

**A Study on the Design Strategies of Outdoor Environment Landscape of
Old-Age Care Community Based on Humanistic Care
——An Analysis of the Case of American Old-Age Care Facilities Design**

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Abstract:

The pension problem is related to the stability and sustainable development of our society. The living environment of the elderly and the quality of community public facilities are the key to the development of old-age care community. This paper analyzes the outdoor environment and facilities of three American old-age care communities, summarizes the enlightenments of the outdoor space design, and have a reference influence on the public space design of the Chinese old-age care community.

Keywords: Elderly people; Facilities; Communication Space; Humanization; Body-mind health.

1. Overview

The aging problem has always been a global problem. In 1999, China officially entered into an aging society and had become the country with largest number of the elderly in the world, accounting for one fifth of the world's total population. As a developing country of large population, although the rapid development in the 30 years of reform and opening up had brought remarkable achievements for China's economy, the modernization process is still a long way to go. Compared with most of the western developed countries which had entered the aging society under the premise of completed modernization, China steps into the aging

society in advance when the economic level has not yet risen to the equal level; therefore, the economic base coping with the aging population is weak and overall displays the "Aging before rich" trend.

Affected by the traditional Chinese culture, the home-based care model that family members bear the support obligation has been in the dominant position in China's pension system. However, recent decades saw some fundamental changes in Chinese society, such as the implementation of family planning policy, the changes of employment concept and way of life, and demands for diversification and individualization of the elderly, which considerably challenge the predominant position of the home-based care model. In addition, China's pension model begins to gradually rise from a single family, turning to a diversified community care. The construction of the old-age care community allows the social care and home-aged care model coexist. Its flexibility and adaptability is self-evident.

China's researches on the old-age care community are still in the exploratory stage; many researches and cases lead to the elderly residential building design, concerns about the needs of the elderly in architectural and indoor detail design. But in the aspects of elderly outdoor activities and communication spaces, scholarly attention is still lagging behind, with some studies restrictively focusing on the display function while ignoring the elderly personality requirements and user-friendly designs. This problem often cannot be resolved by a single link; it combines the social, institutional, cultural and other various facilities' factors. In this area Europe and America have made robust academic and practical achievements. Therefore, this paper will analyze the detailed designs of outdoor communication space in the American old-age care community in the hope of shedding light on the research on outdoor communication landscape design of the Chinese old-age care community.

2. A Case Study on the Outdoor Activity Space of American Old-Age Care Community

This paper chooses three American old-age care modes' outdoor activity space of different types. Despite the fact that these types are not the same, their common characteristics are of good pre-planning and humanized design details that create healthy living environment and excellent outdoor communication places for the elderly. These spaces allow the elderly enjoy old age in the apartments and community.

2.1 San Rafael senior congregate housing in California

The apartment is a three-story building with a lift in the city's residential area. It has a center courtyard funded by the Federal Government with 83 units, a manager's living unit, a public activity room, and a three-story residential building. The design idea of the apartment is to allow the central courtyard surrounded by a three-story U-shaped residential building. In each outdoor corridor of each layer the residence can see the courtyard and the public activity room in the apartment' main entrance.

2.1.1 Relying on a good location of mature community

The project is located in a residential area, close to three urban streets, with convenient public transport, a community business center beyond a few blocks, and there are grocery stores and other service facilities opposite to the street outside the apartment. From the location analysis, the elderly apartments in the residential area first ensure the travel safety of users, which is particularly important for younger elderly with easy mobility as they have relatively frequent social activities. Their physical condition determines that they are unwilling to stay in the interior and courtyard of the apartments; they are more willing to enrich their old life with frequent access, so that the location enables them to enjoy a better safe outdoor space. Secondly, the convenient public transport around the apartment can be convenient for the elderly to reach the nearby business district. Most of the elderly here will wander in the business district and enjoy a good visual landscape if the weather permits. Moreover, the other service industries and health facilities around the apartments are also very complete. Those industries and facilities are a very good makeup for San Rafael apartment project that of small scale and with limited activity space in the central courtyard. Therefore, the elderly living in apartment can rapidly use these services and facilities under convenient traffic environment, reduce the need of elders on those within the apartment, thereby reducing investment in project development.

