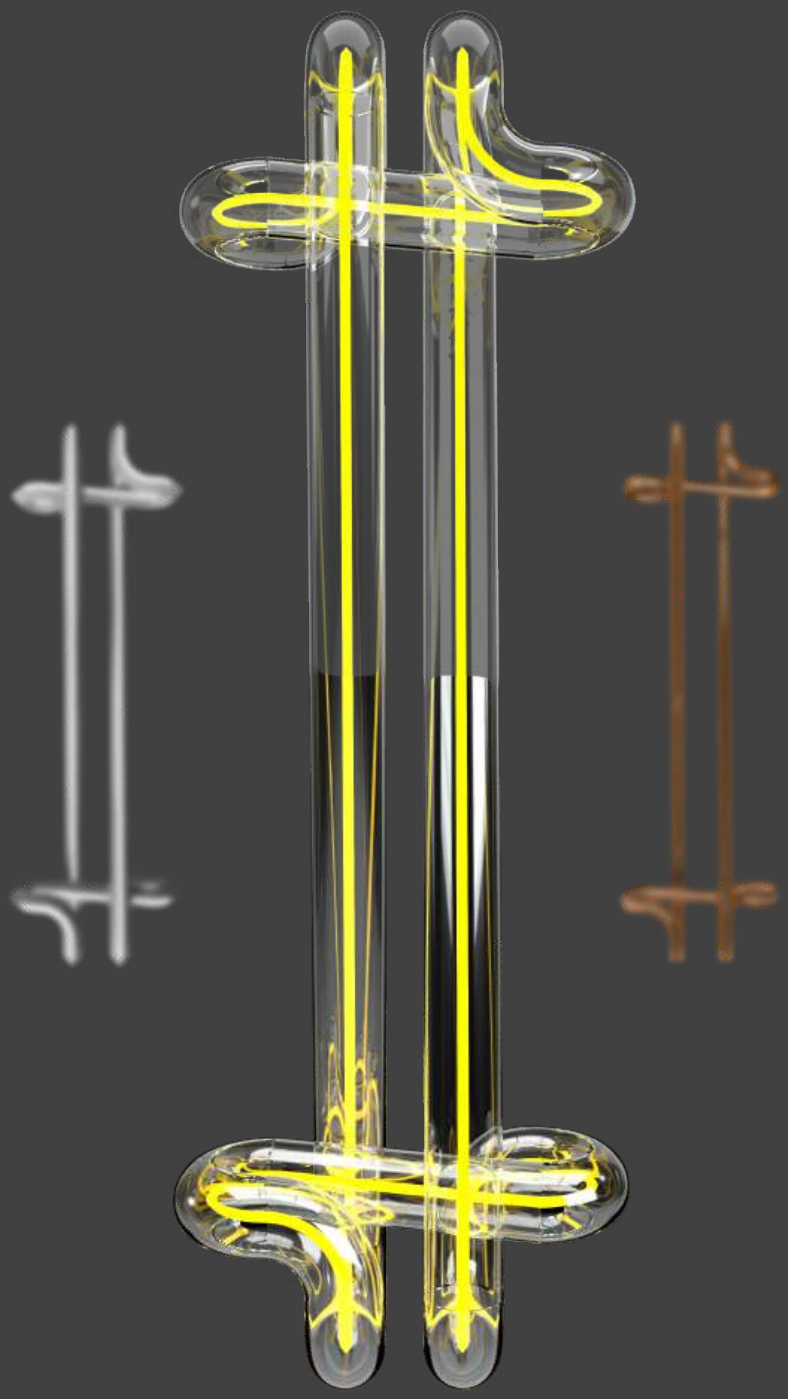
TRANSGENERATIONAL

The 11th International
Arts and Design Symposium 2023

TRANSGENERATIONAL
The 11th International
Arts and Design Symposium 2023



TRANSGENERATIONAL
The 11th International
Arts and Design Symposium 2023

by Council of Arts and Design Deans of Thailand (CADDT) and The Association of Siamese Architects under the Royal Patronage (ASA) together with the Faculty of Digital Arts, College of Design and the Faculty of Architecture Rangsit University.

