Research on Ice and Snow Landscape Design

Lei Huang

1 Institute of Environmental Design, Art and design Department, Suihua College, Heilongjiang, China

Abstract. Snow and ice as the gift of nature, culture of the northern black culture at the same time, cultivate the northerners unique simplicity and fortitude character, ice sculpture is to create and the wisdom of the people in the north of the snow sublimation material. The design concept is the main landscape of ice and snow as the core, to highlight the strengthening of ice characteristics as the direction, the design method of the system as the main line, the landscape design of the function, combined with other studies, aesthetics, psychology, many factors of plants, demonstration and development about the existing design. Based on ten, from the design point of view to solve the problem of ice and snow landscape design. In this paper, starting from the ice and snow landscape design in Harbin, analysis of the ice snow landscape of interest, origin, and finally analyzed several ice and snow theme landscape design theory.

1. Introduction
The snow is a precious gift of nature to give Harbin of Northland ice city, also has unique northern snow landscape and soil culture, cultivate more north people honest and strong character. The North contact ice in the activity, the formation and development of the ice sledge, snowball, snowman in rich and colorful folk activities; the use of ice and snow in life, frozen food, goods and other ways to improve and enhance the people's daily life quality; watch the snow carving, crystal clear ice and snow are perfectly plastic represents the highest pursuit of northern art; snow bearing development, mining snow infinite value, form a set of ice and snow culture, art, education, tourism, ice snow and ice snow and a series of economic development strategy. Harbin International Ice and snow festival has become one of the four international ice and snow festivals, which is tied with the ice and snow Carnival in Quebec, Sapporo Snow Festival and Norway Olympic road skiing festival[1].

2. The rise of ice and snow landscape
Ice art originated in the northern folk activities, people, ice and ice cold warm snow making and decorated with festive atmosphere. In 1963, Harbin held the first fair will first use of natural ice as a landscape element for the landscape design for public viewing. Based in Harbin city in January 5, 1985 in the traditional winter tourism. the Ice Festival on the founder of the Harbin International Ice and Snow Festival, is the first snow activities for the content of the International Festival in the history of our country. The 2014 Harbin International Ice and Snow Festival after 30 years of rapid development of the planning and construction of a total of 13 snow theme square, 9 street, 17 points, a total of 39 snow landscape, foreign tourists more than 2000 people, has become an important carrier of cultural landscape in Harbin. The rise of ice and snow art is also the best reward for nature[2]. The origin of China North snow landscape of the city of North China belongs to ten “winter city in geographical conditions” (the cold city is a more general concept, according to the characteristics of city winter climate region defined by the long winter, harsh climate to adversely affect the city of city life. The climate is temperate climate Shihan. This area has four distinct seasons, seasonal changes of
the Ming Dynasty conspicuous long winter. The average winter temperatures below zero degrees Celsius, in the form of precipitation, snow water freezes at a short time. Solar altitude angle is smaller. Such natural conditions make the ice of the landscape are richly endowed by nature development in city landscape, but affected by temperature, the single plant species, people go out the activities of the inconvenience also makes snow landscape ten more isolated position in the history of development, lack of coordination with other landscape Wu Su, and other seasons in the city landscape in the landscape is relatively disjointed. To create a better landscape of ice and snow, we must attach importance to the local geographical and climatic conditions, starting from the basic conditions, to adapt to the cold climate, unfavorable conditions for the favorable factors, pay attention to and mobilize other related factors, to better serve the city landscape image.