2.1.2 Public Activity Space Easy to Communicate

It is observed that the elder like to stay in the main entrance and public space around this. Here are the entrance to the waiting area, the mailbox, the public activity room and the passage access to the central courtyard. According to the daily behaviors of the elderly who live here, when they travel to the nearby business district, etc., they usually set here as the place wait for meeting; they will meet when they collect letters and have a short conversation; rest at the place before leaving and after returning while watching other people's activities.

2.2 Health Care Unit for Patients with Alzheimer's Disease in Champaign County Nursing Home

The Champaign County Nursing Institute is located on the outskirts of Urbana, Illinois. It has been a community service since 1906 and has gradually developed into a nursing facility dedicated to the elderly and is a skilled nursing facility type. The nursing institute provides special care, medium care and general care for the occupants. In 1988, a 15-bed Alzheimer's patient care unit was added to serve the elderly whose memories were impaired. After 1994, a new routine care and long-term care center for patients with Alzheimer's disease was added to meet the increasing number of patients who needed daily care.

2.2.1 The outdoor environment for the elderly to create labor production opportunities

This is the most note-worthy characteristic of the nursing institute. In the transformation

course of the courtyard, the old people become one of the transformers with the courtyard everyday changes, such as seeing the workers construction, planting, and participate in these activities. During these activities, the old people were more willing to walk in the courtyard than before, and to monitor the progress of the project. Some patients affected by the Alzheimer's disease would have an irritable situation earlier; but since then have improved significantly, they either sit in the courtyard chair for peace, or take a walk in the sun. From the user's participation and use degree of the courtyard can see that the project has achieved success in creating a therapeutic outdoor living space for users.

2.2.2 Signs and ring road help the elderly clear directions in the outdoor space

The nursing center has a 30m * 30m central courtyard. Two leisure areas are set in the courtyard northeast corner and the southeast corner, one abutting the residential building and forming a semi-enclosed space with the surrounding roads and plants to; the other locating on one side of the open lawn road, forming a typical semi-open space. The location and spatial comparison of two leisure areas form a special sign to provide users with adequate perceptual information and prevent patients with Alzheimer's disease getting lost. The courtyard also sets up sculptures of different forms to help patients with Alzheimer's disease to understand the direction. In addition, The nursing home cultivate cedar hedge in the south and east of central courtyard, and form surrounded space with the residential area in north and east to effectively prevent patients Alzheimer's disease wandering outside the planning area. The walking road in courtyard is also interconnected and form a loop, which can let the people in any position on the road back to the walkway of the building entrance. When dementia elderly have the opportunity to roam—the other significant behavioral characteristics of patients with Alzheimer's disease, negative sexual activity or mood will be reduced by effectively restricted roaming routes, that allowed patients in a safe environment, the form a comfortable behavior that can ease their condition and effectively and prevent them from getting lost. The arc-shaped design increases the length of the road and meets their requirements for activities and exercises.

2.2.3 Activity Area Making the Elderly Feel Psychological Safety

In view of the behavior characteristic of Alzheimer's patients who prefer roaming, the safety of outdoor space is more important. While satisfying the material safety protection, the courtyard design focuses on spiritual and psychological protection. This consideration leads to the gathering activity area in the courtyard located near buildings, with two central courtyards set in the right-angled space formed in the north and west buildings. The small intimate space using sheltered areas make the patients with Alzheimer's disease feel the material and mental safety when using space. When elderly have activities and exchanges in small spaces they convey a positive attitude towards the immediate interior viewers, prompting the elderly in the room to go outdoors.

