Back from the Past and the Future towards Holistic Sustainability PART-I

18:00-20:00, 20th March, 2017
@Chu Hai College of Higher Education, HK

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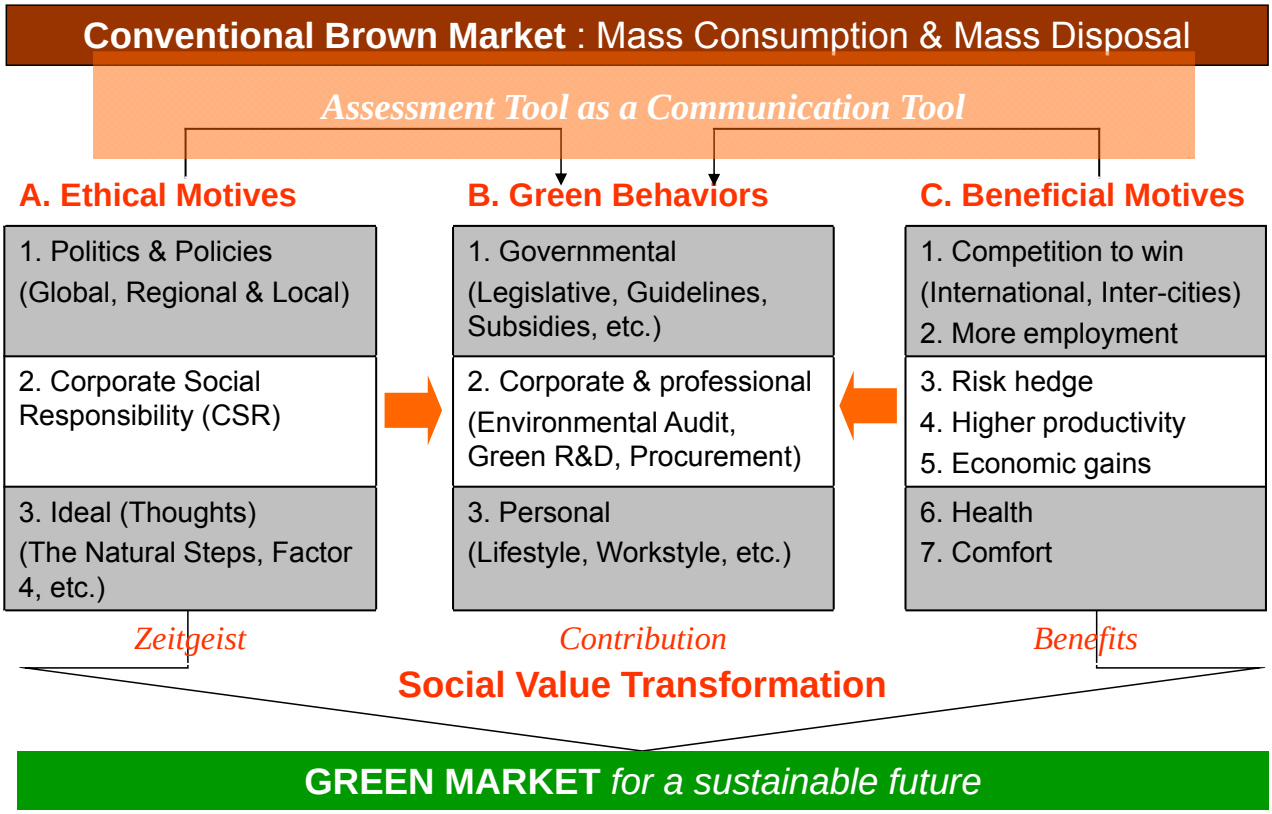
CEO, IWAMURA Atelier Inc.
Past Vice-president of UIA

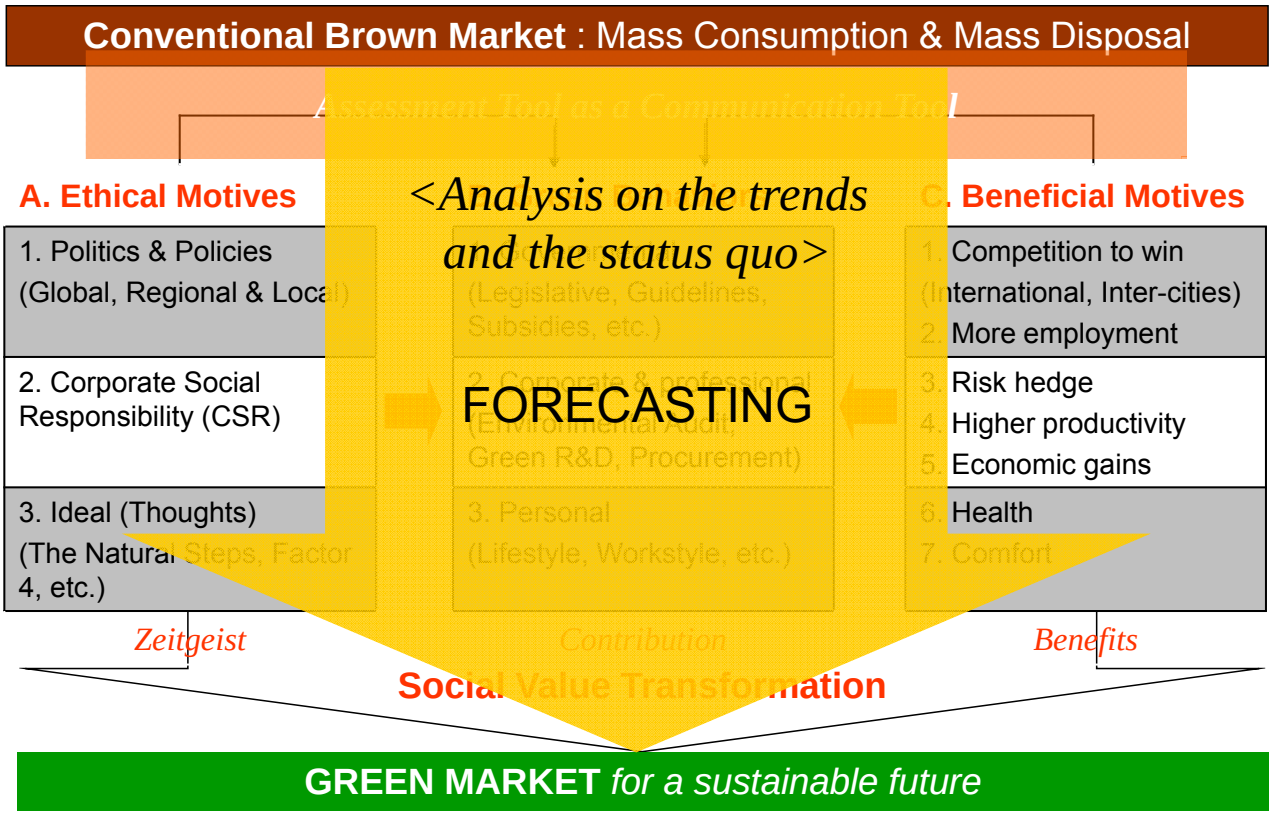
Backcasting

Back from the Future

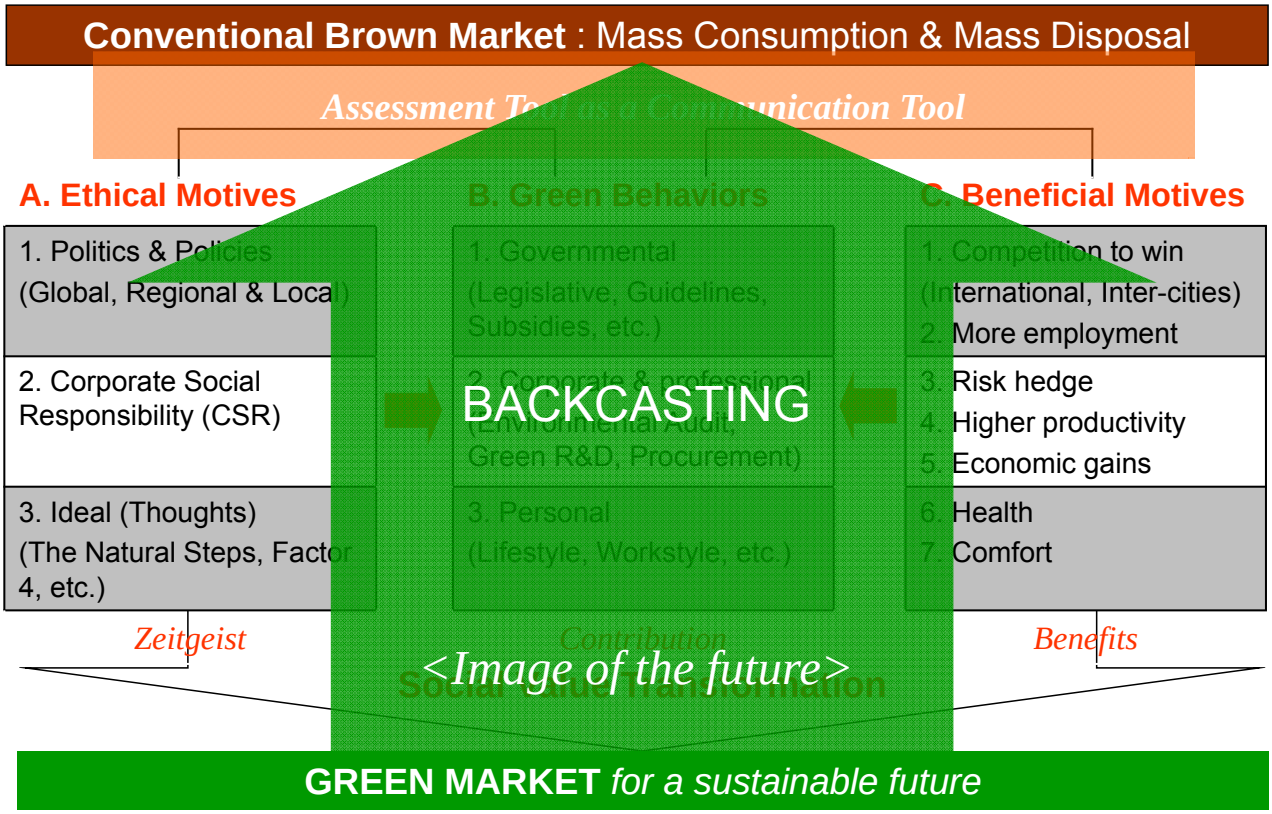
Market Transformation towards Green Market



Market Transformation towards Green Market



Market Transformation towards Green Market



Forecasting vs Backcasting

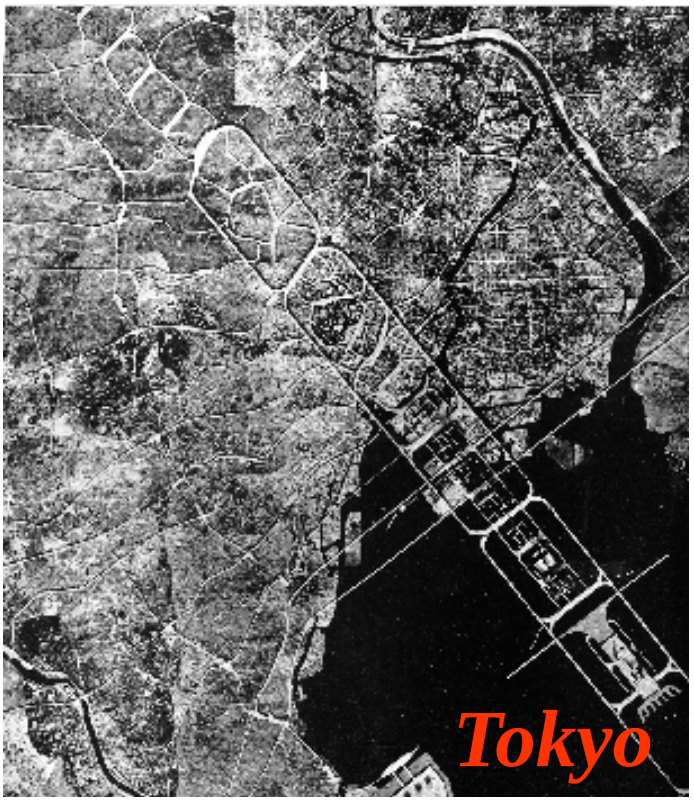
'*Backcasting*' is a technique that often is pointed out as an opposite to '*forecasting*'.
It involves identification of a particular scenario and tracing its origins and lines of development back to the present.

The activity of '*backcasting*' involves establishing the description of a very definite and very specific future situation.
It then involves an imaginary moving backwards in time, step-by-step, in as many stages as are considered necessary, from the future to the present, in order to reveal the mechanism through which that particular specified future could be attained from the present.

