Visualizing Landscape Architecture

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FUNCTIONS | CONCEPTS | STRATEGIES

BASEL • BOSTON • BERLIN

BIRKHÄUSER

CONTENTS

Editorial Note

The illustrations used as examples were numbered to correspond with the three parts of the book. The illustration numbers are quoted in the text where explanations refer to individual figures specifically. Short explanations were integrated into the picture captions. The practices who provided the illustrations are identified in the captions; if several illustrations attached to the same project from the same practice follow each other in sequence, they are identified in the caption for the first illustration.

In the extensive chapters in the Functions section, the introductory passages are accompanied by small emblematic sketches, which refer to particular statements in the text. They were kindly supplied by Jan and Jens Steinberg, Berlin, and are to be interpreted as follows:


Plane


Space


Time


Hand drawing


Vegetation


Key statement


Man

PREFACE

"We are not selling a garden or a park. We are selling the image of a garden or a park. The image has to have an impact." (plancontext, April 2007)

Images of any kind are the primary language used by landscape architects to represent ideas and persuade people. They show us the future of open spaces and the environment – part of the future of our society. The ability of landscape architects to express themselves in plans, pictures and visualizations is understandably envied by those working in other disciplines. The basis for this book was a desire for a compilation, overview, description and analysis of visualizations (in the broad sense of the word) used to represent and communicate ideas and solutions for landscape architecture projects.

This desire grew out of my own design work and many years spent teaching in Berlin and in Neubrandenburg, Germany. Numerous conversations with colleagues revealed a broad base of support for the idea, which ultimately came to fruition. The plans and perspectives, models and schematic drawings, simulations and films used both as a basis for work and as examples have aesthetic power as well as communicative ability, with the result that working on this book has given great pleasure, which will hopefully be shared by the reader. This may take time; many pictures will become more interesting the more they are studied, and some details only become apparant gradually.

In this description and analysis of plans and pictures as visual communication tools, the emphasis is not on individual projects and firms (as it so often is in landscape architecture publications), but on the great diversity allowed by the available techniques. This is a demonstration of how different and highly individual a design can be, and also of how personal and individual its representation can be. Of course, the images are not completely isolated from the projects and their authors, and this is why they are mentioned in the captions to each illustration. After the basic functions of presentations in two, three and four dimensions have been introduced, the second part of the book shows their specific use in competitions and the planning and design process. A landscape architect has to work with people in mind, and influence nature and the environment in a forward-looking, sustainable way. Images can communicate the wide perspective, both in terms of space and time, in a compelling way, and visual presentation of alternatives can also support an open and democratic planning process – as their use for specific strategic planning goals in the preceding section of this book impressively demonstrates.

This book presents representation techniques in common use today, in a broad cross-section. How these will develop in future and which techniques will come to be used more frequently, remains to be seen. It is safe to say that films (examples of which are included in this book) will play a greater role in future, but we can only wait in anticipation to see which approaches will dominate.

I would like to thank all my colleagues and all firms involved for their willingness to make their own work available to me. I was able to conduct extensive conversations with many of them, thereby gaining insights which have influenced the text of this book, as well as valuable advice on arranging and structuring the contents. I cannot stress the effort involved for all the firms and individuals represented here too much. In particular, they had to deal with many questions and requests from me during the book's genesis. As they are not represented by visual examples, I would like to thank Professor Erich Buhmann and Thies Schröder at this point for their valuable advice, as well as Dr. Gabriele Holst for her works on creative design.

Regarding the transformation of my ideas into the final concept for the book, I would like to thank Andreas Müller for his long and patient work as an editor and partner in detailed discussions. I would also like to thank Oliver Kleinschmidt for his commitment to making the idea of this book – a book about visual presentation in which the visual material is suitably presented – a reality. Last not least I would like to thank Michael Robinson and Alison Kirkland for the congenial translation.

INTRODUCTION

Landscape architects develop ideas for changing places and landscapes with the intention of improving their design, making them better to use and more able to meet ecological requirements. Their work includes comprehensive and sustainable planning of the environment as it is lived in, and reconciling the different demands for creating open spaces capable of facing the future. The design process as an essential part of landscape architects' activities includes both finding ideas and also presenting them visually. Landscape design is first and foremost a problem-solving strategy for open areas and open spaces. Images, sketches, plans and other drawings as well as models are produced, using a variety of techniques, with the aim to convey concrete planning intentions or possible consequences of developments that can occur under certain conditions. A written explanation is usually provided to support the strategies presented, but this could never be an adequate substitute for a visual presentation. As visual presentations are universally understood, their significance and statements largely make sense without words, a great advantage in a globalized world.

Plans and images also remain – and this is perhaps particularly true today because so many possibilities are available – unique objects, each with its own justification. Even though they are prepared in large numbers for any planning process, each one has its own statement to make, and is potentially interesting, exciting, harmonious, aesthetic or simply beautiful to look at. Even though the large numbers of visual presentations might suggest something different, landscape architects work economically: images are not prepared for their own sake, but because of the statement that each one makes.

Gabriele Holst, Vertical Rhythm III.

Conveying ideas and planning aims in plans and images

Great demands are made on images intended to convey ideas that occur in planners' minds. They have to be precise, to a certain extent, in presenting the elements of the concept; they have to be comprehensible, sometimes for laymen as well; and at the same time they have to convey the planners' professional expertise. Also, such presentations give an idea of the creative designers' attitude to the social use of open spaces, to the development of nature and the environment and thus to the discipline's current state of mind. Landscape architecture is essentially a practice-oriented discipline in which theoretical considerations traditionally play a subordinate role in looking back at past achievements and the conditions under which they came into being. It is only in recent times that the general conditions for each planning process have been more carefully analysed, but this hardly produces a theory on concrete procedures in the sense of instructions about an approach, either for the planning itself or how it is presented visually. It is much more that a clearer understanding is created about how the planning measures fit in with prevailing social conditions and meet particular challenges. The planning itself and the way it is presented seem to be affected by these reflections to an astonishingly limited extent.

