landscape type which many people are accustomed to today: the urban-industrial landscape in either a functional or a derelict state. This landscape type is of great importance, because it is the everyday landscape of most people in crowded central Europe. Seen from the point of overall landscape sustainability special aesthetic attention has to be paid to this landscape type. People will only accept these areas, if we succeed in improving their aesthetic quality. Therefore, intensive landscape planning and landscape design efforts have to be made here, to



Fig. 3. Traditional cultural landscape in hilly countryside.



Fig. 4. Early stage of spontaneous landscape in the low mountain range.

provide necessary open spaces and landscape areas for the resident population (Fig. 5).

6.4. Rural functional landscape

Finally the aesthetic category of the plain points to the type of modern rural functional landscape,

organized according to sustainable principles. Modern societies of tomorrow will strongly depend on such functionally determined landscape types for food production, traffic or energy. These are basic societal needs and require huge landscape areas and country-wide connections. Since this landscape type is not existing yet, big efforts have to be made, to change our



Fig. 5. A wind park as part of the rural functional landscape.

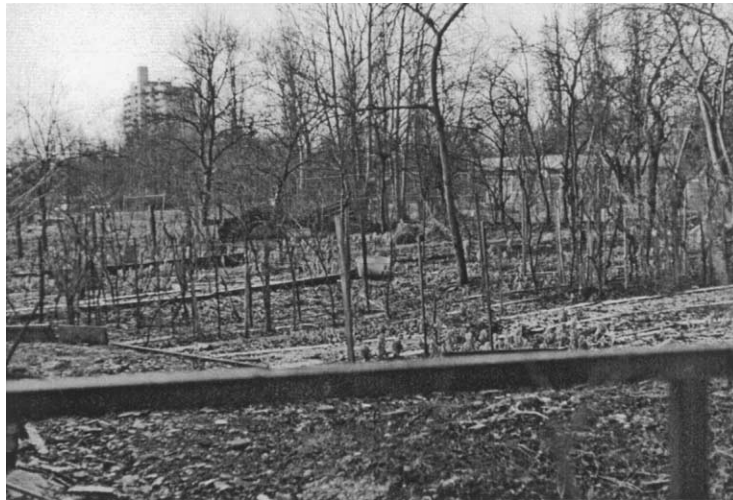


Fig. 6. Village in the process of urbanization: part of the urban-industrial landscape.

today's production landscapes into sustainable rural functional landscapes (Fig. 6).

To what extent and in what mixing ratios these landscape prototypes will become aesthetic realities in future, will largely depend on technical development, and on the development of political and planning concepts.

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