（Source：Wikipedia "Thought Experiments"）

Le Corbusier, 1925

Kenzo Tange, 1960



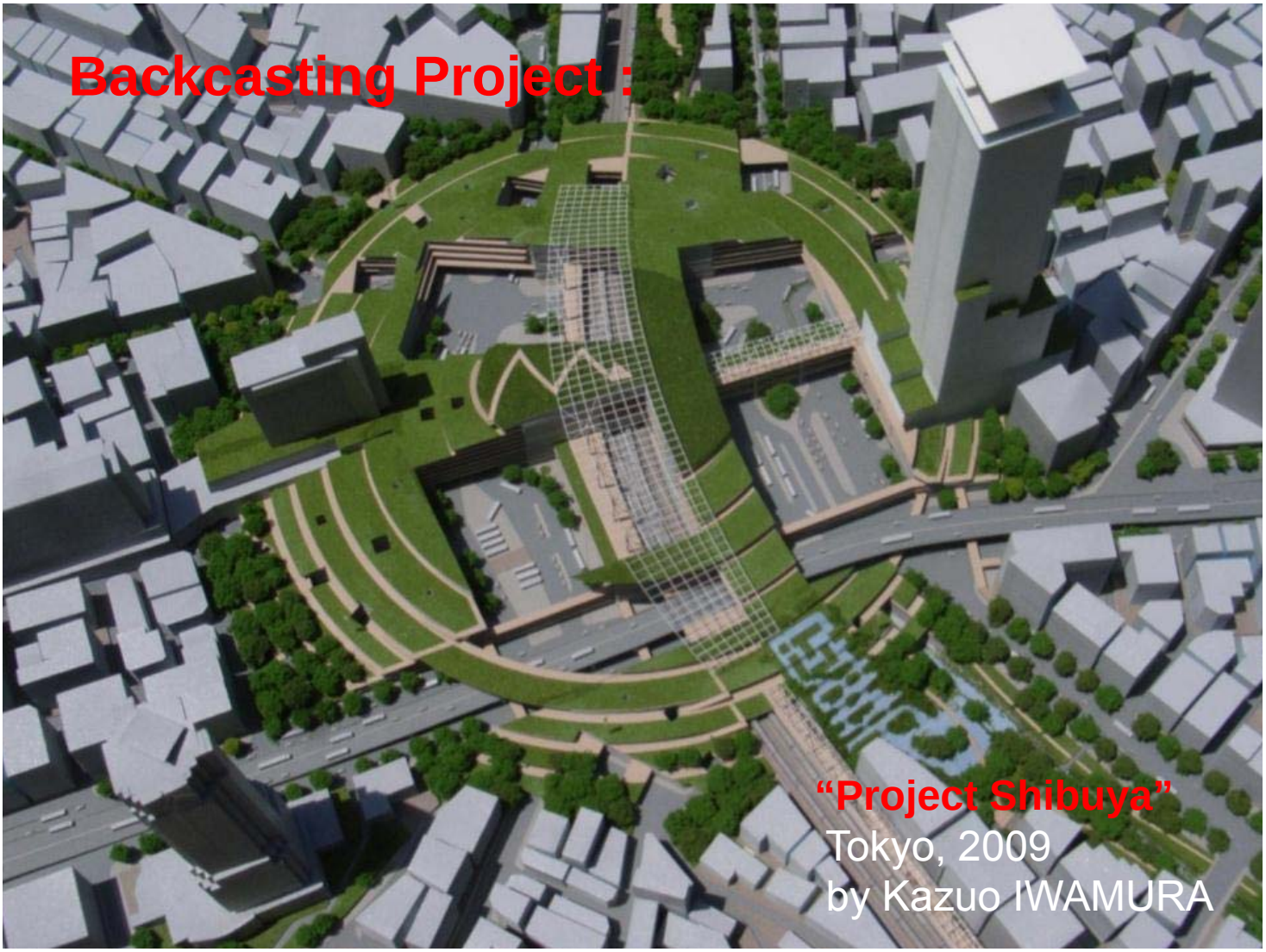
Backcasting
by great architects
of the 20th Century

What is an alternative vision for
'*backcasting*' the 21st Century?

How does it look like?

Who will make it and how?

Backcasting Project :



“Project Shibuya”
Tokyo, 2009
by Kazuo IWAMURA

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Contents

1 *London Urban issues*

By the Industrial Revolution

1) London in the 17th Century

出典：都市史図集

2) Epidemic of Pest（14th-17th Century）

・1348～49: in London and Paris
・Periodical epidemics thereafter
・1665～66: The last epidemic in London

Digging grave pits for pest victims in London

出典：見市雅俊「ロンドン＝炎が生んだ世界都市」、講談社選書メチエ、1999

3) The Great fire in London（September 1666)

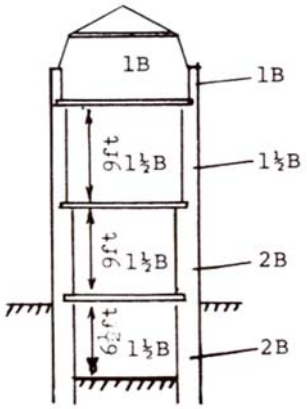
This was the historical event followed by the creation of building codes against urban disaster.

出典：見市雅俊「ロンドン＝炎が生んだ世界都市」、講談社選書メチエ、1999

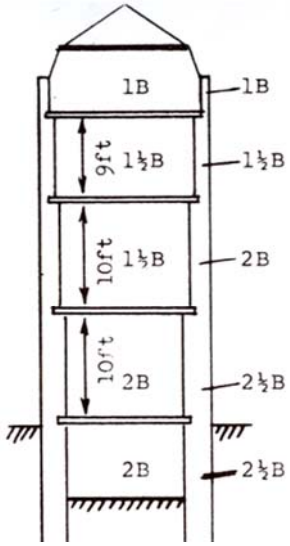
4) Building codes after the Great Fire

Building & ceiling height, according to the front street class
Thickness of brick walls, according to the building height

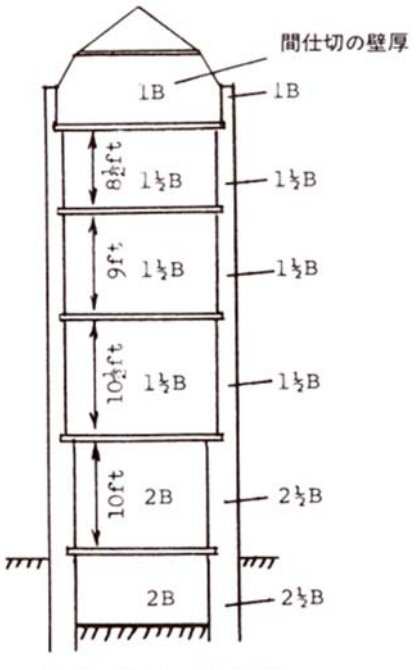
1B=24cm (length of a brick)



1st Class: along small street

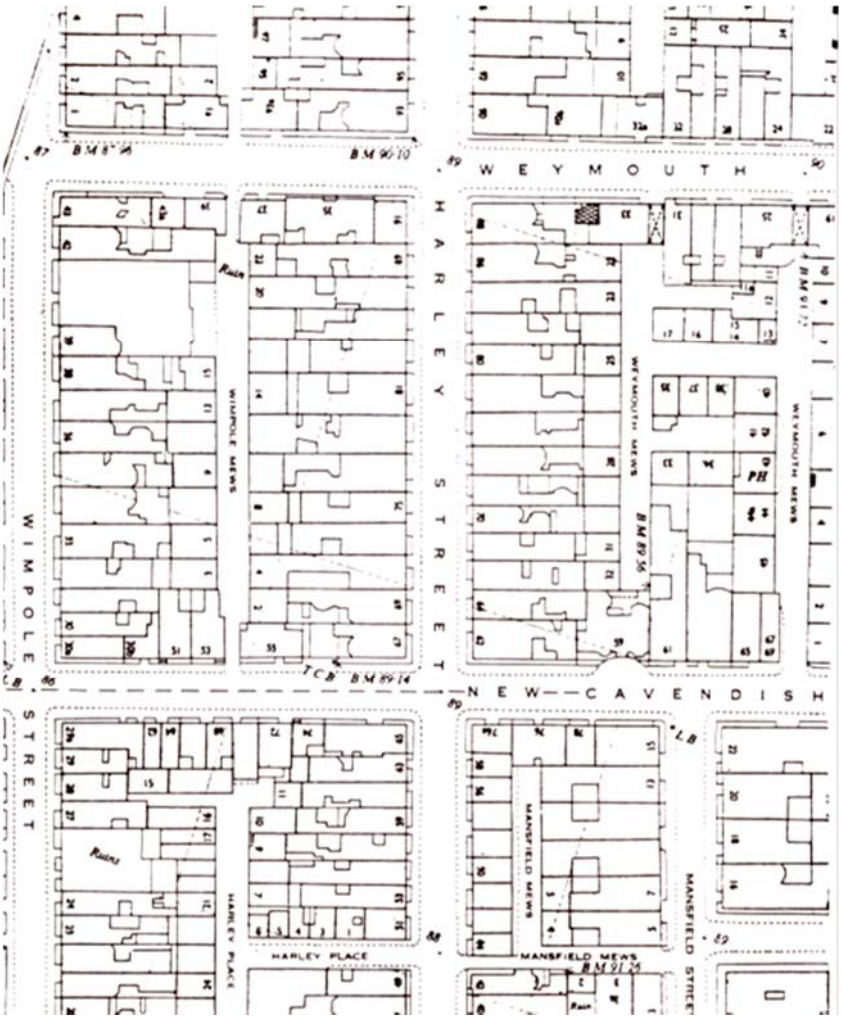


2nd Class: along important medium street or the Thames

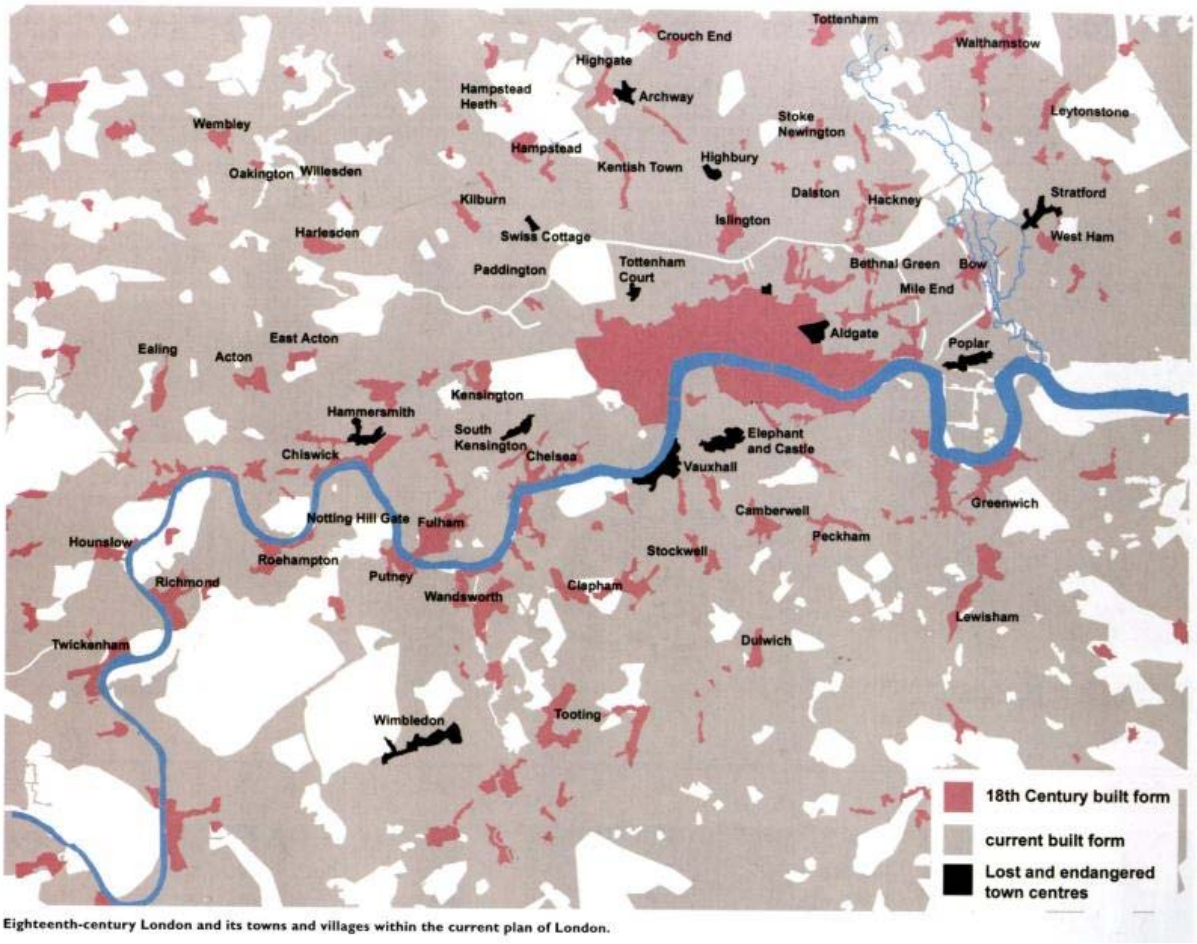


3rd Class: along major street

5) Urban allotment after the Great Fire



6) The 18C London and its towns and villages



Eighteenth-century London and its towns and villages within the current plan of London.

