

Design for Resilience

Some Thinking Inspired by COVID-19 Pandemic

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Pandemics as Impetus to Urban Planning & Design

- Accompanying the whole history of cities

Plagues in Ancient Time

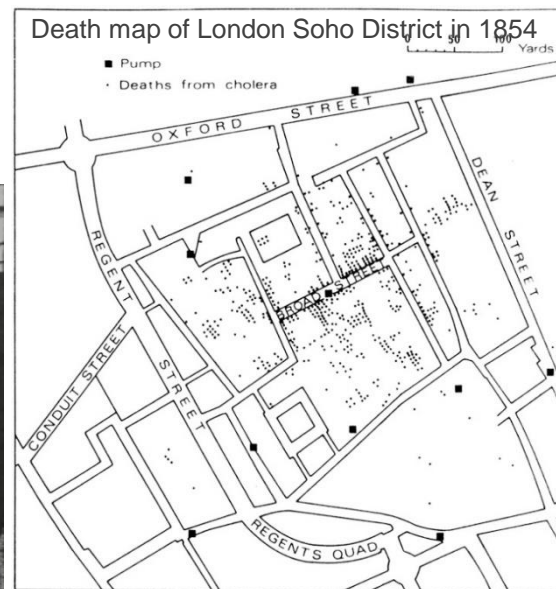
Pestilence (Black Death) in Middle Age

Cholera and tuberculosis in Industrial Revolution

W. McNeil. *Plagues and Peoples*. 1977; S. Scott & C. Duncan. *Biology of Plagues*. 2001

- Relying more on management improvement, rather than medical measures, such as establishing medical and healthcare facilities

John Reader. *Cities*. 2004

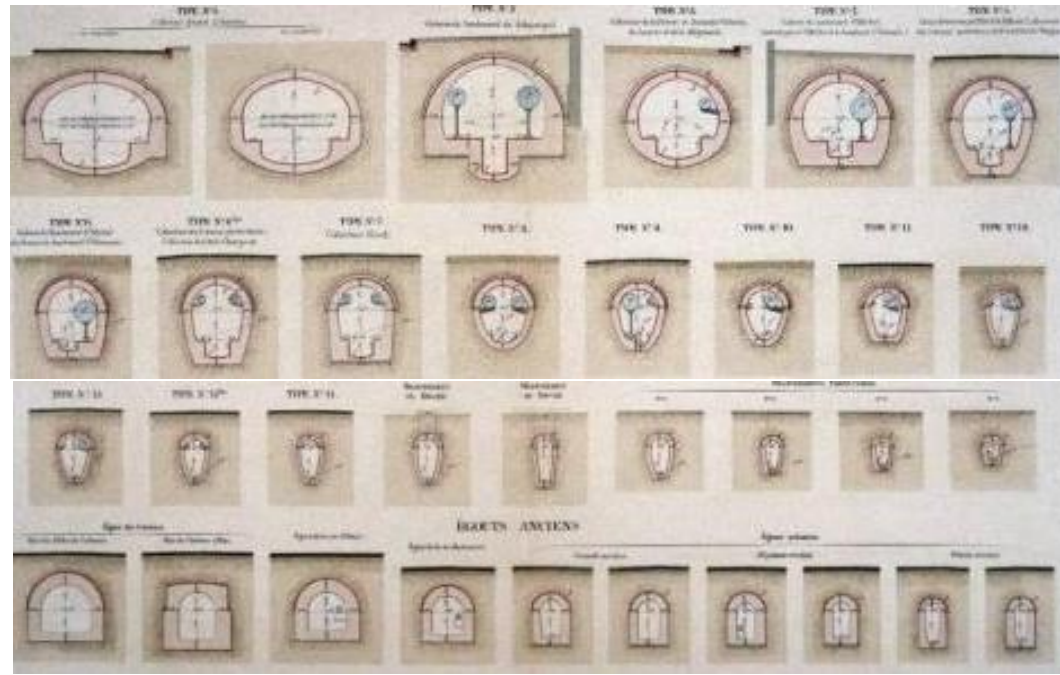


Pandemics as Impetus to Urban Planning & Design

- ## □ Promoting the birth of modern urban planning

UK: *Public Health Act* in 1848 ⁽¹⁸¹⁸⁾ & *Sanitary Act* in 1866 ⁽¹⁸⁰⁶⁾

Paris: systemization of sewage, water supply, and public space by Hausseman during 1851-1868



