

Hellmutstrasse

Zurich, Switzerland, 1990  
*Architecture Design Plannin, ADP*

The four-storied building with 32 flats (at present) is owed by a housing-cooperative and self-management community (WOGENO). The tenant association (Hausverein) was formed in 1984 and began to develop a building program together with invited architects. Envisioned an adaptable system as a way to accommodate the different wishes of the tenants. Adaptability is achieved by three measures: introducing a plan divided into three zones, locating fixed openings in

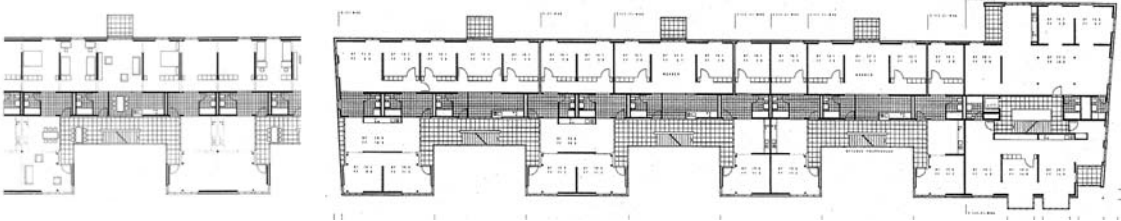
**赫爾幕街改造 (瑞士, 蘇黎世) 1990**  
這座高四層, 集體所有, 由住戶自我管理的住宅, 現有32戶。1984年成立住戶產權會後, 就請建築師協助擬定建築設計任務書。任務書要求設計應滿足不同家庭的需要。經招標選中的ADP設計所的方案提供了一種適應性體系。平面上分成三個功能區, 承重牆上預留開通的門洞, 室內分隔用靈活組合的牆櫃。預留門洞開啓或封閉可方便調整套型大小。封閉材料以石膏板為主, 精心設計可達到分戶牆的隔音要求。管井設備功能區貫串平面中

load-bearing walls, and providing movable wall cabinets. The installation zone in the center of the building gives any apartment unit several possibilities in changing size with few restrictions from the position of the kitchen and the bath. Openings in the load-bearing walls which throughout the whole zone of the rooms can be closed or opened. Allow the apartment size and room relations to be changed. Wall openings were filled with gypsum-panels constructed carefully to meet sound insulation standards. Dimensions of rooms are either 4.0m or 4.5m which are anticipated to adapt to different ways of furnishing.

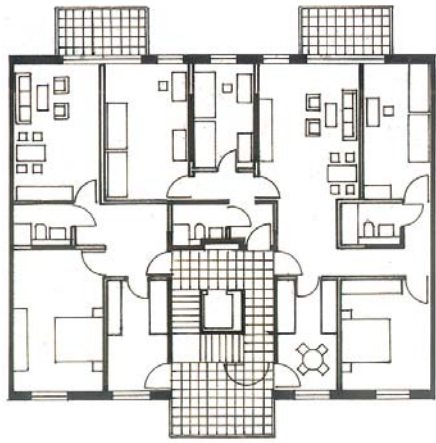
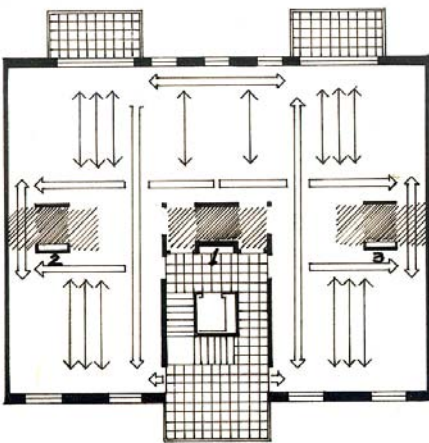
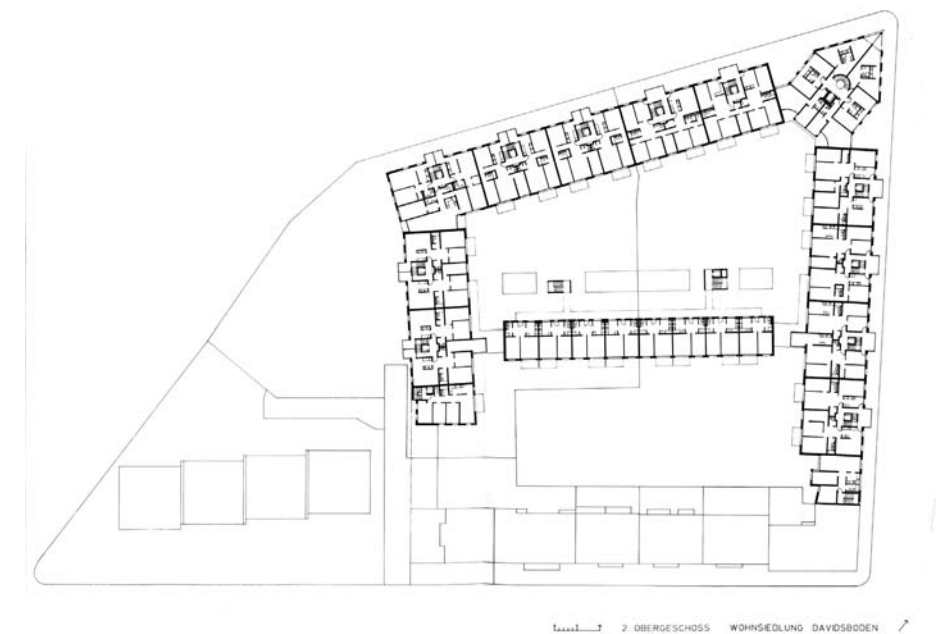
部, 使套型的靈活劃分不受廚房衛生間的制約。承重牆開間有4米和4.5米兩種, 適應不同傢俱佈置。



CHOICE	YES	NO
Dwelling size		
Complete floor plan		
Floor plan except bathroom		
Equipment (kitchen, bath, etc)		
Facade (major elements)		
Facade (minor elements)		







Wohnüberbauung

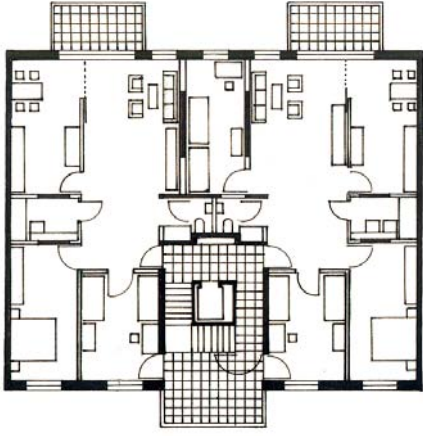
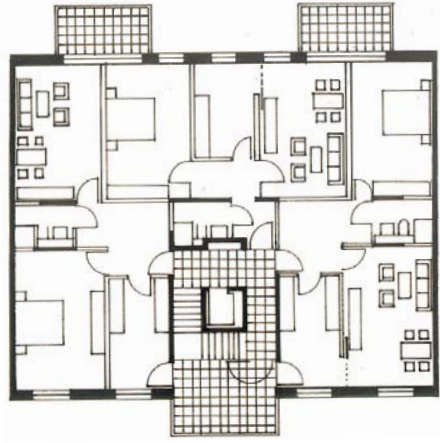
Davidsboden, Basel, Switzerland 1991  
M. Emy, U. Gramelsbacher and K. Schneider

This apartment block surrounding a semi-public courtyard was built in an old industrial quarter in Basel in 1991. A tenant self-management and adaptability concept was given as a program requirement in a competition held by the Basler Christoph-Merian-Foundation (CMS) and Patria, an insurance company. In the part of the building which belongs to CMS the tenant association and a participatory design process

**達衛波頓住宅 (瑞士, 巴塞爾) 1991**  
這座住宅位於巴塞爾市一個舊工業區，庭院式佈局。由一個房產基金會和一個保險公司共同興建。建築招標任務書要求結構適應性，以方便住戶參與。在建造和管理過程中，只有基金會的住房實現住宅參與，這有賴於基金會主席的支持和兩位社會工作者的協助。住宅設計的適應性體現在兩個方面，一是套型的靈活變化，二是住宅內空間的劃分。室內分隔牆，廚房和部分衛生間隔牆用輕制石膏板。在基本結構建成後，由住戶參與設計出符合心

were carried out with the help of two social workers and the building manager. The potential adaptability works on two levels. First, apartment combinations are possible among the flats on the same floor and accessed by the same staircase. Second, the interior of each flat provides the greater extent of flexibility. The partition walls, kitchens, and a part of the bathrooms are changeable. They were built after the major structural construction using tenant participation. The partition walls are made of gypsum-board.

意的套型。



CHOICE	YES	NO
Dwelling size		
Complete floor plan		
Floor plan except bathroom		
Equipment (kitchen, bath, etc)		
Facade (major elements)		
Facade (minor elements)		





Überbauung “Neuwil”

Wohlen, Switzerland, 1966  
Metron Architect Group

This adaptable apartment building in Wohlen, Aargau, was designed by METRON Architektengruppe and built in 1966. The eight-storied free-standing slab block with 49 apartments is owed by the private firm Tunau Immobilien AG and managed by the firm COS-MOS at present. The owner as well as manager have changed several times since the building was constructed. The original intention of the architects was to build apartments which can be adapted to the changing needs

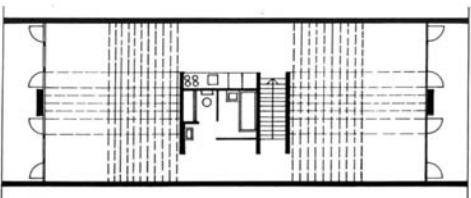
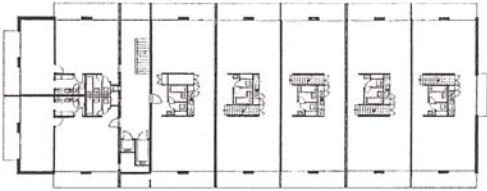
“新期望” 住宅  
(瑞士, 沃倫) 1966

這兩座出租公寓高八層，每棟有49套住房，1966年建成。設計目標之一是適應住戶長遠的需求和居住方式的變化。套型大小，廚房衛生間和入口樓梯是固定的。而居室則由住戶用專門提供的木屑板，按30釐米格線分隔。板材寬有60釐米和90釐米兩種，安裝方便，但隔音較60年代一般標準差。為方便住戶，建築師還專門製作了一套用戶指南。

of one family and to changing lifestyles in the future. The overall size of each flat is fixed, as well as the kitchen, bathrooms and the entrance stair. The rest of the interior space can be divided within a 30 cm grid with light and easily movable partitions made of chip-board in 60cm and 90cm widths. These flexible divisions can be removed or reinstalled, but they did not meet sound insulation standard even in 1960's. The architects prepared an introduction booklet for the tenants about the potential flexibility of the apartments.



CHOICE	YES	NO
Dwelling size		
Complete floor plan		
Floor plan except bathroom		
Equipment (kitchen, bath, etc)		
Facade (major elements)		
Facade (minor elements)		







Brahmschhof

Zurich, Switzerland, 1990  
Kuhn, Fischer, Hungerbühler  
Architecten AG

The Evangelischer Frauenbund Zurich (EFZ, Protestant Women's Association) initiated a project competition. The competition program drawn from these meetings carried the central spirit of the EPZ, to "strengthen our capability and encourage ourselves, to think openly and to act with determination". "housing for differing persons was listed in the program as the primary requirement. The 5 story building around a common courtyard. It was built in 1990.

布朗姆斯大院  
(瑞士，蘇黎世) 1990

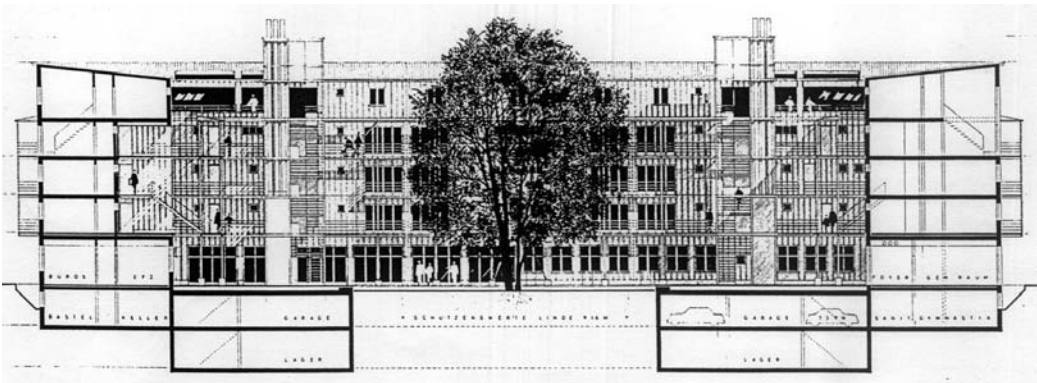
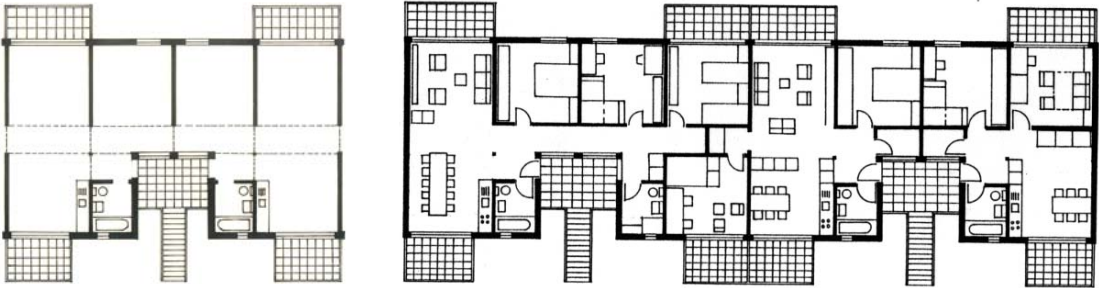
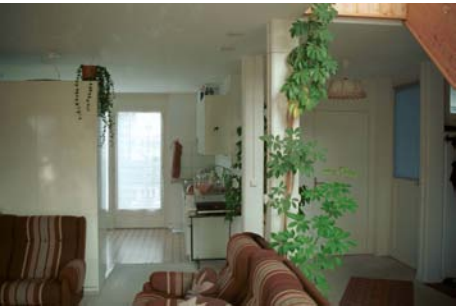
這座位於市中心的住宅由當地的新基督教婦女聯盟所擁有。在建築設計招標前，聯盟通過組織幾次由多方面人士參加的討論會，制定了設計任務書。任務書體現了聯盟的宗旨，即“激勵進取，開放思想，行動果敢”，要求“住宅應為不同類型的人服務，有不同的功能。”住宅於1990年建成，5層高，前街後院式佈局。適應性體現在三個層面。首先，承重牆預留門洞，套型多樣。門洞填充料用普通砌塊。造價低，但建成後調整不方便。其



The adaptability of the interior space is possible on three levels. First, the openings in the walls of the central zone of the building make it easy to adjust the flat size. Second, most of the rooms are the same size and proportion which allows adaptation to many different functions. Third, the living room and kitchen can be divided or combined according to the tenants own wishes with the arrangement of movable cabinets. The techniques and materials for the changeable parts are relatively simple. The building offered a high flexibility during the planning phase and construction phase.