Conventions exist for presenting plans and images, but there is also a great deal of freedom, which means that the way they are presented develops constantly, adapting to the technical possibilities, and also determined to a certain extent by current trends. The creative approach has to be subjective to a certain extent, as design also expresses the author's individual views of solutions and creative ideas. Therefore, visual presentations are always a personal expression of the people involved in relation to the planning commission.

Just as the design itself has to be up to date, the graphic devices used to express it must be, too. They may even need to be so far ahead of their times as to use the very latest resources, which may be available only to some designers. The range of possibilities is greater than ever, today. Two-dimensional drawings are still used, and so are the familiar ways of drawing three-dimensional images. And thanks to what modern computers have to offer, it has become easier to present time as the forth dimension more powerfully in visual form: for example in terms of changing seasons, by showing the plants getting older, or in the form of walks, drives or flights through or over the planned terrain.

Using computers has largely taken over from the hand drawings that used to be found exclusively. Critical voices say that all plans tend to look the same. However, the presentations are very diverse and different, because computer programs offer so many possibilities, hand drawings are still used, and also because there is more competition within the discipline. Plans are revised much more frequently at ever shorter intervals, and conveying material comprehensibly and clearly is increasingly emphasized.

This book analyses plans and a wide range of presentation modes currently used in terms of their expressiveness and ability to convince. The point of departure are the types of images used to make statements about the future development of places. This makes it possible to discern trends and anticipated developments. Illustrations are also used to guide and direct people's behaviour towards ideas of sustainable development, as shall be shown in the last sections of this book.

After a short look at the historical development of presentation methods, "Finding ideas and forms", gives examples of how visual presentations emerge in the context of the creative process. These are changed and reassessed a great deal in-house before they point to a solution that finally sums up the ideas and presents all the requirements in a balanced fashion. In contrast with these, the pictures and plans shown in the other parts of the book are intended to present the proposed design or planning solution, and as a rule outsiders are shown and discuss only these. Almost all the illustrations used here were made available by landscape architects from their ongoing projects, so that they

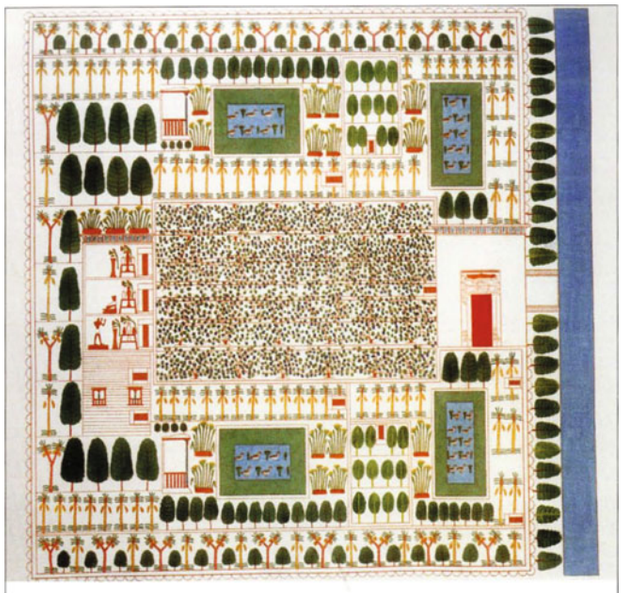
have to be considered in the context and as part of the current planning processes. It should be noted that they are usually shown here in reduced form, so that their expressive values may not always be fully appreciated.

Every visual presentation, whether it is drawn up as a plan, view, simulation or as part of a film has its own particular part to play within a planning process. In the first part, "Functions", they are considered in three groups as representations of the second, third and forth dimension. Here the illustrations are analysed and interrogated individually about their potentials, while the second part introduces "Concepts" relating to how they work together in various planning processes. The last part focuses on "Strategies" that do not simply address concrete planning for specific locations, but also contribute to facing society in future with the resources of landscape architecture, both its professional expertise and also its presentational methods. This is about a holistic approach to living conditions and the future of landscape, and about suitable methods for implementing democratic understanding of planning. In this context, visual presentations serve to stimulate planning decisions, they can draw attention to conditions and dangers, and show how the world we live in can be developed.