www.workinprogress-symposium.design

EXECUTIVE COMMITTEE

Prof.Ekchart Joneurairatana
Silpakorn University, Thailand

Prof.Kamol Phaosavadi
Chulalongkorn University, Thailand

Assoc.Prof.Pisprapai Sarasalin
Dean of College of Design, Rangsit University, Thailand

Somchai Jongsaeng
Silpathon Award in Design, Thailand

Chookiat Likitpunyarut
Senior designer and artist, Designer of the year committee, Thailand

Jitsing Somboon
(Head of Designer, Greyhound, Thailand) Assoc.Prof.Dr.Tan Jeanne
(Institute of Textiles & Clothing, The Hong Kong Polytechnic
University, Hong Kong)

Franyo Aatoth
Artist Creator of exceptional graphic works, France

Geri Forkner
Textile Artist, USA

Prof.Kaname Yanagisawa
Architect, Chiba University, Japan

Prof.DeDeniz Hasidic
İzmir Ekonomi Üniversitesi, Turkey

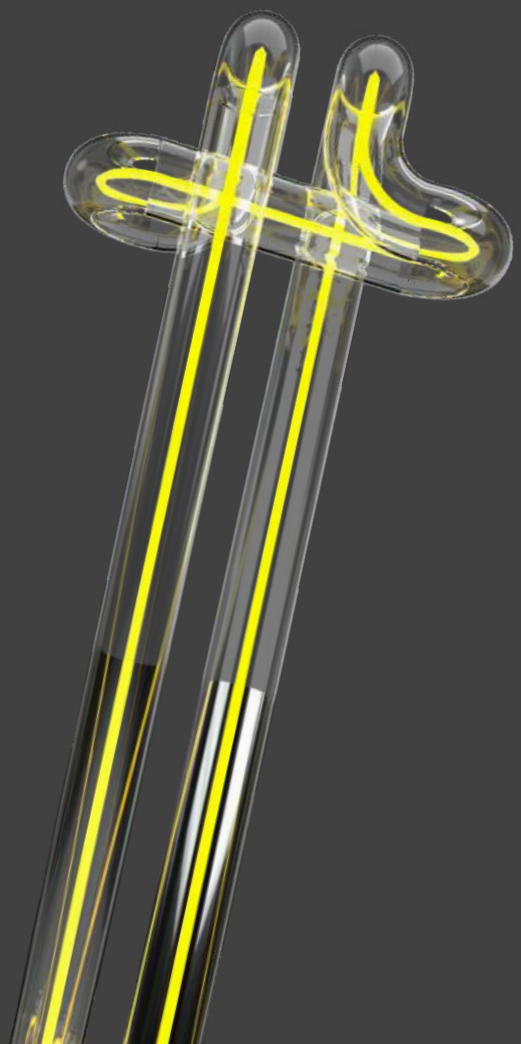
Marco Corbella
Architect/Designer, Italy

