

# Building Inclusive Smart Cities

Professor Emeritus and GSM  
Distinguished Professor  
Kyoto University

Kiyoshi Kobayashi



# University under Fire at Generative AI



大学名	タイトル
大阪大学	生成AI (Generative AI) の利用について
大阪女学院大学・大阪女学院短期大学	生成系AIについての学長声明文を発表しました
岡山大学 (学生向け)	学習・教育における生成系AIの利用について
同上 (教職員向け)	本学教職員の生成系AI利用に関する留意事項について
学習院大学	生成系AI (人工知能) について
関西大学	教育・学習におけるChatGPT等の生成系AIツールへの対応について
近畿大学 (情報学部)	【在学生の皆様へ】生成系AI (ChatGPT等) に関する留意事項
群馬大学	ChatGPTなどの生成系AIについての注意喚起
群馬県立女子大学	【学長メッセージ】 ChatGPT 等の生成系 AI について
甲南大学	大学授業課題に対する生成系 AI の取り扱いについて
神戸市外国語大学	学生の皆さんへ：生成系AIの使用についての注意 (第1報)
島根大学	島根大学におけるChatGPT等の生成系AIの利用におけるリスク管理について - 教職員及び学生のみなさんへの注意喚起 -
上智大学	ChatGPT 等の AI チャットボット (生成 AI) への対応について
白百合女子大学	ChatGPT 等の生成系 AI に関する注意
高崎経済大学	ChatGPT等の自然言語処理モデルの利用に関する注意
電気通信大学	学修におけるAI利用に関する注意事項
東京大学	生成系AI (ChatGPT, BingAI, Bard, Midjourney, Stable Diffusion等) について
東京外国語大学	大学教育における AI について 東京外国語大学としての教員向けガイドライン
東京工業大学	学修における生成系人工知能の使用に関する本学の考え方について
東京農工大学	生成系AI (ChatGPT等) の利用に関する注意事項
東北大学 (学生向け)	ChatGPT等の生成系AI利用に関する留意事項 (学生向け)
同上 (教職員向け)	ChatGPT等の生成系AI利用に関する留意事項 (教職員向け)
東洋大学	レポート作成等での生成系AI (ChatGPT等) の利用について
同上 INIAD (情報連携学部)	生成系AIに関するINIADの見解
日本大学	【学生のみなさんへ】授業における生成AIツールの使用について
長崎大学	ChatGPT 等生成系 AI への対応について
兵庫教育大学 (学生向け)	【学生の皆様へ】 ChatGPT等の生成系AIの使用に関する留意事項について
同上 (教職員向け)	【教職員の皆様へ】 ChatGPT等の生成系AIの使用に関する留意事項について
兵庫県立大学	本学の教育における生成系AIの取扱いについて
福井工業大学	生成系AIの使用に関する注意 (第1報)
佛教大学	ChatGPT等の生成系AIの利用について
法政大学 (情報科学部・情報科学研究科)	(重要) 法政大学情報科学部・情報科学研究科 生成系AIの利用に関する指針
北海学園大学	ChatGPT等の利用に関する注意喚起
山形大学	教育における生成系AIの利用について
立命館大学	生成系AI (人工知能) の利用にあたって
龍谷大学	生成系AI (ChatGPT等) の活用について
早稲田大学	生成AIなどの利用について



# Social Benchmarking

- The question is whether generative AI (G-AI) can be a co-author of an academic paper. If the problem is properly posed, the standard model is readily available. How much time and energy do many researchers and practitioners around the world spend trying to reconstruct the standard model? But G-AI can provide it instantly and for free. This is a wonderful revolution and also means that the value of the standard model has been reduced to zero. **Research and business will now depend on how much deviation from the standard model provided by G-AI can be created as a baseline.** G-AI cannot be a co-author of creativity. G-AI cannot be a co-author of creativity, but it does provide a benchmark against which creativity can be evaluated. The traditional classroom teaching of lectures and exercises will have to be radically reformed. The value of face-to-face lectures with excellent instructors to nurture creativity in tandem seems to be increasing in value more than ever before.



