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Architecture with Landscape Methods
Case Study of the Rolex Learning Centre Lausanne by SANAA Tokyo

Daniel Jauslin

Researcher, Chair of Landscape Architecture, Urbanism, Faculty of Architecture, Delft University of Technology
Dipl. Architect ETH, Principal at Drexler Guinand Jauslin Architects Rotterdam, Frankfurt, Zürich

Abstract
Contemporary architecture has been strongly influenced by the concept of landscape in recent times. A new mindset evolves that changes the core of the architectural discipline: the organization and composition of architectural space as a landscape. The scope of this thesis is to investigate and understand architecture that has been designed like a landscape. In projects of OMA, MVRDV, Peter Eisenman, Foreign Office or Diller+Scofidio the building inside and landscape outside do not merely interact, but the building is designed as an artificial landscape on its own. Landscape constitutes the inside. The landscape to architecture relation is turned inside-out. The author is studying these phenomena and their design methodologies.
As a first finalized and completely documented case study the analysis of the Rolex Learning Center in Lausanne by SANAA is surely an important part of our discovery of landscape methods for architectural design. Landscape is developing here as the aesthetic mediator between nature and human.

Keywords: Design Theory; Landscape

1. Introduction

The recently opened Rolex Learning Centre in Lausanne of SANAA Tokyo may well be cited as a example of enormous success of Asian architecture in the world in general. It contributed to the honours of the two principals Kazuyo Sejima and Ruye Nishisawa with the Pritzker price (1) and also to Sejima being nominated the curator of the Venice Biennale as first women and first Asian ever (2). All this happend around the beginning of 2010. Their largest foreign building yet is not only a important contribution to theses successes but also of particular interest as a built landscape (3).

Since 2008 the author of this paper is studying the phenomenon of *Architecture with Landscape Methods* in a series of design case studies. This paper is the first presentation of the SANAA case study analysis to a wider audience outside the TU Delft.

1.1. Architecture with Landscape Methods

Contemporary architecture has been strongly influenced by the concept of landscape in recent times. Analogies to nature are transforming the concepts of form and space, after both form and space had undergone revolutionary developments in modern architecture. Contemporary architects oftentimes refer to specific for-

Daniel Jauslin, Researcher
TU Delft Faculty of Architecture
Dept. Urbanism, Chair of Landscape Architecture
P.O. Box 5043, NL-2600 GA Delft
Tel: +31 6 392 51 377
e-mail: D.T.Jauslin@tudelft.nl

Fig. 1 (above) **Rolex Leraning Centre** EPF Lausanne 2010
Architecture: SANAA Tokyo Foto: Ariel Huber

mal and spatial aspects of landscapes to describe their designs and summarize them under the term 'landscape' with various connotations. A new mindset evolves that changes the core of the architectural discipline: the organization and composition of architectural space as a landscape. The scope of the authors ongoing thesis is to investigate and understand architecture that has been designed like a landscape.

1.2. Architecture as a Four-Layer Landscape

We can distinguish a development of architecture towards landscape. We would like to put this to a test, to answer the question as to what landscape could mean to architecture as a concept or design method. While doing so we could not only expand the vocabulary of architecture with that of landscape but also formulate some common ground for a new understanding of SANAA's

Rolex Learning Centre in particular and a new kind of architecture in general.

There is an entry into landscape architecture from the side of architectural theory: Steenbergen and Reh's (4) adaptation of an architectural theory of Paul Frankl (5) into a framework for landscape architectural composition. Frankl's theory of Architecture is especially valuable to us, because it involves phenomenological, spatial, temporal, metaphorical, and programmatic aspects. Frankl's particular skill is combining phenomenological and structural critiques of architecture into a complete system from a human perspective; he combines the logic of making with those of perceiving architecture. In his opinion, "people are part of architecture" - without them a building would be a "mummy" (5 p.159). We are here looking for the intellectual substance, content, sense of the whole (5 p.15) To try and understand the architecture of landscapes, Clemens Steenbergen and Wouter Reh have established a set of layers - basic form, spatial form, metaphorical or image form and program form - and explained landscape as a composition of these overlapping four layers (4). For our purposes, we could briefly define the four layers of Steenbergen and Reh like this:

Basic form is the way in which the natural landscape is reduced, rationalized and activated. In the case of architecture, we must consider here also landscapes that are generated artificially and the tension between grown morphology and built topography.

Spatial form is about the experience of the landscape space, including circulation paths, framings, and picturesque compositions. The relation and manipulation of the horizon is an essential design aspect to this layer.

Metaphorical form is the use of iconographic and mythological images of nature, always connected to the other layers and mostly represented in one of the others.

