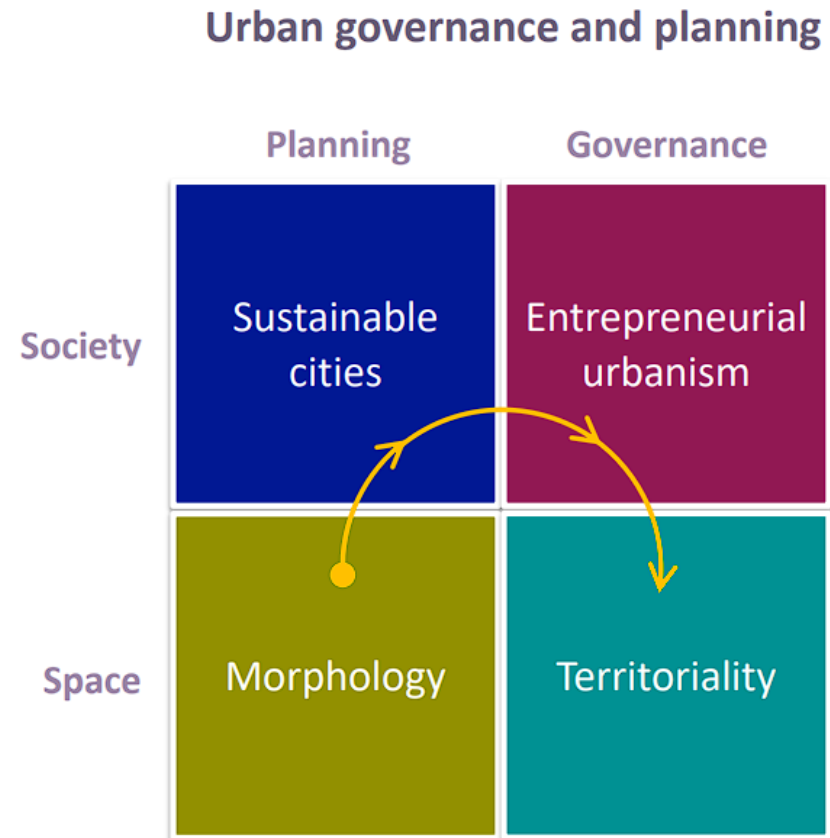


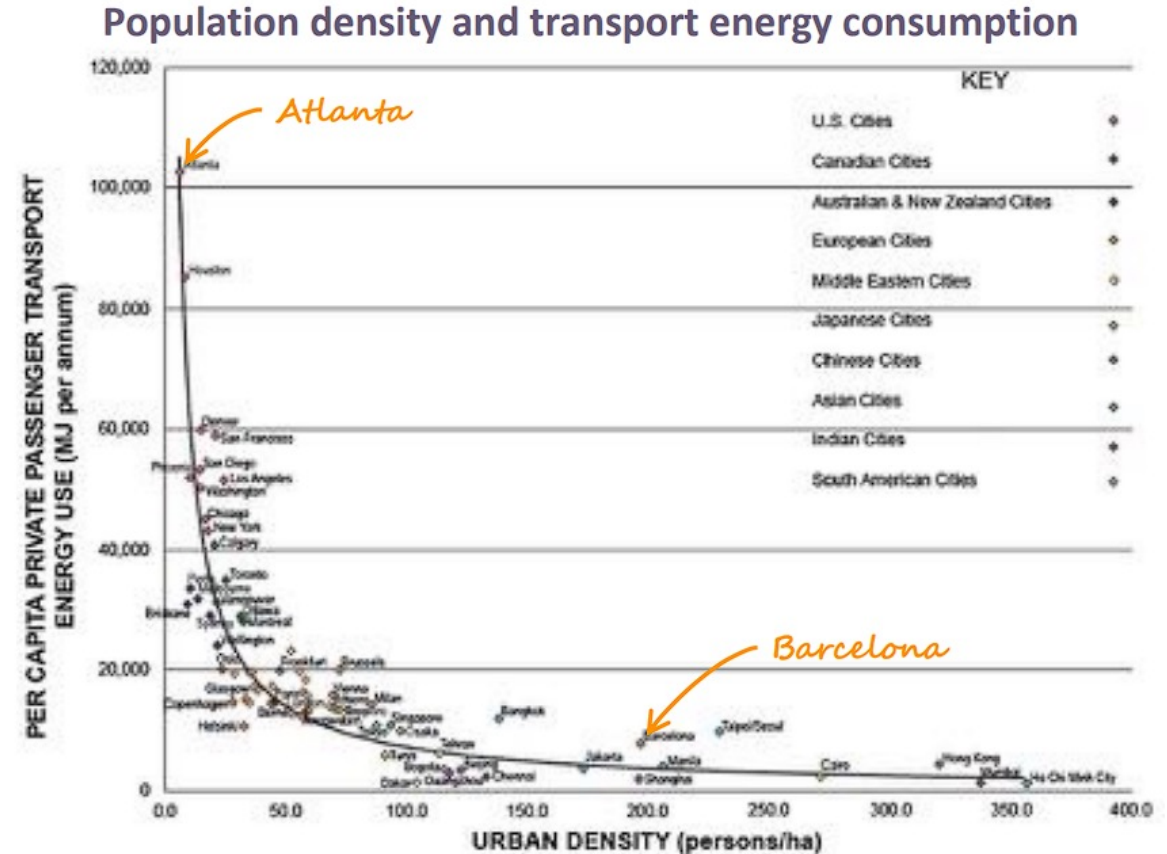
CASA0001 - Urban Systems Theory

Prof Adam Dennett, Dr Esra Suel

- Dialectical relationship between society / space / planning / governance
- Planning = Land use & Morphology (relevance to sustainable cities)