# Medieval University: Principal-Agent Model

## Alma mater studiorum

(motherhood for flourished  
learning professionals)



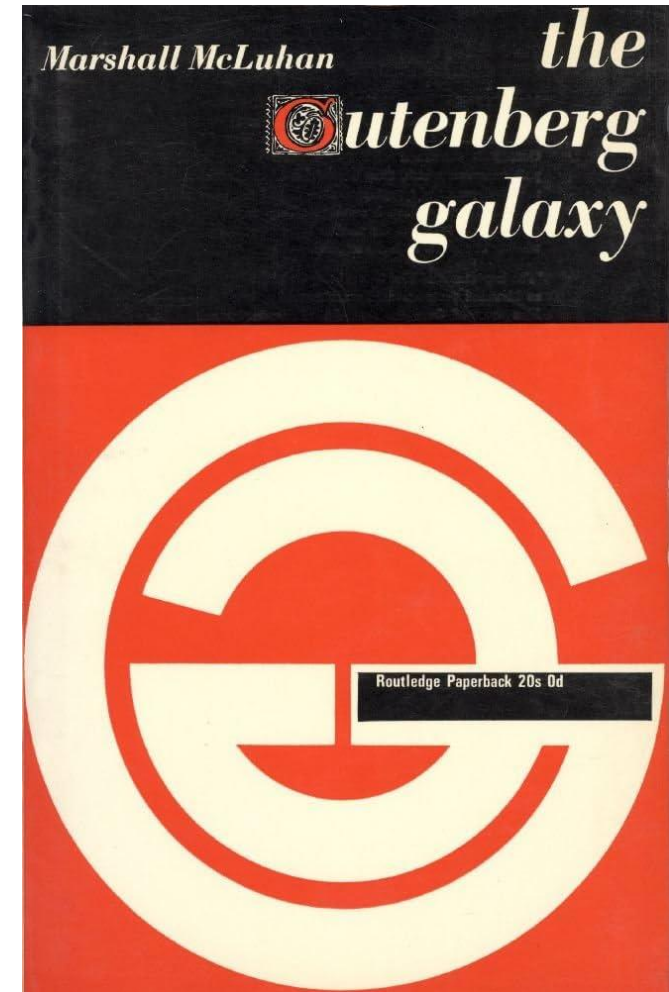
Universitas societas magistrorum  
discipulorumque  
(partnering institutes of teachers and  
students: **principal-agent model**)





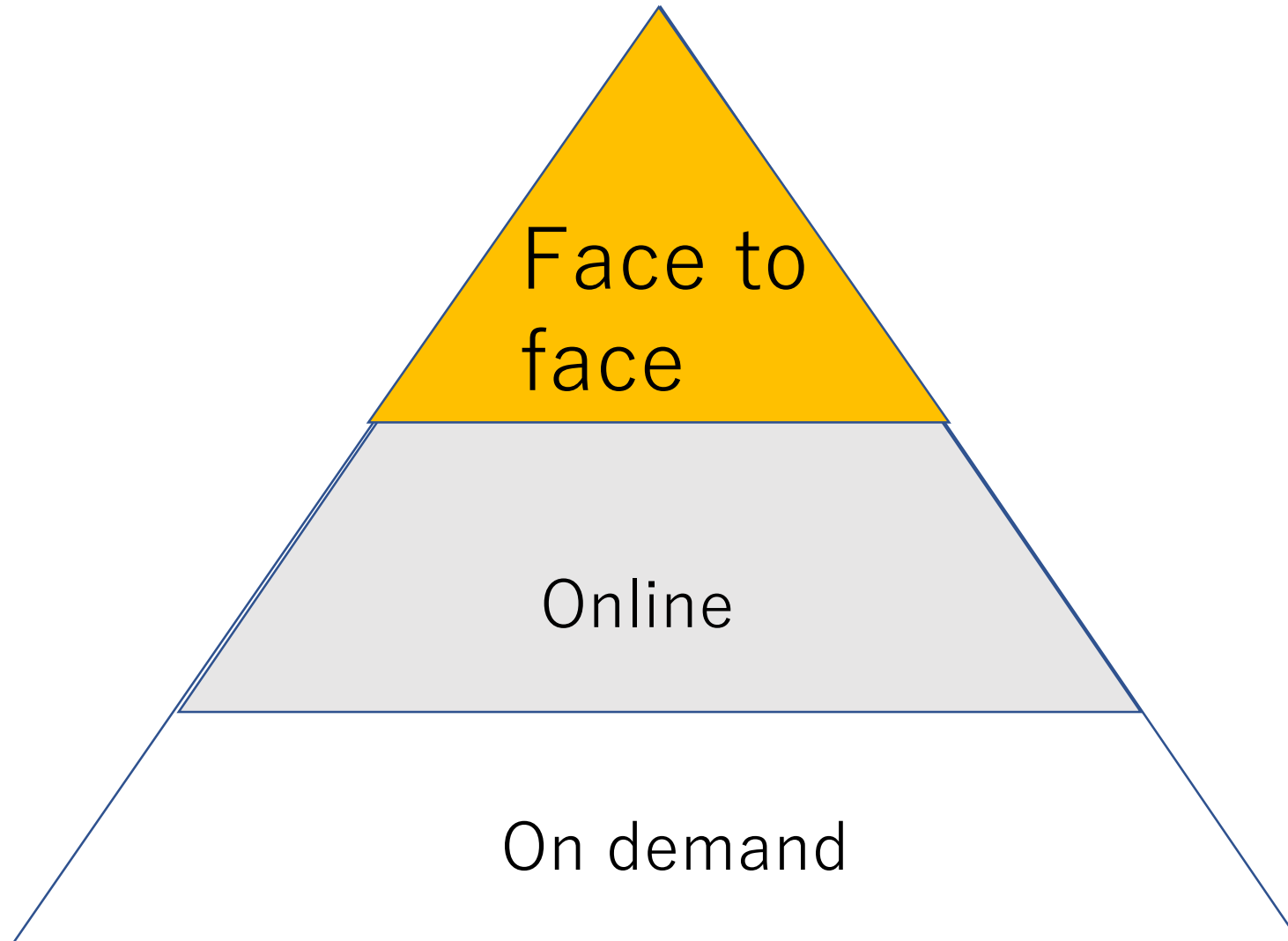
# University Evolution (19century)