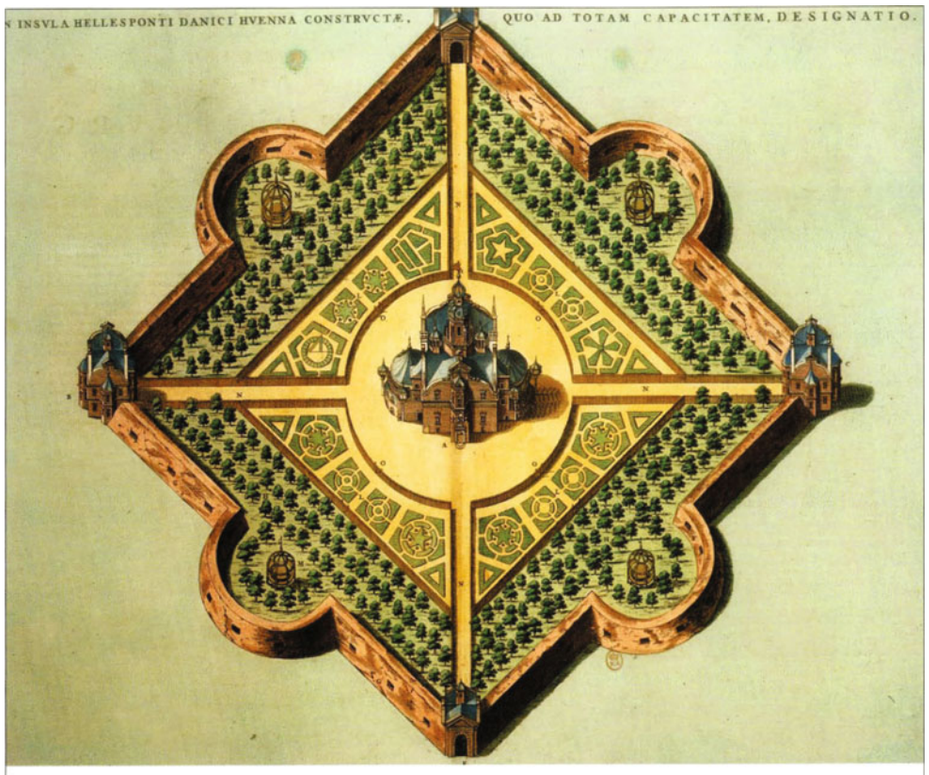
Presentation methods in the past

Plans have been drawn ever since gardens went beyond growing fruit and vegetable to serve as representative places. The surviving depictions are usually of the situations as found or completed, rather than design plans for future developments. The fundamental modes of representation used in contemporary landscape architecture have essentially been in use since the first plans were drawn, though materials and the technology supporting them have developed enormously. Here we intend to show some basic presentation types for different gardens and other projects from earlier centuries, focusing on the techniques they use.

The oldest known garden images come from Egypt. Typical drawings have come down to us, some of them copied only recently in a known older style. As well as general views showing work in gardens that are not part of a design process, some actual plans have survived. They show the site, its boundaries and the precise positioning of the individual elements in two-dimensional presentations. In contrast with the way we look at things today, a plan like the one shown here seems difficult to understand, as the trees are not presented as a top view of the crown from above, but in their elevation. This special feature, whose proportionality is particularly striking in comparison with plans from later eras in which this kind of presentation was also used, makes it possible to provide information about the trees which would not be possible in a top view, such as their species, for example. The planting arrangements are very easy to understand, and so is the positioning of the pools of water needed for irrigation. The scale, an essential feature of ground plans today, is not given on known Egyptian plans. The buildings are often drawn much too small, which can underline the importance of a garden.



0.1 Plan of a garden on the Nile, drawing by Ippolito Rosellini, 1832.



0.2 Axonometric view of Schloss Uranienbaum on the island of Hveen, where Tycho Brahe lived and worked for twenty years. Copperplate engraving, coloured by Joan Blaeu, 1663.

This drawing of a garden on the Nile (Ill. 0.1) was not produced until 1832, but it does show the garden in the ancient Egyptian way. The trees are drawn individually in frontal view in rows, above and next to each other in the ground plan of this almost square garden. This presentation method, unusual for the modern eye, means that different kinds of trees and their different sizes can be distinguished. Certainly the colouring is freely invented, but it does tend towards the usual colours of nature, which correspond with common ideas: green for the crowns, brown for the tree trunks, blue for the water, red for the buildings and a white background for the ground surface covering. The garden is enclosed by a wall and arranged symmetrically, and the plants are largely placed symmetrically as well. Most of the trees are shown from the viewers' angle, only the row on the right by the river is drawn sideways. It is to be assumed that the bottoms of the tree trunks mark the tree positions, and that the trees are then "tilted" to fit the image so that the elements do not overlap. Overall, the plan conveys a lucid and precise impression of the garden.

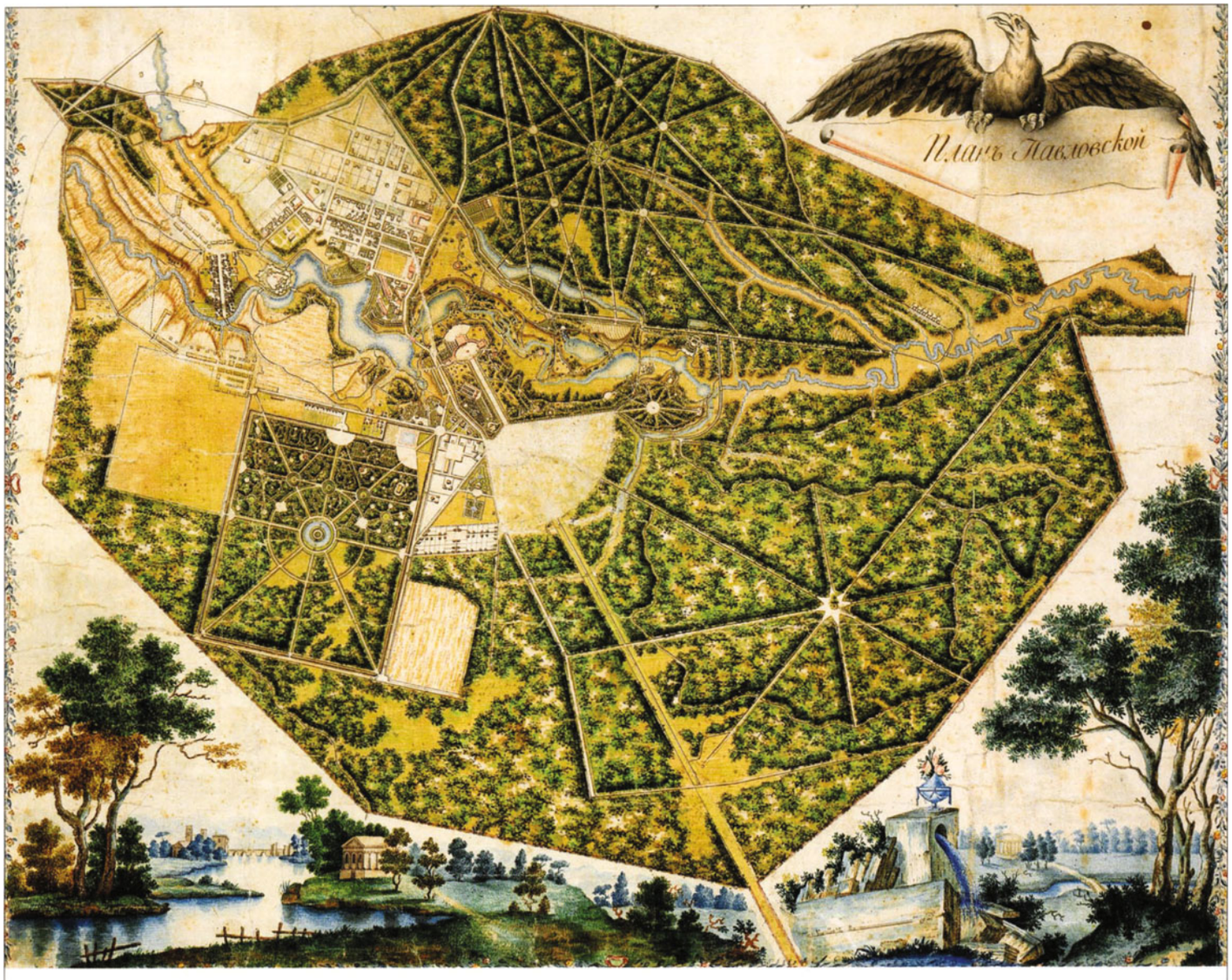
A coloured copperplate engraving by Joan Blaeu, a Dutch engraver, of Tycho Brahe's observatory at the Uranienbaum palace and its garden, dating from 1663 (Ill. 0.2), is an example of axonometry, a drawing method that is still used frequently today. Working on the basis of the ground plan, the enclosing walls, including the towers and gates; the trees and the pavilions in the garden; and the observatory in the middle of the picture are all tilted in the same direc-

