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Procedia Engineering

Procedia Engineering 118 (2015) 201 - 214

www.elsevier.com/locate/procedia

# International Conference on Sustainable Design, Engineering and Construction

# **Vertical Cemetery**

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#### Abstract

Urban cemetery is the city patch where a space that seems far too forgotten has growing up. In large cities, where there is no more vacant land in city center, establishment of new burial has expanded to the periphery or suburb. But there is still no known general method to determine if verticality can also be applied in the future growth of this typology. This could be the alternative thinking to increase the amount without necessarily occupying good available land in cities.

Even though in the recent past some architects, such as Fillette Romaric, Chandrasegar Velmourougane, and Martin McSherry have explored these patterns primarily at the architectural scale, systematic research about religion standard and environmental design that investigates the transformation of human needs among these newer forms has not coalesced into a clear way forward.

In this research, the idea of skyscrapers that is integrated to cemeteries will also be done by the religion/belief rules comparison in a way of creating spaces. Later, I will translate the previous diagnosis into a classification and typology of spaces that is determined by religion standard and vertical possibilities. By the end of the research, the general urban design proposal for densified cemeteries will be given as the conceptualization conclusion of religion studies and verticality.

I expect this new and imaginative approach offers a sustainable solution for urban growth for cities lacking in land.

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Peer-review under responsibility of organizing committee of the International Conference on Sustainable Design, Engineering and Construction 2015

Keywords: verticality; cemetery; religious architecture; sustainable

## 1. Verticality as A Challenge For Some Typologies

The side effect of population explosion is the rise of space demands in the city. Verticality has become the practical solution to answer the land needs in urban area. "Verticalism" (Abalos, 2010) has just begun. This stacking methodology has been applied to almost every building typology. We are now facing the age of form re-creation in verticality: university campuses, museums, libraries, fashion buildings, sport facilities, along with combination of all these mixed with residential, hotel, and office typologies. They are no longer strongly built as buildings that stand only one level. Verticality is still under discussion if this is a complementary or alternative way of thinking about the city. But we see transformation and we have come to realize that the densification process is an instrument with which we need to become familiar with (Abalos, 2010). If we appreciate sustainability as land management, then being tall is probably the first action you can do as a designer. It not only accommodates number of users in available land, but also shapes identity and iconic element for the entire city or neighborhood. We are moving to a phase in which verticality is seen as tolerance, not vandalism. Extrusion command has been used to design architecture and replaced aesthetic principle, particularly in rapidly urbanizing cities. 'Form follows function' has changed to 'form follows finance' (Shannon and Vescina, 2003). Design schemes are convinced as discontinues growths, but also as functional mutations. Nowadays, mixed programs are performed within the section of high-rise buildings. Buildings are not drawn upon regularity anymore, but more upon operative variation of the building outline (Gausa, 2003).

The innovation and creativity is somehow leading to convince some new typologies that could possibly go vertical. In last 5 years, we are introduced to "Vertical Park", the combination application of technology and new idea. As we discover how to plant the trees on the floor slab, park function is immediately lifted and garden is not always on the ground. However, verticality is still not (yet) the solution for some specific typology. At the same time, we still continue to build some public spaces and other buildings on the ground, with only a single story to extensively occupy the best available land. Zoo and cemetery are the biggest challenges for this method. They are usually housed in a very wide landscape, not few are located in urban area. Rising problem of lacking space, these typologies somehow need to be transformed into vertical form. It will help to resolve a growing spatial problem.

The concentration of this issue is not only the verticalism acceptance as contemporary architecture form, but also the available burial technology and methodology. Cremation has certainly become more popular to both save burial cost and land in urban area. But this does not make cemetery obsolete. In some religions, cremation is forbidden. The dead body is required to be buried. But in this case, burial is not always on the ground. In this paper, the possibility of verticality will be overlooked with religion/belief rules in burial.

## 2. Urban Cemetery Demands

Cemeteries are usually end up with a less dominant priority to be designed. It is somehow forgotten that this space gets bigger and bigger each day. Houses could be squeezed, offices could be shared, shops could be stacked, but not cemetery. Death number can be decreased, but what has been buried cannot be replaced. Cemetery has no other possibility than "extending". Land will always be constantly demanded for this typology. This will not be such a big problem in suburbs, but it will be a completely different story for urban area.

The rapid population and economy growth in Hong Kong causes a very big competition in land uses between the live and the "dead". According to the article ""Perfect Storm" Brewing For Hong Kong Property Market" (2014), in 2014, housing value (less than 40 square meter) in Hong Kong is 92,000 - 126,000 HKD. Property market and the need are increasing and there is no possibility to replace them with cemetery in the top to-be-built list. To optimize the space, some building developers have built tall skyscrapers. Soon, this transformation will be applied to typology that has caused problems of quantity. "There are three things that are almost impossible to build in Hong Kong these days," Mr. Mui from Bread Studio (Wassener, 2014) said, "Cemeteries, hospitals and landfills."

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