- Books and papers: Gutenberg's galaxy
- Emergence of ivory towers  
(Academic Universities: Berlin, John Hopkins, Harvard)
- From Principal-agent model to Teacher/Student Model  
(Possibility of self-study)





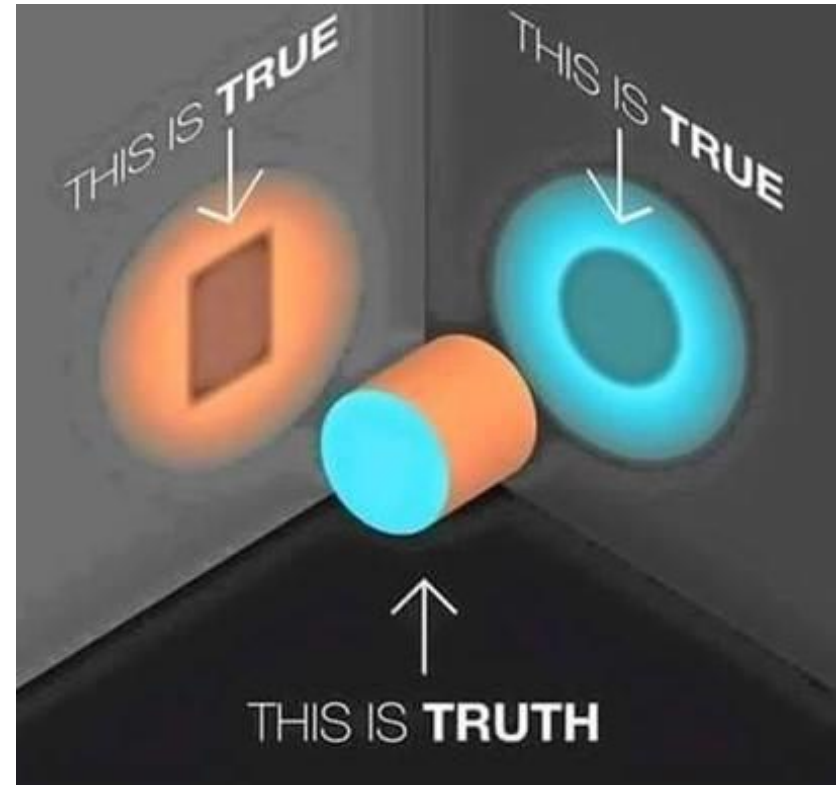
# The Pyramid of Communication Modes





# New University model

- Standardization of knowledge and information by AI
- Valuation of creativity and originality
- Diversity of perspectives (locality)
- Importance of Social Capital
- Revival of Professional Education





# The Logic of Urban Capitalism

Excessive diversity and instability on the African continent. Different tribes have different living techniques. The ecology of the African continent is changing rapidly. Tribes that rely on specific life skills are forced to move through space in response to ecological changes. There is a fundamental cause for the establishment of spatial mobility and exclusive tribalism.

Tribal societies with mandated spatial mobility have no incentive to invest fixed capital in space. Africa's unique ecology, inseparable spatial mobility of Africans, and exclusive tribalism have hindered investment in infrastructure and accumulation of urban capital over a long history.





# The Paradox of Affluence

Simultaneous consumption in the home (any leisure activity consumes time)



Consumption is not a momentary activity unrelated to time. A round of golf or a game of tennis or even a cup of coffee takes time to consume. People try to overcome time constraints by consuming simultaneously. We bring more consumer durables into the home: personal computers, CD players, TVs, PCs, CD players, TVs, furniture . . . . In addition, many goods are consumed at the same time. Cognac, cigars, food... How busy is affluence! But what a busy life!