次，多數房間大小位置形狀相同，功能中性，方便住戶自我設定房間用途。最後，起居廳和廚房聯為一體，由住戶自己利用提供的拆裝方便的櫥櫃處理兩者間關係。可變構件材料和技術簡單，利於普通用戶使用。

CHOICE	YES	NO
Dwelling size		
Complete floor plan		
Floor plan except bathroom		
Equipment (kitchen, bath, etc)		
Facade (major elements)		
Facade (minor elements)		







### Housing “Living in Lohbach”

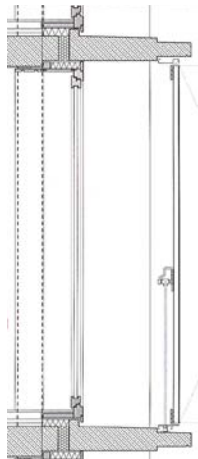
Hötting-West, Austria, 1998  
*Baumschlager & Eberle*

The Support, or fixed part of the building, includes the outer wall, the inner access (staircase, landing, and corridor) and the utilities (kitchen and bathroom). Basically there are two very simple built structures in the plan. In the middle of building there is a stairwell surrounded by closets and ancillary rooms. On the outer fringe there is a surrounding wall, which serves as structural as well as an enclosure. There are no divisions of rooms between these two struc-

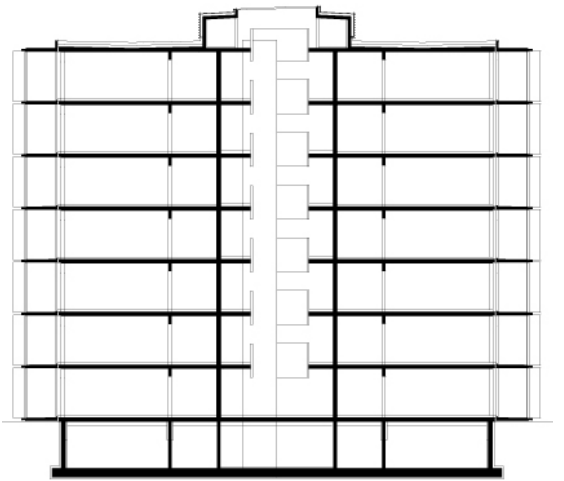
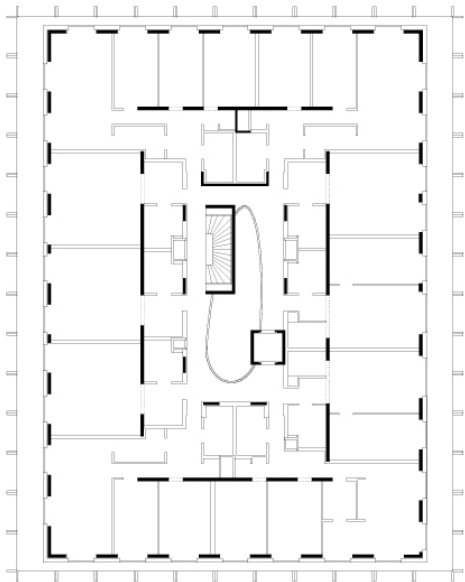
#### “羅溪”住宅 (奧地利, 因斯布魯克) 1998

住宅的承重結構都包括圍繞在四周的外牆和平面中部圍繞在樓梯間和設備空間（廚房和衛生間）的內牆。幾乎所有房間的隔牆都採用輕質石膏板隔牆套型的分隔，組合和房間的數量都可以自由調整。除設備空間，所有其他空間都是開放的，滿足住戶多樣化的需求。外牆是介於自主和公共之間空間。承重外牆採用“法國式窗”，從樓板到天花豎直形的；週邊接一圈陽臺走廊空間；最週邊是一圈豎直形的遮陽板，外貼銅皮。住戶可根據天氣、氣

候和自己的需要開啓或關閉。住戶的這種自主行為又體現為動態的立面效果。



CHOICE	YES	NO
Dwelling size		
Complete floor plan		
Floor plan except bathroom		
Equipment (kitchen, bath, etc)		
Facade (major elements)		
Facade (minor elements)		





Baumschlager & Eberle  
Eco-school

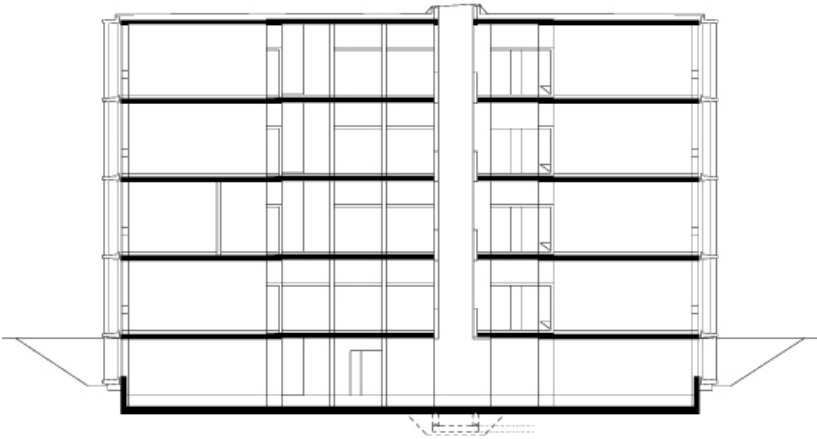
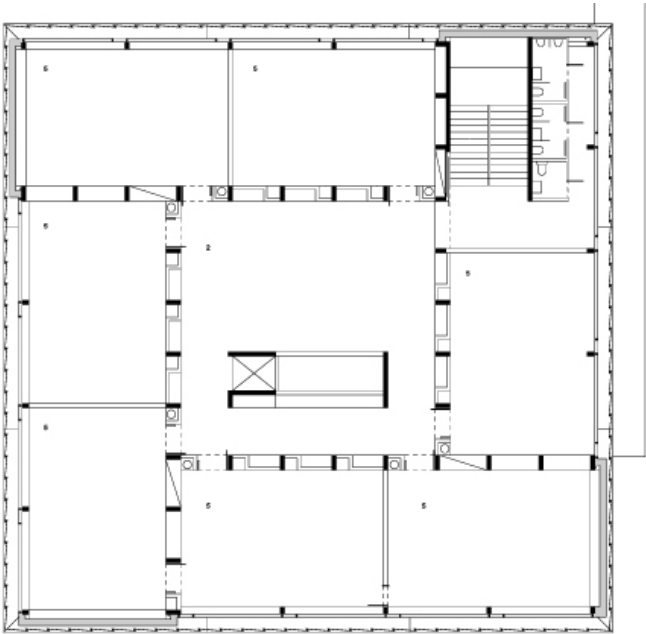
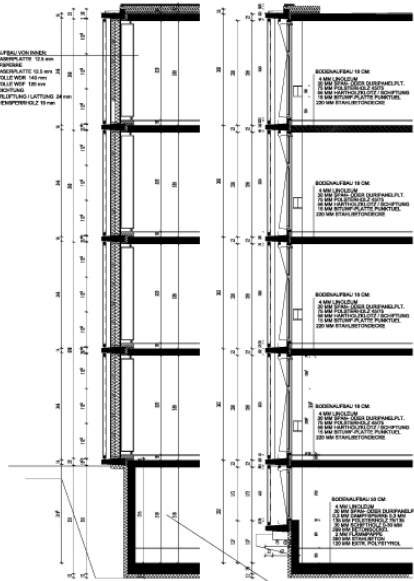
Mäder, Austria, 1998  
*Baumschlager & Eberle*

The design orients itself to the close relationships between form, function, economy and ecology. The on all sides double layer of the facade of the school building consists of a wood and glass construction, which is wrapped by ventilated, scaled glass panels. Depending upon the position of the sun, the various conditions of transparency change the appearance of the building: From dematerialization caused by raking light

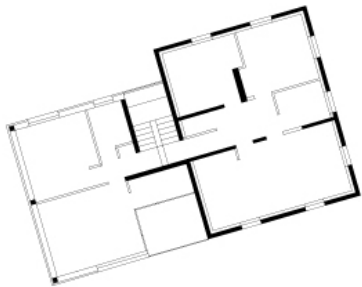
麥德爾生態學校  
(奧地利, 麥德爾) 1998  
設計的目的是將功能、經濟性和節能要求組織在一個完整的形體當中。環繞四周的雙層立面由椴木和玻璃幕牆組成。外層是通透的豎直玻璃板。玻璃的透明和反射作用, 隨著陽光的角度而呈現的不同的視覺效果, 從完全通透到完全反射周圍的環境。爲了節能, 平面進深很大, 而全玻璃立面加上中間屋頂採光, 使室內光明通亮。學生集散空間位於平面中部, 四周佈置教室。教室的數目和大小劃分靈活。

to becoming a mirror of the surroundings. Extensive glazing of the facades, in conjunction with a central light well and clerestory windows in the interior walls made of wood, enable natural lighting of the floors, despite the ground floor area of approximately 80 by 80 feet. On each regular floor, seven peripheral classrooms group around a generous, central recess space with a maximum flexibility of space divisions.

CHOICE	YES	NO
Dwelling size		
Complete floor plan		
Floor plan except bathroom		
Equipment (kitchen, bath, etc)		
Facade (major elements)		
Facade (minor elements)		







## Housing Sebastianstrasse

Dornbrin, Austria, 2001  
*Baumschlager & Eberle*

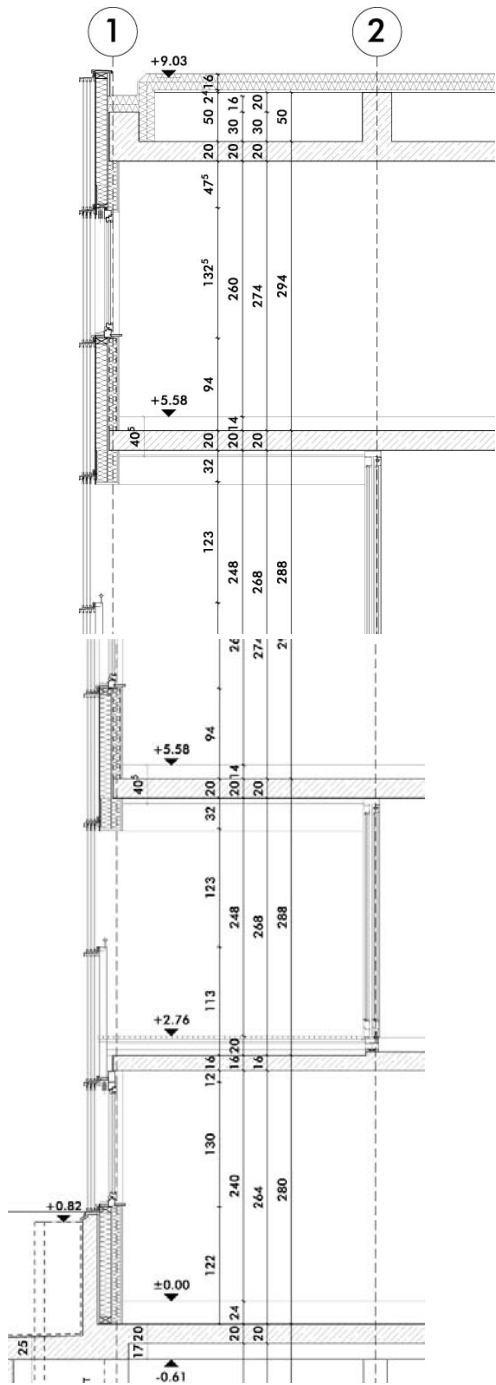
A white, glass building configuration that presents a different façade according to the weather conditions, the hour of the day and the day of the week. It is often closed, although it is also opened from time to time, according to the user's mood in each individual apartment. In front lies a mass-produced sliding mechanism. Glass panels that feature silk screens create the following effect: A person outside cannot look inside, but a person on the inside can see the goings on outside. This leads to a second effect: it is possible to adjust what can be

**塞巴斯蒂安街住宅**  
(奥地利, 多恩比恩) 2001

這座房子由白色的活動玻璃板組成外牆，它的外觀，每星期、甚至每天都隨著外部環境而變化。外牆平常是封閉的，但時不時地隨著居住者心情而打開。這種活動外牆依靠精密的構造設計。白絲綢樣的玻璃板有不同的視覺效果，如外面看不到裏面，而裏面可以看到外面，既闊大了室內視覺的空間，又保障了住戶的私密性。而且視覺上的穿透性隨著玻璃板的疊加層數而變化。採用活動外牆的目的是讓使用者根據個人的需要調整內外關係，如窗戶

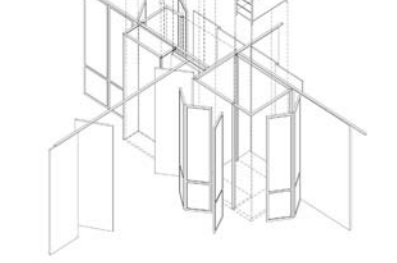
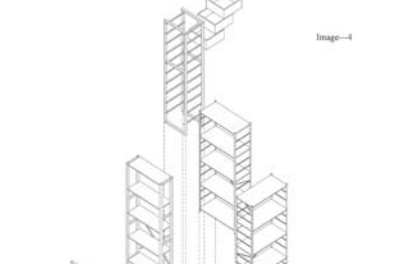
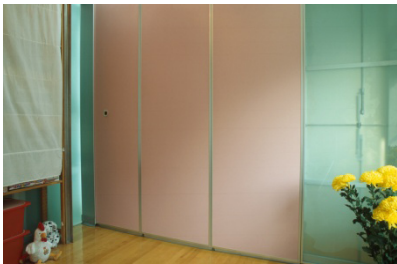
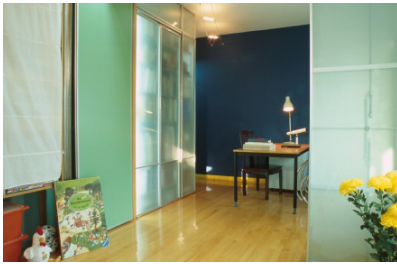
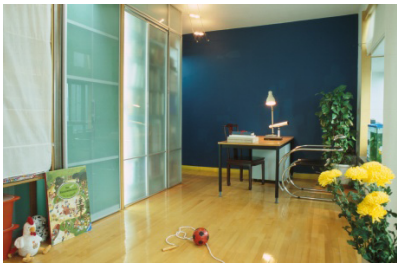
seen from the outside; layering the panels over one another results in a visually almost impenetrable glass wall. The theme was: individual living, and that includes allowing everyone to choose how many windows they want to have, where they want them to be and how much distance they require from their environment. Nobody needs curtains or blinds here, since the subjective impression of being in an open space remains, even when the loggia spaces are closed. The concept works without any shortcomings. The residents use these possibilities the way the architects intended them to. And the geometry of the second façade is an exciting addition to the surroundings.