Asst. Prof. Andrew I-kang Li, Ph.D.
Kyoto Institute of Technology, Japan

Asst. Prof. Walaiporn Nakapan, Ph.D.
Architect, Founder of Parabolab, Thailand

Assoc.Prof. Chaiyasit Dankittikul, Ph.D.
Silpakorn University, Thailand

Assoc. Prof. Dr. Raksarn Wannawattawong
Chulalongkorn University, Thailand



Vertical Co-Housing: Melding Thai Traditional Living with The Contemporary City

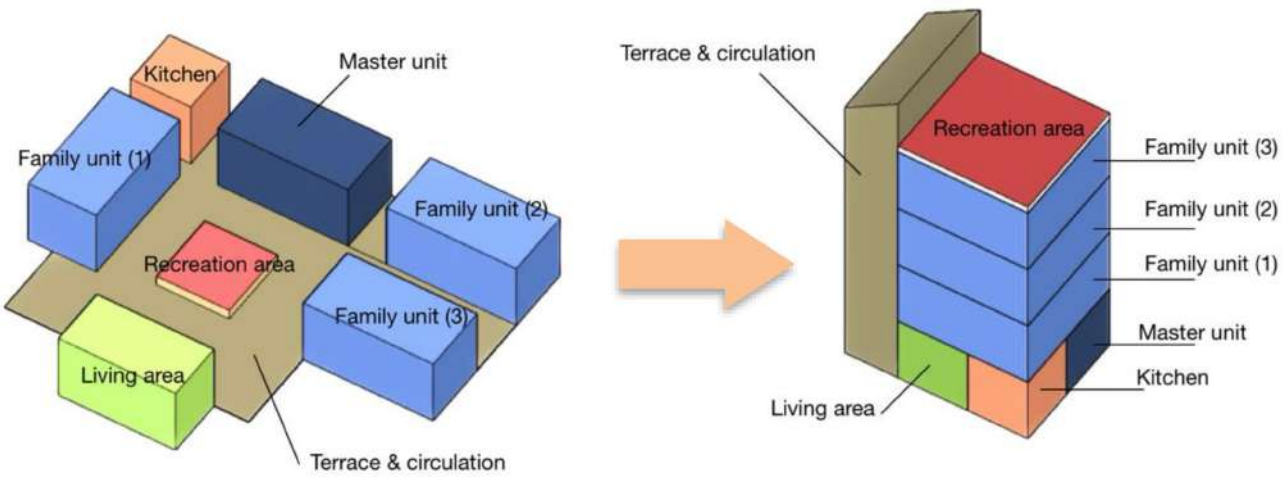
Asst.Prof. Korapong Kannasoot

Introduction :

In the past, it was common forThai families to live together in the same house in order to support each other across generations. This is evident in how traditional Thai houses were expanded to accommodate new family members and became larger as the family grew.However, due to the increasing price of land and cost of construction, particularly in urban areas, it has become difficult for many families to afford traditional co-housing. This has led to the question of whether it is possible to build a traditionally inspired Thai house on a small piece of land. To address this issue, the solution of building a vertical co-housing project was developed, rethinking and reorganizing the original functions of the house in the manner of traditional Thai living styles by stacking them vertically. Post-occupancy evaluations have shown that all functions of the house worked properly, although additional shading devices were needed on the south-facing facade during hot summer periods. Overall, the traditional Thai way of life in the contemporary urban contexts can be made possible using of a vertical co-housing model that promotes intergenerational living. However, certain features of traditional Thai houses, such as the ability to expand, are limited in the current context by foundation and pile work.

Objectives:

1. To design an urban compound that accommodates four related families.
2. To apply the criteria of building a Thai traditional house to the building of a contemporary house vertically on a smaller land piece.



Methodology:

The Thai traditional house is typically designed according to the functions and divided into small units, such as bedrooms, living rooms, and kitchens, connected by a main terrace. As the family grows, new private unit and small private terraces are added on the opposite side of the master bedroom, and the main terrace (or big hall) will be expanded to connect all the new rooms.This will creates a pattern of life in which every generation of the family can stay in the same house, share the main circulation and common areas, all while allowing the entire family to be involved in all activities. (Central Thai House Style, 2003)

With this Thai house concept, the design criteria of this project are: 1. All families have to live together in the same piece of land, and each family has to get their own private space. 2. Building facilities, such as common areas, recreation areas and circulation spaces need to be provided for all families

In order to achieve design criteria, a house built in a small area, had to be recomposed in a vertical arrangement.Thus, the private units, which include one sitting area, a pantry, a small dining area and two bedrooms were stacked into a four-story building with each family occupying one floor. Common areas such as the main dining hall and kitchen, were located on the ground floor in front of the elder generation's unit, serving as a magnet for all family members to engage in daily activities. A long table was provided in the main dining hall to be used as a living area for guests or visitors, reducing the gap among generations. A recreation area was also provided on the rooftop for all family members. Finally, the staircase and lift were attached to the west side of the building to connect all four private units and common spaces.(Fig.1.)