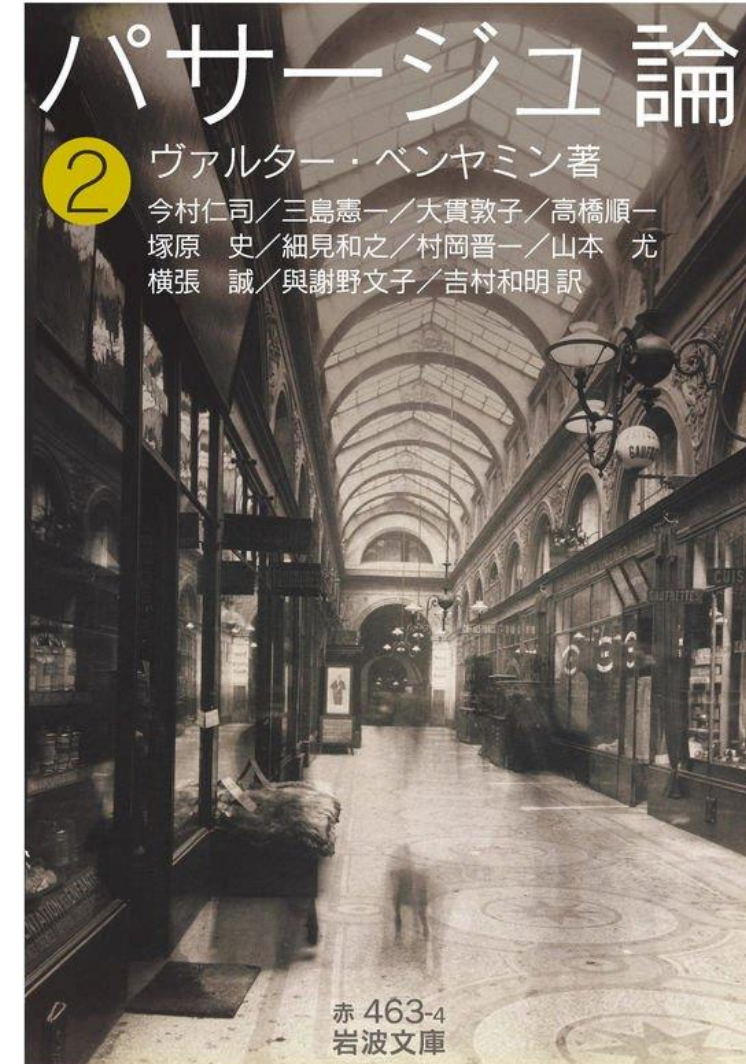


# Public vs. Private Space

- Private space protected by ownership and use rights
- Private use is excluded except for private space

Emergence of public spaces (passages) for unspecified use

The factor is the low simultaneous possibilities when out of the home compared to the simultaneous possibilities when in the home. Simultaneous consumption in the home is thoroughly customized according to family preferences. Simultaneous consumption when going out is magnified by the accumulation of public goods such as landscapes, urban activities, etc. It is magnified by the accumulation of public goods. However, how poorly public spaces compare to the fulfillment in the home.





# Simultaneous Consumption in Public Space





# Online Whiteboard Education

Online Whiteboard

Project Planning

Retro Meetings

Mind-Map

Data Area

BRAINSTORMING Area

EPSON

EPSON

The screenshot displays a comprehensive online whiteboard interface. At the top left, there are logos for 'Insurances' and a set of icons for different tools: Select, Note, Text, Doc, Image, Media, Shape, Template, and Embed. The main workspace is divided into several sections: 'Project Planning' with a grid of colored squares, 'Retro Meetings' with a diagram of a sailboat, 'Mind-Map' with a central node 'Departments & Duties' branching out to various government departments, 'Data Area' with a bar chart, and 'BRAINSTORMING Area' with a collection of colorful sticky notes. A large yellow lightbulb icon is positioned in the center. At the bottom left, two white Epson smart markers are shown. The bottom right corner features a toolbar with icons for drawing, erasing, and other functions, along with a zoom level indicator set to 12%.