的位置、數量和內外的視覺距離，而且外牆的變換也活躍了所處的外部環境。



CHOICE	YES	NO
Dwelling size		
Complete floor plan		
Floor plan except bathroom		
Equipment (kitchen, bath, etc)		
Facade (major elements)		
Facade (minor elements)		





### “Jia’s Flat”

Mid-level, Hong Kong, 2002  
*Jia Beisi & C-H Architectural Planning design Ltd.*

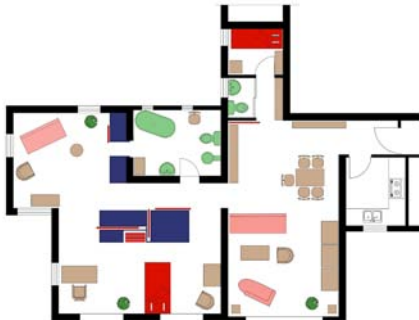
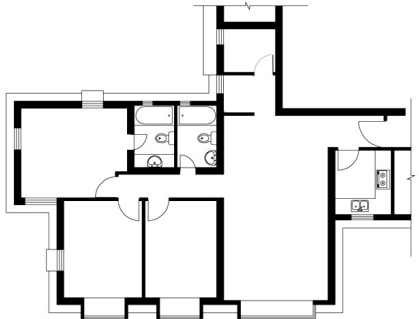
High-Rise, high-density cityscape and a rapidly changing socio-economic environment are major characteristics of Hong Kong. Accommodating the increasingly diversified living requirements implied by these conditions demands a high degree of spatial flexibility. The flat is located on a high floor in a dense urban area. The original non load bearing walls were demolished. The sleeping rooms were recreated, in both function and effect, by pull-

### 中半山“賈居” (中國, 香港) 2002

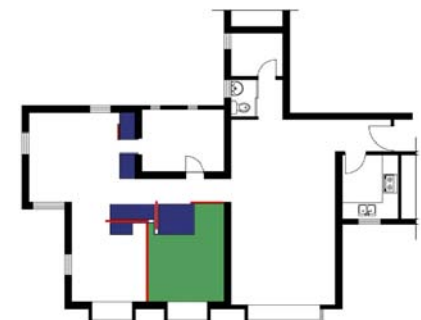
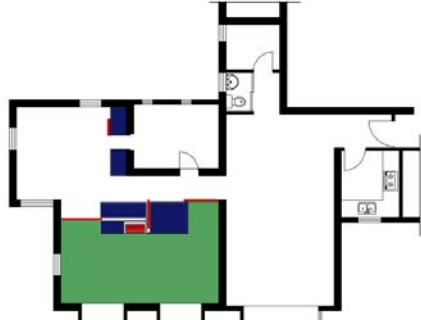
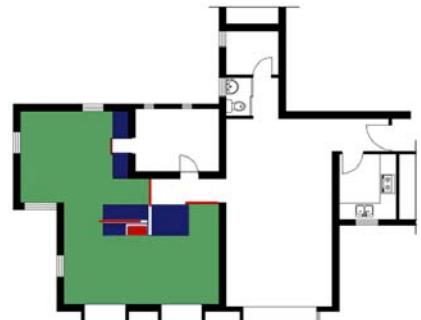
香港的居住環境是以高層高密度和快速的經濟社會變遷為大背景的。為了適應生活多樣化需求，高度的空間靈活性必不可少。這所高層公寓位於高密度市區。原有的非承重牆被拆除，代之以三面推拉牆和用四扇獨立隔板組成的活動牆。用一組位於平面中央的貯藏櫃將這些活動牆組織在一起。活動牆的開合，形成不同空間聯繫和分隔狀態，適應日常生活的需要。三面推拉牆寬度不同，但都直通到頂，強化了功能的模糊性和空間的不確定性。設

ing three sliding doors, and “Huf-cor” operation partitions out from “floating island” cabinet standing in the middle of flat. Opening or closing different doors creates different spatial combinations, and can accommodate various activities over time. The three sliding doors, varied in size extend from floor to ceiling to dissolve the functional ambiguity enhanced the indeterminate quality of the space. The design concept also aimed to minimize material consumption, minimize daily energy consumption through enhanced natural lighting and natural ventilation by minimizing interior wall property. Assemble structure optimized a possibility of reusing and recycling the material.

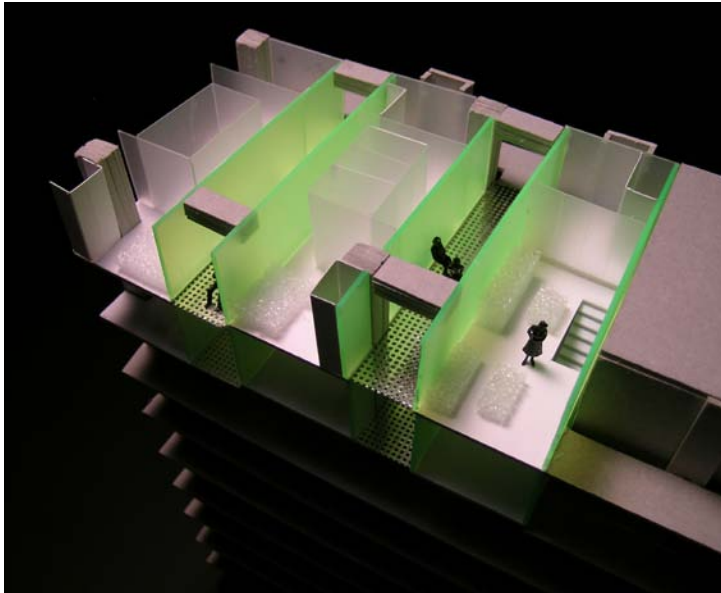
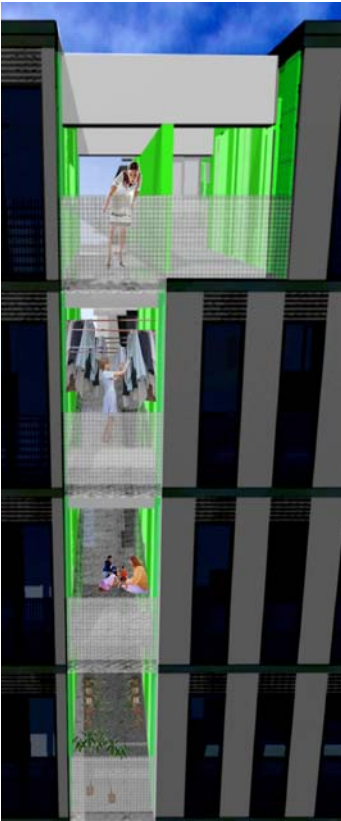
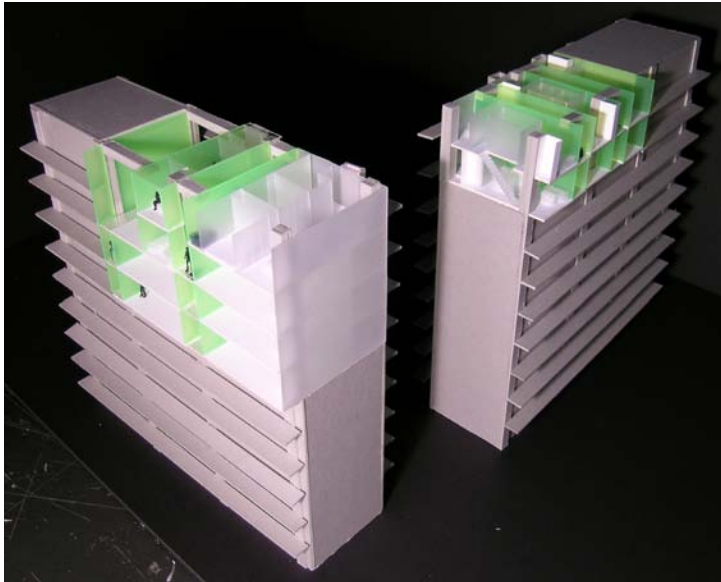
計概念要求通過增加自然通風和採光和減少牆體材料來達到節能的目的，活動牆和貯藏櫃都採用預製組裝構件，具迴圈利用的可能性。



CHOICE	YES	NO
Dwelling size		
Complete floor plan		
Floor plan except bathroom		
Equipment (kitchen, bath, etc)		
Facade (major elements)		
Facade (minor elements)		







Gifu Kitagata Housing

Japan, 2006  
Edge (HK) Ltd.

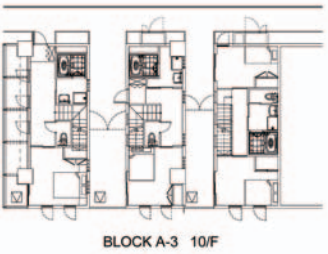
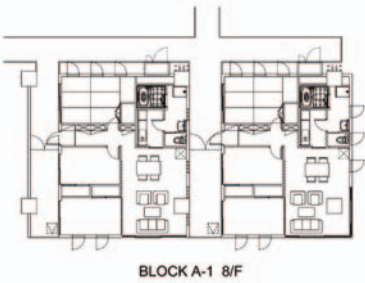
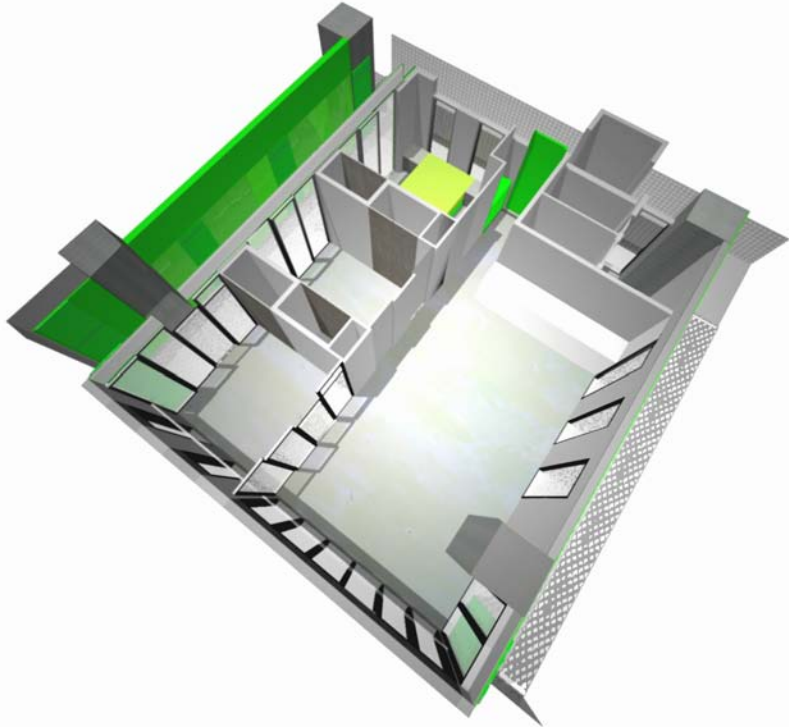
Amidst the present trend of in-  
troverted lifestyles, the word  
communal is frequently cited but  
seldom realized. A better model  
of living would be a small village,  
where the villagers embrace a  
unique mutual identity based sub-  
stantially on RECIPROCALITY. In  
Gifu, the megastructure allows for  
certain interaction in its dedicated  
public spaces; It provides chances  
and choices for 10 families to  
group together and among them  
share their own CIRCULATION  
ROUTE, STORAGE SPACE, and

**岐埠實驗住宅**  
**(日本, 岐埠) 2006**  
隨著生活方式日趨私密，社區交  
往的理想很難真正實現。村莊式  
的居住模式基於村民長久的互動  
關係，逐步形成共性。這座位於  
岐埠的住宅結構具有形成互動關  
係的條件。不僅交通， 貯藏甚  
至洗衣都為鄰里共用，增加住戶  
間交往的機會。而結構的靈活性  
讓小單元能聯合成大住宅。平面  
上，間隔排列的凹空間垂直于走  
廊，形成有趣的空間形態，它既  
可用于增加室內面積，又可改善  
通風和採光。設計試圖以互動來  
強化集體個性，同時滿足不同居

LAUNDRY AREA; the flexibil-  
ity can extend to sub-letting and  
combining units for big families.  
Regarding the layout, the alter-  
nating U-shape units create in-  
teresting spaces intersecting the  
village route allowing for a myriad  
of possibilities; the increased  
surface area of the unit also pro-  
motes CROSS VENTILATION  
and NATURAL LIGHTING of the  
dwelling units to a great extent. As  
a result, the design as a whole ad-  
dresses reciprocity to enhance  
the identity of the locale, and pays  
particular attention to ensure the  
interests of individual units.

民的特殊需要。

CHOICE	YES	NO
Dwelling size		
Complete floor plan		
Floor plan except bathroom		
Equipment (kitchen, bath, etc)		
Facade (major elements)		
Facade (minor elements)		







Suitcase House

Beijing, China, 2001  
Edge (HK) Ltd.