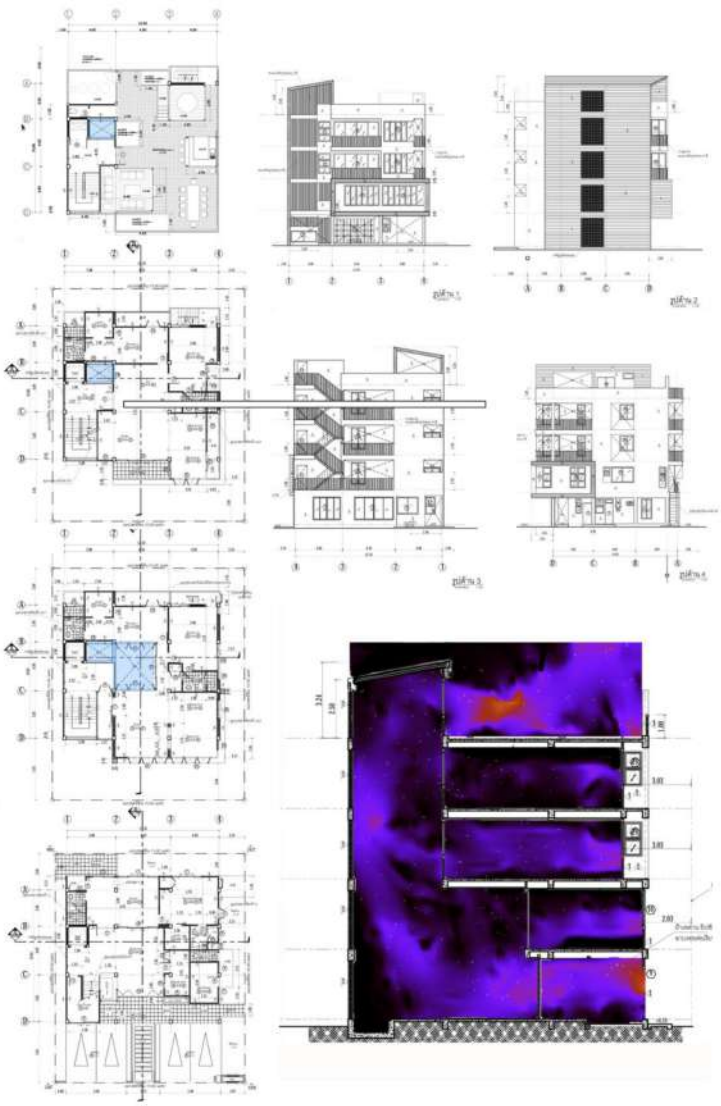
This conceptual design allows for a new model of traditionally inspired vertical co-housing for the future, that responds to decrease in plot size while also allowing residents to share the cost of construction. In addition to the financial benefits, this model also fosters a sense of socializing among family members, instilling a greater sense of togetherness and safety.

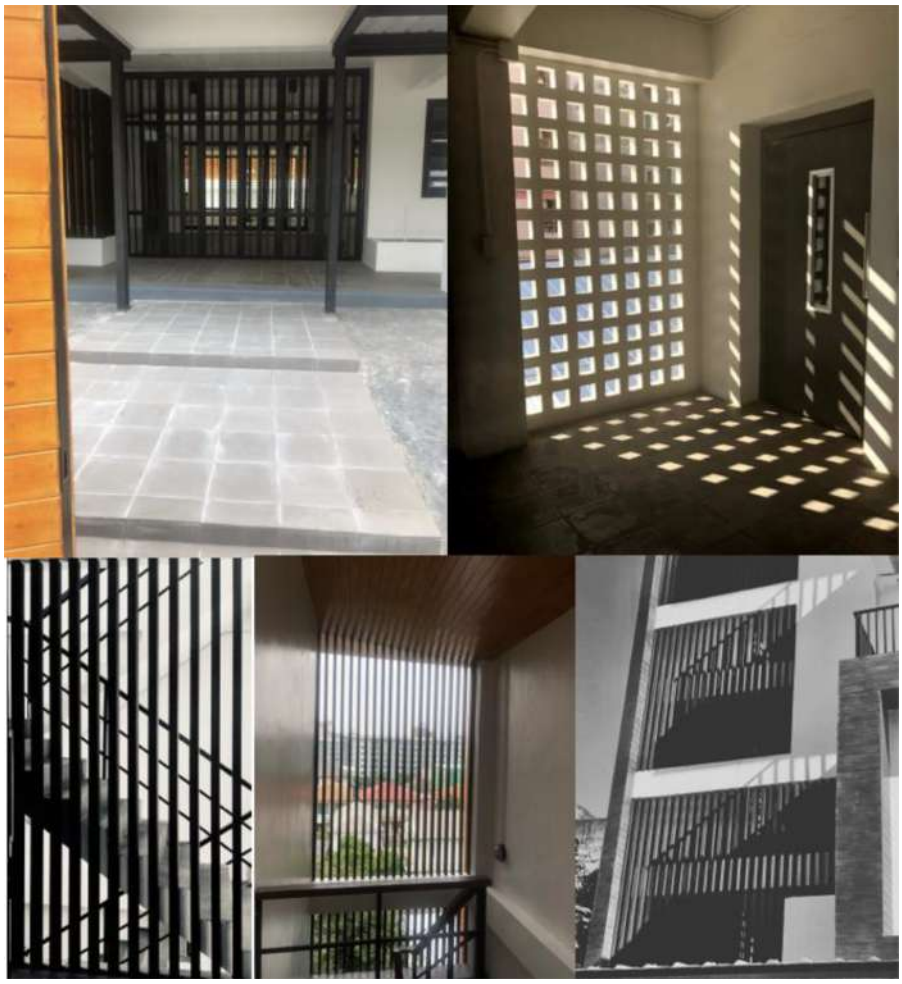
Lastly, post occupancy evaluation, which is interview of each family representative after living in the house for one year, can be used as design evaluation and data collection for the next project.