# Hybrid Society: Anyone Can Be a Banksy

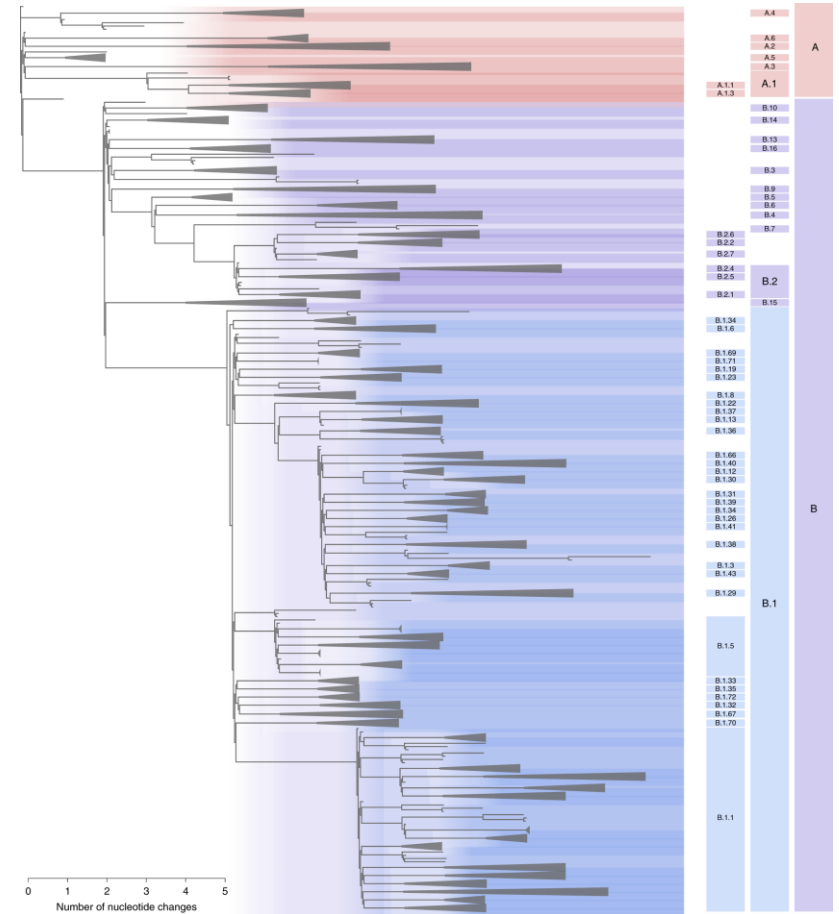
Virtual space as a template,  
accessible to all. To a metaverse  
with various graffiti on the city's  
digital twin, Invite your friends.  
Customize your urban space.  
Kyoto A, Kyoto B, ..  
The logic of urban capital is founded  
on the ownership of space.  
Virtual space is free from ownership.  
Customization of urban space





# Toward Democratic Platform

- Virtual space management platform
- Virtual space variant management
- Original certification
- Virtual space pattern recognition





# Hybrid City

- A smart society in which virtual and real spaces are hybridized; a theory that explains the interaction between the two spaces is lacking. This problem ultimately comes down to the basic issue of the relationship between oneself in the virtual world and oneself in the real world.





# CA (Hybrid Mind-Body Issues)

Humans now have multiple bodies in virtual space.  
CA's body can do more than its own physical ability.

Level 1: A body that draws out your abilities and potential

Level 2: A body that can parallelize itself and perform different actions

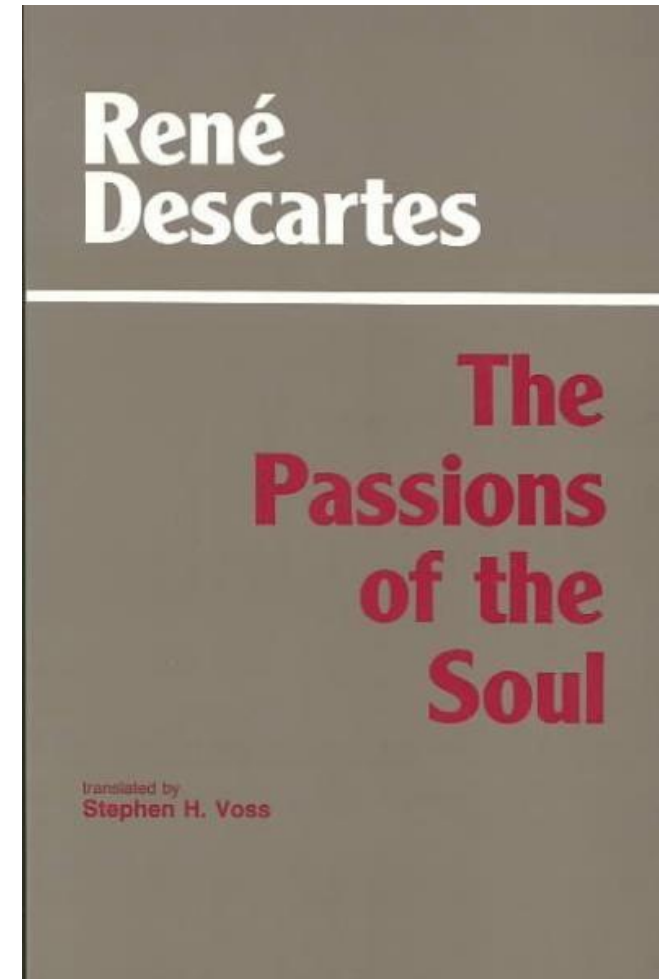
Level 3: A body that can take in the skills of others and surpass one's own abilities

Hybrid mind-body problem

"In what kind of mechanism is the self reconfigured?"