Programmatic form is the division of functions and organization of their relationships influencing the composition. The programmatic form incorporates the tension between business (negotium) and contemplation of nature (otium) in a constant search for balance from the classical landscape up to our times.

2. The Rolex Learning Centre as Case Study

According to Ryue Nishizawa, the EPFL Learning Center in Lausanne at Lake Geneva is 'a dramatic space, that words can hardly describe' (6 p.11). The spatial experience at times approaches the sublime– used exhaustively in the 19th century to describe landscapes that leave the admirer without words to say. An aesthetic qualification which is incomparable in its magnitude is hardly useful for a scientific description. One cannot avoid describing this building only by its space. No intellectual framework other than the pure creation of space for people is the working ethos of SANAA – and they have made that very evident in their most ambitious international project so far.

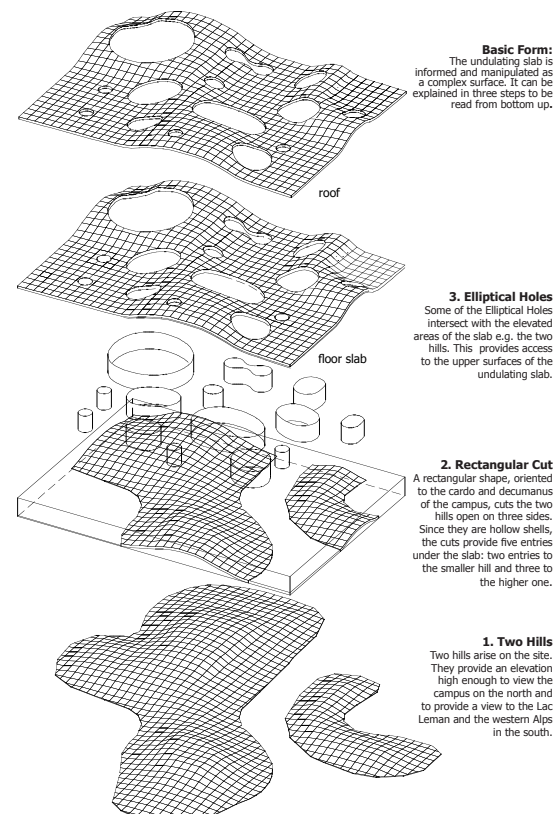Asked about the future of learning but also the fu-

Fig. 2 (above) **Basic Form** - Site and Building Topography map source www.geoplanet.vd.ch. montage by the author

ture of their architecture, Kazuyo Sejima and Ryue Nishizawa want to create a landscape for the people (7) – the essential contemporary scenery. Landscape sceneries are hard to describe and splendid to discover.

We now apply the four layers of the landscape architectural composition of Steenbergen Reh (4): Basic form is the way in which the natural landscape is reduced, rationalized and activated. In the case of architecture, also the way in which landscape form is generated becomes important. Spatial form is about the experience of the landscape space. Metaphorical form is the use of iconographic and mythological images of nature. Programmatic form is the division of functions and the organization of their relationships influencing the composition.

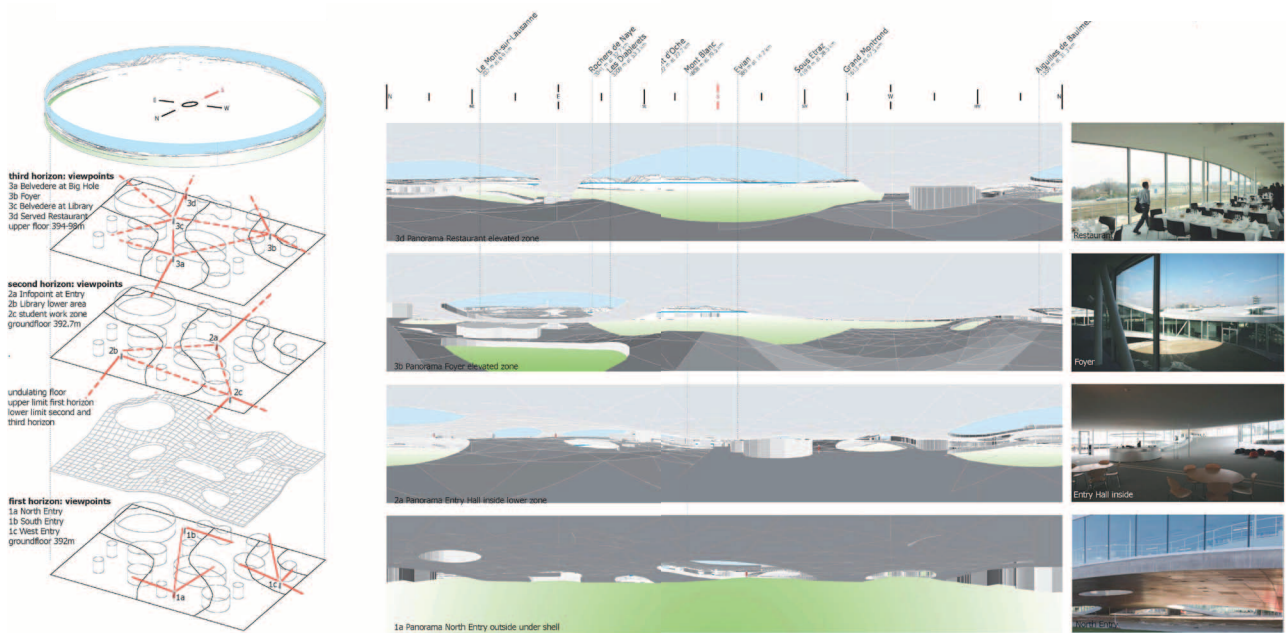Fig. 3 (below) **Basic Form** - Topographical Manipulations drawing by the author