Online Closing Event, 2019 Bi-City Biennale of Urbanism\Architecture
LIU Jian, liujian@Tsinghua.edu.cn, 18 April 2020

Pandemic as Impetus to Urban Planning & Design

- Promoting the development of urban renovation and modernism housing

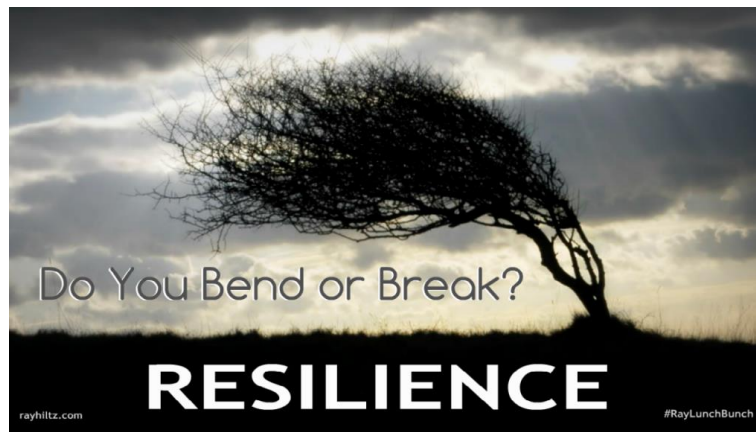


Pandemic as Impetus to Urban Planning & Design

- Promoting broad discussions in China's field of planning
 - Conceptual theories: safe city, healthy city, resilient city, intelligent city
 - Governance modernization: social governance, urban governance, community governance
 - Infrastructure improvement: water supply, sewage system, transportation, disaster prevention and alleviation, big data
 - Metropolitan development: regional coordination & cooperation
 - Urban design: gated community, public space
 - Architectural design: building industrialization, high-rise housing

Resilience as Capability of Adapting & Recovering

- Man: mental ability to recover from depression, illness or misfortune
- Material: physical property that can resume its shape after being stretched or deformed
- Organization / organizational system: positive capacity to adapt and return to equilibrium due to the consequences of a crisis or failure caused by any type of disruption, including disasters



Architecture for Changing Users and Usages

- Educational facilities: changes of the way of utilization
- Large-scale public facilities: changes of the demand of usage
- Housing: changes of the type of users
- A solid structural framework being safe and long-standing
- A changeable interior space being flexible and adaptable



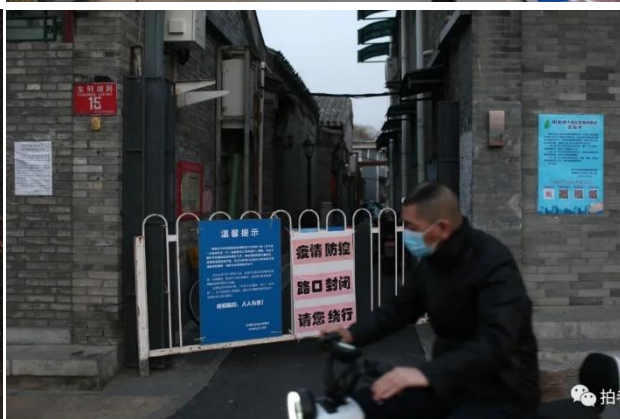
Infrastructure for Changing Services

- Delivery mobility as soft infrastructure, including space for drop-off and pick-up
- Network support for online activities such as learning and commodity marketing
- Public transport with controlled density
- Opportunity for private transport



Public Space of Multiple Use & Flexible Management

- Recreation, delivery, emergency,
- Openness vs closure



Community as Unit of Social Governance

- ▣ Mobility registration
- ▣ Temperature check
- ▣ Cleansing and disinfection
- ▣ Information distribution
- ▣ Delivery service
- ▣ Advantages of gated neighborhoods



Resilient Architecture and City Designed to Cope with Changes and Uncertainty

- Endless demands of Man: safe, healthy, happy, enjoyable,
- Unprecedented changes of the city: aging, shrinking, globalizing or anti-globalizing,
- Uncertainty of the Nature: natural disasters including pandemics, consequences of climate change,
- Be prepared for changes and uncertainties, either beneficial or dangerous, mild or dramatic, for purpose of keeping normality, particularly in term of the relationship between Man and Nature
- Nature indispensable for Man while Man dispensable for Nature
- Ecological Civilization: human-oriented, while respecting the nature, adapting to the nature, and protecting the nature

Thanks for Listening!

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