2.3 DuncansterNursing Home

DuncansterNursing Home is a representative old-age care community in the US. The nursing home is located in Connecticut, in the outskirts of Hartford, covering an area of about 437 acres, with self-enclosed, isolated features, and easy access to the city, suburbs and villages. The buildings on the nursing home is concentrated in the northwest corner of the site, including 216 residential units, 60-beds medical facilities and a community center, and public areas include post offices, banks, shops, restaurants and medical centers and other service facilities. The nursing home has more than three hundred and sixty acres of wetlands, woodland and grassland in other areas, making it a green verdant town. The elderly who live here are covered from the younger elderly who are easy to operate and the elderly who are over 80 years. Compared with other older communities, developers of Duncansternursing home pay more attention to the construction of the ecological environment because they want to attract people living here to the community and nature. Therefore at the beginning of the development they design large green space and public areas. Facts have proved that they are successful.

2.3.1 Can provide natural environment for self-cultivation activities

Using plant cultivation to arouse the elderly's interest and easing the pressure to improve the mood is one of the characteristics of the care center for outdoor space use planning. In the Duncansternursing home, the elderly often plant flowers and grass in the outdoor, not subject to any restrictions on the venue. The sites where they most commonly plant on include: residential units, community public courtyards, public greenhouses, and the community green space and open space of forest edge can be seen people planting. They sometimes grow green vegetables in the growing area, add varieties to their own tables, and reduce vegetable expenses. Elderly people often gather together to appreciate their respective fruits of labor, form activities circle in the planting, help each other, exchange experience, form an activity center, and from an entertainment fitness activity into social activities.

2.3.2A Medical Center Can Overlook Public Activity Areas

Duncansternursing home has taken a far-sighted way to let the elderly in the room can enjoy the fun of the outdoors. Some of the elderly here with age increases, gradually move from community apartments to medical centers to use more comprehensive medical facilities and personal services, but at the same time they are reluctant to be isolated and still want to be integrated into the environment and services of community. Therefore, the developers arrange the medical facilities on the second floor of the public facilities complex building, so that the elderly can watch outdoor space indoors: one side is green space overlooking the town, and from the other side one can see the bottom private terrace. They on the one hand enjoy a rich and varied, natural landscape, and on the other hand look the activities and people, which is the elderly prefer.

2.3.3 The "Auxiliary Environment" Can Help the Elderly to Exercise

The so-called "auxiliary environment" is the necessary help facilities letting the elderly use, independent completing activities challenging for them. Within the nursing home, the wooden walkway and the surrounding facilities connecting the Northwest and the Eastern Gardens provide such an "ancillary environment". The wooden walkway is the only way to walk through the woodland in the project site, where the road is set to a path with both difficulty and length, both a sloping walkway and a horizontal walkway with a certain distance. The elderly are particularly fond of wooden walkway walking through the woodland and willing to go alone or go hand in hand. In addition, the walkway is also equipped with handrails to help and encourage the inconvenient elderly to participate in the walk; a bench or rest area is provided for the elderly every other distance; this provides the elderly with goals during the course of the walk and to encourage them to exercise. These provide practical and sensory sense of security for the elderly.

3. The Enlightenment on Outdoor Space Design of China's Old-Age Care Community

3.1 The security of communication space

Security refers to the safety usage of the elderly function. It also refers to the psychological safety. Functional areas excluding hidden safety barriers in use are the primary criteria of elderly care space needs, "It gives the elderly with a sense of security can encourage the elderly to go out, and to a large extent determine the elderly satisfaction with life". Such as whether pavement material is non-slip, barrier-free is through and so on. This material protection is directly related to the psychological security for the elderly use, that is, the spirit of protection. As the elderly psychology compared to other age is more prone to appear loss, depression and other negative emotions and need special attention. Some of the mental protections of the elderly are reflected in the privacy space, whereas some elderly hope not to be disturbed in the outdoor leisure. But in the rest process, we can observe other people's activities or enjoy the scenery; some elderly people like the lively atmosphere and open space, and they obtain spiritual security and satisfaction through concerned by others or needed by others. In general, most of the domestic elderly care centers have guaranteed for outdoor physical security measures, yet the spirit of security may not be achieved.