Basic Form:
The undulating slab is informed and manipulated as a complex surface. It can be explained in three steps to be read from bottom up.

roof

3. Elliptical Holes
Some of the Elliptical Holes intersect with the elevated areas of the slab e.g. the two hills. This provides access to the upper surfaces of the undulating slab.

floor slab

2. Rectangular Cut
A rectangular shape, oriented to the cardo and decumanus of the campus, cuts the two hills open on three sides. Since they are hollow shells, the cuts provide five entries under the slab: two entries to the smaller hill and three to the higher one.

1. Two Hills
Two hills arise on the site. They provide an elevation high enough to view the campus on the north and to provide a view to the Lac Leman and the western Alps in the south.

Fig. 4 (above) **Spatial Form** - Panoramic Perspectives GIS: didgirama swisstopo CAD: by the author

2.1. Basic Form

The Basic Form is defined by the relation to the surrounding topography (Fig. 2) and the related artificial topography (Fig. 3). On the wide plain of the site, two hills are laid out. The hills fulfil the simple requirement for overview onto the campus in the rear and, more importantly, a view across nearby obstacles to the Lake and Alpine Panorama behind it. If the two hills are not massive, but a curved concrete slab, they can form entries to sneak in below. This cut is provided by a rectangular shape, precisely northeast and southwest oriented like the templum of a roman city. The rectangular system is already an outside given in the situation of the EPFL Masterplan (1971-1982) by architect Jakob Zweifel (*1921). The development of the site relationships is like a reversed urbanization. At the Rolex Learning Center, that city landscape relation of antiquity is reversed. The given of the cardo and decumanus by a rigid masterplan in 1971 is stopped by a templum as a border with rational order outside and artificial wilderness inside. That shape itself subordinates the building to the existing order. The orderly world remains outside, while the inner landscape is reconnecting spatially and metaphorically to a wider surrounding space beyond the campus towards the surrounding nature and city.

2.2. Spatial Form

Architecture based on such a rich variety of views is particularly rare. The vistas and panoramas are carefully designed and taken care of throughout the design and building process. The spatial system is connecting the inner landscape to the surroundings, extending the illusion of a seemingly endless space. The spatial play between continuity and framing of the landscape through the manipulation of the horizon is another design feature of the spatial form specific to this design with landscape methods. In our spatial form analysis we could define three different inner horizons in addition to the existing external one. Each of these manipulated horizons is connected to a system of spatial relationships (Fig. 4).

Free movement is the most important spatial directive, the desire for freedom seems to be dominant across the establishment of even the smallest hierarchy

2.3. Metaphorical Form

It was on this perspective of creating absolute freedom that the metaphorical structure or image form in this project should be understood (Fig. 5). SANAA would avoid direct metaphorical language in their architecture