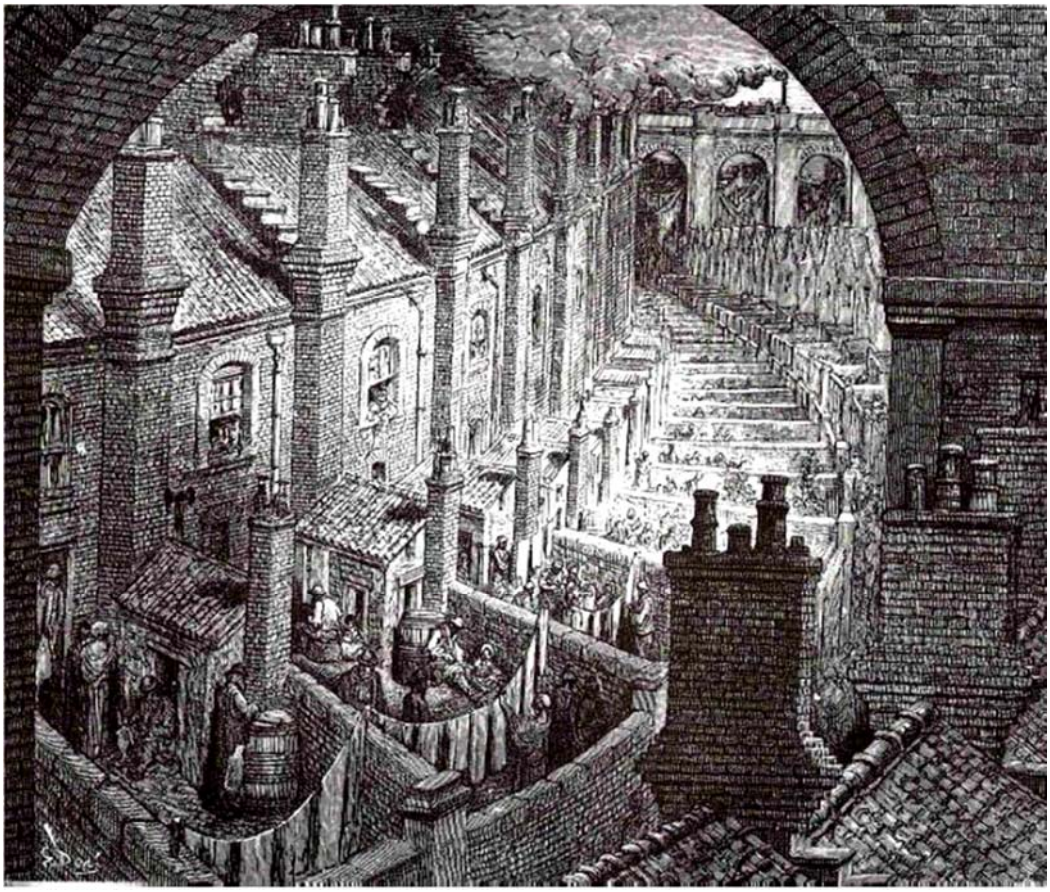
Farrell AR 0907

7) Urban scenes under the Industrial Revolution

The Thames seen from the London Bridge, 1841

Opening of the subway : 1863

Slum under the railroad bridge in London



Source：図説・都市の世界史　4、相模書房、1983

Street stall and people in the East-end

（by Paul Gustave Doré, 1832-1888)

8) Sanitary conditions in London

Common well

Drawing water from the Thames

（出典：角山・川北「路地裏の大英帝国」、平凡社 2001）

Sewage issue in London

Frequent epidemics in the 1830's

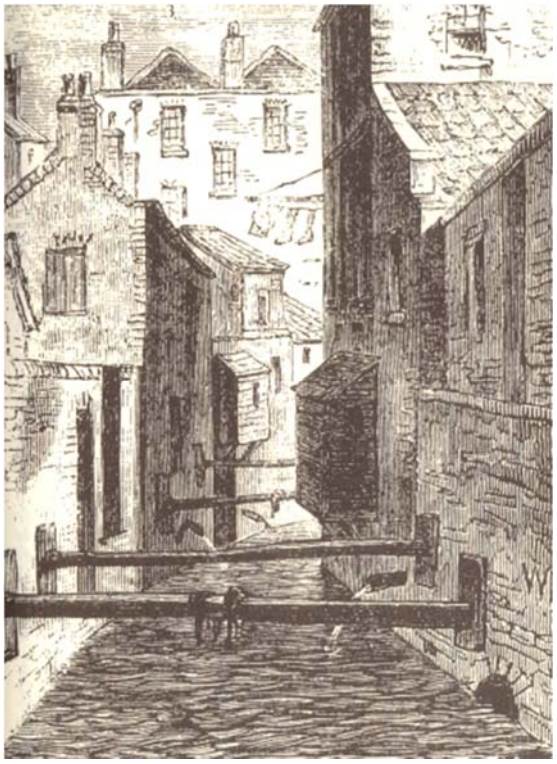
↓

Investigations by Sir Edwin Chadwick (1800-1890) et. al. about the relationship between drinking water contamination and epidemics

↓

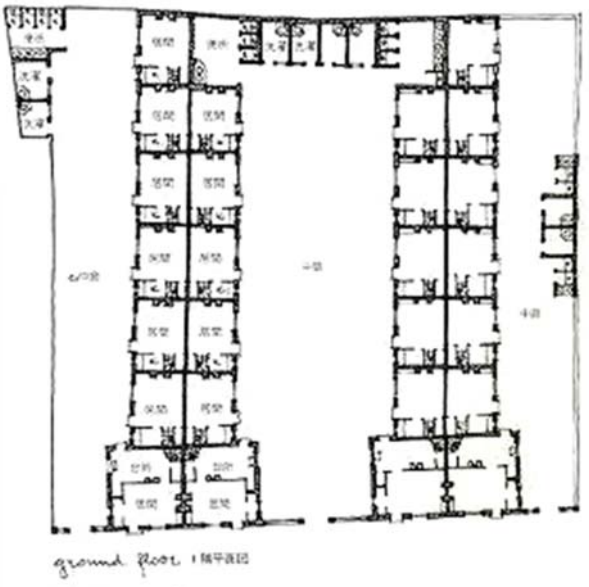
■Separation of drinking water and sewage

■Sewage treatment



Sewer in London

9) Typical workers housing in the Victorian Age (1837-1901)



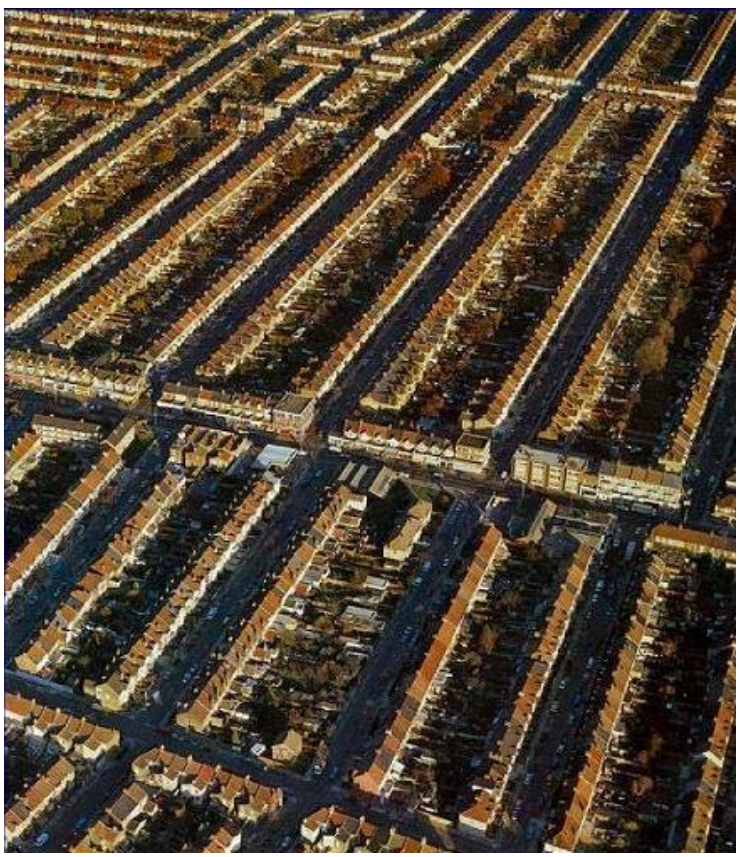
An example in Birmingham

"**Back to back housing**" was built on a massive scale and delivered for worker class in industrial cities such as Birmingham, Liverpool, Manchester and Leeds, during the Victorian Age (1837-1901). This became a symbolic housing of poor quality in UK, due to its very bad natural ventilation, cheep construction and poor sanitation.

Source：図説・都市の世界史 4、相模書房、1983

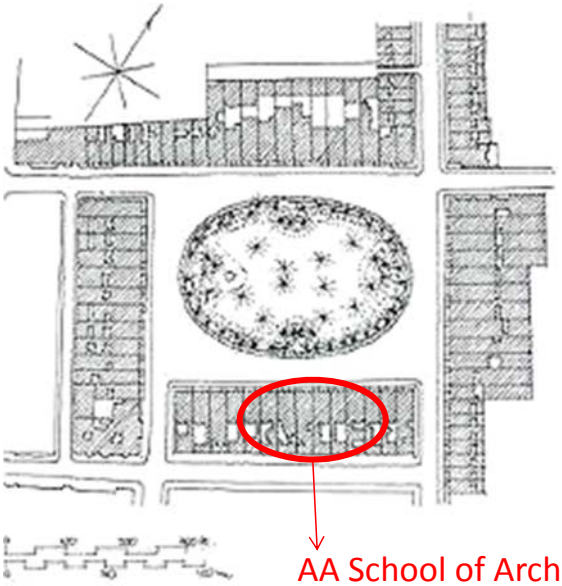
10) Bye-law housing: created by the idea of sanitation

Bye-Law Housing at Ilford, London



Source: J.Hawkes & F.Baker, London from the Air, 1992

11) Square development for the middle class:
Bedford Square, Bloomsbury



A typical square development with housing for the middle class in the 18th Century, well preserved to date.

12) Town houses for the upper class
at the Regent's Park

Urban housing developed by the Royal family:

Town houses of 3km long surrounding the Regent's Park (190ha), designed by John NASH and built for the upper classes in 1812-25.

