“建筑都市主义”：持续功能演变下的适应性空间逻辑

Urbanism Within: Adaptive Spatial Logic to Continuous Functional Transformation

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Background 前言

- **土地资源匮乏及人口数量高速增长是亚洲城市发展面临的普遍问题。**
- **紧凑城市、区域城市、存量更新等应对发展理念**
- **高密度空间配置、混合功能、高效公交、步行友好**
- The lack of land resources and rapid population growth are common problems facing Asian cities.

Background 前言

- **高容量垂直发展模式是出路之一，也就是建构”垂直都市”**

- High-density vertical development is deemed the solution, that is, to build ‘vertical city’

Background 前言

- 香港城市空间现状 Urban space of Hong Kong

Source: Ling X.H. A Skyless Urbanism, MONU 21, 2014

Configuration of urban space

Multi-level street networks

Background 前言

- **同时，建筑空间都市或泛都市化**
- **建筑与城市的界限模糊**

Architectural space is urbanized or pan-urbanized.

The boundary between buildings and cities is blurred and shifted.

Skywalk system in Central

(Source: Ling X.H. A Skyless Urbanism, MONU 21, 2014)

Urbanism Within 建筑都市主义

- **“建筑都市主义”：阐述建筑在高度城市化过程中所出现的功能复合、持续演变及活动加剧的现象。在社会经济活动的持续推动下，建筑内部形成微型的都市空间并孕育丰富多元的社会生活。**

Urbanism within: described the phenomenon of compound, continuous evolution and aggravating social activities within buildings appearing in the process of urbanization.

- **建筑都市主义 vs 综合体**

共性：高强度建设、多功能、立体化
差异：自下而上、自发、渐进，贴近需求，回应及适应性强

Kowloon Walled-city

Chungking Mansions

Theoretical Foundation 理论基础与发展

- **乌托邦概念 Utopia**

Ville Radieuse

Broadacre City

- **巨构 Megastructure**

“一个大型的架构，其中容纳了所有或者部分的城市功能”

Metropolis (1927 film)

Berlin Hauptstadt

Theoretical Foundation 理论基础与发展

- **巨构 Megastructure:**
  “簇群城市”：以线性中心为骨干发展出多触角网状蔓延的想法，以及流动、生长、变化等观念

- **未来城市设想 Futuristic City**

Babylon Tower

Plug-in City

City in the Air

Ville Spatiale

Theoretical Foundation 理论基础与发展

- 卡尔.曼海姆 (Karl Mannheim) ：“今天的乌托邦很可能变成明天的现实，各种乌托邦都经常只不过是早产的真理而已。“
- 混合功能+竖向叠加+公共性

Mixe-use+Vertical+ public

Chungking Mansions 重庆大厦

- **区位 Location**

Map of Hong Kong

Land use pattern of Tsim Sha Tsui

Chungking Mansions 重庆大厦

- **历史演变 Functional evolution**

Chungking Mansions 重庆大厦

Source:
Siu. Chungking Mansions: The Self-sufficient City,2014

Chungking Mansions 重庆大厦

Source:
Siu. Chungking Mansions: The Self-sufficient City,2014

Chungking Mansions 重庆大厦

Entire buildings

- **Integration**

Integration core concentrates on central floors
The maximum value increases significantly

Chungking Mansions 重庆大厦

Entire buildings

- **Local Integration**

High Local Integration values shift from circulation areas to units

Chungking Mansions 重庆大厦

Changes of Podium Layout

裙楼1F原状

走廊增设新店铺

沿过道转角处很多商店被分割成更小的商店

楼梯后过道增设新店铺和服务台

从外部上至裙楼二层对外部分

裙楼1F现状

Chungking Mansions 重庆大厦

Changes of Podium Layout

裙楼2F原状

电梯封闭不
能出二层

全部对外

裙楼2F现状

Chungking Mansions 重庆大厦

Integration

1961 podium plan layout

2016 podium plan layout

Attribute	Time	Minimum	Maximum	Average
Integration [HH]	1961	0.521107	1.11236	**0.797655**
	2016	0.210897	1.07257	**0.716558**

Chungking Mansions 重庆大厦

Integration

全局整合度+15%

1961 podium plan layout

2016 podium plan layout

Attribute	Time	Minimum of all	Minimum in corridor	Maximum	Average of all
Integration [HH]	1961	0.521107	0.63385	1.11236	**0.797655**

Attribute	Time	Minimum of all	Minimum in corridor	Maximum	Average of all
Integration [HH]	2016	0.210897	0.763387	1.07257	**0.716558**

Chungking Mansion 重庆大厦

Integration

全局整合度-15%

1961 podium plan layout

Attribute	Time	Minimum of all	Minimum in corridor	Maximum	Average of all
Integration [HH]	1961	0.521107	0.63385	1.11236	**0.797655**

2016 podium plan layout

Attribute	Time	Minimum of all	Minimum in corridor	Maximum	Average of all
Integration [HH]	2016	0.210897	0.763387	1.07257	**0.716558**

Chungking Mansions 重庆大厦

Local Integration (R3)

Local Integration

Local Integration +30%

Integration [HH] R3 -30%

1961

Local Integration

Local Integration +30%

Integration [HH] R3 -30%

2016

Attribute	Time	Minimum	Maximum	Average
Local Integration	1961	0.333333	2.77792	**1.46187**
	2016	0.210897	3.04662	**1.52337**

Chungking Mansions 重庆大厦

Synergy

R^2=0.448206

1961年 Integration [HH]-Integration [HH] R3 散点图

R^2=0.324489

2016年 Integration [HH]-Integration [HH] R3 散点图

Chungking Mansions 重庆大厦

Correlation with Pedestrian Movement

Local Integration

R^2=0.285

Integration

R^2=0.585

Visual integration

R^2=0.585

Choice

R^2=9X10^-4

探究人流计数与凸空间整合度和视线整合度的相关性，两者均呈一定程度的正相关，但相关性不够高，而人流数与选择度呈现出不相关。
由此裙楼现状的空间形态对人流分布起一定程度引导作用。