"Rights and Responsibilities for Actions Inflicted by CA"

"Can we share each other's experiences and skills while guaranteeing the independence of people?"





# Hybrid Mind-body Problem

- Human behavior in real space is constrained by physical conditions. Ultimately, it is the individual in the real space who collects and controls the information on CA's behavior in the virtual space. Individuals in real space are bound by time constraints. What supports the flexibility of action in real space is the capital and various infrastructures in real urban space. Of course, the capital accumulated in the real city space can become the infrastructure of the Metaverse space as a template for the virtual space. However, due to the existence of physical constraints in real space, the degree of freedom of human behavior in the hybrid world is secured by capital formation in real space.



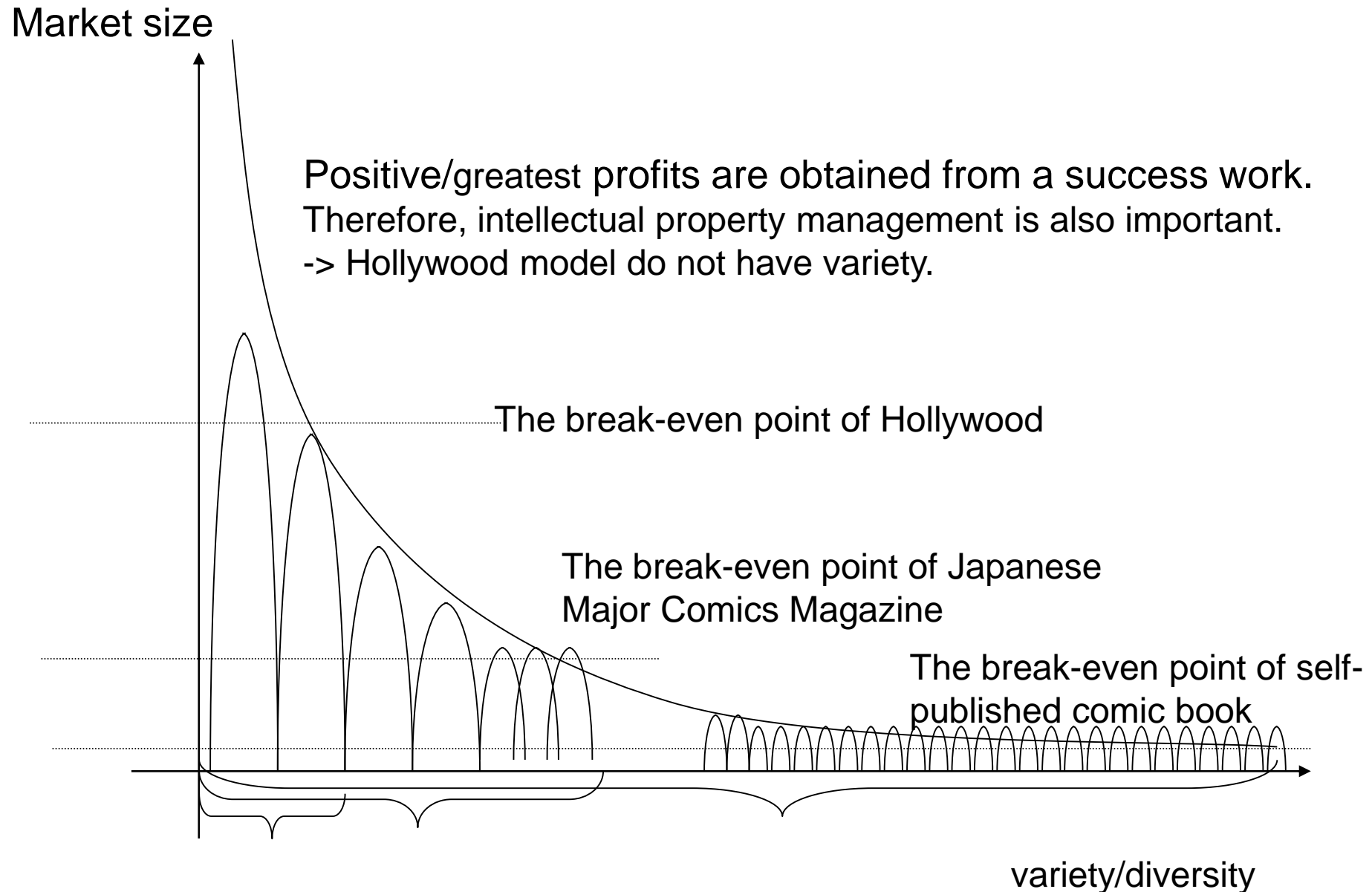
# Traditional platform

- two-side matching  
(network externality)
- strong path dependency
- standardized commodities  
(time and place)
- lack of platform of platforms  
(Line)





# Advanced long tail contents markets





# Example: Cook-one's-own-food market

- Producer=consumer complex
- Comiket (self-published comic book fair)
- Comiket 76, 2009, 560,000 attendees  
The sales of a self-published comic book are over 10 billion yen(100 millions euros).