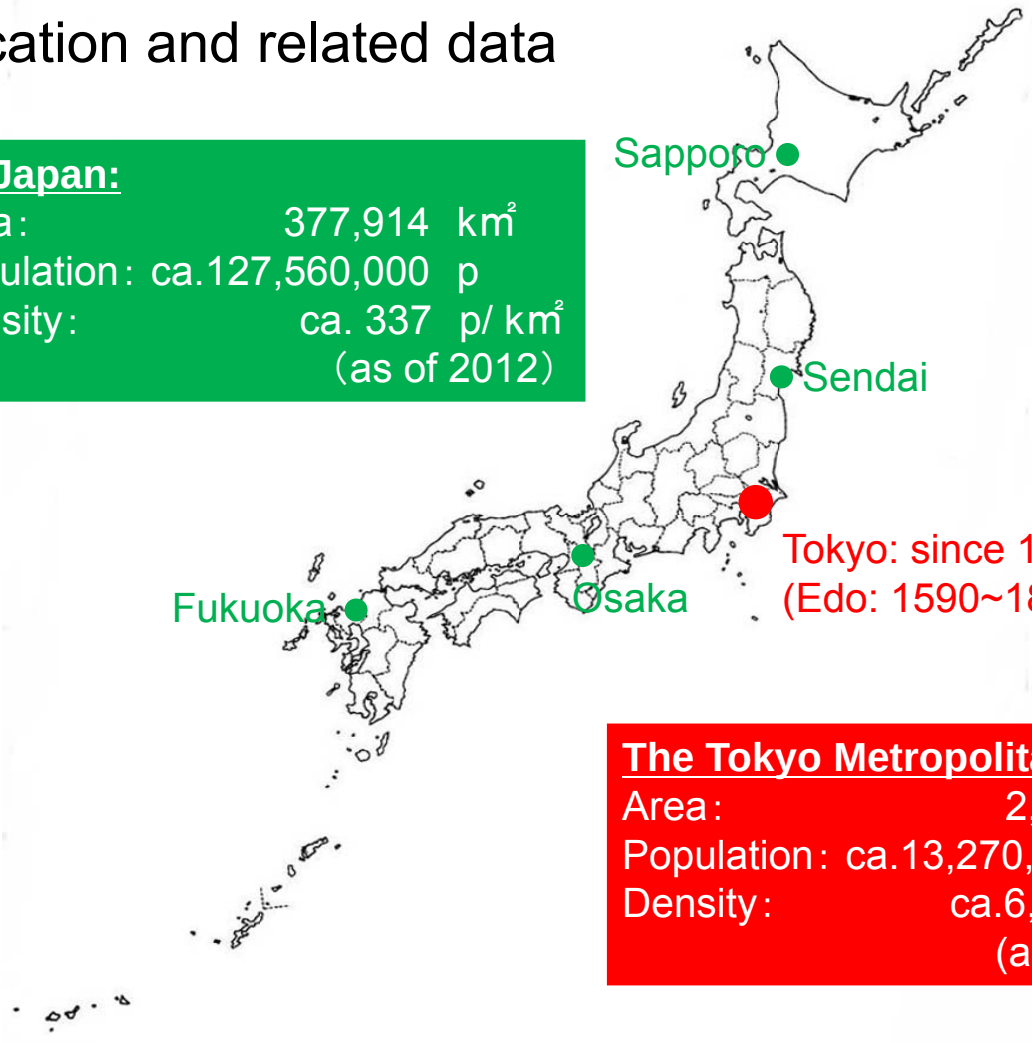
出典:佐藤健正「イギリスのハウジングを巡る旅」

2 *Edo 江戸: former Tokyo 東京*

As another urban model

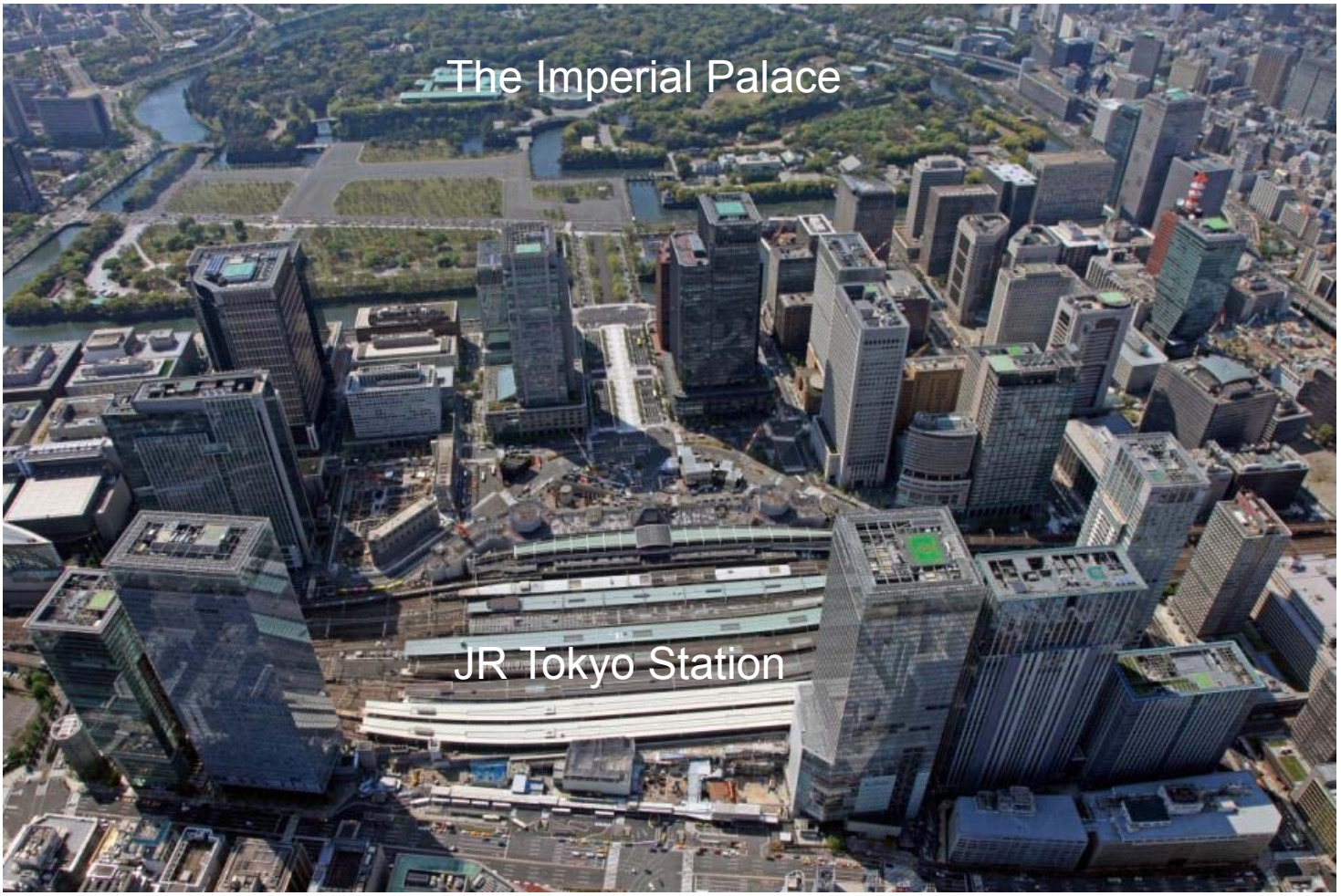
Location and related data

All Japan:
Area: 377,914 km²
Population: ca.127,560,000 p
Density: ca. 337 p/ km²
(as of 2012)



The Tokyo Metropolitan Area:
Area: 2,188 km²
Population: ca.13,270,000 p
Density: ca.6,060 p/km²
(as of 2013)

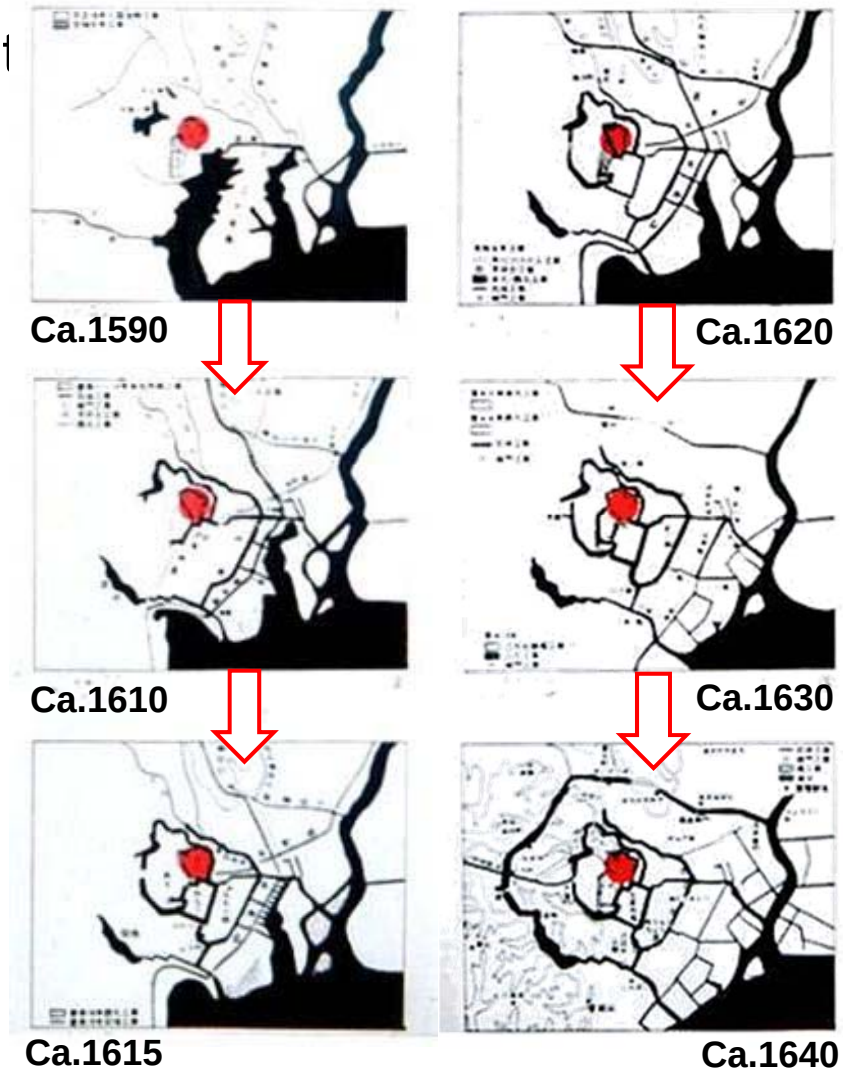
The current heart of Tokyo (May 2010)



2.1 Urban form and tissue of Edo

1) Urban development in the early Edo era

ca.1590-1640

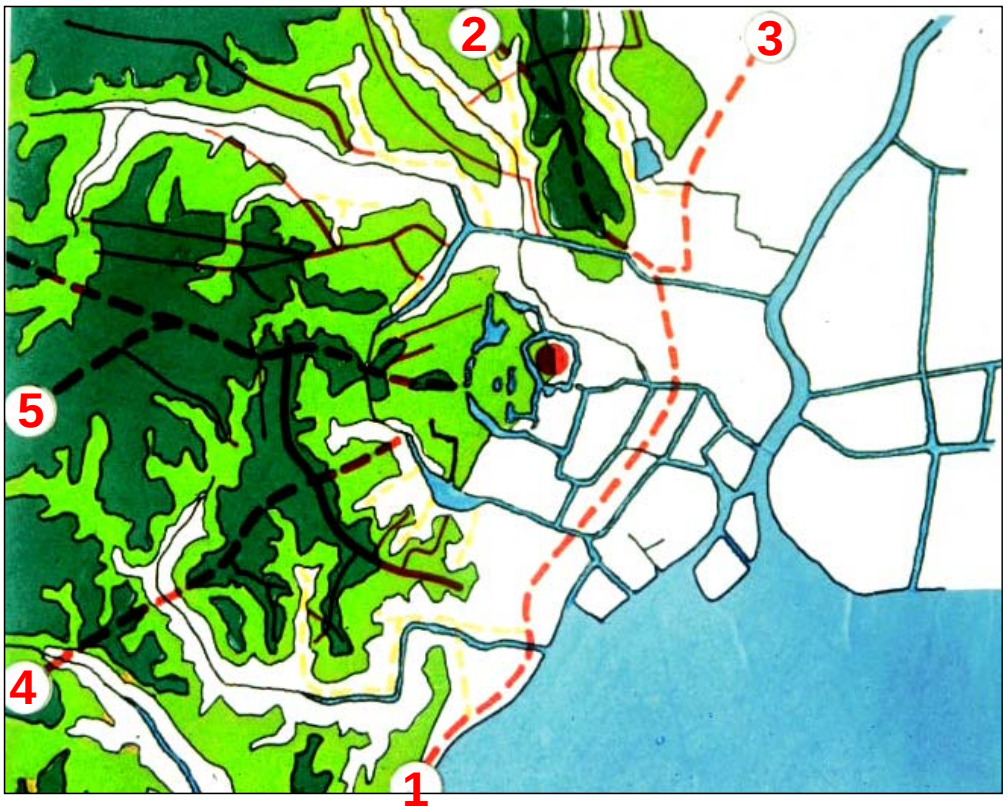


Waterway network and waterfront urban areas, quickly built within 50 years in early Edo