0.3

Bassin d'Apollon, park of the Palace of Versailles, copperplate engraving by Gabriel Perelle, c. 1670.

tion and presented as oblique images. As the ground plan of the whole area is square, this kind of drawing achieves a spatial effect if the drawing is positioned so that one corner points in each direction. Like all axonometries, the image is drawn without perspective distortion. All visible vertical elements cast a shadow to the right, which further enhances the three-dimensional effect. Because they are so precise in detail, copperplate engravings can also reproduce individual elements.

A scene from the park in the Palace of Versailles (Ill. 0.3) presents the idea of the Baroque garden in ideal form. This is also a copperplate engraving, but executed as a bird's-eye view in central perspective. The eye is drawn along the central axis from the first terrace, on which a series of people and horses, and indeed coaches, are moving around, drawn in some detail, over the first pool of water, the second terrace and the canal with the three-masted ship and other boats to the horizon. The dramaturgy of the image reflects the self-perception of the absolute monarch. Power over tamed nature and human affluence is presented on an immeasurable scale. This is not a plan, not a design idea, but an idealized representation of the garden after it had been laid out. No plans survive for many gardens of the past, they were often of little interest once the project was completed.



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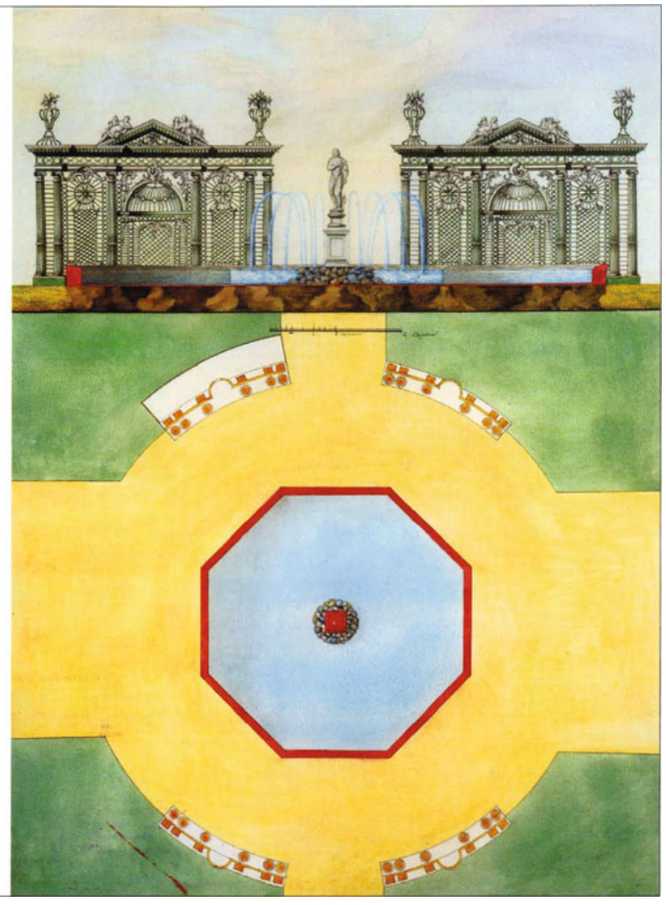
Pavlovsk Palace park near St. Petersburg, design by Charles Cameron, water-colour and ink on paper, c. 1780.