Fig. 5 (below) **Image Form** - Panoramic Perspectives drawings, naming and referrals by the author
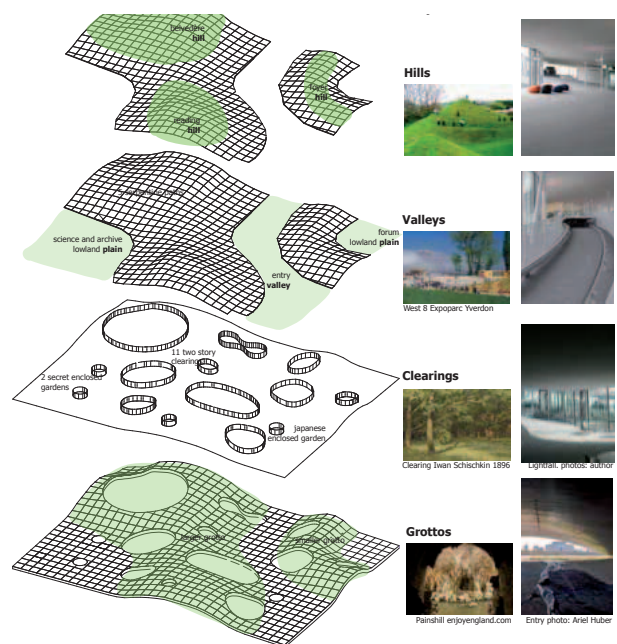
- they are advocates of abstraction. They also do not work with hidden analogies. If asked for references, the architects do not want to be specific. Therefore, it has to be pointed out again in this case that like any of the four layers, the metaphors are working propositions by the author of this thesis and not by the architects. Nevertheless, they represent some archetypical landscape features or other landscape related engineering interventions that certainly will help in understanding how this building is designed as a landscape. As mentioned in the previous paragraph on spatial form - the images are not part of a system of fixed reference points. Rather, they are spread like sheep in an arcadian field, which is also a specific design attitude, called field condition (8) in landscape urbanism.

2.4. Programmatic Form

If it was important to the architects not to establish hierarchies, this approach will certainly be most affected in the distribution of program. The initial idea of non-hierarchical ordering on one floor is a programmatic one in the first place. It is the general attitude of the architect towards the spatial programs formulated in the brief and his specific answer is creating a continuous landscape as opposed to a building of staked floors. So the functional zoning is not expressed with building up borders between zones. The emphasis is on exchange. The topography is used for allocating programs like they would be spread in a city according to various topographical fractures. With softened shapes and fluent transitions, the

Fig. 6 (below) **Programmatic Form** - drawings by the author
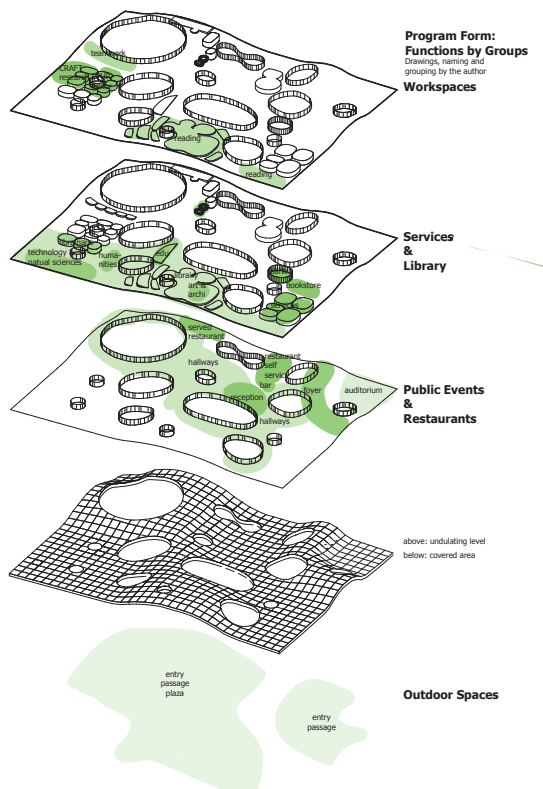
designs are simulating organic growth. The functional groups are organized in valleys and on hills, like urban neighbourhoods of a large city, spread out or settled onto the topography according to rules of vicinity, accessibility, and views.

2.5. The Landscape Architectural Composition

This project is intensely playing with landscape methods but at the same time abstract in it's formal references. Juxtaposing the four layers as a composition, we can find two extremes in one design: The design is extremely light, playful, full of humour and irony, and at many points even funny. Science could here be seen as a cultivated kind of game. Baut we also encounter an enormous will for abstraction and clarity in means of expression.

It could be seen like the architect's model of a landscape more than the gardener's replica of nature. This is definitely a landscape but the landscape is built of concrete, steel, glass, white paint, shiny surfaces, and light gray carpet. Even if built, it still feels surreal - like walking on the moon.

However complete and sophisticated the landscape vocabulary in this composition, there are not one to one copies. Everything is not merely used as an analogy but translated into methods, which is gratifying for our research.

3. Conclusion

The analysis of the Learning Center is surely an important part of our discovery of landscape methods for architectural design (9). Landscape is developing here as the aesthetic mediator between nature and human. We are confident at this point to find more aspects useful to architecture in this direction and hopeful that we will continue to bring home valuable treasures from the proposed expedition into an unknown land.

4. References

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