

Time Effects and Their Impact in the Landscape Architecture

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Abstract. The research of this paper focus on the perception of time which can give important landscape design effects. The aim of this study is to enrich the science of creating those effects with positive psycho-emotional impact over the users of landscape arrangements. Taking into account elements of psychological research, it could say that in landscape architecture, time perception could be realized mainly through succession perception, duration perception of a walk and orientation in time. The paper take into consideration the fact that some compositional effects, obtained by the judicious usage of basic morphological elements in the landscaping design, have the virtue to create the desire of movement, crossing and seeking interesting details in order admire it. In this way, to the perception of landscape tridimensionality is added the perception of the fourth dimension, namely the time. The time perception in landscape architecture can be decoded trough the perception of the interval covered in movement, perception of succession, the temporal valuation and controlling by effect dosage and also the orientation in time by creating rhythms and pauses. The way in which we perceive time through morphological landscaping elements, as terrain, vegetation, water and furniture, can create another kind of time perception effects. The time can be valued and controlled by the dosage of landscape effects. To perceive time and its duration, creating also landscaping effects, means knowledge of a subtle domain. The effects of the time over the landscape elements (like seasons effects, aging of materials, degradation in time) are another area of effects, which we will study in another research.

Keywords: fourth dimension, time dimension, landscape effects, effect dosage.

INTRODUCTION

Time perception has many new aspects, studied especially in nowadays psychology (Block, Hancock and Zakay, 2010). In landscape architecture temporal effects have been studied mostly in terms of the aging and degradation of some landscape elements. In this context, the aim of this paper is to study, explain and exemplify subtle time effects in landscape architecture, searching for that kind of time perception which can give important design effects. The subjective-emotional factors influence time perception and its duration estimation (Sucala, Stefan, Szentagotai-Tatar and David, 2010). Taking into account the elements of psychological research, it could say that in landscape architecture, subtle time perception could be realized mainly through succession perception, duration perception of a walk and orientation in time. A big role in time perception is played in landscape architecture by the movement perception that implies spatial-temporal coordination: the time can be valued and controlled by the dosage of landscape effects.

MATERIALS AND METHODS

Comparative analysis of some compositional aspects and means can be correlated with time perception and estimation. To perceive the forth dimension, the time, it can be used many senses, not only a single sense organ. In landscape architecture, to see images full of

colors, to hear sounds of water or of vegetation, to use the tactile sense, means that finally the perception of landscape tridimensionality is extended and the dimension of time is being felt.

The time perception in landscape architecture can be decoded and understood watching: the perception of the interval covered in movement, perception of succession, the temporal valuation and controlling by effect dosage and also the orientation in time by creating rhythms and pauses. Very important is also the way in which we perceive time through morphological landscaping elements: terrain, vegetation, water and furniture.

RESULTS AND DISCUSSIONS

1. Perception of time duration through the perception of distance

A big role in time perception is played in landscape architecture by the movement perception that implies spatial-temporal coordination.

The duration of a promenade seems shorter if the landscape design is harmonious and attractive. When the created landscape does not captivate us, then we would wish to end in order to do something else, then the time expands beyond measure.

In covering a route, the landscape perception should be controlled and dosed so that not to disclose too much once, but also not to tense the onlooker obturating and restraining his view to grasp the depth of the route.

The disclosure and masking are also means through which the arrangements can be valued, inciting curiosity and focusing more on attention. Likewise, *image filtration* through vegetation and through various objects, for example statues, contributes by grading perception to the pleasure of the onlooker to discover certain details.

In landscape architecture, various types of perception are known, either by crossing routes or by contemplating a created landscape design (Dascălu, 2011):

- walking through with filtrated perception of interest points (Fig. 1);
- static, filtrated perception with distributed interest;
- filtrated perception of interest points, combined with distributed interest;
- filtrated dynamic perception with distributed interest in intermediary plan and interest focused in the final plan.



Fig. 1. Filtrated perception at Queen Mary Gardens, Balcik – photo by Dascălu Doina Mira

2. Perception of succession

The successions imply directing – for example (Dascălu, 2011):

- a series of spatial perceptions that have a continuity in the emotional plan, following either an ascended or descended gradation or a modulation, an alternation producing rhythm;

- valuation of spatial-temporal dimension through spatial-functional modulation inside the unit of the landscaping arranging space.

3. Valuation and controlling time perception by effect dosage

The gradations of effects imply an accumulation of effects, emotions, experiences. The delimitation of a space from another, calls for discovery through running that can be graded by extending or shortening the route or through modulation games of it. For example, the gardens working with pergolas or portico, construction with or without vegetation, incite to the discovery of mysteries beyond them, but also inspires liberty, romance, dreaming of what there is beyond lights and shadows (Fig. 2).



Fig. 2. Porticos shadows at Queen Mary Gardens, Balcik – photo by Dascălu Doina Mira

4. Orientation in time by creating rhythms and pauses

The rhythm involves repeating, alternation between accent and non-accent. The rhythm can be static-linear or dynamic-directed. It can be obtained using volumes, surfaces, colors, light, functions, either by condensation or by dilution of interest. The dynamics or suggestion by rhythm of movement in landscape architecture can activate the human mind attracting look and attention. The pauses incite relation and increase the human capacity to receive new suggestions, new emotions.