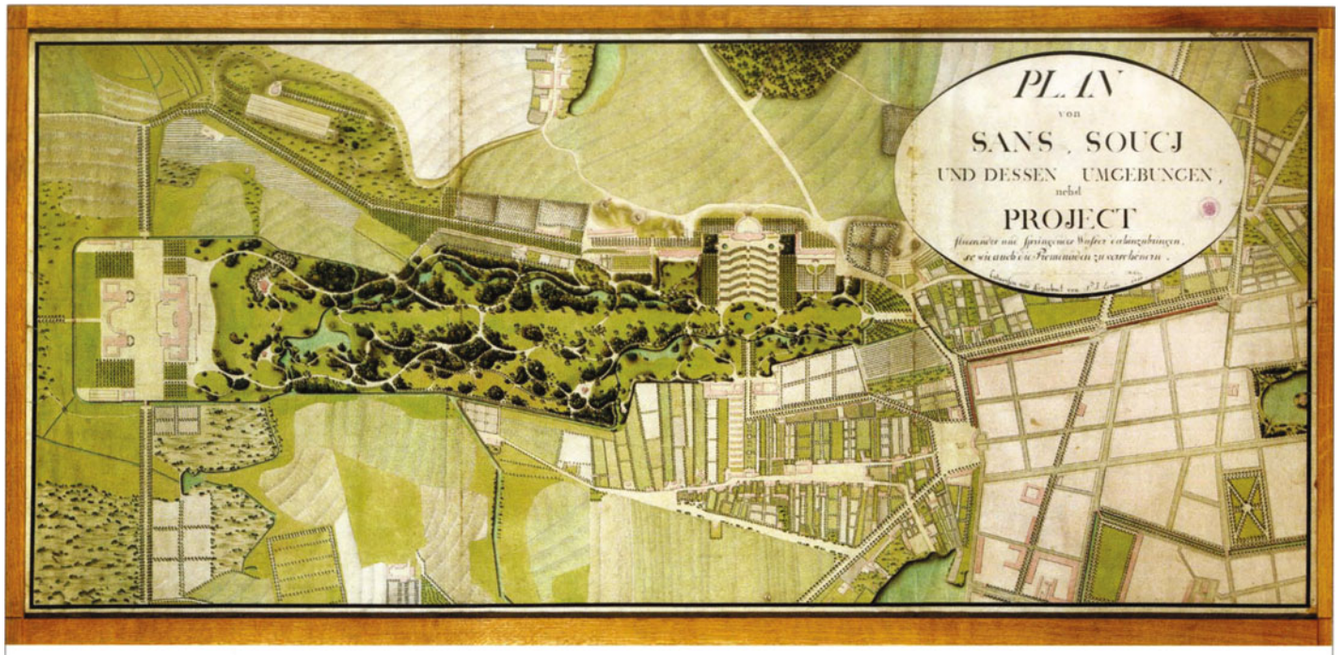
0.5



Adam fountain in the Peterhof Palace park near St. Petersburg, water colour by Vasily Ivanovich Bajenov, 1796.

This example by Charles Cameron for the Pavlovsk Palace park (Ill. 0.4) dating from 1780 is a hand drawing in ink and water-colour. The central garden plan is in the form of a two-dimensional drawing, while below individual details from the garden are drawn in perspective. The elements of the plan are executed in great detail, and the plan is given an overall three-dimensional quality by a light shading of the timber structures; however, no cast shadows are shown, which could have unduly shaded the ground area. The perspective drawings add the missing third dimension and convey an impression of the place's atmosphere. But even so they seem to have been added to fill the sheet; this could even be their main *raison d'être*, as their size has been adapted to fit the edges of the sheet outside the ground plan. The decorations of the sheet on the left- and right-hand side also support this assumption, as they are irrelevant to the planning.

This drawing of the Adam fountain in Pavlovsk (Ill. 0.5) by Vasily Ivanovich Bajenov dating from 1796 combines the three-dimensional ground plan drawing with a two-dimensional view in order to convey a complete impression of the design. The sectional view reveals that the intersection line runs through the centre of the fountain and across the square. Only the sectional view can show how the fountain is framed. The two drawings are contingent upon each other, on their own they present only partial views. The irregular quality of the water-colour and the sky as a background for the sectional view make this drawing look almost three-dimensional, despite precision in all its individual parts. The vertical division of the image, measuring 69 x 52 cm in the original, approximates to the proportions of the golden mean, with the ground plan as the larger area below and the sectional view as a smaller area above. Sectional views often accompany ground plans today, but usually as independent illustrations and not, as in this example, placed together to form a single image.



0.6

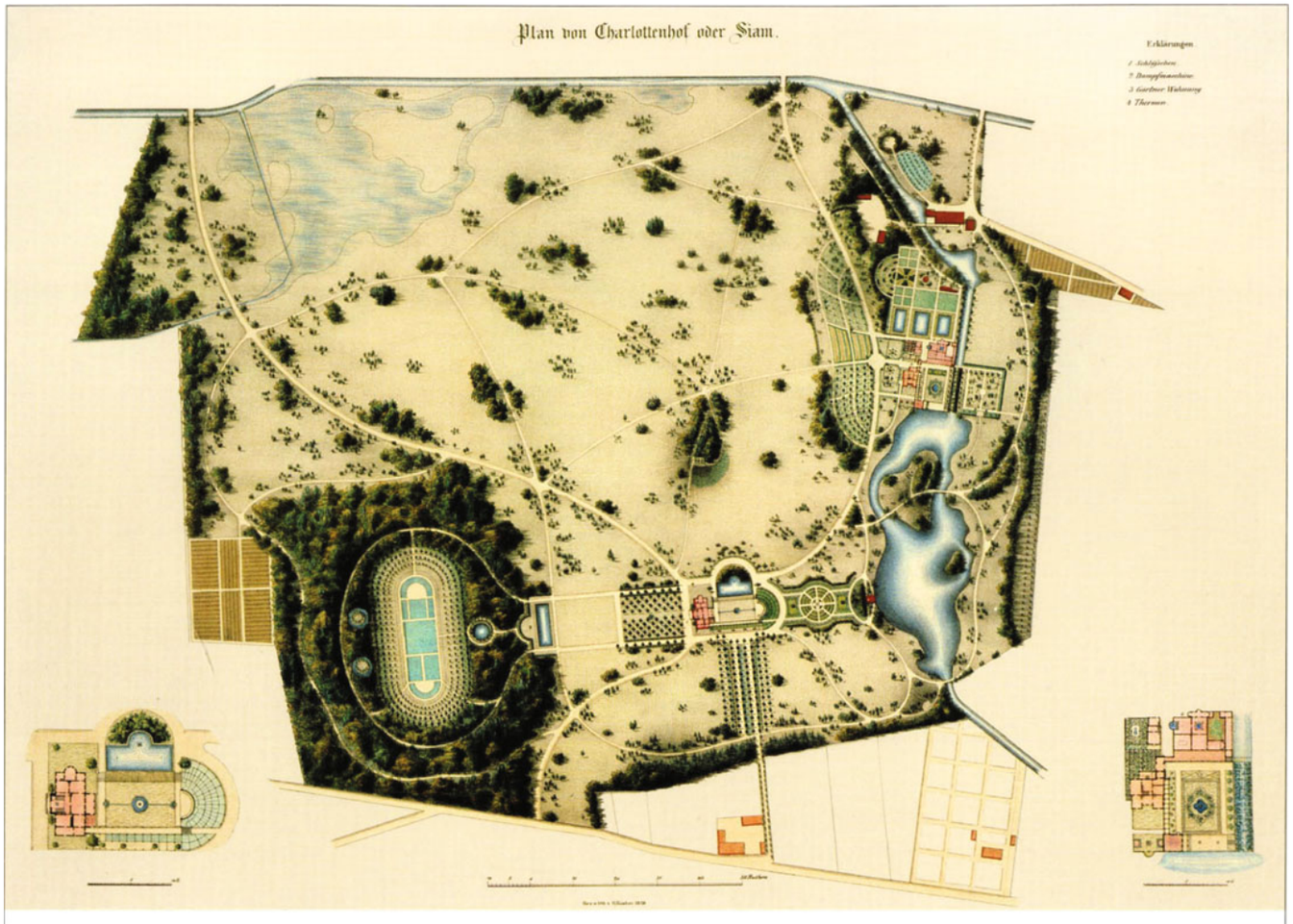
Plan of Sanssouci and surroundings including the project of introducing flowing waters and fountains and of embellishing the promenade ways, Peter Joseph Lenné, 1816.