Suitcase House is originated from the experimental development The Commune By the Great Wall in Beijing. It attempts to rethink the nature of intimacy, privacy, spontaneity and flexibility. It is a simple demonstration of the desire for ultimate adaptability, in pursuit of a proscenium for infinite scenarios, a plane of sensual (p)leisure. Adapting a non-hierarchical layout with the help of mobile elements provided by the envelope, it transforms itself readily according to the nature of the activities, number of inhabitants, andpersonal preferences for de-

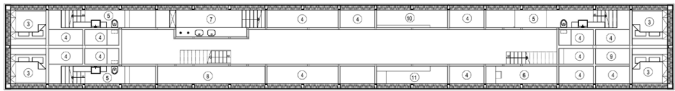
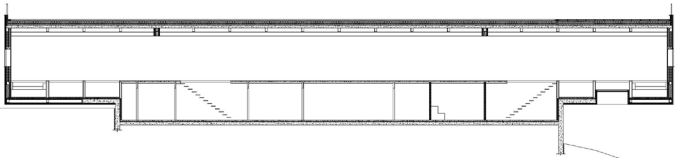
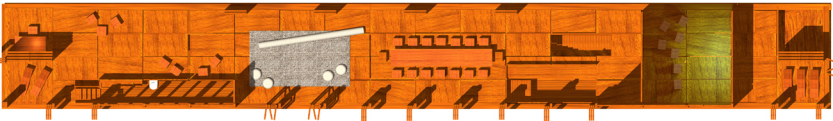
長城“手提箱”住宅  
(中國，北京) 2001

“手提箱”式旅舍以徹底的靈活性，給居住親密性、私密性、和暫時性以一個新定義。它表達了對舞臺式場景變幻的追求，塑造了感性活潑的平臺。統一分佈的靈活構件讓空間的形態，隨人的行為，居住人數和個人喜好而變化。根據需要，一個大空間可瞬間分成許多個小房間。“箱體”的底層由一系列特定用途的空間組成，由氣壓式構件開合。設備空間縮到最小。設想一對夫婦，白天打開所有推拉門，獨享一個44米乘5米的大空間。晚上，

grees of enclosure and privacy. A metamorphic volume, it slides effortlessly from an open space to a sequence of rooms, depending on the inhabitants' specific requirements. The bottom stratum acts as a container for dedicated spaces. Compartments are concealed by a landscape of pneumatically assisted floor panels. At any time only the essential elements will have a spatial presence. Imagine in the daytime, a couple can open up all the sliding partitions and enjoy a totally indoor open space with a dimension of 44x5m. In the evening, when more guests arrive, the entire space turns into a lounge for party. Rooms can be formulated when the night falls. A maximum of 7 guests rooms may accommodate up to 14 guests if they stay overnight.

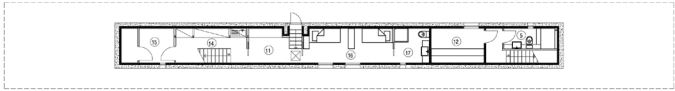
客人盈門，這個空間變成多功能活動室；隨夜幕降臨，一個個獨立的房間慢慢出現，房間多達七間，可住十四位客人，如果他們遲歸忘返...

CHOICE	YES	NO
Dwelling size		
Complete floor plan		
Floor plan except bathroom		
Equipment (kitchen, bath, etc)		
Facade (major elements)		
Facade (minor elements)		

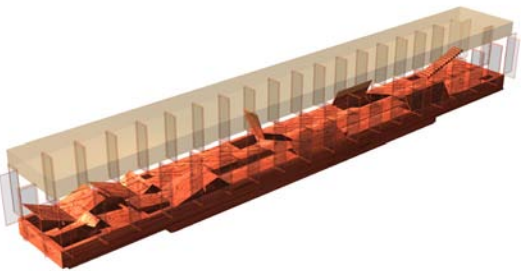


- 1. living
- 2. dining
- 3. bedroom
- 4. storage
- 5. bathroom
- 6. study
- 7. kitchen
- 8. cloak room
- 9. meditation
- 10. audio-visual
- 11. library
- 12. sauna
- 13. laundry
- 14. party
- 15. boiler room
- 16. butler's bathroom
- 17. butler's bathroom

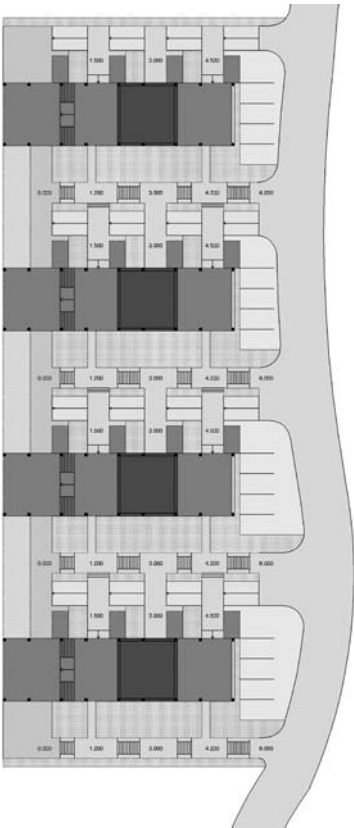
middle level



lower level







# Staff Residence of Dongguan Institute of Science & Technology

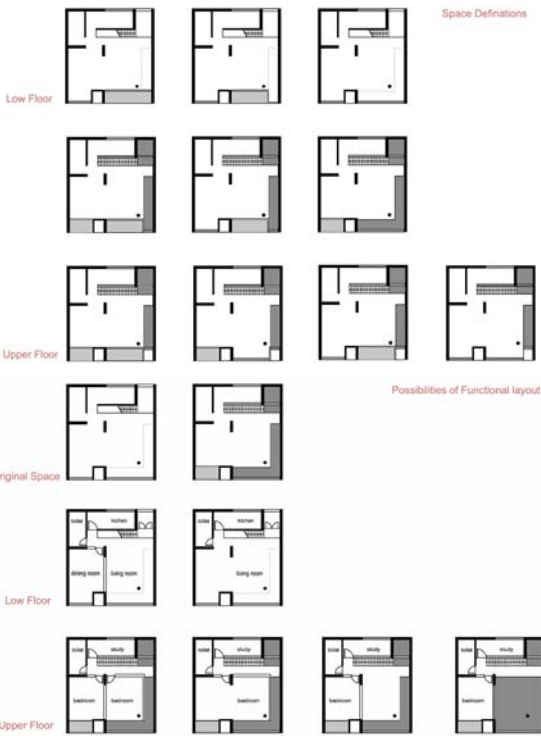
Guangdong Province, China  
2003-2004  
Zhang Lei

Zhang Lei is well known in China for his well portioned outlook, and sensitively designed layout plan. However, in this apartment house design, he moved even further by allowing the users to 'design' the layout and the partially also the façade, while maintain the high quality of visual impact. The structural and service cores in each unit are minimal to allow

## 東莞理工學院教師公寓 (中國，東莞) 2003/2004

此設計的特點是，在保證完整的外觀形象的同時，為住戶提供了平面佈局，包括部分室外空間佈局的自主權。結構和管線服務所占的空間小，為居室的靈活劃分留有寬闊的空間。套型內的結構柱也是非承重牆的依託。陽臺等室外空間的位置和大小也可隨住戶的意願而改變。套型的靈活劃分和陽臺位置的變化，有節制地體現在外立面上，改變了一般居住建築的單調形象。

free division of living and sleeping area. The column in center is positioned in such a way that the users can easily setup a light weight partition in various positions. There are several transferable outdoor spaces, i.g. balcony in various size and locations, upon the user's preference, are located between the private indoor space and the outer skin of the building, which present a united value for the community, as well as a sensitive diversity presenting the individuality of the users.

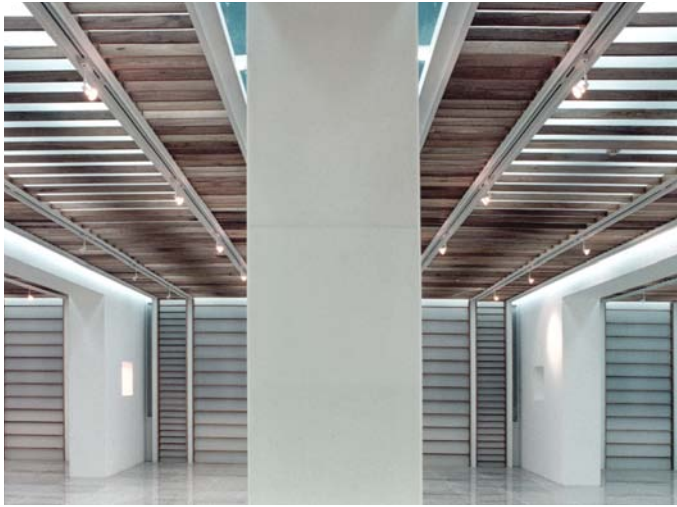


CHOICE	YES	NO
Dwelling size		
Complete floor plan		
Floor plan except bathroom		
Equipment (kitchen, bath, etc)		
Facade (major elements)		
Facade (minor elements)		



Facade Possibilities According to Floor Plans





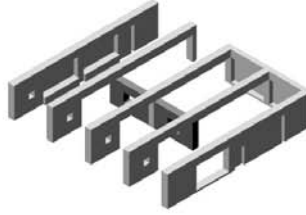
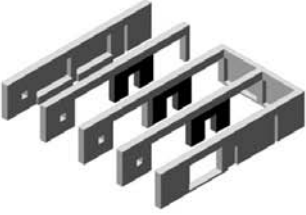
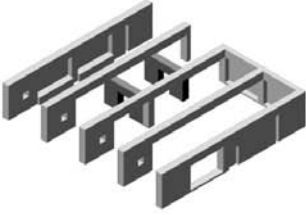
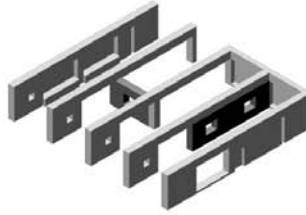
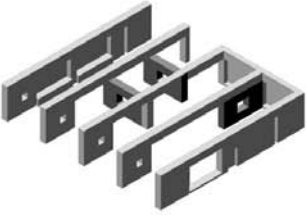
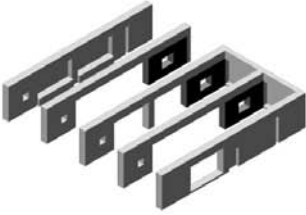
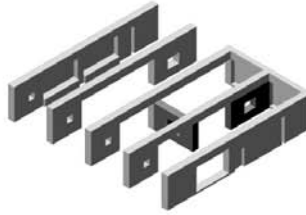
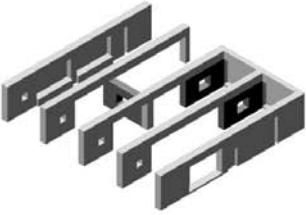
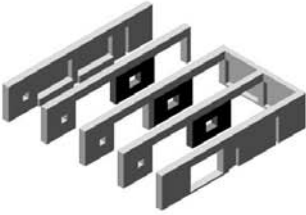
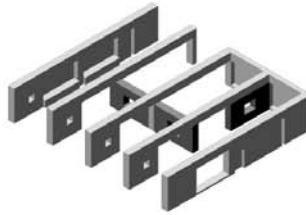
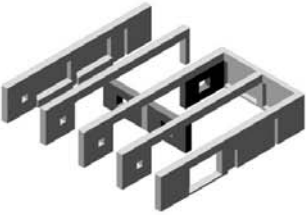
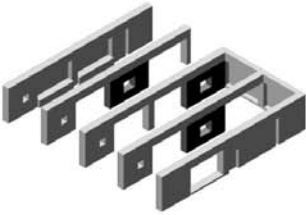
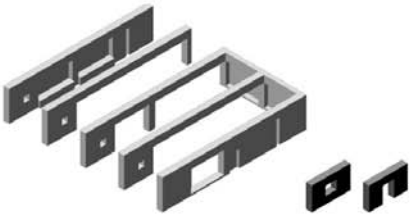
Sculpture Show Room of Nanjing University

Nanjing, China 2001  
Zhang Lei

It is not unusual to find the operable partitions in museum or art gallery for the purpose to adapt changes of exhibits. This project, as a transformation of use in a lobby of an existing building, means to be a temporary event rather than a permanent installation. The low cost, and light weight construction of partitions represent a temporality. Each operable partition is thick enough to serve as sculpture stands, with

南京大學雕塑館  
(中國, 南京) 2001  
靈活隔牆在博物館或畫廊並不少見：布展需要靈活性。這個項目是在一個現有門廳樣的空間做一個雕塑展區，它強調暫時性。輕質、低造價的活動展櫃將空間的靈活性推向極致。這種展櫃具有多種功能，分隔空間，連接空間，或者如商店櫥窗，展示藝術品。

a large opening in the middle. It has a multiple purposes: dividing space, connecting space and performing a showcase all at same time.



CHOICE	YES	NO
Dwelling size		
Complete floor plan		
Floor plan except bathroom		
Equipment (kitchen, bath, etc)		
Facade (major elements)		
Facade (minor elements)		





Chang Faming Hua Yuan  
Cheng Estate

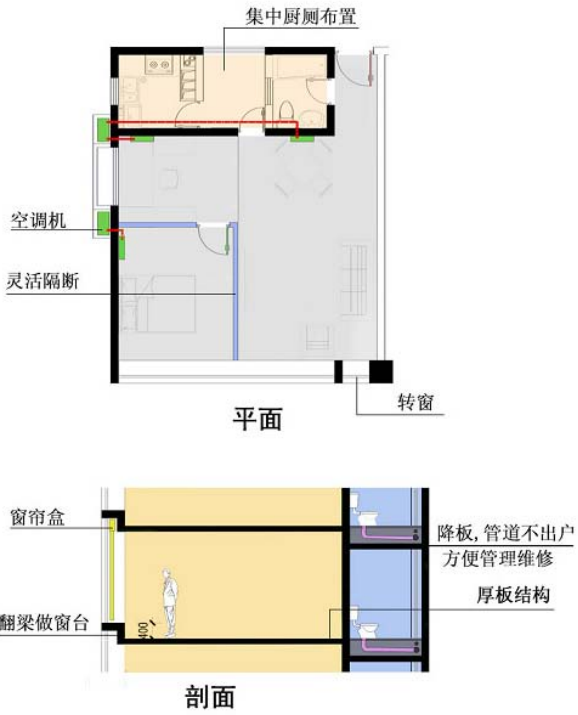
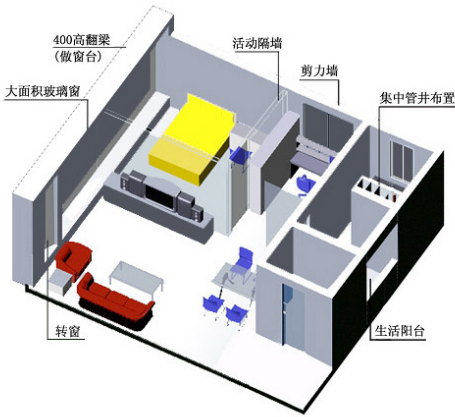
Shenzhen, China 2004  
Yue Ziqing, Shan Hao, Ying Xiaochuan



There is a growing demand on small apartments in housing market of Shengzhen. The two tower buildings were specifically targeted on small home buyers, providing small one-room apartments and two-room apartments. However the architects intended to make a more varieties within constrains imposed by the devel-  
oper. In each of the four wings on the floor plan there were a one-room apartment and a two-room