3. Origin analysis of ice and snow landscape in northern China

Chinese ancient society, the earth will multiply the Northeast Han, Sushen, Fuyu, Goguryeo and later Wu Ji, Khitan, Mongolia, Manchu and other ethnic groups, these ethnic groups have created the northeast culture and the characteristics of myths and legends, such as Shaman culture, Mongolian Maider female creation myths, "from these northeast first literary and historical records, we can deeply feel the ancestors in the power of nature under the unyielding spirit and tenacious survival consciousness, Yong ten pioneering, hard pioneer spirit and collective heroism". The harsh conditions in which the north had survived since ancient times also varied from the cold of the ten winter and the depression brought about by it. The northern culture influenced by the heroic struggle too much. In the long winter. depression in the environment, the north also formed a warm, cheerful personality, and Chinese southern culture is different. Sing praises of nature and scenery also do not have a flavour.

After Fuyu has created the splendid culture of Koguryo period, the poem monk set on the creation of the "Yong master" Gushi: "back to the stone Zhisheng empty flat, more red. Only pull peaks, isolated white clouds." The boulder based scenery description, not only the performance of the poet with popular feeling - so, more give a person with cool open the vicissitudes of life beauty.

3.1. The vast natural beauty

The northern terrain is plain, the terrain is vast, including the frontier area, including the desert culture and northeast culture. Wide area to the vast expanson, the boundless plain feeling, since ancient times, people in the struggle with nature, enjoying the vast natural landscape. Therefore, the northern aesthetic appreciation of large-scale, flat, broad beauty. In the north, winter is long, snow often remains, and the earth remains ten. The plants in the field retain branches in winter, which does not hinder people's sight, and white also expands the visual sense of human beings.

3.2. The majestic momentum of the United States

The vast and cold north can always cast a heroic personality and strong. The vast world, the single scene in winter, the cold and dry climate make people feel more pure. Under this unique geographical scale, it always causes a sense of grandeur. Winter ice and snow have strong coverage, bring tremendous shock.

3.3. The hale and hearty lines of beauty

Flat, broad sense of space and large scale space, coupled with the characteristics of northern people tough, more contact with the winter snow and ice making modern concise style is more popular, highlighting the tough line of beauty. People's clean white color has become a simple color tendency.

4. The design of ice and snow landscape

4.1. Ice

The self luminous sculpture specially designed for the night uses the solidified carrier to contain the light of the changing light and creates the colorful and mysterious meaning. Using a combination of ice groups, to create a Crystal Palace like environment, so that people get a fantastic visual experience.
As a temporary artificial landscape in winter, it suddenly appears in people's accustomed living space, and brings fresh and refreshing spiritual experience to people.

4.2. Snow
Snow is the unique gift of nature to cold city, for thousands of years, has been as a symbol of purity, showing romantic feelings. This beautiful image is a deep cultural implication. Snow is snow pure color and delicate texture of the condensation in the creation, with meticulous carving techniques, shaping the artistic image of every kind of change unpredictably. Because of the particularity of the material, the carving process costs less power, while the content of the molding is arbitrary. The central axis of the park landscape, "a scene of bustling activity long 180m" high 15m, with the amount of snow 17000m3, is the world's largest existing snow. The landscape with two head up the dragon, with a tiger, the other three majestic momentum majestic, true to life, is a rare snow plastic treasures. Of course, they will eventually melt and cease to exist, so they are more treasured in the limited period of existence. As a kind of temporal sculpture, it records the exquisite artistic temperament of the northerners.

4.3. Winter plants
Because of the heavy snow, the details of the plants and woods are covered, but the overall layout of the garden is highlighted. At this time, the garden seems to carry out "map bottom conversion", the green outline is more clearly discernible, to create a concise and rich form of landscape architecture. The sudden drop in temperature, the water vapor condensation moment on the branches, so the tree became part of the winter. The far view hazy and illusory, almost did not see its crystal prescription exaggerated form, this particular, add a static aura for winter garden. Designers also clever use of the tree in winter, it is covered with colorful lighting, create an EVERYBRIGHT entrance square art effect day.