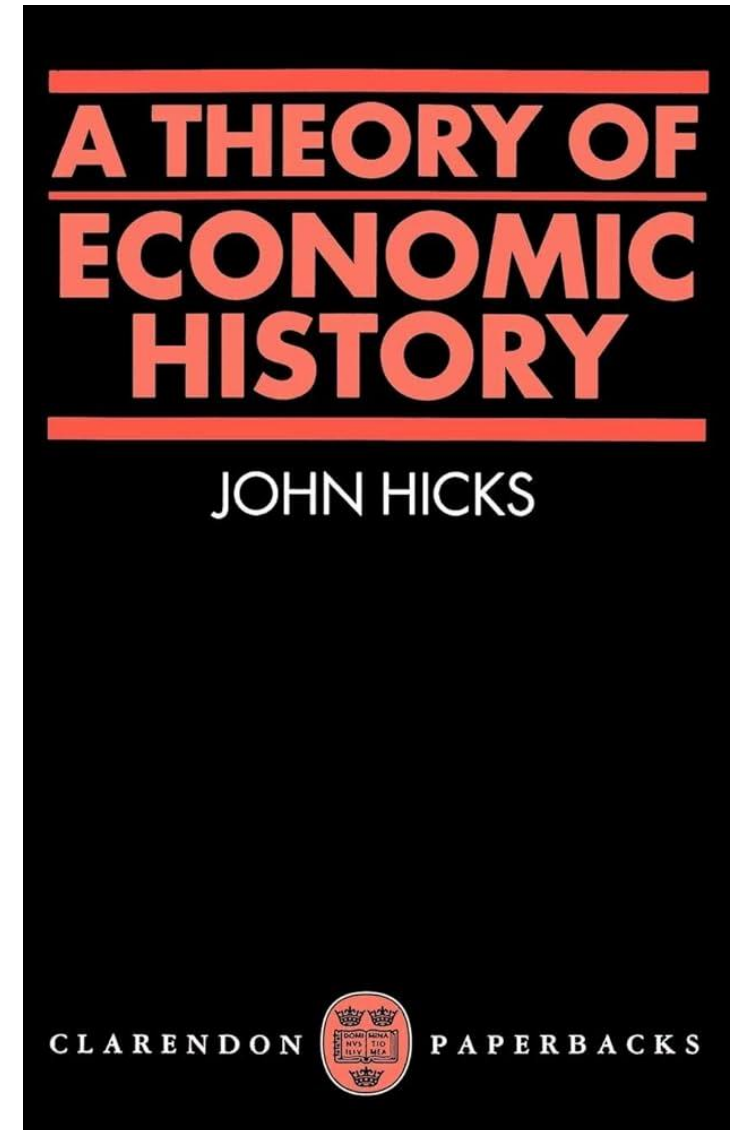
## Smart city

- A milieu of creative ideas (Science, arts, entertainment)
- Uncertainty and instability (synergy between talents)
- Smart technologies (AI, GX, DX, and transport technologies)
- Tolerance (Emergence of creative stars, Copies of contents, Creative insurance)



# A Theory of Economic History by John Hicks

- The great mercantile expansion in the Mediterranean were associated with a system of cities and their political fragmentation. The success of capitalism depends not so much upon a particular set of institutions as on its ability to maintain an environment that encourage open experimentation, by preserving the freedom to form new institutions and letting existing institutions be constantly replaced by those that are more successful.