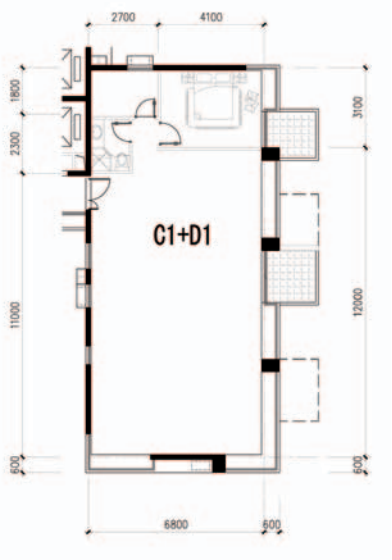
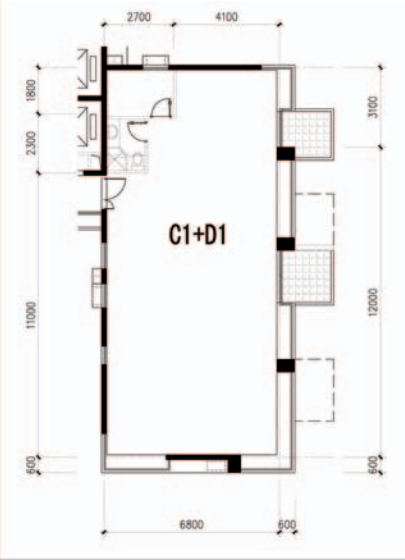
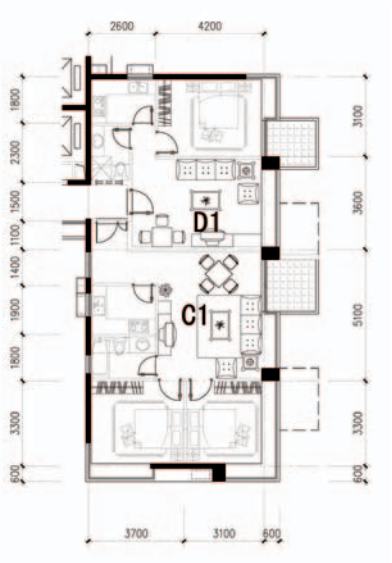
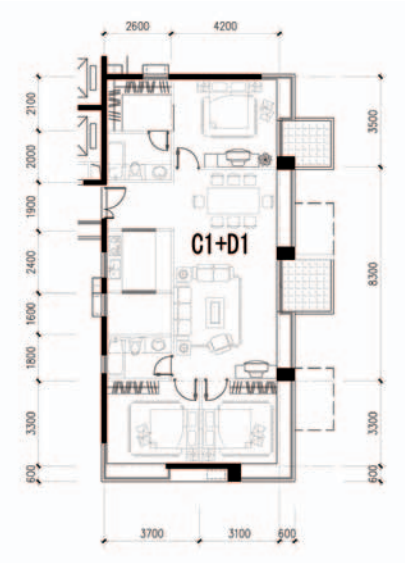
蛇口花園城（中國，深圳）2004

近幾年來，房地產熱點由高收入階層大戶型住宅向中低收入階層中小戶型住宅轉變。爲了適應市場需要，我們將一房和二房戶型集中在2棟18層塔樓內。呈風車型佈置，每個翼由二個小戶型組成，業主可以買一套或多套，獨立或者拼接使用，可自住、辦公、出租，也便於投資或靈活出售。由於採用了剪力牆厚板結構，室內隔牆可任意佈置，同時可增大室內空間感覺。二種戶型本身平面方整並可以靈活變化，拼接後又有更大的適應性。



apartment. The two apartments can be combined to make a larger apartment. They can be sold as separate two apartments or as one bigger apartment, to accom-  
modate a variety of residents or changing of needs, from home office, family with two couples, to leasing on apartment and occupy-  
ing the other under single owner-  
ship, etc. Thanks to the sheer-wall structure and thick floors to make a large, open and beam-free space, a variety of interior layout were achieved.

CHOICE	YES	NO
Dwelling size		
Complete floor plan		
Floor plan except bathroom		
Equipment (kitchen, bath, etc)		
Facade (major elements)		
Facade (minor elements)		







“Support” Housing

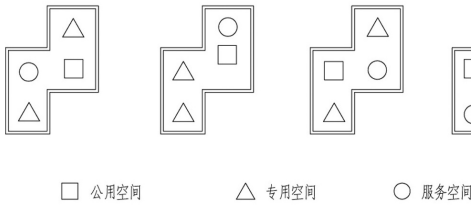
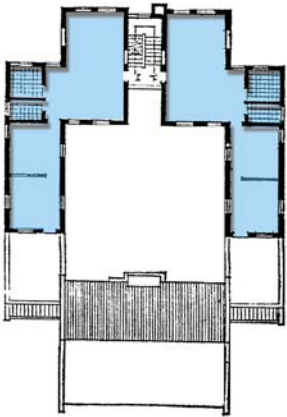
Wuxi, China, 1988  
Bao Jiasheng

The design of the project targeted on three phases of construction: the construction of the structure, the production and detachable infill elements, and the interior layout by the residents using the infill elements. The three phases of construction were carried out by three bodies. The structure was built by a construction company. The infill elements were made by a special producer aimed at general market. The interior fittings were installed either by the residents themselves, or neighborhood ser-

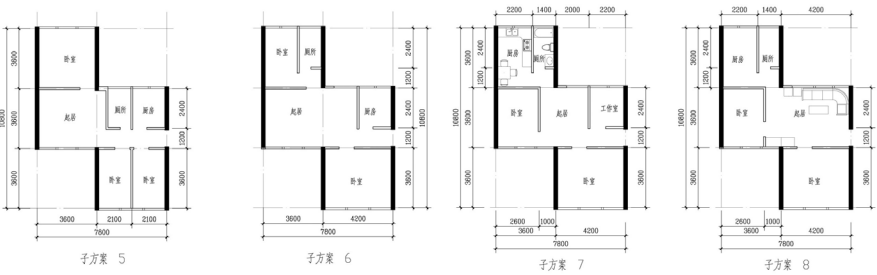
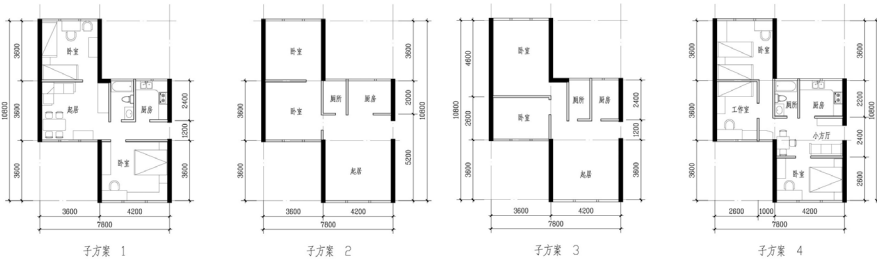
vice agents. The structure design encouraged a variety of apartment layouts, including those for non residential purposes. The planning the buildings created a variety of courtyard like space for the communal gathering. Most of the upper floor apartments were served with outdoor terraces, which invited creative adaptation of the users.



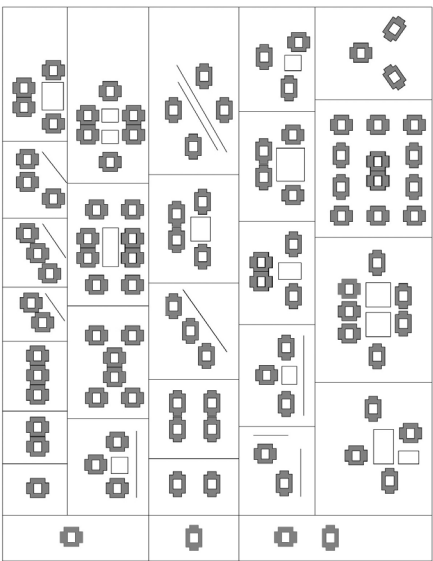
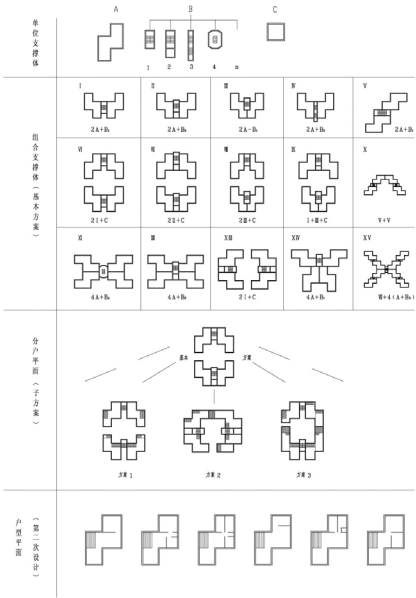
CHOICE	YES	NO
Dwelling size		
Complete floor plan		
Floor plan except bathroom		
Equipment (kitchen, bath, etc)		
Facade (major elements)		
Facade (minor elements)		



**無錫支撐體住宅**  
**(中國，無錫) 1988**  
住宅的建設分三階段進行。第一步是設計建造支撐體；第二步是設計生產可分體；第三步是把住戶選定的可分體按照住戶的意願佈置安裝於他所選定的支撐體中，最後構成一個適用的完整的住宅。三個階段分別由三個不同的建築生產組織生產；支撐體由現行的建築公司來承包，可分體則由專門化的工廠進行商品化生產，最後的安裝工作則由住戶自己或由他委託的社會勞動服務組織來完成，支撐體內的每一套單元必須有許多不同的佈置方式。



支撐體或部分支撐體必須能適合於非居住的功能，以便安排住宅區內其他的公共設施用房。單體採用以院落為中心的組團式平面佈局，提供了室外公共交流的場所。整個住宅團組就是由九幢臺階型單體構成。







Spatial efficiency:  
remodeling of industrial  
buildings into  
accommodation

Nanjing, China 1994  
Bao Jiasheng

A local news company 'Nanjing Daily' acquired a small piece of land with three four story industry buildings. The company intended to provide low cost accommodations for their young staffs. After comparing several alternatives, it finally opted the proposal of the architect to preserve the structures and remodel them into 27 duplex apartments by fully using the floor heights varied from 3.8 m

高效空間：工業建築的居住改造  
(中國、南京) 1994

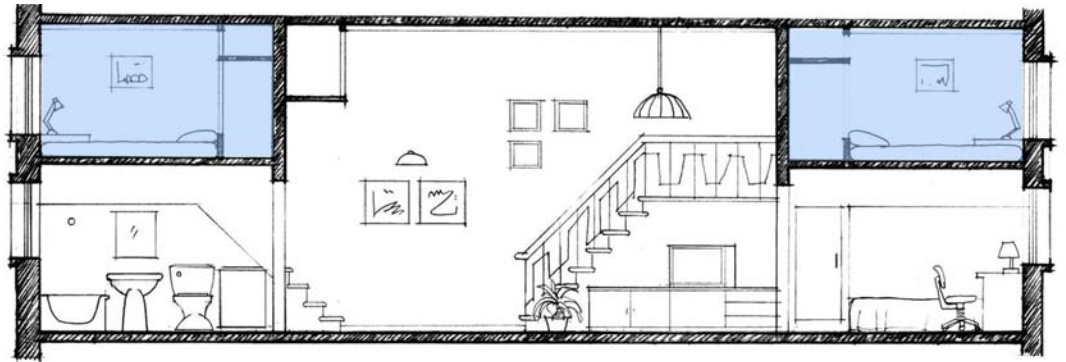
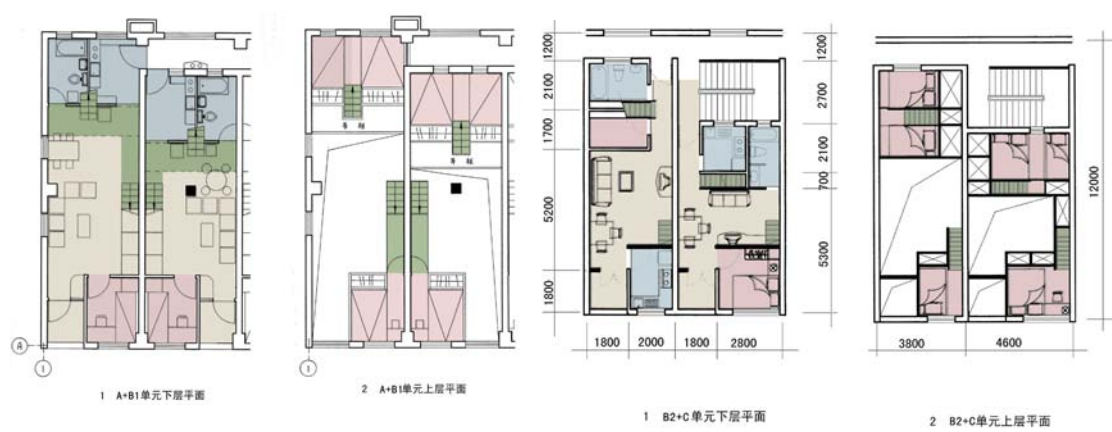
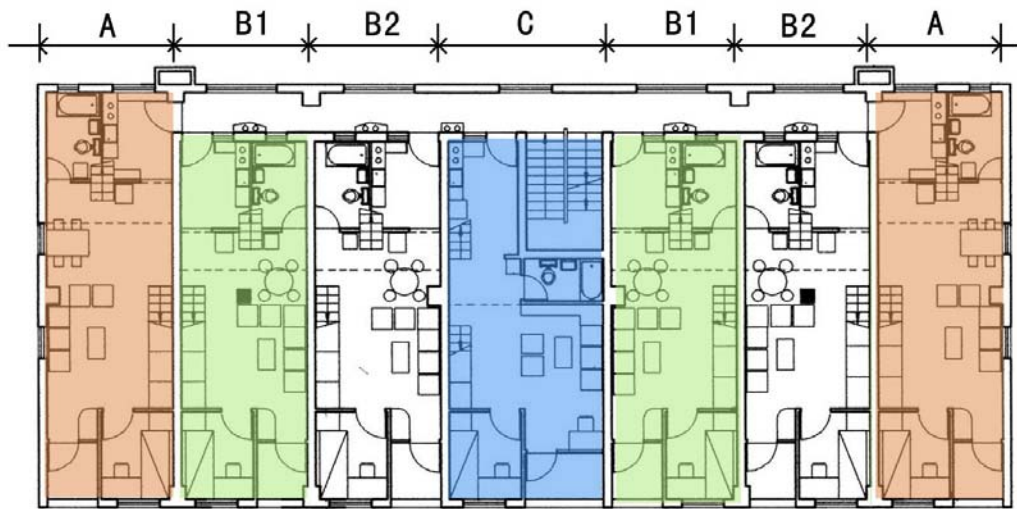
《南京日報》社有一塊位於居住區的土地，建有多層廠房。報社計畫建一批青年公寓。在比較幾種方案之後，建築師建議保留廠房，充分利用其3.8米和4米的層高，改造成小型躍層式公寓。建造分兩期進行，第一期資金由報社承擔，在現有建築內分割出27套“毛坯房”，室內只簡單地區分睡眠、起居、和設備三個功能區域。設備區設管線系統。第二期，套型內裝修和資金由住戶承擔。建成一年後所做的調查顯示，這種有住戶參與的建造方式

to 4.0 m.. To lower down the cost, the construction was divided in to two phases. In the first phases, the agency bearded the cost of constructing 27 empty compartments which generally divided into three zones: sleeping, living and service. In service zone, drainage and piping systems were provided. In the second phase, each compartment was designed and constructed by the assigned residents with their own expenditure. A survey conducted in the following year proved that the initial ideas of architect, a variety of homes with the efficient and individualized layouts would be appreciated by the residents who participate in design and construction, were successful.