2) Topography and alignment of the major highways connecting Edo and provinces

Five Highways & year of completion

1. Tōkaidō, 1624
2. Nikkōkaidō, 1636
3. Ōshūkaidō, 1646
4. Nakasendō, 1694
5. Kōshūkaidō, 1772



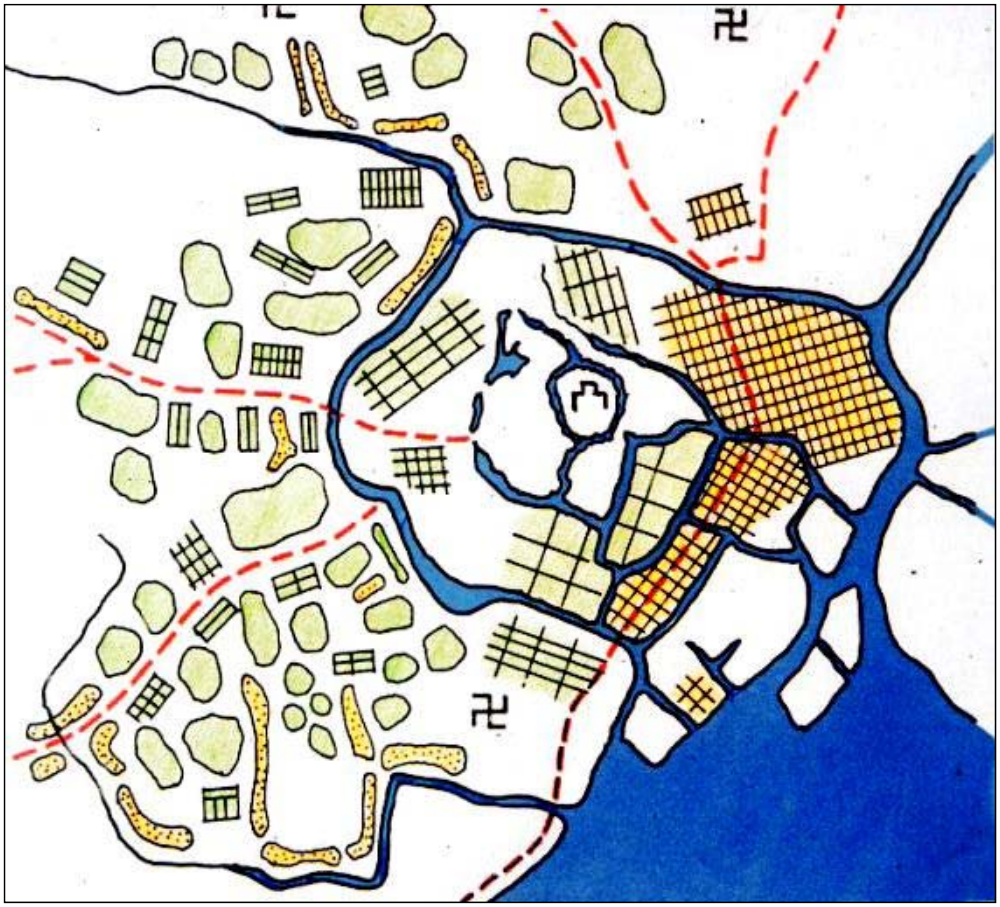
Source：Jinnai, "Spatial Anthropology of Tokyo", 1985

Nihonbashi, the starting point of *Tokaido* Highway (Edo~Kyoto), at ca.1833 by *Hiroshige Utagawa* (1797~1858)

3) Topography and the urban tissue of Edo

Patchwork-like urban tissue of Edo, according to the local topography

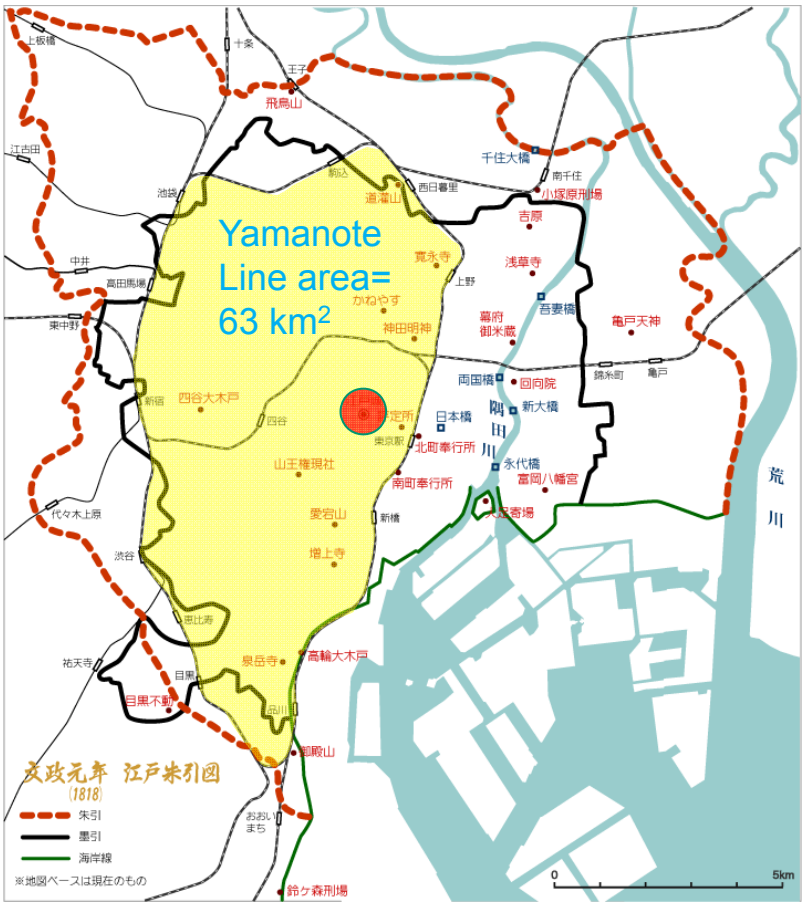
50% of Edo area was covered by farmlands, which supplied Edo people with farm products.



4) Boundary of the Edo City, 1818

The Shogunate (Tokugawa Government) showed the official boundary of Edo urban area (The Edo red line map) only once (1818) during its governance of 300 years.

This map consists of
1) Red line boundary
and
2) Black line boundary
of the urban area governed by the magistrate.



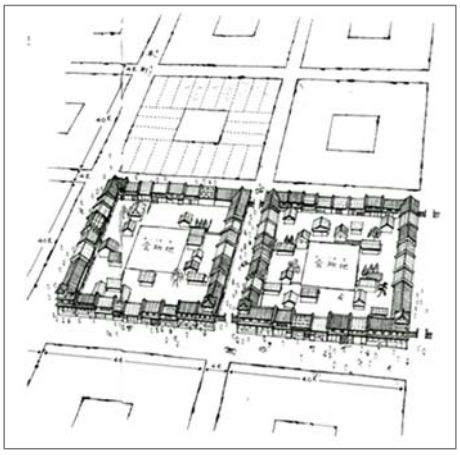
参照:「大都市江戸の遺跡」東京都教育庁社会教育部計画課編集

5) Edo's estimated Population & Population Density around 1800 (by *Akira Naito*,1966)

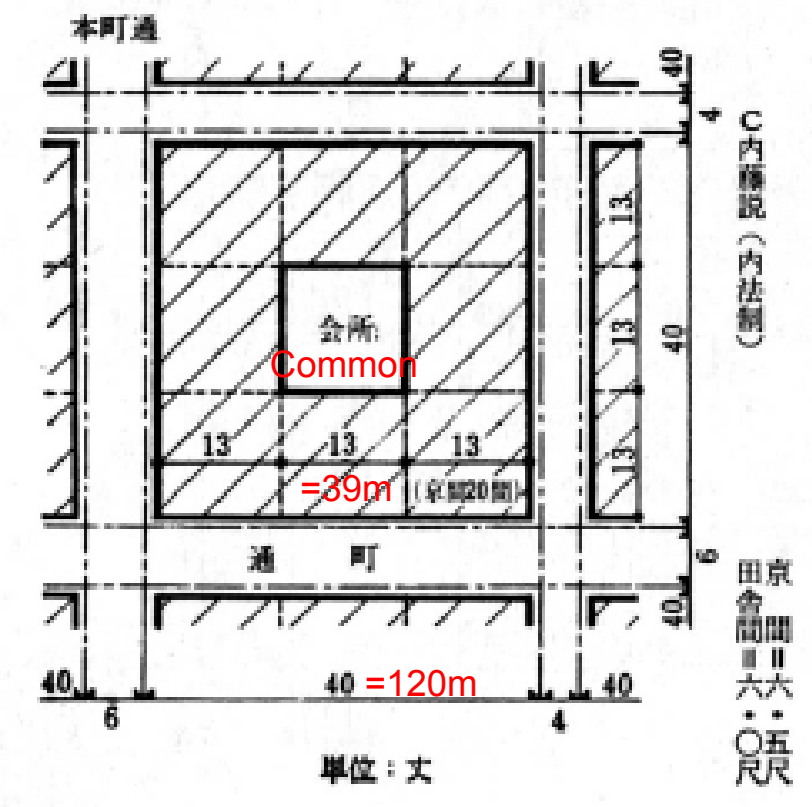
Land-use Category	Roughly estimated Population (people)	Area (km^2)	Population Density (p/km^2)
[1] Land for *Samurai*	650,000	38.7	16,816
[2] Land for Temples & Shrines	50,000	8.8	5,682
[3] Land for Townspeople	600,000	8.9	67,317
Total	**1,300,000**	**56.4**	**23,064**

Land-use of Edo in proportion:

6) Urban allotment in the central Edo



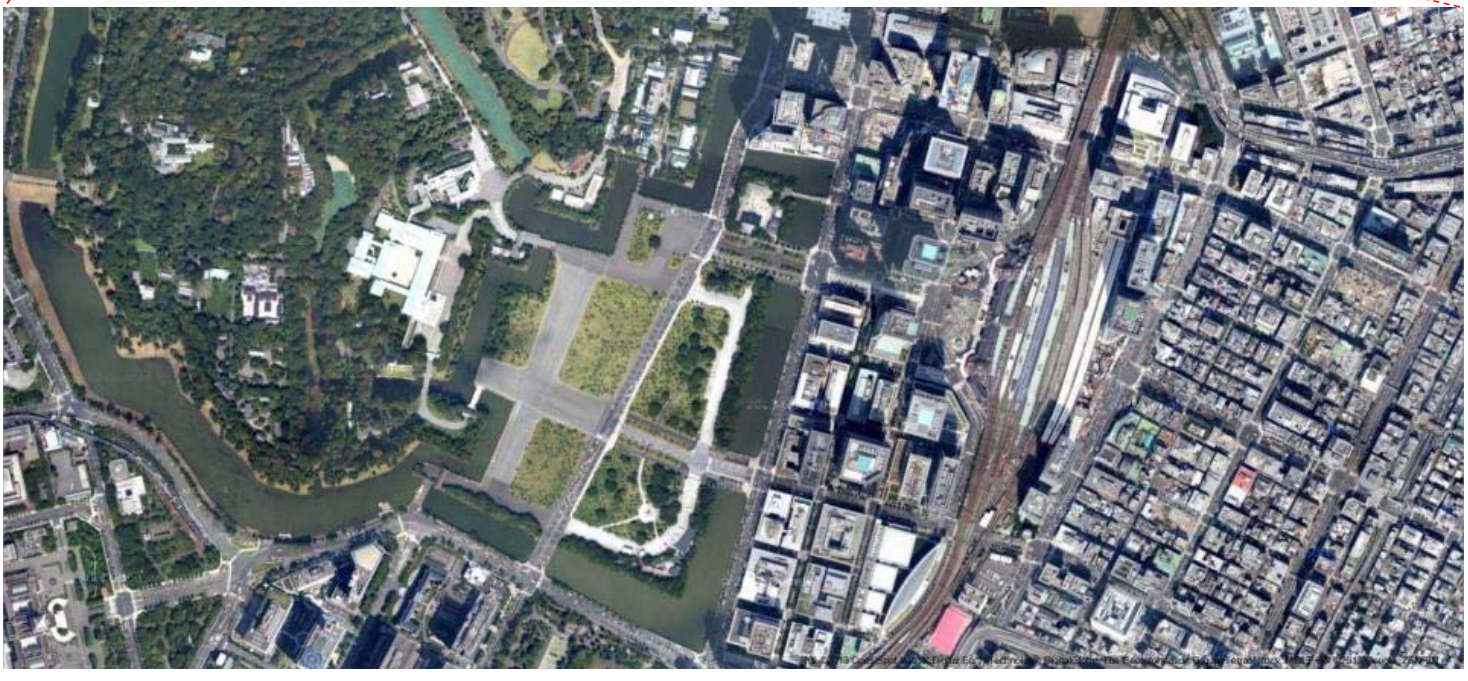
江戸城下町建設過程「江戸と江戸城」55頁（内藤昌）



Unit: “丈：Jo”=10“尺：Shaku”=ca. 3m

江戸町内街割図「江戸と江戸城」187頁（内藤昌）

7) Current urban tissue of Tokyo, inherited from the Edo era



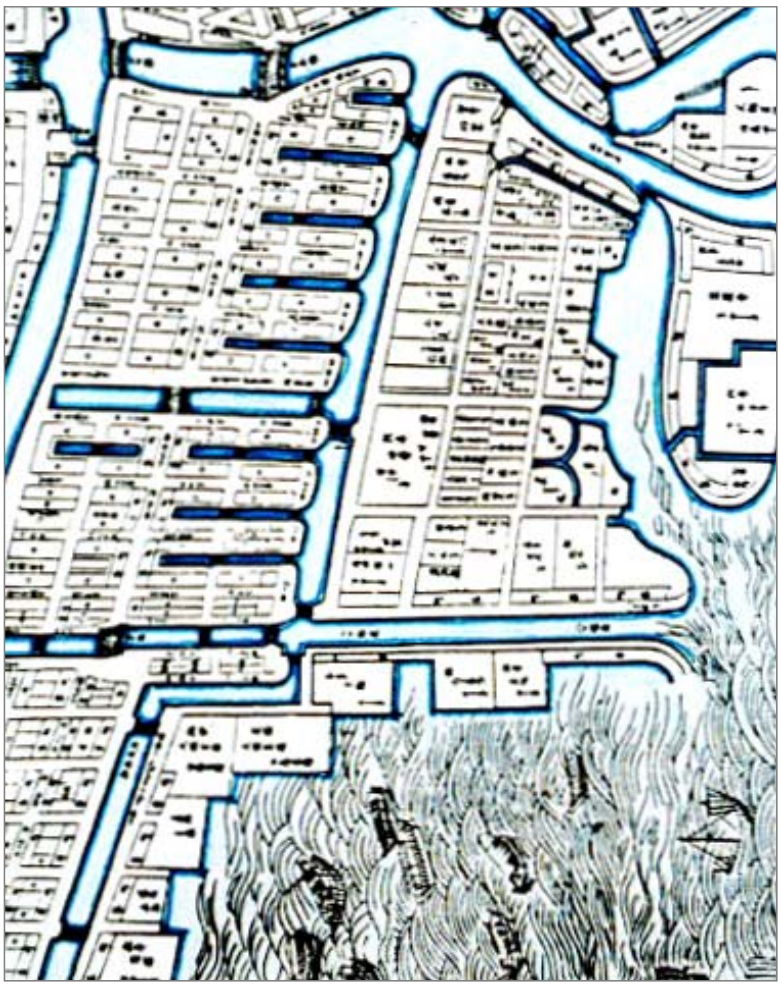
2.2 Townscape of Edo

1) Street alignment and the townscape in Edo

Street alignment

Surugacho district

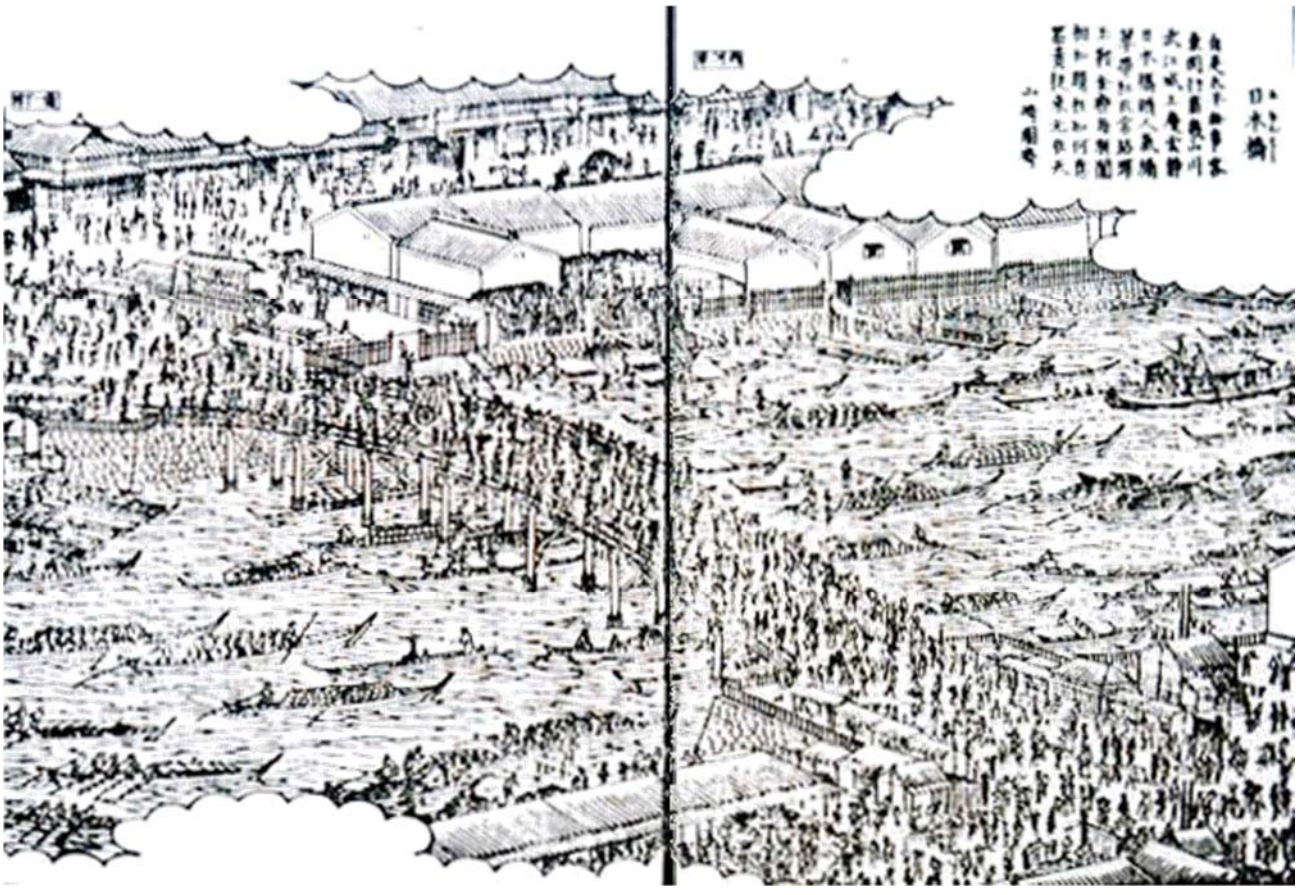
2) Edo
as a waterfront city



寛永期の材木町の河岸群（武州豊嶋郡江戸庄図）

A crowd of canals in Zaimoku-cho district (ca.1640), built for marine transportation of timber, created a similar waterfront city like Venice.

Nihonbashi bridge and its crowded vicinity, ca.1830



3 *Model Utopia in UK*

In the modern UK
towards the Garden City
-Social experiment
-Garden suburbs
-Garden Cities

1) New Lanark (1800~), by Robert Owen (1771-1858)

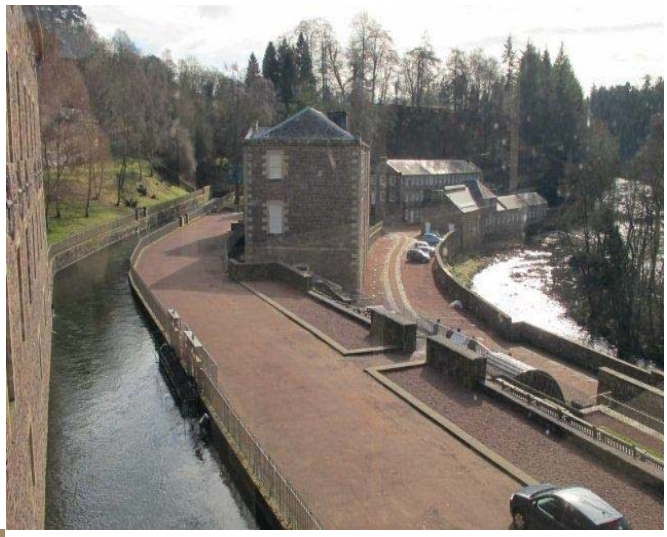
The social experiment of an industrial village with spinning factory in Lanark near Glasgow was initiated in 1800 by Robert Owen, the first socialist-philanthropist in UK.

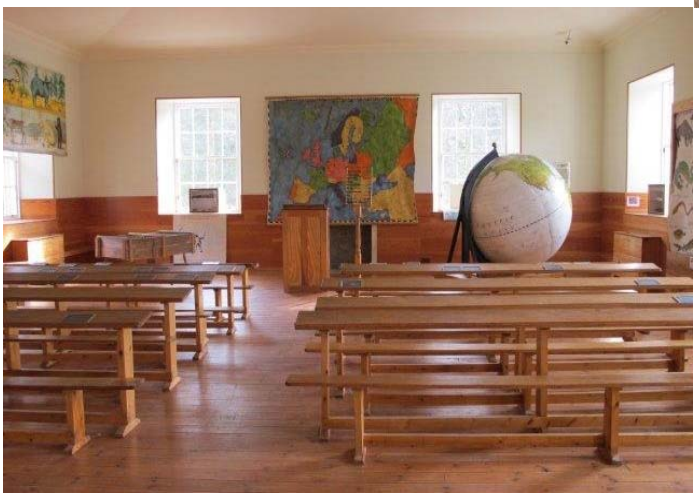
New Lanark

-New Lanark drew the world's attention as a model commune or a mecca of social reformer, now listed on the World Heritage.

-Owen's proposals from political economics to physical planning, elaborated from every aspect, formed the first modern town planning, which brought a historical meaning and position to this initiative.

-Owen tried thereafter to develop a similar and bigger project in USA, but in vain.



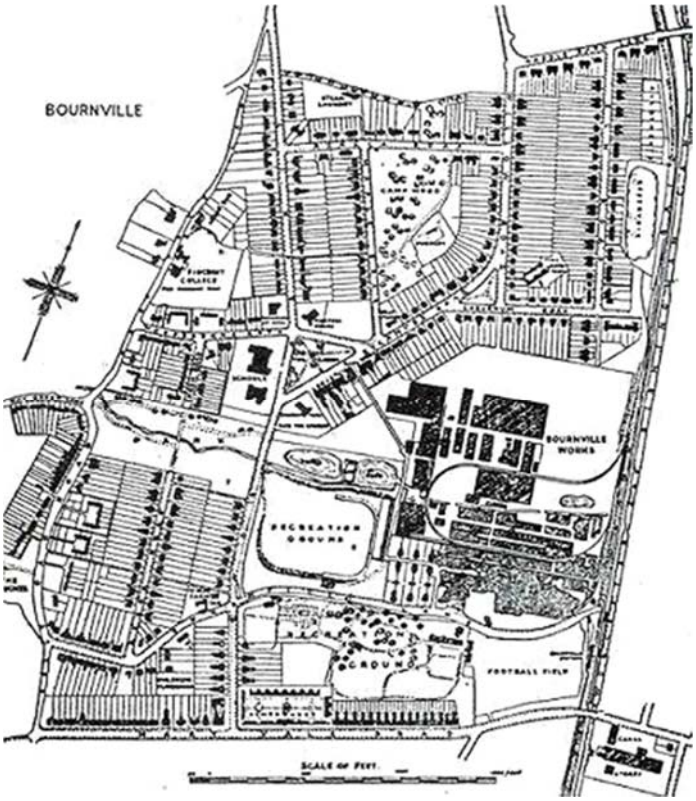


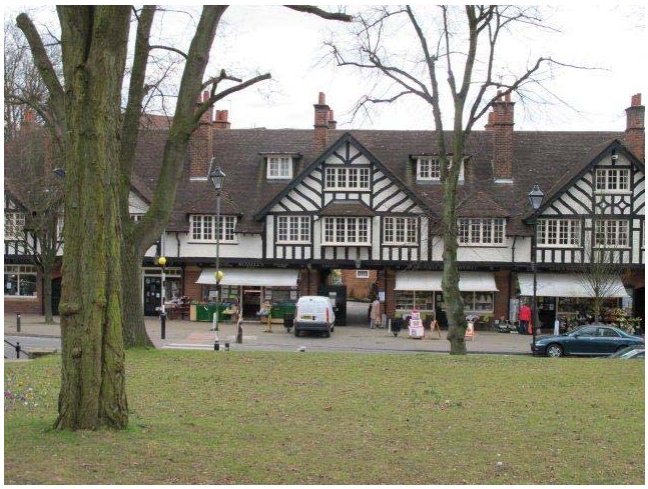
2) Bournville (1879～), by George Cadbury (1839-1922)

-Bournville is a model industrial village in the Birmingham suburb, built in 1879 by George Cadbury, running a chocolate manufacturing company.

-By 1900, a comprehensive community unit with factory, housing (313DU) as well as church, school, park, hospital and library was planned and built on the land of 130ha, and is still very popular to live.