3.2 Controllability of multiple spaces

The elderly in the daily life have both the privacy and communication requirements on the activities space, which requires us to create a space of different level and atmosphere when carrying out outdoor communication space design, both quiet and private space, and public places for exchange and common entertainment. These spaces should be size interspersed, interconnected, mutual penetration to ensure the activity independence of the elderly at the same time to attract others to join and maintain mutual contact, thereby increasing the sense

of security of the elderly, comfort and sense of the field. At the same time, the multiplicity of space brings not only the experience of spatial accessibility, but also the diversity of the elderly in the process of communication. The design of the scene should not only focus on the experience of the elderly in space, but also take into account the space experience when elderly use space: such as the elderly usually in good weather have outdoor activities, while most of the time stay in the room to watch the outdoor scene, then the concerned outdoor venues at this time whether meet the needs of watchers is an important manifestation of spatial multiplicity. For the elderly, even sitting on the side watch other people's lives is also a positive way to participate.

3.3 The legibility of space environment

When many elderly people are in contact with others, looking for routes in outdoor or enjoy the outdoor space, they will rely on limited perceptual information. Using special signs to indicate the regular action line, or provide detailed sensory instructions in the important nodes, will be allowing users to clear their location and direction to go. The American well-known scholar Rainier, after observing and researching an elderly residential area in California, summed up the three design factors influencing outdoor space use, namely, sense of direction, sensory stimulation opportunity and "master and control" of environment. Old-age care outdoor communication space needs to be based on these factors to create simple, obvious, easy-for-identification space. Different landscape space also requires a safe and convenient road system. The good setting of the road system can help the elderly obtain effective perceptual information in outdoor. The old people like to exercise through roaming or relieve negative emotions. Therefore safe and effectively restricted roaming route are particularly important. Closed ring road is the easiest to form an environment that is easy for the elderly to recognize, not easy to get lost, and highly recognizable. According to the different space levels, we are designing forms, materials, color and other details contact with complete identification system, will help the elderly awareness environmental. In addition, the comics, sculpture and other iconic environmental facilities also play a role in guiding the elderly to identify the direction.

3.4 The fitness of outdoor environment

In addition to the use of drugs and medical equipments and other technological methods to help old people heal rehabilitation in the old-age care space, the outdoor activity space that is quiet and beautiful and can have rehabilitation training also play an important role. A vibrant, healthy natural environment is the basic need for old-age care outdoor space, and has long been proven to significantly improve the effectiveness of treatment and reduce stress in all aspects. First of all, the function of the plant is the most important. In addition to paying attention to ornamental configuration, the need to take into account the health function and

the increase of the species can relieve disease and ease the mood, pay attention to the plant season matching, ensure having ornamental plants in every season to prevent the elders thinking of their own twilight years when seeing the withered scene. Second, encourage the elderly to participate in their favorite activities, create opportunities for labor, because social activities formed in labor can receive life amusement, and meet the dignity and feelings. Open up specialized planting space, form an activity circle in the garden, encourage the construction of community environment, not only get physical exercise, but also to achieve satisfaction of self-value, while promoting the communication between the elderly. Moreover, the environment is designed with roads and venues to help the elderly to carry out rehabilitation training, making them more enthusiastic to the outdoor leisure activities and maintain their corresponding physical function.

4. Conclusion

This article explores the three American old-age care agencies outdoor environment landscape space. Though its facilities and its details are not the same for different old-age care models, its goals are consistent throughout the whole. Though both are countries with big population, China and America has a big difference. Environmental congestion, the tension relationship between people and lands, the regional differences in health care institutions have increased difficulty for the development of China's well-developed community environment. However, we should also see that China has a profound cultural heritage, advocating the concept of natural philosophy, while owning the traditional garden art of the essence, which have given Chinese characteristics to the old-age care community landscape space. China's old-age care career in the future will experience a long and complex process, and outdoor space environment construction of old-age care community is also a comprehensive and long-term task, and continues to evolve with the progress of society. It is necessary to combine the advanced concepts of foreign countries with the actual situation of China, absorb the good experience of foreign countries while carrying forward the essence of Chinese traditional culture and using rich landscape features to find the outdoor environment landscape design methods suitable for Chinese old-age care community.

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