不僅套多樣，空間利用率較高，而且滿足住戶個性需求，得到住戶的認同。



CHOICE	YES	NO
Dwelling size		
Complete floor plan		
Floor plan except bathroom		
Equipment (kitchen, bath, etc)		
Facade (major elements)		
Facade (minor elements)		







House-Golden Age,  
private housing complex

Chongqing, China 2006  
*Li Haile, Tang Ning*

This massive housing complex built with 8 m × 8 m concrete framework structure consists of duplex apartments, multiple sky streets and sky gardens, which serves as neighborhood gathering spaces. Each sky street connecting the apartments on every three levels is 3.6m wide, with inner half of the width used as garden and buffer zone of kitchens on the street level. The apartments are varied not only in size, but also in type, because of flexibility implied in the building structure. The

金城帝豪商業住宅  
(中國, 重慶) 2006

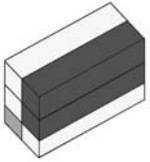
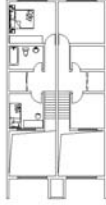
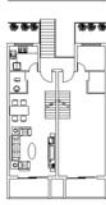
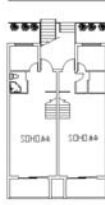
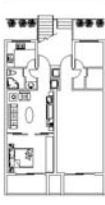
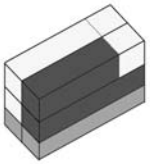
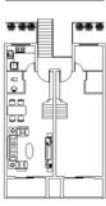
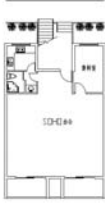
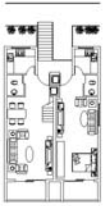
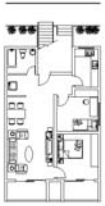
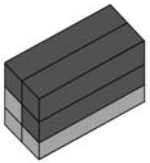
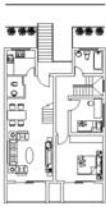
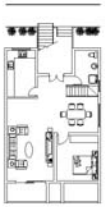
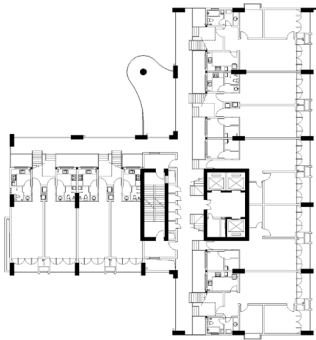
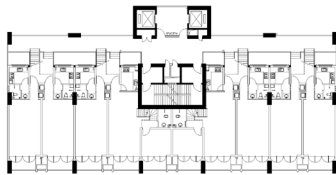
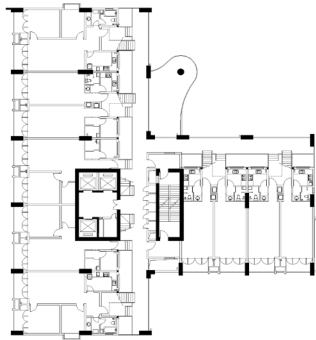
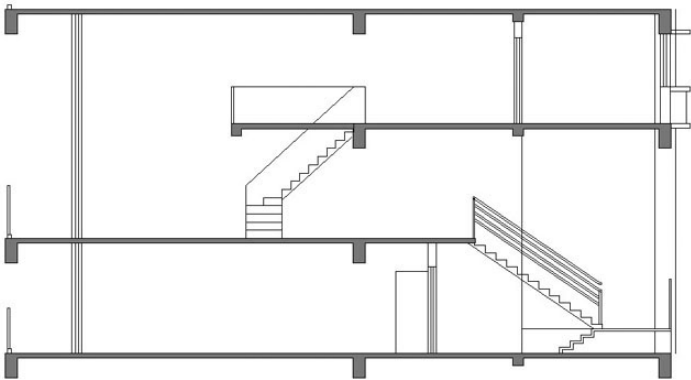
住宅採用了“標準單元”的設計原則，每一個“標準單元”都有若干種備選方案供住戶選擇。交通組織採用了外走廊模式，每一層走廊服務三層樓房，第一層為平層住宅，第二三層為躍層式住宅（在備選“標準單元”中，也可將這三層作為一套住宅銷售，成為躍三層的房型）。由於結構體系採用8米×8米柱網的框架體系，所有房間的開間都為4米，這樣的尺寸既可做臥室也可做客廳，同時每一格房間同走道都有相同的聯繫，因此可以變化出多種房型組合。為了改善普通高層

potential uses can have a choice from single story apartments, duplex apartments, and if needed, three story working apartments. In each type, a certain variety in layout and partition are also provided to accommodate diversity of accommodation. The partition walls were constructed with light-weight and hollow concrete blocks (700kg/qubic meter) in 200mm thickness.

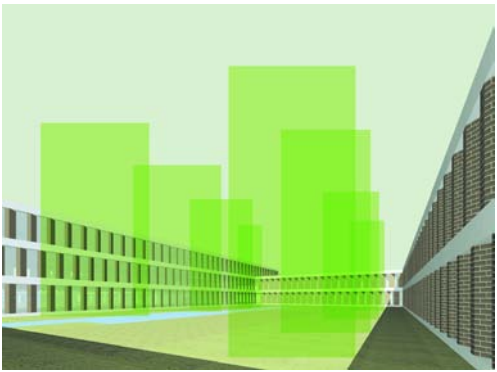
建築中缺乏交往空間的狀況，我們將外走廊設計為3.6米寬兩層樓高的空中街道，其中外側的1.8米用於交通疏散，內側的1.8米作為小區綠化管理，在改善“街道”綠化條件的同時，還成為第一層住宅廚房前的隔離帶，保證其私密性。在每層走道的轉角處還設置了放大的節點“空間花園”。這樣的“空中街道”不但具有交通功能，由於其良好的採光通風條件以及寬敞舒適的尺度，還能夠為住戶提供宜人的交往空間。金城帝豪這個樓盤用的隔牆材料為容重700kg/m³的葉岩空心磚，厚度200mm，8個孔。



CHOICE	YES	NO
Dwelling size		
Complete floor plan		
Floor plan except bathroom		
Equipment (kitchen, bath, etc)		
Facade (major elements)		
Facade (minor elements)		





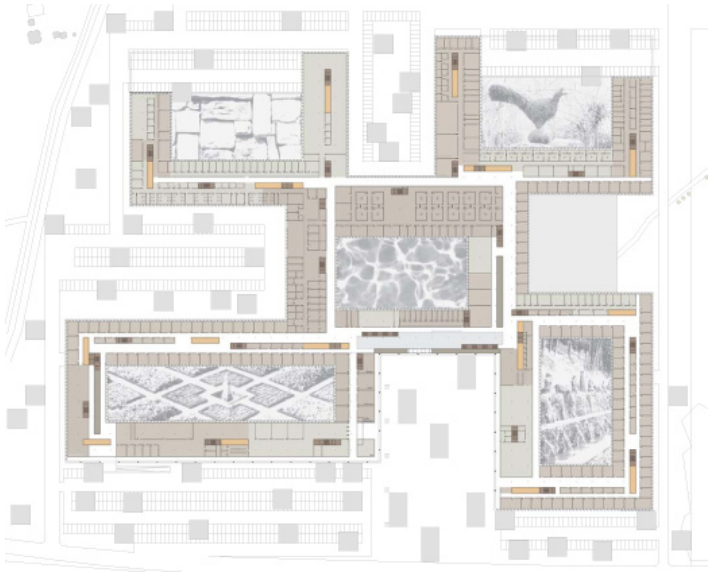


1000 Bed Hospital

Kortrijk, Belgium 2000-2018  
*Baumschlager & Eberle*

The planning contract was based on an age-old, traditional typology: a courtyard structure. The main objective was to create moments of architectural identification. The courtyard allows for vastly differing atmospheres, which effectively counter the danger of anonymity. In organisational terms, the most important elements are short distances in a low-slung, flat-level hospital design. This is guaranteed by the central alignment of its main functions (operation rooms, intensive

千張床位醫院  
(比利時，克爾特裏) 2000-2018  
整體佈局採用傳統的街區庭院模式，目的是為豐富建築個性：不同的庭院有不同的氣氛，打破一般醫療建築單調的形象。功能組織方面，盡可能以水平低層為主，將主要功能，如急救室等，置於平面中部，縮短流線距離。醫院的分期建設取決於醫療設備、財政、管理和人力配備等條件協調運作。而且未來基因技術和以生化醫療為基礎的治療方式將對建築產生新的要求。為了適應這些不確定因素，建築應具備靈活性。其結構佈局設計甚至考慮到非醫療功能的使用，未來如有必要，建築可方便地改造為旅館、



care wards etc.) and the direct access to the emergency area, for example. Developments in the hospital sector are the result of fluid processes in terms of technical medical equipment, financing, politically and with regard to human resources. It also isn't clear which consequences the advances in genetic technology or in chemical/medication-based treatment will have in the future. Architecture has to react flexibly to these conditions – all buildings are thus usable for entirely different purposes, as hotels or office buildings, even as service company structures.

辦公，甚至服務產業中心。

CHOICE	YES	NO
Dwelling size		
Complete floor plan		
Floor plan except bathroom		
Equipment (kitchen, bath, etc)		
Facade (major elements)		
Facade (minor elements)		





# Interview with Prof. Dietmar Eberle of B&E Baumschläge & Eberle GmbH, Austria

(The following essay was produced from two interviews conducted by Dr. Jia Beisi in Hong Kong October 25 2003, and in Bregenz September 17-19 2004)

1. What drew you first to the idea that architecture had to be “open ended” and able to accommodate change?

How long can we plan for, if we just think about people live there? We can plan for 15 years. But what is the life time of the building? 100 years. If you think about sustainable building, then it is even longer. Obviously, we can’t build for 150 years while thinking of 15 years. I have to think about long distance in time. I have to think how to make it possible. When the needs change, in social, economic, culture and technology, you have to make building possible to change, but not in a difficult way.

We have designed many types of buildings, including big buildings, such as housing, office, school, hospital, and airport. We have experienced many changes of programs in a very short of time. That is the universal problem: new organization of social circumstances, new technology, and different value. But the strategy of flexibility can help.

For me it is important to create a good building which should be economical, efficient with a strong identity on the public level for the particular place. And at same time, it has to be flexible inside to accommodate individual needs and their identities.

2. Did you find yourself at some point at odds with your colleagues or clients or others who had the power to accept or reject your work? If so, how did you overcome this and continue to do what you believed in?

The way to achieve your objectives starts from the beginning of the projects. You have to know people well and try to integrate them at the early design stage. If you simply bring design to the clients, engineer or craftsman at later stage, they will always say “No”. You don’t need to tell them “you are stupid, let me do it”. It is a very problematic in human approach. You should speak to crafts men first, then the engineer, then back to the clients. You should not do anything beyond their capability, if you need their help, because it

does not make sense. The true design work is collaboration and building up a team, the rest is only work. They will bring all their knowledge.

When you have no people to participate at early stage, your design meant to be very difficult, because you only have yourself.

For me, the layout of apartments or questions like how many bathrooms are needed is totally a private matter. Except providing a maximum flexibility for the users with basic service, we have no interests to make interventions into this private domain. However, there is a very clear limit of user participation. For me, the relation between public and private should not be determined in a personal level. For instance, inside façade there is the owner to exercise his responsibility. Outside the façade there is the public and community, and therefore it is the responsibility of the architect to convey the public interests. The kind of limits does not mean these issues, can not be discussed publicly. But it can not be decided on individual level.

4. In the course of doing “open ended” architecture, did you find that new methods or skills were needed in your office’s collective tool kit? If so, what were some of them?

Understand the building in terms of life cycle is the key. I understand that any building has five different systems and have completely different lifetimes.

1. All the public, infrastructure outside, much longer than the building, more than 200 years. We have to be very careful about it.

2. The structure load bearing structure, in combination with staircases and or the security problems. They don’t have to change for about 100 years, unless you did something wrong.

3. External wall, service cores, and the mains. You don’t change external wall for about 50-60 years, because it is too expensive, technically complicated, politically sensitive.

4. Function and layout of the building changes every 20 years.

5. Surface, ceiling, lighting, etc, change every 10 years.



Prof. Dietmar Eberle



Achslengut Residential  
2nd Phase1998-2002



Saeco Administration  
1995-1998

To make change possible and easy, you need to organize the building in such a way that these systems are separated according to each life span. This gives you a lot of flexibility. This is the way we do.

We do a lot of research work on what is the goal of the project. Who are the people will be involved? What is the economic background, the transportation, and the quality of the material supplied? Design came at very end. We developed strategy about how to collect information. We don’t make design sketches, but we have idea of gathering information systematically. Then we make first proposal. It is a very healthy proposal, because it based on information. Without information, it is like trials-and-errors. As architects, I don’t think we can try errors. We should be serious strategies how to develop project.

For us it is important to work on different levels at same time. We try to make clear at beginning in each of the levels, which direction should go. Then we start to make decisions, which are simple and direct, with volumes, and structure, and many material work with, so design is easy.

5. What philosophical arguments have been mounted against the idea of an “open ended” architecture?

Firstly, buildings consume so much resource and energy, and they can make more contribution to sustainable future. Secondly, housing in the end, is a feeling at home, not necessary the materially, but with identity. In German it is called Heimat, or a place in your mind. Housing is not only an architecture problem, it is about participation by a lot of people.

6. What is next on the horizon for open building?

I like flexibility, but I understand it in a more complex way. Today we have to think about sustainability, energy, resources and management. We want to be a part of new development of technology. In each field there is many progress, I am interested in developing certain technology, and certain principles further on. We want to develop it further on. However the principle is still the same: you need understand building as separated systems based on the lifespan, their costs and benefits based on the local conditions and culture of the place.

However, flexibility is not about one kind of technology. I think a technical solution for all the systems is not the answer. First the reason is the cost. Some experimental buildings are too expensive to be popular. The second is that they create a very specific atmosphere, very technical atmosphere, which nobody like it. We must understand that don’t build for technology, we built for people. The third point again is that one has to analyze the life time of house: the five different systems and five different life spans. We need first to analyze these systems, and make it possible to change one system without affecting the other. This is the most important area to study. The utmost goal is to make building more economical and more efficient.