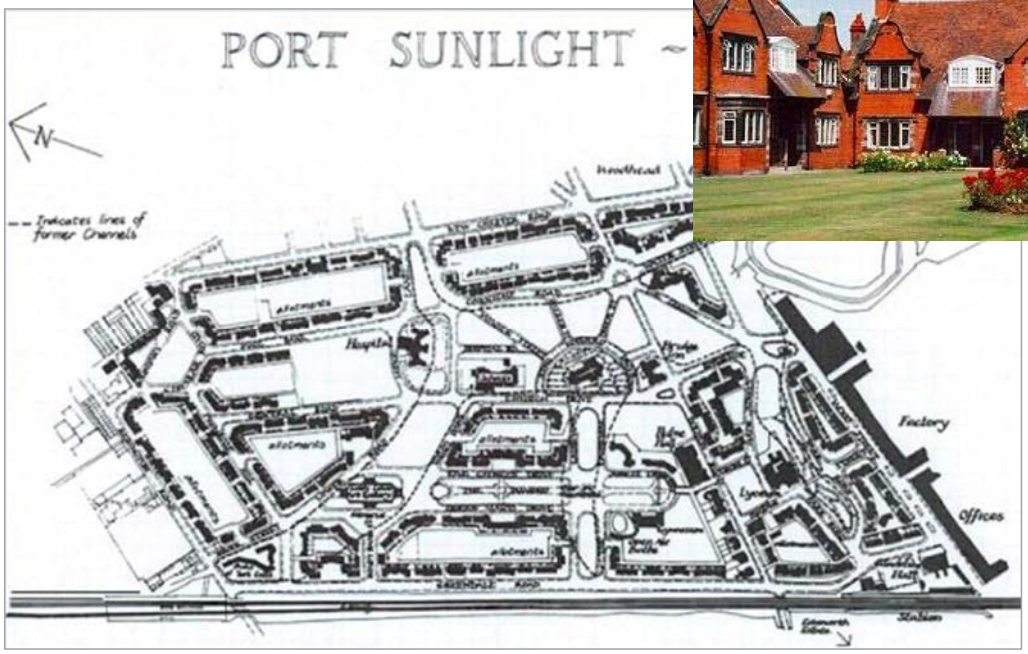
-Revenue from the village is all reinvested for town management and improvement.





3) Port Sunlight (1888～), by William Lever (1851-1925)

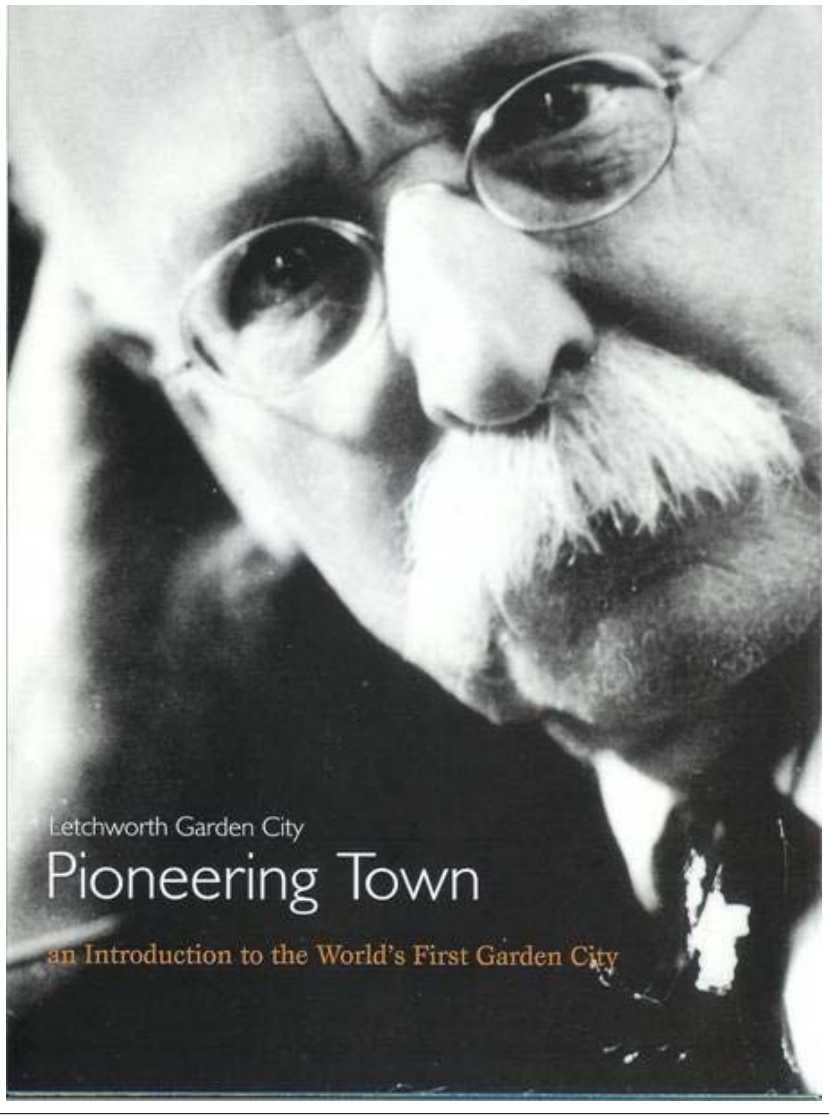
Port Sunlight is a model industrial village near Liverpool, built in 1888 by Lever Brothers, running a soap manufacturing Company, and still very popular to live.



Source : E. Hubbard & M. Shippobottom, *A Guide to Port Sunlight Village*

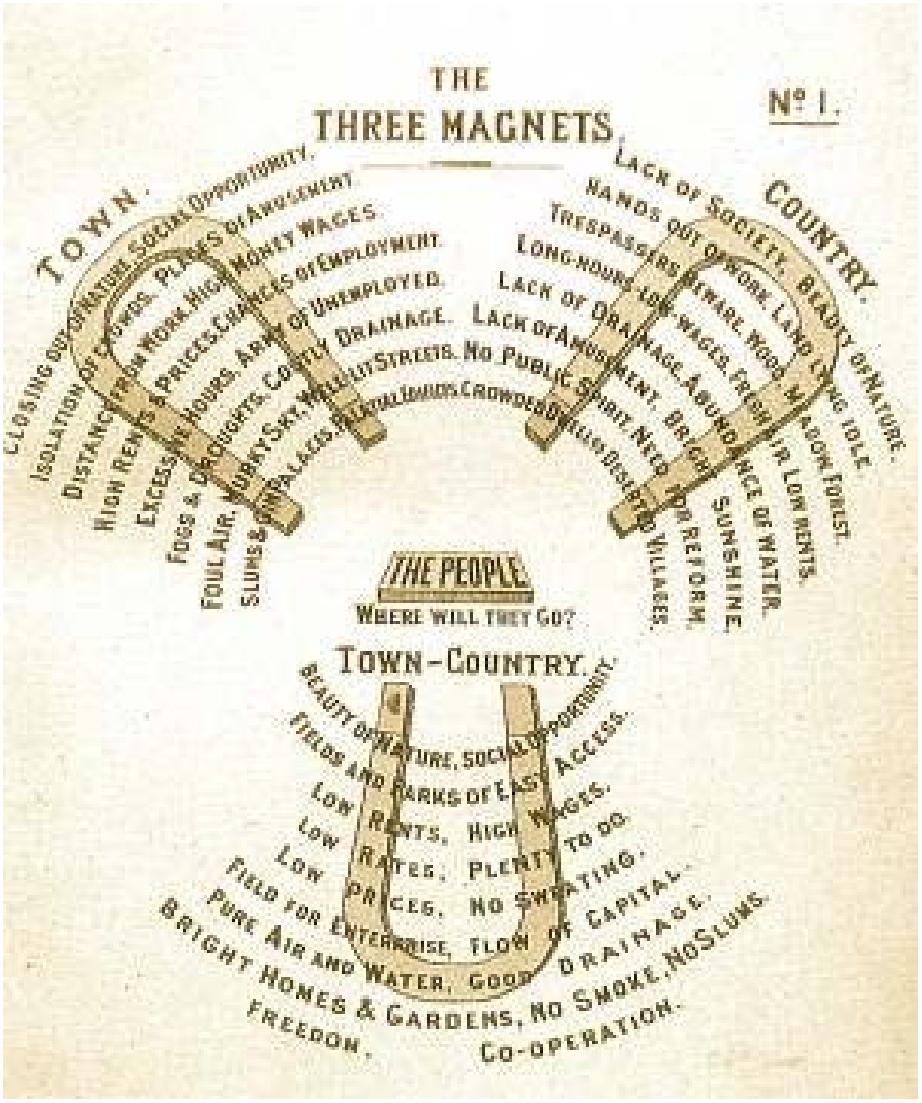
4) Garden City

Conceived by
Ebenezer Howard
(1850~1928)



Primary concept of The Garden City
by E. Howard

The three magnets:
1. Town
2. Country
3. Town-Country

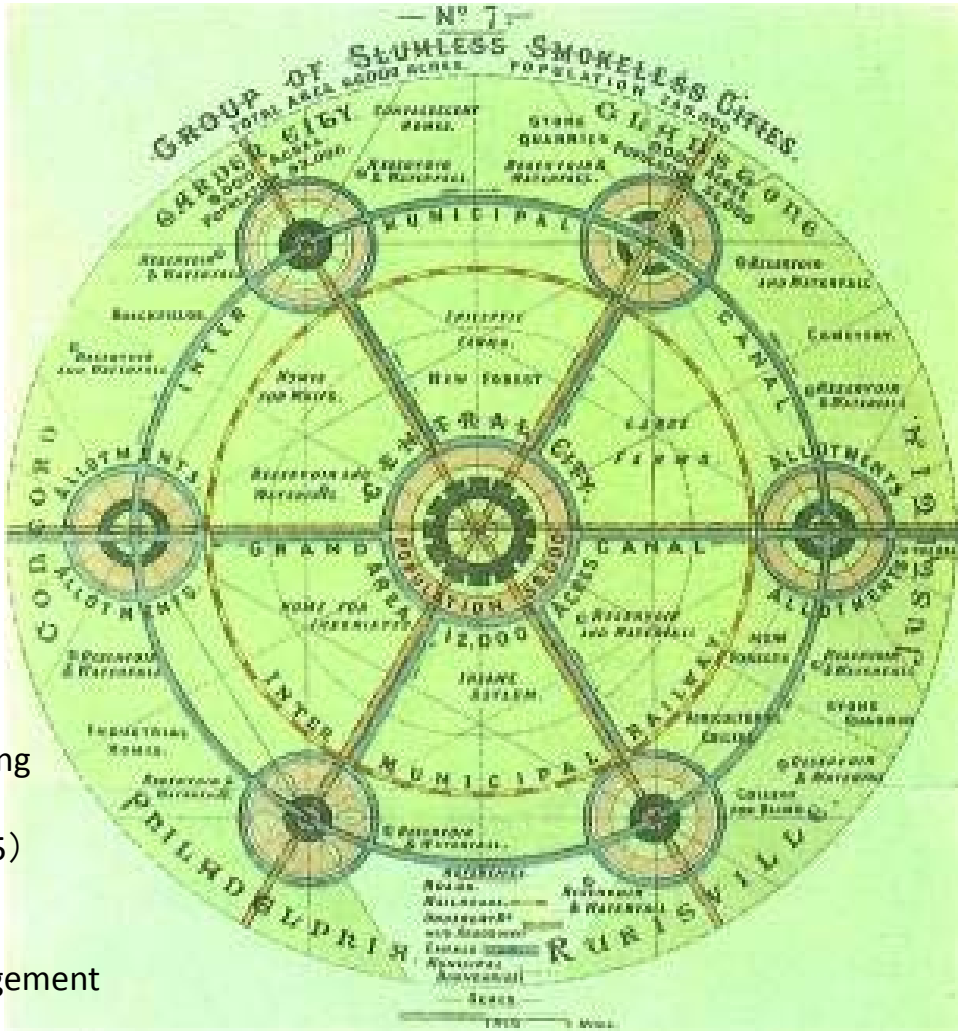


Keywords of the three magnets for the people

Town	Country	Town-Country
Closing out of nature	Lack of society	Beauty of nature
Social opportunity	Beauty of nature	Social opportunity
Isolation of crowds	Hands out of work	Fields and parks of easy access
Places of amusement	Land lying idle	Low rents, high wages
Distance from work	Trespassers beware	Low rates, plenty to do
High money wages	Wood, meadow, forest	Low prices, no sweating
High rents & prices	Long hours, low wages	Field for enterprise, flow of capital
Chances of employment	Fresh air. Low rents	Pure air and water, good drainage
Excessive hours	Lack of drainage	Bright homes & gardens, no smoke, no slums
Army of unemployed	Abundance of water	Freedom
Fogs and droughts	Lack of amusement	Co-operation
Costly drainage	Bright sunshine	↓
Foul air. Murky sky	No public spirit	**The Garden City**
Well-lit streets	Need for reform	
Slums & gin palaces	Crowded dwellings	
Palatial edifices	Deserted villages	