4.4. Architecture
Different from the pure art, it should not only in the garden in the snow and ice landscape brilliance, but also need to assume some functional requirements such as diet, rest, indoor entertainment venues, to provide services for outdoor activities and visitors. Of course, the design can make use of the group combination of buildings to form small blocks, such as the northern snack street, folk custom village, etc., to add more strong northern culture to the ice and snow garden. The temporary landscape created by human beings aims to add a new and significant temporary theme to the environment by superimposing a new element with the ice and snow environment. Big world designers use a few rows of ice wall enclosure space, hanging celebrity painting and calligraphy, each straight to the theme, enhance the ice and snow culture charm. The park organizers also ordered the world's largest Korean drum with a diameter of nearly 2m, to reflect the rich exotic style. The amusement park in Harbin, the staff will have numerous red umbrella in a world of ice and snow on the trees in countless red ribbon winding walks, bring vitality to the quiet aura and ice environment. The design of these temporary landscape to offset the icy environment to a great extent bring cold monotonous feeling, become white body in the environment design of dotting pen sublimation.

4.5. Humantistic Landscape
Static artificial landscape frozen once after the completion of a certain stability, the subsequent plastic space is limited, and the combination of dynamic cultural landscape can be in a fixed condition, create brilliant artistic effect, to expand the theme, prolong the life cycle for the park. Of course, the formation of these elements of ice and snow garden, need to be through different combinations, it may produce or cordial simplicity, or elegant, dignified, or light, elegant, or cheerful local space effect. The spatial effect of the whole, on the contrary, endows the functional features and figurative meanings of the elements. Combined with the specific layout method of the ice and snow world, several combinations of the summary of these landscape elements: axis combination of ice and snow.
4.5.1 Snow world layout
There is a whole garden axis obviously, it consists of the entrance door, the avenue of stars, like the Forbidden City Hall three buildings, two ice carving and Snow Dragon overall the whole park Friendship Square. This axis runs through the entire garden, clear and rigorous, magnificent.

4.5.2 Contrast combination
The use of icy creation classic architectural image is the tradition of previous world ice and snow. This year, it adopts the contrast of Chinese and Western architecture, which not only promotes national culture, but also highlights the park theme of "China Korea Friendship ice world". The use of light color contrast, sometimes can produce strong artistic effect.

4.5.3 Progressive combination
The climax of the theme environment is generated by the progressive and progressive environmental relations, which produce the contrast and gradual change. In the music square, this approach was adopted to lead people into the perfect combination of music and light.

4.5.4 Freestyle combination
All kinds of amusement items are various, and the area is different, so this combination is especially suitable for entertainment area. Through the formation of a free tour line, can make the tourists in different recreation experience with many twists and turns, avoid boring and monotonous feeling. Designers are not only reasonable in spatial organization, but also more skillful in dealing with many details. In order to emphasize the function of different partitions, the use of music style, prompting people to identify the characteristics of the region. For example, the lively and lively dance music is played in the recreation area, and the melodious folk music is changed in the Korean amorous feelings area. The use of the limited Dingbian structures.

5. Conclusions
Today, with the rapid development of modern society and economy, the concept of green design is the basic quality that designers should possess. The ice and snow landscape design mainly aims at the northern region, the long winter climate, uses the ice and snow material as the main element, integrates the ornamental, entertainment, sports, leisure as one of the integrated landscape design activities. Natural ice from frozen river ice, through artificial cutting to form a unified "ice cream"; natural snow quality soft, not as a long time to watch. Therefore, the snow material is mostly man-made snow, and the material itself is also fine particles atomized by water atomization. Ice and snow landscape materials are natural materials without any pollution, and are renewable resources, and less energy consumption is collected and transported. Snow and ice landscape itself is curing state of water, as a landscape display will have gasification sublimation phenomenon in the spring snow landscape will condense into water. The formation and melting process of the entire ice and snow landscape are all the three forms of water transformation and cycle development process. Green design needs to fully consider the energy and resource consumption in the design process, and strive to minimize consumption, but also an important part of urban planning development and landscape environment design.

6. Acknowledgements
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7. References
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