Techniques and Materials:

The project is characterized by three types of functional spaces: private units, common areas, and circulation spaces. All are visible from outside of the building.(fig.2) Private unit spaces are enclosed with high windows that ensure privacy while allowing for maximum natural ventilation when windows are open. Common areas are designed as outdoor and semi-outdoor spaces with grilled panels(Fig. 4) for security reasons and to facilitate natural airflow.The circulation tower has a distinctive form and is furnished with wood textured, adding warmth to the building. The vertical circulation tower is further positioned on the south side of the building, thereby serving as a heat buffer, providing shading and shadows for the rooftop recreation area in the late afternoon.

Ventilation is a crucial aspect for tropical houses. Therefore, the project includes a ventilation void in the center of the house. This vertical opening acts as a ventilation stack for convective ventilation (Allen, 2005). In this ventilation process, differences in pressure between the ground floor and the rooftop can be used as a force to drive natural air from external ventilation facades (Fig. 3) and windows throughout the building on every floor (Fig. 5), making the house more comfortable





Conclusion:

Post occupancy interviews of residents revealed that the main dining area was the most frequently used space, particularly during breakfast and dinner times. Family members of all generations gather and converse while having meals almost every day. The private units were found to offer desirable levels of privacy as the main circulation of the house does not need to pass through these spaces. Additionally, the house enjoys excellent ventilation when the windows are open. In Figure 2, the results of stack ventilation testing show that air from outside flows through building spaces and moves up to an outlet at the top floor due to the buoyancy force of the hot air. However, there are issues with glare and direct sunlight on the south facade in the afternoon.

In conclusion, concept derived from traditional Thai houses can be applied to the building of a vertical house with a smaller footprint. In regard to the relationships among family members, the positioning of common areas is crucial in order to bring younger generations closer to their elders. However, the expansion ability of this model of vertical Thai co-housing is limited as the foundation and piling-work cannot be adjusted after site work is finished. These limitations aside the project represents an example of how to continue the traditional Thai way of life in a modern society.

References :

- Allen, Edward.(2005). How Building Work. (3rd Ed).
- Oxford: Oxford UniversityPress.
- Central Thai House Style. (2003, March,10).Kroobannok.
- https://www.kroobannok.com/22159

- Project information:
- Project : Vertical Thai Co-Housing
- Building type : Residential
- Project location: 11/66 Soi. Prachauthit 8, Ratchadaphisek Rd., Huykwang, Bangkok,Thailand
- Architect: Korapong Kannasoot
- Owner : Phonphot Kannasoot
- Engineer: Phonphot Kannasoot
- Contractor: Den Design Co.Ltd.
- Building area : 821.25 sq.m. Year: 2021