Chungking Mansions 重庆大厦

Transformation of Tower Programs

Typical layout plan（1961）

Programs of 3F（2016）

部分住户被分割成小房间，分别租给不同的人，走廊变成公共空间

部分住户变成宾馆，餐饮，办公等不同功能被使用

部分相邻住户被打通变为宾馆，餐饮等功能

- Business
- Guesthouse
- Restaurant
- Store
- Residential

Chungking Mansions 重庆大厦

Current Programs of Towers

Tower A

Tower B

Tower C

Tower D

Tower E

Chungking Mansions 重庆大厦

Typology of Floor Plans

功能混合类型分布统计

混合类型	数量
住宅宾馆	48
住宅宾馆商业	1
住宅宾馆餐饮	5
住宅商店餐饮办公	1
住宅	4
宾馆	2
住宅宾馆办公	13
住宅宾馆商店餐饮	1

以层为单位，塔楼的置换基本分为以下几种

1.住宅+宾馆 Residential +hostel
2.住宅+宾馆+办公 Resi.+hostel+office
3.住宅+宾馆+商业 Resi.+hostel+commercial
4.住宅+宾馆+餐饮 Resi.+hostel+ restau.
5.全住宅 Residential
6.全宾馆 Hostels
7.住宅+宾馆+商店+餐饮 Resi.+H.+O.+R.

Chungking Mansions 重庆大厦

Original Layout Plan(1961)

B -标准层平面（1961）

B 塔楼标准层空间关系图（1961）

Chungking Mansions 重庆大厦

Tower B 4th Floor Plan (2016)

住宿+宾馆+餐饮

B1，B2，B8: hostel
B5: restaurant
B3，B4，B6，B7: Residential

Chungking Mansions 重庆大厦

Tower B 6th Floor Plan (2016)

住宿+宾馆

B6，B5: hostel
B2，B3，B4，B8: residential
B1，B7: divided residential

Chungking Mansions 重庆大厦

Tower B 7th Floor Plan (2016)

住宿+宾馆+办公

B1，B3，B7，B8: hostel
B2，B5，B4: residential
B6 : office

Chungking Mansions 重庆大厦

Comparison of Spatial Structure

层级放射

网络型

脉络型

Chungking Mansions 重庆大厦

Tower B Typical plan（1961）

Tower B 4F Plan（2016）

Tower B 6F Plan（2016）

Tower B 7F Plan（2016）

Global Integration	Minimum	Average	Maximum
Original	**0.546871**	**0.936623**	**1.69818**
B4	0.44797	0.691704	1.09534
B6	0.622745	0.818081	1.52161
B7	0.644643	0.874986	1.51952

脉络型有利于全局整体度中心的构建，其次是网络型，层级放射状在集聚全局整合度方面较不利。

The spine structure performs better in accumulating global integrations. By contrast, the tree-like structure is disadvantageous.

Chungking Mansions 重庆大厦

Tower B Typical plan（1961）

Tower B 4F Plan（2016）

Tower B 6F Plan（2016）

Tower B 7F Plan（2016）

Local Integration(R3)	Minimum	Average	Maximum
	0.498604	**1.10002**	**2.08105**
B4	0.33333	1.2764	4.42342
B6	0.498604	1.31254	3.31756
B7	0.498604	1.34653	2.97293

局部整合度中心由核心筒移至各个扩展公共空间，形成若干局部中心。层级放射状空间集聚局部整合度能力较强。

所有平面的平均值和最高值都升高，说明这是三层平面的空间演变是以构建局部中心为特征的。

The local integration center moved from circulation lobby to the units, forming a number of local centers. Tree-like structure demonstrates a better agglomeration ability of local integration.

Chungking Mansions 重庆大厦

- 建筑都市的形成与发展遵循与城市生长类似的规律。例如，

  中心性原则，随着空中网络的蔓延发展，中心集聚及放射状关联的特征开始出现，整体空间结构发展以适应整合度模式的构建为目的，且在不同尺度上反复出现。

- 人的社会经济活动推动空间形态变化，使其适应建筑内部的活动模式要求。尽管内部限制条件很多，但通过长时间的修正与完善，最终演变成类城市网络结构。而重庆大厦主要通过局部网络的加密，来适应高容量的竖向扩张。
- 重庆大厦的演变也是形成前景与背景网络的过程。形态上而言，前景为原有的交通系统和公共走廊，背景则受功能置换的影响并取决于不同空间要求而体现出各自的空间与社会特征。
- 吸引点的非对称性：整栋建筑而言，全局整合度集中在交通核附近，局部整合度则集中在改造单元。

- The spatial structure follows a similar growth pattern of organic cities, such as central agglomeration and radial association with surrounding areas. The development of the overall structure aimed at shaping integration in its own way and at different scales.
- Socio-economic activities stimulate the change of spatial structure, making it adapt to the requirements of various activities inside the buildings.
- In spite of the structural constraints, the building has gradually evolved into a city-like network system through adjustment and modification over a long period of time . To achieve high-capacity vertical expansion, Chungking Mansions mainly evolved through encryption of local networks.
- The evolution of Chungking Mansion is also a process of forming foreground and background networks. Morphologically , the foreground is the original circulation system and public corridors, and the background is much affected by the transformation of each unit and their functional requirements, so as to establish their own spatial and social characteristics.
- Attractors asymmetry: while the global integration core is located in the circulation core , local integration cores tend to concentrate on the urbanized units.

THANK YOU!