5. Perceiving time through morphological landscaping elements

Regarding the way in which we perceive time through morphological landscaping elements, it is interesting to make a few remarks related to each element (Dascălu, 2011).

5a. The perception of psychic time regarding the *terrain* as landscaping morphological elements can be felt when we encounter an arrangement creating emotions, feelings, psychic states. *The concave lands*, for example, offer most of the time an intimate frame captivating the individual for a longer time, giving him the feeling of protection, of silence. On the other hand, these arrangements can also create pressure feelings, forcing the individual to leave as soon as possible the location.

Following a *sinuous route*, comparative to a straight one, can render the impression of crossing it in a shorter time. The discovery of some interesting elements contributes to the distraction of attention from the route itself which seems easier to cross due to these elements. *The natural or artificial sinuous route* incites to its exploration, inviting us for a walk. Although it implies repeated ascents and descents and a longer duration of time for crossing, these are not monotone or tiresome neither physically nor psychically. The perception of the undulated route is of its crossing in a long, expanded but also pleasant and inciting time.

The horizontal lands create the feeling of a stand still time, either generating a boring space in which apparently nothing happens or leading to meditation or relaxing contemplation of a quiet landscape.

5b. By annual renewal, *the vegetation* is a temporal dynamic element of the landscape, by its general volume, shape, color and perfume transformations but also by its particular details like leaves, flowers, and fruits. In creating vegetal composition, it is necessary to know all the vegetal details related to season succession for a harmonious association of species and for spacing out in time of the design effects.

5c. Simple, familiar but complex, *the water* endlessly attracting. We are tempted to *look* the water flow under a bridge, *to feel* the water overflow the marble rim of a fountain or to listen for hours charmed by the whispered murmur of a water or of the wave sound crashing the beach. The aquatic arrangement may be static – resting and expanding the time, or dynamic – psychically or physically energizing and contracting time. The compositions with *running waters* suggest better the irreversible passing of the time (Fig. 3).



Fig. 3. Running water at Queen Mary Gardens, Balçık – photo by Dascălu Doina Mira

With the help of a *water veil* depending on the water flow, we can symbolically suggest the faster or slower passing of the time – the higher speed sensation of water on a smooth surface, compared to a coarse one. The water veil breaks the space in many fragments resulting in an image succession. Together with the water flow also a succession rhythms are created given the sound/noise produced by it. At the same time, it filtrates natural light, creating a rhythm of shadow and lights. Moreover, the time can be perceived by rhythms and pauses given by the *water fall height* from the highest point to its calm down point. The *mirror type water* arrangements suggest the static perception of time. They have a deep relaxation, slackening effect, the calmness of the human psychic. Thus, a water mirror gives the sensation of space deepness by the reflection of the sky and adjacent landscape.

5d. Not least, *the furnishing* can create a range even wider of temporal effects through shapes, volumes, colors, material textures, light or shadow plays, contrast plays like: horizontal-vertical, curved-straight, continuous-interrupted etc. Here are some examples. On short distances, the undulated *shape* of the furnishing can be inciting – playful, dynamic rhythms are created but also a temporal dilatation.

The material, through color, brightness, texture can create sensations, their perception being induced by it. The texture of the used material can be perceived in a tactile, thermal way and can offer a special dimension to the time. The stone furnishing, a cold material, allows rest of a longer period of time in the warm season but a shorter one in the cold season, even though the landscape is offering remarkable perspectives.

The texture of the flooring can influence the speed of which the route is crossed. The alleys covered in gravel suggest and determine a slower walk and, in this case, the

composition details pass into the foreground – floral arrangements, architecture elements etc. The smooth surfaces (for example ceramic or concrete ones) allow a more rapid and easy circulation, case in which the general visual aspects replace the smaller detail ones.

The decoration rhythms of the pavement remove the route from its dullness. The shape and volume of the urban furnishing can create successive rhythms within the landscape either by own details or by their shadows in the sun, or by subtle rhythms and shadows of artificial lights in the night (Fig.4).



Fig. 4. Night lighting rhythm at Queen Mary Gardens Balcik – photo by Dascălu Doina Mira

CONCLUSION

The creators of landscape arrangements want to generate beneficial effects in order to remove overall pollution, but for this study the effects over psycho-physical pollution are the main purpose. The perception of time and the induction of time dilatation or contraction can be created through some type of landscape design effects, as was explained above. As a result, some people may be encouraged to walk, others feel the need to sit still and relax. The final desired positive effects can stimulate or calm, remove fatigue or generate joy, depending on the degree and type of stress of the person who wants to enjoy the landscape scenery created by the designer.

The way in which the landscaping effects determine us to perceive time and its duration creates a subtle area of knowledge, with an important beneficent impact over the city and its inhabitants. The science to control and use these refined effects is supported by research of this type.

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