This plan of Potsdam-Sanssouci and its environs (Ill. 0.6) by Peter Joseph Lenné dating from 1816 shows the design of the park and its surroundings, including the developed area of the town and the area scheduled for development. The landscape is lent coherence by the similar shades of colour. The park is not, as in the previous examples, a plot of land that is made to stand out from the surrounding landscape and presented in its own right, but corresponds with it and is linked to it. In this ground plan the trees and shrubs are again drawn in view, and this and the shadows cast give the plan a three-dimensional look. This is also supported by emphasizing the north-facing edges of banks and paths. In later periods, the plants are not usually drawn in view, but shown in horizontal projection like all other plan elements.

This plan of Charlottenhof or Siam (Ill. 0.7), also by Peter Joseph Lenné and dating from 1839, consists of the ground plan drawing and two detailed drawings, on a scale twice as large, in the two bottom corners. The plan itself is restricted to the site, it does not show the surrounding area. The drawing method is the same as in the first plan by Lenné shown here, but it is more precise and sharper because of the scale of the drawing; the colours are clearer and less mellow in character. The relief of the ground is shown both for the land and for the areas of water. The two detail drawings, executed in the same way as the plan, identify important areas of the site. A similar proposal today would include far more detailed drawings, with each one probably showing essential aspects on a much larger scale and in even more detail.

The general plan of the Tiergarten park (Ill. 0.8) by Peter Joseph Lenné dates from 1840, when the Tiergarten, now in the city centre, was still outside Berlin. It is a lithograph on paper. The streets and paths, the planted and grassy areas, and other facilities with the adjacent river and urban area are presented in great detail, and make a three-dimensional impression. The original sheet measures 90 x 61.4 cm.

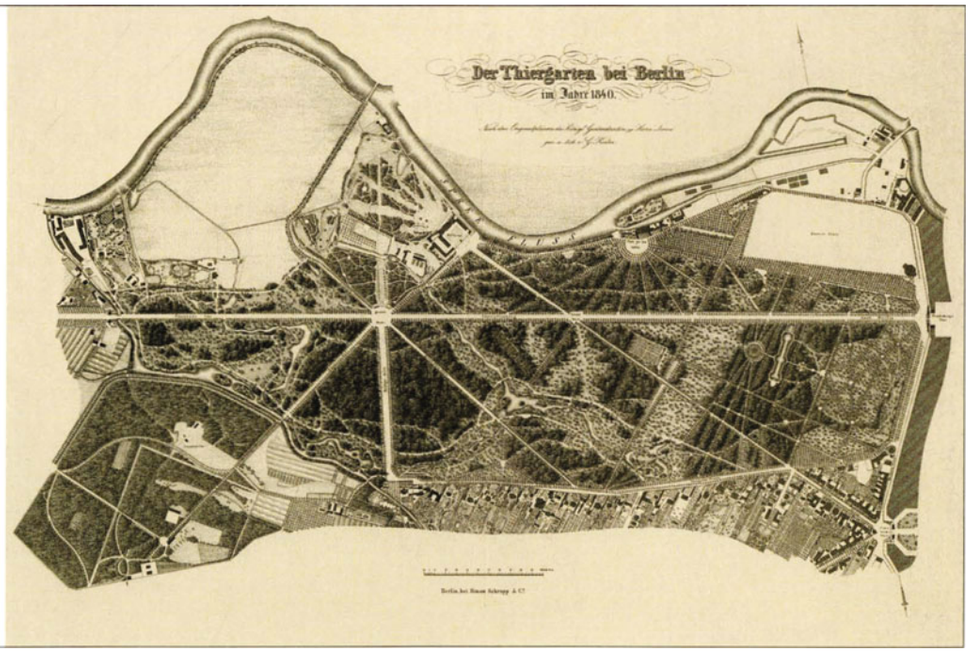
The two plans (Ills.0.9-10) dating from April 1835 by Gotthilf Ludwig (Louis) Runge and Ernst Steudener were created in the context of monthly competitions run by the Architektenverein in Berlin from 1827 and open to members of the association. At this time landscape architecture was not a discipline in its own right, and very often the same person designed both building and gardens, which created a sense of unity among the solutions for these tasks, which are dealt with separately today. The difference between these two designs is remarkable, given that they were created at the same period, used similar draw-