V78 in Bludenz1998



Lindenweg Housing 1995



埃伯勒訪談摘要（根據2003年10月於香港，和2004年9月於布雷根茨的兩次採訪記錄）

可持續發展概念要求一座建築可使用100至150年，而一般的建築計畫只能做到15年，這就要求建築本身有持久適應性。適應性不僅依靠現代技術，因為技術本身也在不斷地更新，而是在概念和結構上將建築個部分，按更新年期分成五個相互獨立的層面：環境基礎設施、承重結構、立面及主要設備管線，和室內佈局。我們強調住戶要有自主權，但這種自主權應限制在自我空間以內。建築師在公共空間、外牆和結構佈局方面為公眾提供高質量的，地方性的，有持久魅力的建築設計。要做到這一點，我們的經驗是積極合作。在構思的初期就要和包括業主在內的，與專案有關的多方人士交流，謀求建立一個合作群體。另一方面我們系統地收集和消化相關資料，包括地方法規，現有施工技術條件等。而方案的構思就是在和人的交流和資訊的組織中完成的。建築不是從草圖開始，慢慢畫出來的。總之，我們非常注重建築本身的質量，注重材料、技術和地方性的結合，同時為使用者和可持續發展的未來提供積極的互動的條件。

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Reference:

2005 “A theory of Architectural Practice: Open Building Interpreted by Baumschlager & Eberle”. SB05 Tokyo Proceedings (CDRom), Action for Sustainability: The 2005 World Sustainable Building Conference in Tokyo, September 27-29, 2005. Published by SB05 Tokyo National Conference Board.

<sup>1</sup> The category of information collection are: People involved in the project; project as related to the urban and natural context; Technical and legal issues on structure, gravity, durability, and safety; Façade system; Function and layout (5-20 years); Anticipated users of the project; and Possible material and construction (BS Jia, 2005, )

## “開放建築”作為一種建築教育思想

賈倍思

香港大學建築系副教授



（圖1）香港尖沙嘴地下步行系統

### 1. 建築不是紀念碑

即使經歷了二十世紀一系列建築運動，建築實踐和教育的基礎，即古典主義（追溯到文藝復興或者更遠）和程式化的功能主義（追溯到20世紀早期），仍然沒有改變。前者將建築作為一種美學造型或者永恆的“紀念碑”；後者認為建築是職業化分功的結果。這兩種態度都忽視了時間的存在和人與建築之間的互動。哈布瑞肯（Habraken.N.J）早在七十年代就挑戰了這些看法。他把建築當作生命體，通過人的參與而不斷變化。建築不是一個簡單靜態的物質，被動地接納各種不同的功能，而是一個發展變化的過程。在住宅方面，哈布瑞肯先生指出“住宅”（Dwelling）是一個動詞，是人們在自己創造的避護環境中，依某種框架而進行的活動。“住即是建”（哈布瑞肯， 1972:18a）。他將建築核心的問題從功能、比例和形式轉移到了人的控制（Control）作用；換句話說，建築就是“什麼人在做什麼事情”。哈布瑞肯的觀點十分重要，因為它在指出了建築環境的現實問題的同時，也動搖了自文藝復興之後的建築理論。

### 2. 全球經濟時代

我們正處在快速轉變的全球經濟、多重文化融合，和更快更強的資訊交流的時代變革中。純粹靜止的建築形式和結構不再適用於當代城市和城市所承載的各種活動（Lynn, 1997:54），其 表現在以下幾點。

首先，分散的單體建築已不再重要。當我們在汽車或其他交通工具裏疾駛的時候，很少注意那些紀念碑式的建築。快速交通使人們無法像步行者那樣去欣賞建築的立面。擁有近人尺度的街道、廣場和店鋪的義大利小鎮對步行者來說充滿意味；而由大規模單調的建築形體組成的二十世紀現代城市更適合從行駛的汽車或火車裏欣賞。今天，人們甚至經常乘飛機旅行，建築甚至城市的形象已不再入二三四百年前那樣切入日常生活。在許多現代城市（例如香港）即使步行道，也和火車和汽車一樣進入地下去了。（圖1）很多行人借助地下隧道的指示牌，而不是地面上的地標建築 來辨別方向。

其次，通信技術徹底改變了人們對建築的認知。傳統建築經常以形象記憶方式表達並傳遞有關文化特徵。建築外觀跟雕塑一樣具有重要的象徵性和可觀性。然而，在快速的全球化進程中，像網際網路這樣的工具以圖片的形式更快速有效地傳播文化與特徵。和以往任何一個時代相比，今天的人更多地面對是圖像，而非象建築一樣的實物。

第三，建築技術已經使建築從整體、厚重的體量，發展到由輕質預製構件組成的配件。機電設備的使用成本已上升到了建築總運營開支的35%。與此形成對比的是，花在建造和基礎結構上的開銷卻從二十世紀初期的大約80%降至今今天的大約20%。（弗蘭克普頓，1997:14）二十世紀末建築趨向是技術的優化。建築已經從厚重的磚石澆築模式，發展到散裝組建模式， 建築的體量感正在消失。新技術的運用不斷改變著建築的形式，也最終改變了我們對建成環境的認知 （圖2）。

第四，在全球市場化及與之相伴的消費經濟環境中，對持續變化的需要使建築形式和功能逐漸分離。建築要求像電視機一樣，在單調的物質外表下不斷提供不同而且變化的節目和圖像。為了使建築成本更能體現其價值，建築應該為功能和活動的改變提供最大的自由。這樣一來，我們關心的是“建築怎樣運作”，而不是像以前那樣“建築看上去怎樣”。前者將變成衡量建築設計的根本標準。

最後，由於環境科學和可持續發展概念在建築學中的出現和整合，建築設計越來越多地趨向于強調資源管理，而不是外形設計。根本問題是如何盡可能減少建築的資源消耗，同時盡可能增加它的迴圈利用和環境效率。例如，延長建築的壽命可以提高建造中的資源利用效率。建築設計希望能提倡新的環保的生活方式。

設計師“不應該創造神話，而是用心地聆聽大地，把握並從建築設計中表達時代的感覺。”（Mc Coy, 1993:133）當前建築設計面臨的問題是如何擴大建築的容量以適應更多的變化需要。今天建築學傳遞出的本質資訊是“操作性”而不是“形象化”。通過比以前更加貼近它的聽眾和使用者，新的建築可能甚至永遠是對自文藝復興以來的西方建築歷史的一次真正挑戰。

### 3.開放建築：建築作為一個平臺

在一般建築實踐中，建築施工與場地湊備是分開的。場地湊備大致包括地質勘察，場地平整，土方工程，通路鋪設，等等。然後建築設計把場地分為了室內和室外。然而，開放建築並不把建築和場地如此區分，而是把建築也當作場地，或者補充的高級的場地（Sub-site）：一個用於再建造和改造的人工的三維場地。建築的開放設計為將來可能的改造準備了一個通用的、中性的和結構性的物質“場地”。它只是給將來的使用和改造準備一個條件，一種服務，提供一個流線、通訊和交流的網路。它是位於室內的基



礎設施和建設場地。開放建築有以下特徵：

1・它是一個不確定的環境，由此建立起 人和他們周邊環境的聯繫，並且准許人們通過使用、再利用和改造行動來體驗這些空間。  
2・它具有靈活性、預期性，鼓勵不同 使用者、設計師和專業人士參與。  
3・它保持與整體環境連續性的同時，體現自己的特徵和目的。

4・它也將資源和能源的利用效率，和對於環境變化（例如氣候、溫度和多變的需要和活動）的敏感性作為評估標準。

這種靈活的空間沒有形態，輕質，單薄，像是移動在人體之外的空間表皮。它將人的物質與精神，無論個體或群體，從原本封閉、沉重、靜態、冷酷和專制的建築，從千篇一律、技術繁雜，和昂貴奢華的形體中解放出來，代表了二十一世紀新的建築學。

#### 4. 香港：高密度城市建築

高層高密度的城市建築是香港的特徵。香港的總人口已超過6百80萬， 工作生活集中的面積不足其總土地面積的18%的建成區。（圖3）在某些地區，人口密度高達每平方公里82,107人。高於世界其他大城市，如倫敦(4,483人/平方公里)、東京(5,384人/平方公里)、或新加坡(4,700人/平方公里)。香港的一般建築容積率在6.5到10之間，而新加坡只有3到4。1998到1999年，香港人均佔有面積12.6平方米。香港的大半人口住在香港房屋署提供的公共住宅，人均居住面積只有5.5到7平方米。然而，儘管高層高密度的生活存在很多潛在的問題，如面積小，缺乏室外空間，日照和自然通風有限，擁擠造成的環境污染在某些地區較為嚴重，它仍然有許多環境和社會經濟優勢。

香港社會經濟轉型是世界上速度最快的城市之一。不同于其他一些現代的工業城市，香港製造業僅僅活躍了三，四十年。當1979年中國大陸敞開大門，香港當地製造業北上，尋求更加廉價的土地和勞動力。留下的金融和服務業幫助香港在接下來的一個十年裏轉型到後工業社會。這些新的經濟發展加強了城市中心區重要性，因為諸多經濟文化關係的集中，對服務和金融業至關重要。朝服務型經濟的轉變加速了城市更新。為使更新專案在經濟上有利可圖，這種城更新反過來又抬高了中心區密度。

當建築高度增加，人們的生活被升到遠離地面的高空。地面上的街道和廣場失去了“新城市主義”依賴的傳統的尺度、形態和活動（圖4）。當高層建築擁擠在一起，早期現代主義僵化的建築特徵（形式、空間和功能）相對弱化，而那些個體建築間多方向，多層次的相互聯繫更加重要。在快速變化的社會經濟環境中，我們不可能去準確預測未來使用者的特徵和需求。高密度的建造處於高速轉型的社會經濟系統中， 綜合多變的功能要求這些建成結構簡單中性，適應力強。建成的結構作為一個軀殼或平臺，支持密集的活動、人流和多樣多變的需求。就這

點來說，高密度建築形成一個高度動態的功能混合，這種功能混合對城市變革和成長提供持續的動力。這是香港城市建築的本質，高層高密度建築為開放建築提供了條件。二十世紀的建築學和城市設計理論在這方面遇到現實的挑戰。然而，開放建築還沒有被理解， 儘管它們到處存在。下面就是一些這樣的例子：

1・香港五十至七十年代建的工業建築是些巨大的形態呆板的綜合體，它們通常十到十五層高。這些支撐著巨大的樓板的混凝土框架結構被租出或賣給不同的製造商。（圖5）當香港的經濟從製造業轉向服務業後，它們的內部功能也相應改變。高大的多層結構變成用於在重新建設的基地。

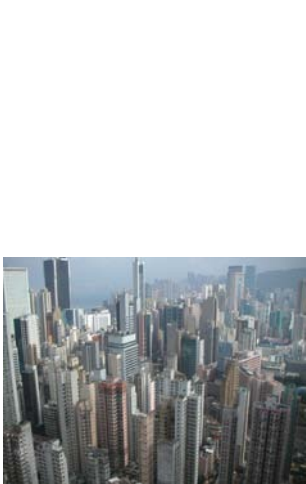
2・連接不同建築的步行天橋現在在高密度地區隨處可見。它們已經成為一個基本的城市要素。當這些天橋最終連成一個廣闊的系統，它們便成為真正的空中街道。行人穿梭于樓宇之間，不受汽車和不良天氣的影響（圖6）。因為建築靠得很近，每個都有各自的共用空間和商業中心。當天橋合理地把它們連接起來，一個高效的巨大結構就形成了。在香港許多地方現在已經難以區別哪里是建築的起點，哪里又是天橋的終點。

3・無論是公共房屋還是私人廉價房屋，香港傳統的住宅單位經常表現為“空殼”的形式。（賈倍思， 1998:181）住戶拿到一個“空的平面”，有待他們根據需要來佈置房間隔牆和設備安裝……

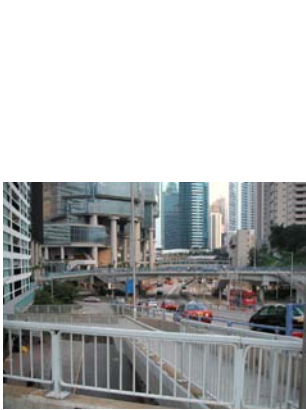
#### 5. 教育中的開放設計

後工業社會出現高度的社會分工。許多各不相同的個人和團體都關注他們各自認為最重要的事情。建築學校應該讓未來的建築師在一個共同的整體中去包容個體，而不要把這個整體下降到最小公分母或者一個機械劃分的“平均值”。香港的建築傾向晚期現代主義的支離破碎的風格。建築並沒有在滿足自身功能要求同時改善處所環境。相反，由於隨意組合和“豐富”的形體增加了相互間的矛盾。西方慣用的而且現在還處於強勢地位的規劃理念才是問題所在，這些規劃理念對高密度持批評態度。當高密度環境還有待成熟的時候，就把它當作一個有問題的東西。城市的功能的分離產生了以前沒有的“幽靈城”或者本可避免的經濟負擔。不同功能區域間的交通的增加，使得污染更為嚴重。香港已處在一個形成自己新的城市和建築理論的邊緣，但卻沒有主動地去研究它。

香港建築業一直受制於地產市場，香港的建築教育又受到實用主義的建築業的不良影響。急功近利的態度加劇了建築教育的本身存在的矛盾。香港高密度建築多變的，多重交彙的潛能沒有被意識到。尤其是建築教育沒有能夠很好地訓練學生有效地觀察分析能力。學生的好奇心和熱情受到兩種教育傾



（圖3）香港灣仔區鳥瞰



（圖4a）香港金鐘街道和天橋



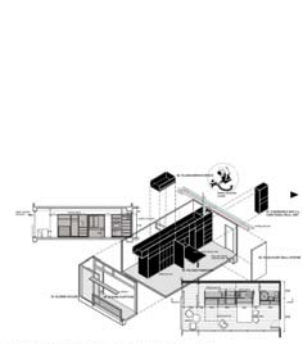
（圖4b）香港中環步行天橋指南



（圖5）灣仔某綜合樓



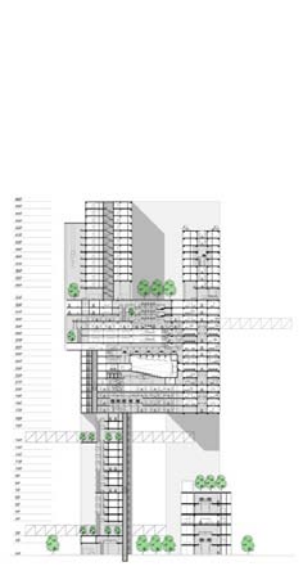
（圖6）金鐘街道和天橋



（圖7）作者指導學生畢業設計



（圖8）Chong Lai Ho, 2002



（圖9）Wong Chi Yung, 2003

向的打擊。 一種傾向是那些非常“務實”的市場經濟解決辦法；另一種是極端的異想天開。建築教育的問題可歸納為市儈的反理性主義。

我自1996年初開始在香港大學執教。 我試圖將三方面的見解整合到工作室教學中去，即住宅適應性，可持續城市發展，和高密度。這三方面的見解來自我以前在中國和歐洲的研究和實踐。我主持和參與本科一，二年級的教學，和建築研究生的不同規模、類型和複雜性的工作室專案。在1998-2000年間我作為導師和研究生課程的工作室協調人，指導學生獲得了二十多個的國際競賽獎。無論是我自己指導或者和其他教師分享類似的見解，我試圖鼓勵學生去質疑現有的建築觀念和建築實踐。開放建築的研究和應用始終是我課程教學的核心。這期《國際開放住宅》（Open House International, vol.29 no.1 2004）雜誌選取了一些與開放概念相關的學生作業。它們可以分為以下五類：