Primary concept of
The Garden City
by E. Howard

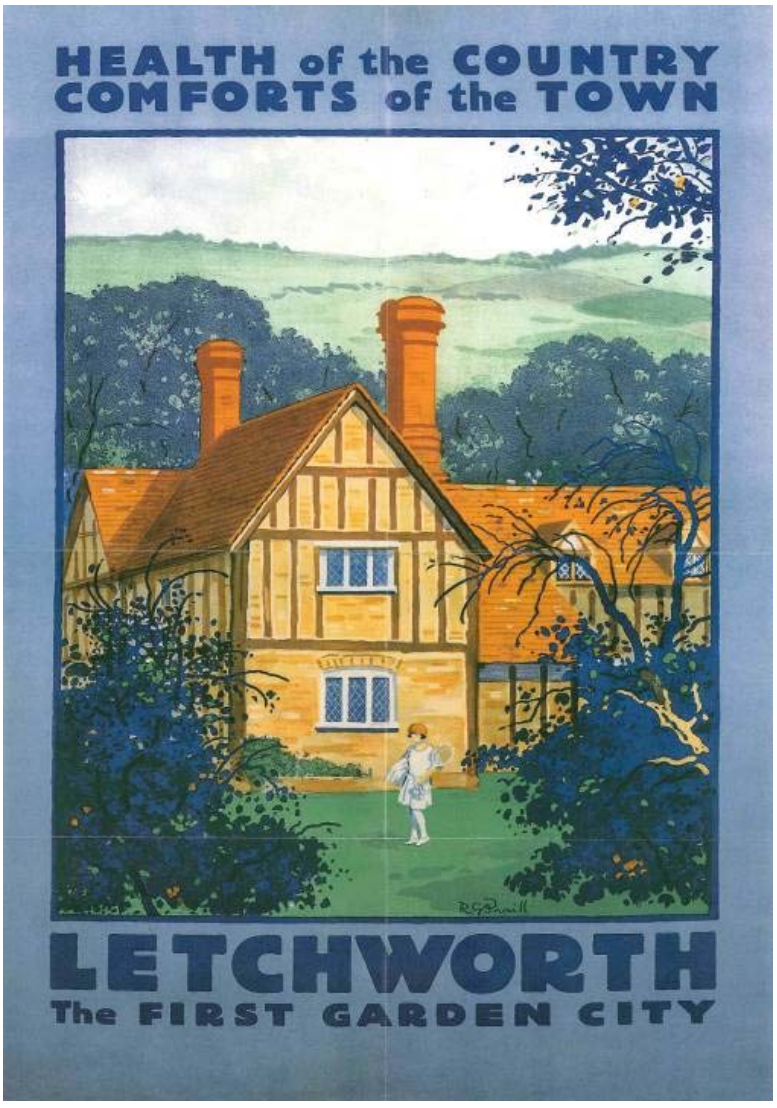
A group of cities without slums and air-pollution



Five principles of E. Howard

1. Proximity of jobs to housing
2. Appropriate size
（urban area：farmland＝1：5）
3. Permanent farmland
4. Unified land-ownership
5. Autonomous town management

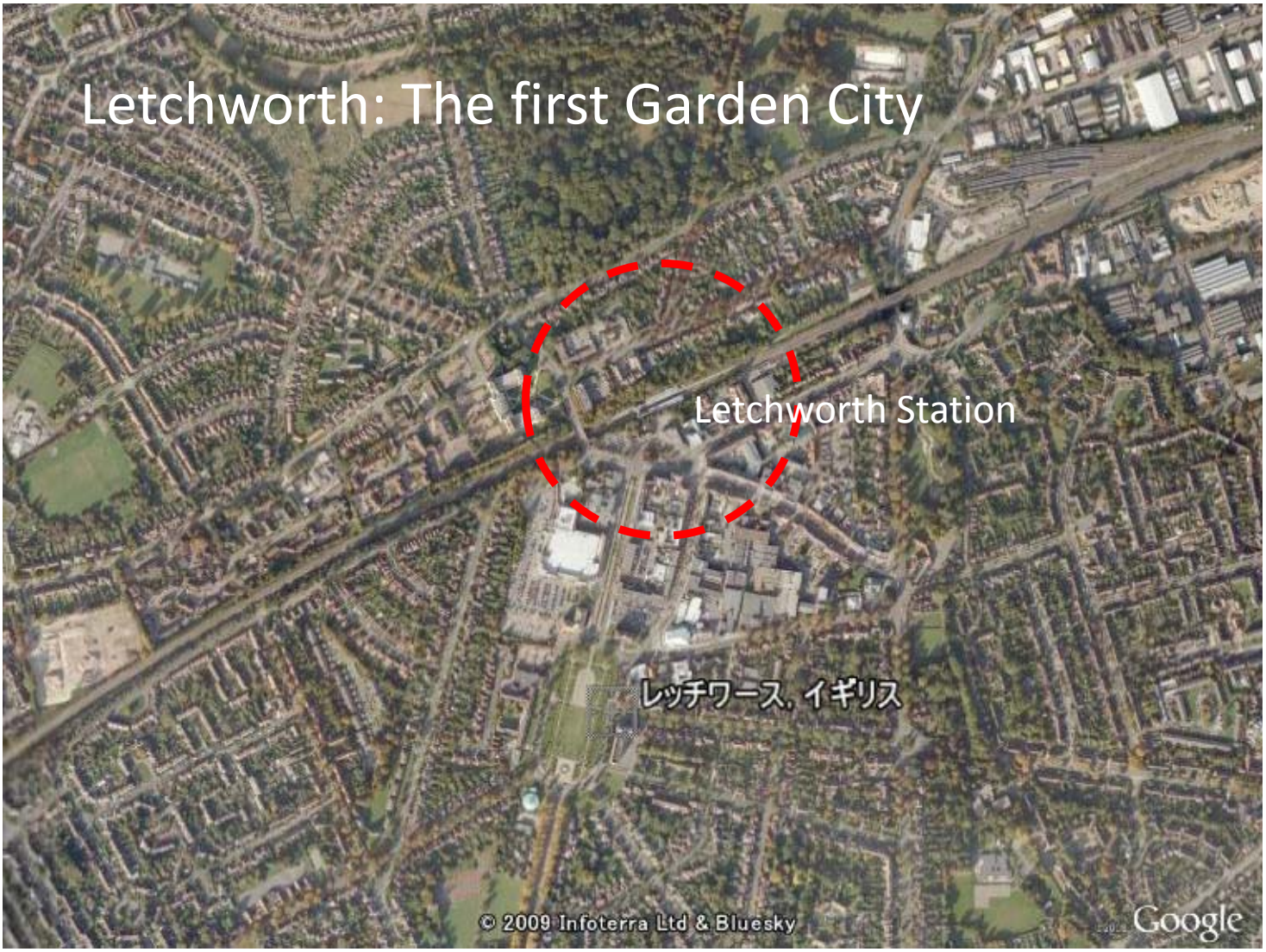
An image of
The first Garden City
“Letchworth,”
illustrated on the poster in1906



Catchphrase:
Letchworth provides people with Health of the country as well as Comforts (Convenience) of the town

A poster issued by First Garden City Ltd. In 1906

Letchworth: The first Garden City



Letchworth:

-55km to the north of London
-1,800ha (←1500ha at the beginning)
-Target population: 32,000 people
-Developed by the first Garden City Ltd.

-Largely influenced the following new towns in the 20th Century
-Autonomous city with jobs in the proximity to housing
-Farmland is included within the city for self-sufficiency, and not allowed to be transferred to the residential use.
-The city is surrounded by green belt to avoid chaotic sprawl and to protect the unity of the community.

Town Hall

Shopping mall

Super-block development by Raymond Unwin (1863-1940)

R. Unwin, the planner and architect of Letchworth, executed the following;

-Low housing density of 30DU/ha
-Adoption of the superblock system (Diagram I), allowing more area for lots and less area for streets, thus providing financial advantage as well as much higher quality of life in comparison with the Bye-law housing system (Diagram II)
-Worldwide recognized as an epoch-making modern housing planning method

Source:
佐藤健正「イギリスのハウジングを巡る旅」

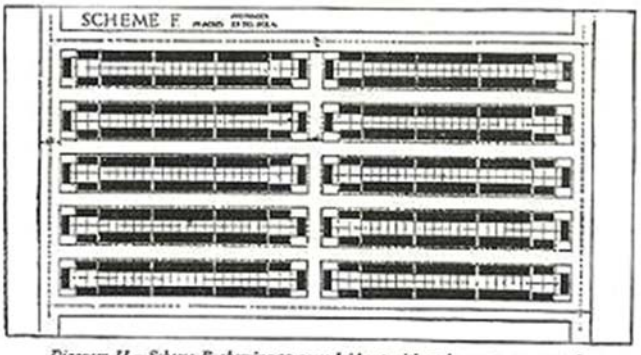


Diagram II.—Scheme F, showing 20 acres laid out with 25 houses per acre, roads included, 500 houses in all. Site of roads as in Diagram I.

■Diagram II (Bye-law housing type)

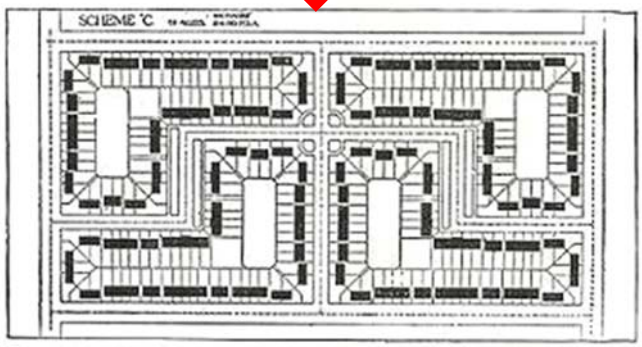
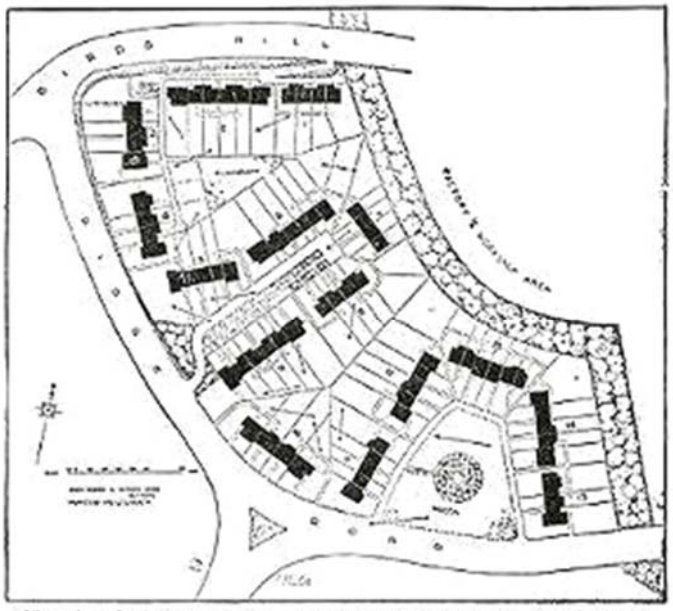


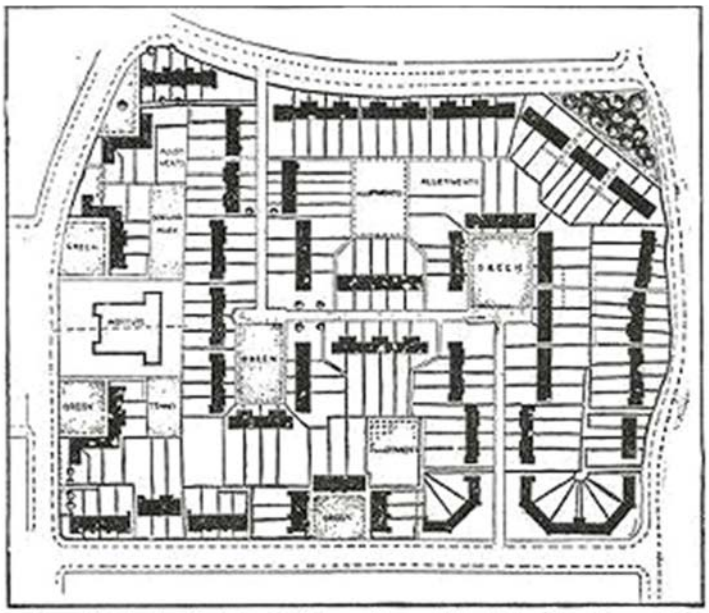
Diagram I.—Scheme showing 20 acres laid out with 12·4 houses per acre, roads included, 248 houses in all. The measurement of the 20 acres is taken to the centre of the 50-feet road surrounding the area, and the land is developed by means of 30-feet roads within the area.

■Diagram I (Super block type)

Super-blocks in Letchworth Garden City



Illus. 267.—Garden City Tenants' Ltd.'s Hill Estate, Letchworth. Irregular lay-out to suit site, with plantation defining the area.



Illus. 268.—Garden City Tenants' Cottages, Pixmore Hill, Letchworth. More regular lay-out, with carriage drive developing central area.

出典:佐藤健正「イギリスのハウジングを巡る旅」

Super-block patterns of current Letchworth

Norton Common, Letchworth

Thanks for your attention.

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