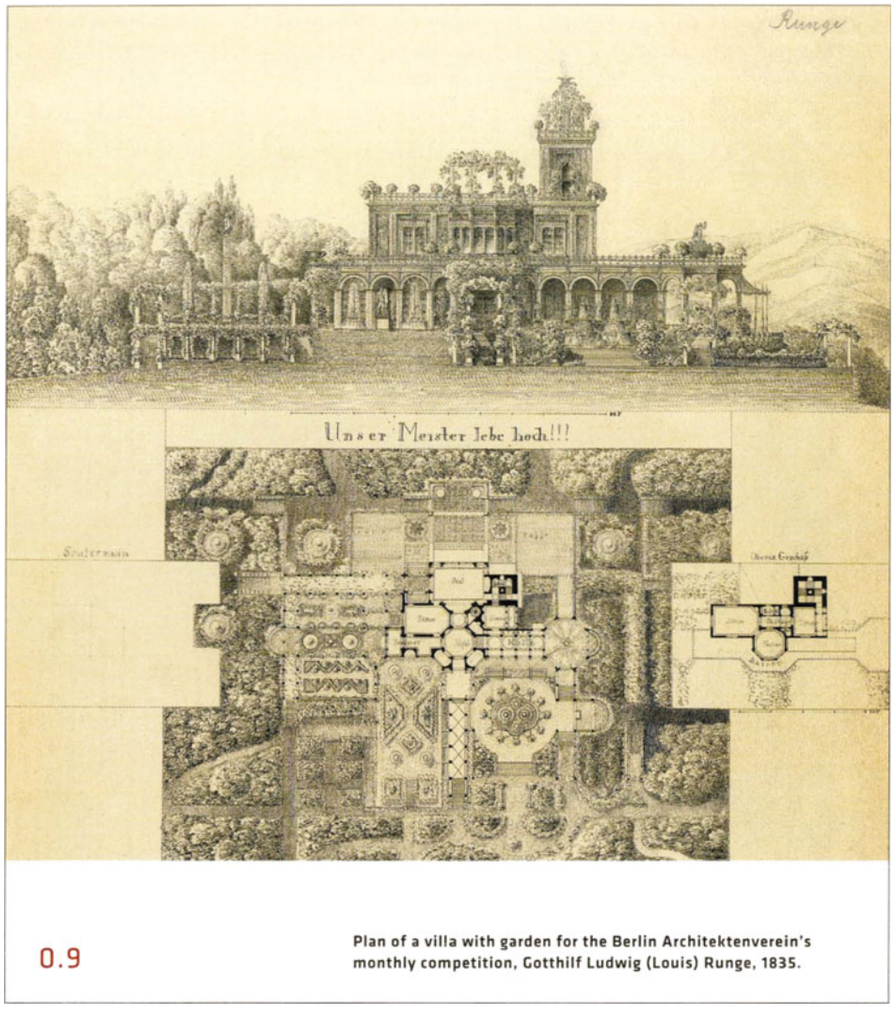
0.7

Plan of Charlottenhof or Siam, Peter Joseph Lenné, 1839.

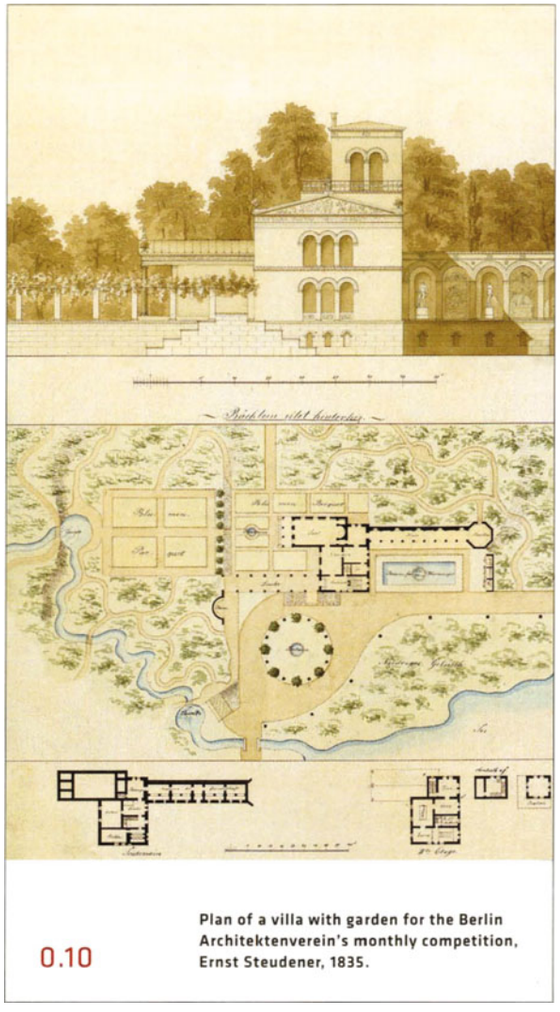
0.8



General plan of the Tiergarten near Berlin, Peter Joseph Lenné, 1840.



0.9 Plan of a villa with garden for the Berlin Architektenverein's monthly competition, Gotthilf Ludwig (Louis) Runge, 1835.



0.10 Plan of a villa with garden for the Berlin Architektenverein's monthly competition, Ernst Steudener, 1835.

ing tools, and the two architects were based in the same region. Runge draws a very formal layout in ink with pencil additions, and also a front view of the building, as well as ground plans of the first and second floor. The original size of the design measures 40.6 x 41.4 cm. Steudener's drawing is significantly smaller at 34.1 x 24.1 cm and executed as a water-coloured ink drawing, with a garden more in the free-form landscape style.