#### 1）操作方便的適應性

高密度住居意味著有限的居住面積。在這裏需要包容諸如私密性、個性、可變性和多樣化選擇等基本的生活需要。靈活分隔一直是香港小面積住宅滿足功能需求的辦法之一。此類的學生設計都在緊湊的居住空間裏追求最大的功能舒適（圖7）。活動隔牆方便了日常功能變化。哈布瑞肯認為，人們對自我領域的“控制”應表現在改變物質空間的行爲。一方面，居住者有願望和能力去改變；另一方面，空間也具有被改變的可能。“操作方便”的適應性是最簡單、最直接， 最有效方法空間變幻的方法。這些學生設計通過瞬間的“事件-空間 ”對應，使建築呈現出某個時段的特點， 強調建築在時間中的表現。

#### 2）作為基礎設施的建築

此類設計探討的是建築如何作為基礎設施的一部分，或者作為支持多種複雜功能及其變化的平臺。幾個方案將建築和公路結合成一個既非建築，也非公路的新的整體。便捷的交通和宜人的戶外城市空間，這兩個時常相互矛盾的需要，被綜合起來解決。另外幾個設計則探討沒有即定目標開放結構，以求擴大建築的自由度。在一個工業建築改造專案展現了現有建築如何成為新的工程“基地”（圖8）。這些探索都將功能視為動態的混合體。設計本身就應為建築，在其自身和城市的長時間的過程中，提供更新和增長的持續動力。

#### 3）建築作為聯繫體

聯接體，以橋樑、空間或建築的形式，可以改善城市各部分或建築間的聯繫。此類設計探討以傳統的，在歐洲和中國南方村落常見的多功能橋樑的概念來解決香港城市空間甚至社會的某些問題。建築學不再拘泥於

視覺外觀，它已經擴展並轉化到城市服務設施之中。高密度的特徵之一是建築之間或建築與基礎設施之間的距離較近，甚至連接和疊加在一起。這種在城市發展過程中形成的新的狀態，使“多功能橋樑”可信可行。有的高層建築，建築面積之大甚至接近於一個小鎮。基於這一認識，另外一些設計探索了垂直城市的可能性。高層建築作為系統來規劃，既有較私密的“鄰里單元”，也有“街道”和“廣場”（圖9），所有這些都基於連續不斷的變化。

#### 4）輕而通透的建築

“事實上，整個二十世紀的建築史可以被看作是一個從封閉到開放的過程。”(Prix,1990:65)現代技術不斷減小和減輕建築結構和維護體。結果，由於不變的部分收縮，封閉空間不再是結構上的需要，為空間開放交融創造更多的條件。而且，結構本身變得可以自由地適應特定的需要和用地條件。十九世紀那種將建築作為永恆實體的紀念碑的概念已經不再必要。新材料和新技術在平行於建築學的不同方向上出現和發展，建築質量的表現最終取決於他們之間成功地整合。有些學生設計以技術和與這些技術變革相關的概念為特點（圖10）。他們傾向於以開放、透明和非幾何的結構承擔或激發密集而多樣的活動。通過削弱建築的邊界，建築融入周邊環境，無論環境是自然的還是都市的。建築開始消失。與快速的變化，密集的活動和智慧與財產交流相比，建築的形體變得模糊而且沒有意義。

#### 5）建造環境：一個新的結合

最近十年，環境科學是最有影響的學科之一。環境科學在理念和功能，目標制定，甚至新的美學的形成，影響著建築和城市規劃。建築被視作一個生命週期。在建築的生命週期中，能量和材料的消耗，廢物處理，棄置方式，和迴圈利用等問題變得比風格和形式更加重要。建築成為影響當地和全球環境的一種設備，這個設備管理著能量、材料和人力資源輸入和輸出。有些學生設計把環境參數整合進建築學，讓建築成為能量、資源和人流控制網路中的構件，融入城鄉環境（圖11a，11b）。

#### 6. 結論

國際化社會和全球化市場是我們這個時代的基本現實，代表著“時代精神”，也很明顯。今天我們身邊有很多以前從未出現過的事件、現象和需求。以前建立的建築理論存在缺陷，它們不切合實際，無法提高香港高層高密度城市和建築的質量。今天的科學技術條件對設計提出了新的挑戰。新的設計不再是通過翻歷史資料而產生，歷史傳統已經沒有新東西可以提供。這正是開放建築概念和教育開始的地方。開放建築正在普及和深入。



English Abstract

This paper summarizes the open building concept applied in my architectural studio teaching over the last six years. It is based on a belief that effective architectural teaching requires a deep philosophical understanding of both architecture and architectural education. This understanding follows from the author's perception that a new architectural epoch started in the late 1990s and continues today. It is also follows from Hong Kong's unique place in the world, characterized by its high-rise / high-density cityscape and rapidly changing socioeconomic circumstances. Open Building is precisely about building for such environments and such change, while emphasizing user participation and deep integration into the larger context. In academic teaching work, open building covers five aspects: (1) operable flexibility, (2) architecture-as-infrastructure, (3) building-as- connector, (4) lightness and permeability, and (5) a new unity of the built environment. Finally the paper identifies a need to expand and develop an open building agenda.

*(The full paper in English is published in title “An Introduction to Open Building as a Teaching Manifesto”, Open House International, Vol. 29, No.1, 2004, UK, pp. 5-13 (ISSN 0168-2601)*

English Abstract

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(圖10) Fung Wing Chuen, 2000



(圖1s) 開放建築研究工



(圖11a) Lam Kong, 2002



(圖11b) Lam Kong, 2002

鮑家聲教授訪談錄

(由賈倍思教授根據2007年2月1日的電話採訪整理)

問：你是在哪里，什麼時候接觸開放建築概念的？

答：在70年代後期我從張守儀先生的文章上看到“支撐體”建築，即SAR。後來去美國MIT時求學于哈布瑞肯（Habraken）。他的哲學思想讓我看到住宅“千篇一律”的問題不是工業化的問題，而是住戶沒有參與建設過程。我翻譯了他的許多文章。當時中國的住宅體制正從社會福利房向商品房轉變，鼓勵個人買房。我意識到開放住宅的思想正適用於這種轉變。而且當時住宅緊缺，造成許多社會問題。我看到MIT的許多教授都在研究住宅，特別是第三世界國家的住宅問題。我意識到建築師要關心社會、關心人。以前我和許多建築師一樣只做公共建築，我決定做一個轉變，以住戶參與為中心，把重點放在住宅方面。當時我請教劉光華先生關於“Open House”的中譯法，他也同意用“開放住宅”。

問：在開放建築實踐中你是如何諧調與業主的關係，並說服他們接受你的想法？

答：在美國一年我用英文寫了兩篇文章，一篇介紹SAR，另一篇探討SAR在中國的適用意義。哈布瑞肯建議前者在中國發表，後者在國外發表，他推薦到Open House International (OHI)，儘管當時他對中國並不瞭解。目標明確了，要做的是宣傳工作。我回國後找到南京當時負責城建的范副市長，他原則支援，但沒有具體幫助。我又到省建設廳找了當時四位副廳長，頭兩位不太積極，最後一位秦副廳長表示支援，認為有前途，可以試點。工作落實到無錫市房管處，撥了0.85畝的菜地進行試點。

要說經驗，首先是把道理講清楚，我是有備而去，有方案和方法，讓他們真正體會到我的想法是針對當時的住宅問題。其次，建築設計本身要好。在無錫的專案中，我引入了中國傳統的四合院概念，和屋頂花園，使方案更有吸引力。第三是組織學術報告會，讓更多的人瞭解開放設計長處。但整個過程並非一帆風順，比如，在工程的第二階段，即住戶參與開始之前，有人要將實驗終止，按一般方法將住宅分配給某廠職工，我不得不又到省建委爭取支援，最後只有三分之一的住宅做到住戶參與。我還要感謝當時的一位副處長，在頂著壓力下將這個專案完成。在中國做事需要政府部門的協助。我的體會是需要“官”、“廠”、“學”、“研”四方結合。

這個專案媒體大量報道，但在學術界卻收到排斥。國外的評價比國內高，省外的評價比省內高，校外的評價比校內高。有的教師甚至嘲笑開放建築，說是今後學生不用學門窗設計了。

問：你採用什麼設計方法來實現開放建築的？或者傳統的設計方法需要什麼改進？

答：我採用“細胞”組合方法，先設計一個單元，不同的單元用交通空間組織，形成不同的平面，好比“種子”，在不同的土地上開花。我設計的單元可以在兩個方向上組合。而且不會出現暗房間。而且最後這種組合的靈活性體現在豐富多彩的住宅造型上。哈布瑞肯也贊同我的這種做法。當時住宅還是用磚牆承重。我和結構工程師合作不錯，首先我把道理講透，爭取他們的瞭解。其次要為他們創造方便條件，比如我引用了模數化的設計，使結構變得簡單。最後，要有商量，而不是我一個人說了算。由於做了屋頂花園，為了防水，我提議現澆，而不是用預製板，天溝、花槽甚至有可能做的天蓬、暖房，都有一定的構造困難，但我們



(圖2) 南京西加大塘中南園高層住宅



都解決了。

另外我採用開放式模型做方案介紹，大家可以親手通過移動模型中的隔牆嘗試做不同的戶型。這樣，理解不但容易，而且氣氛親切，易於讓方案接受。

問：住戶參與，和長遠的住宅使用壽命是開放建築的兩大特點。你的哲學思想是什麼？

答：首先是民主建築。世界發展的方向是不斷推行民主。人們應該能夠根據自己的心願安排自己的衣食住行。衣食的自由選擇在中國城市已基本實現，現在要讓人們有更多的住和行方面的選擇。其次是可持續發展概念。我們要求城市做到三R（Reduce，Reuse，Recycle）建築上的三R就是我們主張的開放建築。第三建築學本身已發生了根本的變化，專業分工越細，建築師控制的範圍越少。而現在建築師所能設計的部分正是它的結構部分，不動的部分。如何讓將這部分設計好，具有長遠的較高的使用質量，正是開放建築設計關心的問題。

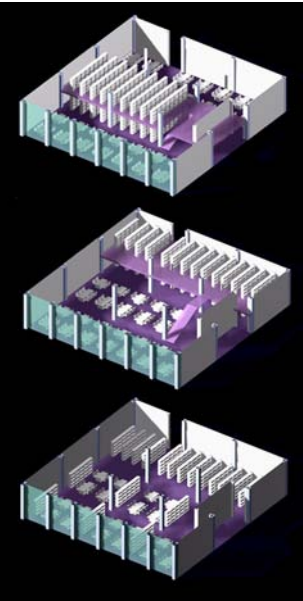
問：開放建築的手法已在商業和辦公建築中廣泛採用，現在要研究的是住宅、醫院等類型的建築。下一步開放建築的方向是什麼？

答：首先是城市設計和舊城改造中引入開放建築的思想。要研究哪些是不變的，那些是要“與時俱進”的。其次，在中國，還是要發展標準化構件。現在建設部有人提倡用一次性到位的住宅建設，來解決住戶二次裝修所帶來的資源浪費和環境恣擾。我認為這不是辦法。人總是要變，要不同，要不斷更新生活環境。現在要研究開放靈活部件，可靈活安裝，甚至可迴圈再用。

作為建築師，開放建築的思想為我和業主交談，爭取業務，幫助很大。我的很多方案，包括許多公共建築，和最近設計的也門大學，都是在評委看到方案的靈活性，對一些業主自己不太明確的發展目標的相容和適應性的時候，才給予肯定的。

Summary in English

When Prof. Bao initiated Open Building practice in the early 1980s, there were two major problems in urban housing in China. First was the housing shortage, which called for increasing housing investment by changing from a socialist welfare system to a market system. The second problem was the monotony in housing design. He believed the open building concept could help to resolve these problems by involving residents' in design and construction processes. His well prepared concept - demonstrated with models and good architecture quality- the sky terraces and neighborhood space--persuaded the authorities to support the first experimental project in Wuxi. That project has been a useful platform on which subsequent commissions have been granted for decades, including nonresidential projects such as libraries and school buildings. During this period, it was not uncommon to find clients who appreciated the Open Building concepts in managing uncertainties, which they also encountered. New trend building industry in China makes it impossible and unnecessary for a single architect to control whole range of building design. The open building concepts allows him to collaborate with various professionals while maintain the architectural essential, the support, as the focus of architecture. He foresees the further development of Open Building will be found in urban planning level and manufacture of building components. For him Open Building is more than a concept of the participation of users, new investment, and construction technology. Open Building leads to a “democratic architecture” and a sustainable development characterized by 3R (Reduce, Reuse and Recycle).



（圖3a）遼寧工業大學圖書館



（圖3b）遼寧工業大學圖書館



（圖4）也門塔茲大學

Summary in English (Japanese)

When Prof. Bao initiated Open Building practice in the early 1980s, there were two major problems in urban housing in China. First was the housing shortage, which called for increasing housing investment by changing from a socialist welfare system to a market system. The second problem was the monotony in housing design. He believed the open building concept could help to resolve these problems by involving residents' in design and construction processes. His well prepared concept - demonstrated with models and good architecture quality- the sky terraces and neighborhood space--persuaded the authorities to support the first experimental project in Wuxi. That project has been a useful platform on which subsequent commissions have been granted for decades, including nonresidential projects such as libraries and school buildings. During this period, it was not uncommon to find clients who appreciated the Open Building concepts in managing uncertainties, which they also encountered. New trend building industry in China makes it impossible and unnecessary for a single architect to control whole range of building design. The open building concepts allows him to collaborate with various professionals while maintain the architectural essential, the support, as the focus of architecture. He foresees the further development of Open Building will be found in urban planning level and manufacture of building components. For him Open Building is more than a concept of the participation of users, new investment, and construction technology. Open Building leads to a “democratic architecture” and a sustainable development characterized by 3R (Reduce, Reuse and Recycle).