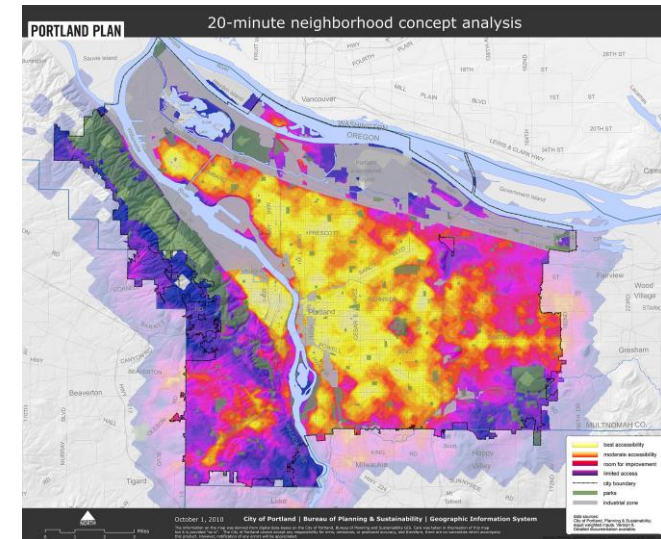
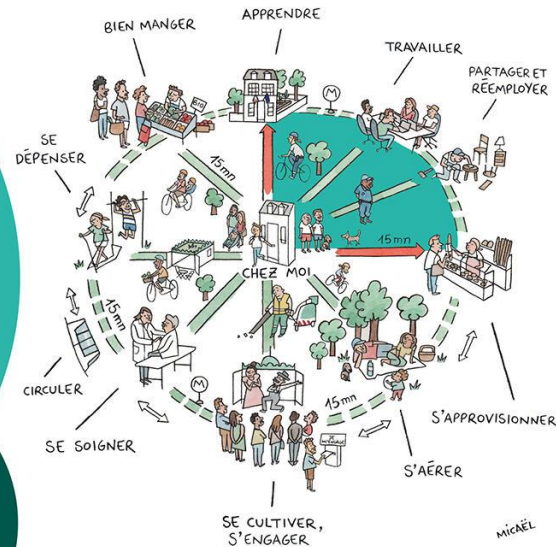


# X-minutes cities vs sorting cities

The era of population onus

Faire  
de Paris  
une « ville  
du quart  
d'heure »

PARISEN  
COMMON



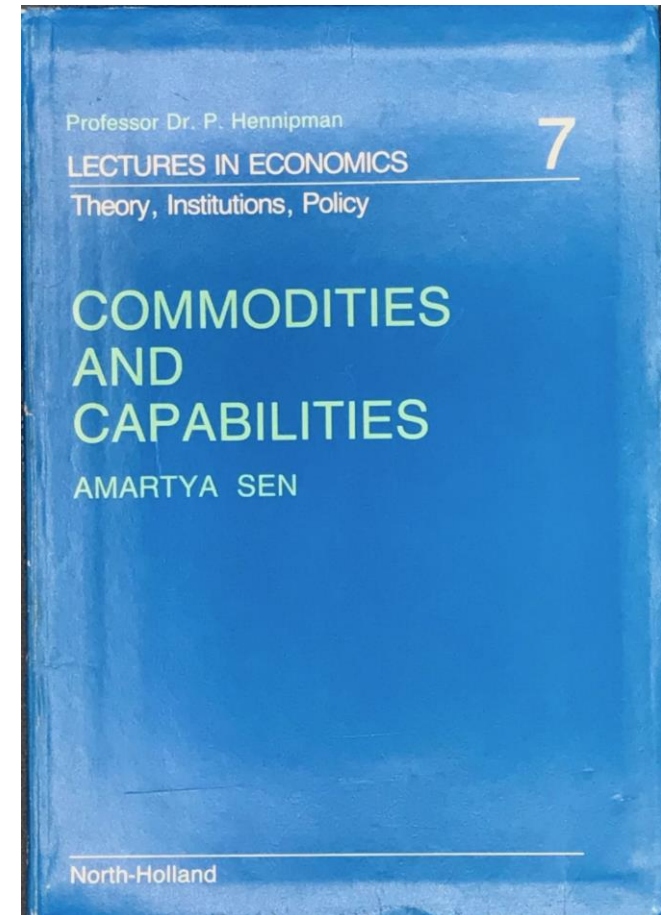


# Capability well-being is a matter of what people can do and be.

What can one do in a city? For example, a single father with a handicapped child and an able-bodied young man. Even if they have the same automobile, there is an overwhelming difference in the kind of life they can lead with it. A major paradigm shift to rethink urban infrastructure on a life-size scale.

We want to be an urban space where people can carry out various ways of life with the support of advanced technology. This is the philosophy of inclusive smart city.

Matching people's needs with urban services. We need to create an urban organizational platform that will make this happen.





# Democratic pluralism

(territorial space vs. membership space)

Collective right to respect for community of origin (the right to root)

- Individual right to opportunities to utilize fully one's own abilities  
(the right to options)



# Toward Inclusive Smart Cities (cook-one's-own-food economy)

- Creation & Reputation (C&R)
  - The new concept replaced with R&D
- In the new creative society, the whole quality is enhanced by very various participants creating contents and criticizing(Reputation) with each other.



Learning through interaction