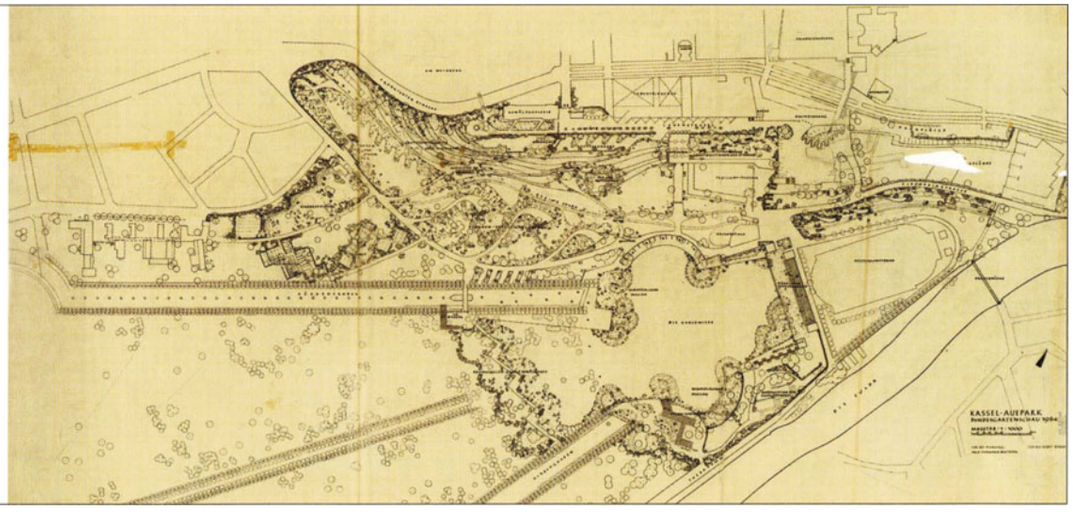
Edwin Barth's 1901 garden plan for a villa in Potsdam (Ill. 0.11) is a drawing in Indian ink, pencil, and ink, water-coloured on transparent paper on a scale of 1:400, and contains the contours of the site in ground plan. The presentation essentially focuses on the site and the trees in the road on the south side, and the sheet is completed with an indication of the subject of the drawing. The shadows added to the vegetation underline the landscape style of the planning.

These two hand drawings (Ills.0.12-13) in Indian ink on transparent paper by Herta Hammerbacher and Hermann Mattern for the National Horticultural Show in Kassel in 1955 show the general plan, in an original size of 90 x 189 cm, and also a bird's-eye view, in an original size of 42 x 109 cm. These large drawings took a great deal of time and effort to prepare, and could be corrected only to a limited extent. The bird's-eye view shows the design for the overall site, but not in great detail.

0.11

Garden plan of a villa in Potsdam, with contours and surrounding roads, Erwin Barth, c. 1901

0.12



National Horticultural Show in Kassel in 1955, general plan, Herta Hammerbacher and Hermann Mattern.

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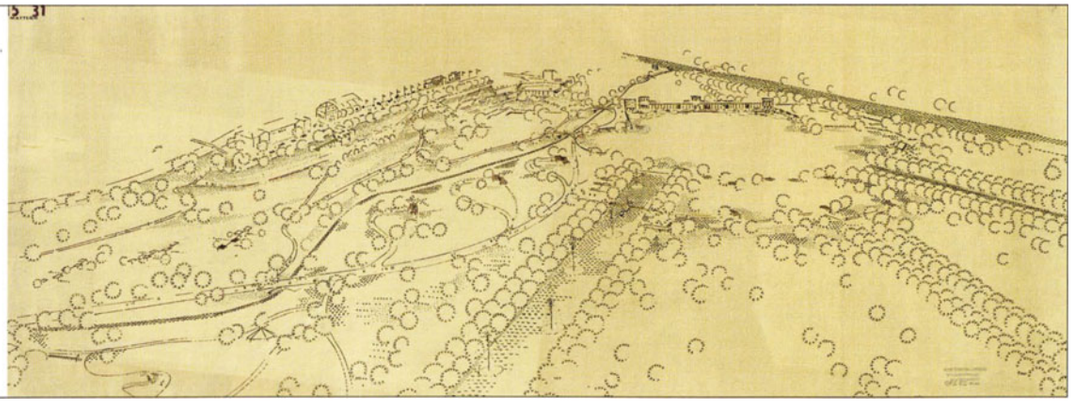

National Horticultural Show in Kassel in 1955, bird's-eye view of the entire show site, Herta Hammerbacher and Hermann Mattern.

Finding ideas and forms

In landscape architecture, assignments are always tied to a specific location, and are therefore affected by that location's spatial, functional, ecological and cultural properties. Landscape architects have to create solutions to specific problems of the time when the assignment is defined, while remaining aware of the prospect of future changes. Whether the commission is to redesign a garden, to plan a town development or to manage social challenges in terms of local needs and the management of space, it will always set the conditions for possible solutions. The reference to space as an immediate human experience will always be an important part of the planning process.

Visual presentations are key to the process of elaborating concepts, evaluating them and finally determining the forms and other aspects of design. The process often begins with sketches or similar drawings, which are gradually refined and developed further. Models may be built for haptic perception of the design, or alternatively as digital models to be viewed on-screen or as plots.

The process of finding an idea, a shape and a form has two different stages that intersect with each other closely. The deficits of the existing site and the future demands are analyzed and dealt with at a rational, technical and knowledge-based design level. The best possible form and the appropriate ways of representing and communicating it are developed at the creative, intuitive and subjective design level. This level of design cannot be made objective. It is also the seat of something very important to landscape architecture: the perception of space as a bodily experience. If intuitions cannot be communicated objectively, they can be expressed intersubjectively. Due to the way human beings think and experience the world, these two levels of thinking cannot simultaneously contribute to the same result. Instead, each tries to arrive at its own result.

The first, rational step is to record and analyze the site's existing infrastructure. Designers should always investigate whether the existing site has any exceptional properties – such as ecologically valuable areas - that should be protected and developed, and whether it has any historical significance that should be taken into account (not only when the site is listed). They should assess the position occupied by the project area within its surroundings – including, for instance, the existing access routes and barriers that will need to be taken into account. This also means evaluating the profiles of future users. These and other aspects are investigated individually for each specific planning assignment depending on its particular demands, with visual presentations of these different aspects serving as a basis for design. These presentations give the first indications of possible ways of improving the existing situation, but a design cannot be evolved solely from this function-oriented data.

It is only with the inclusion of intuition and creativity, which follow their own rules, that a design becomes individual, harmonious and suited to its location. It is the creative potential that ultimately enables open spaces to be perceived and used as spaces for sensory experience, as a unified whole. Any evaluation of the design must be based on these two aspects of function and form. Although certain theories and approaches to design emphasize one or the other of these two aspects, a viewpoint based on only one aspect will ultimately be insufficient.

The creative part of the planning process is very personal in nature, varying according to the landscape architects' personalities as well as the location. Typically there is no predetermined end result for this process, which follows few hard and fast rules or formulas. As a consequence, it produces highly individual solutions. The creative part of the planning process makes the