- Governance = Policy (housing / transport) influencing urban function

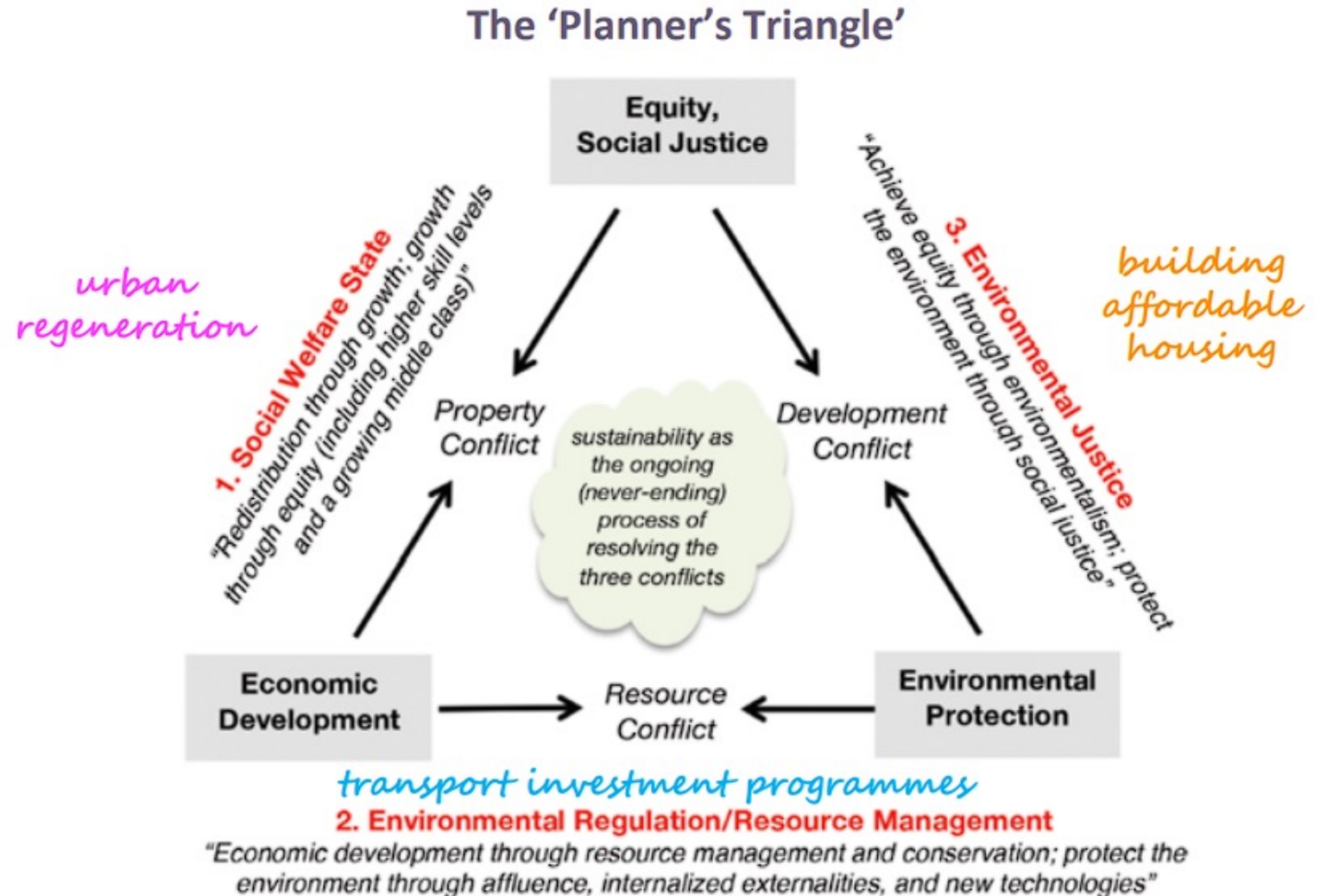


- Morphology (e.g. density) is important for sustainable practices
- Denser, more compact cities more efficient re. transport (less car use, more public transport, more walking etc.)
- Denser cities more energy efficient

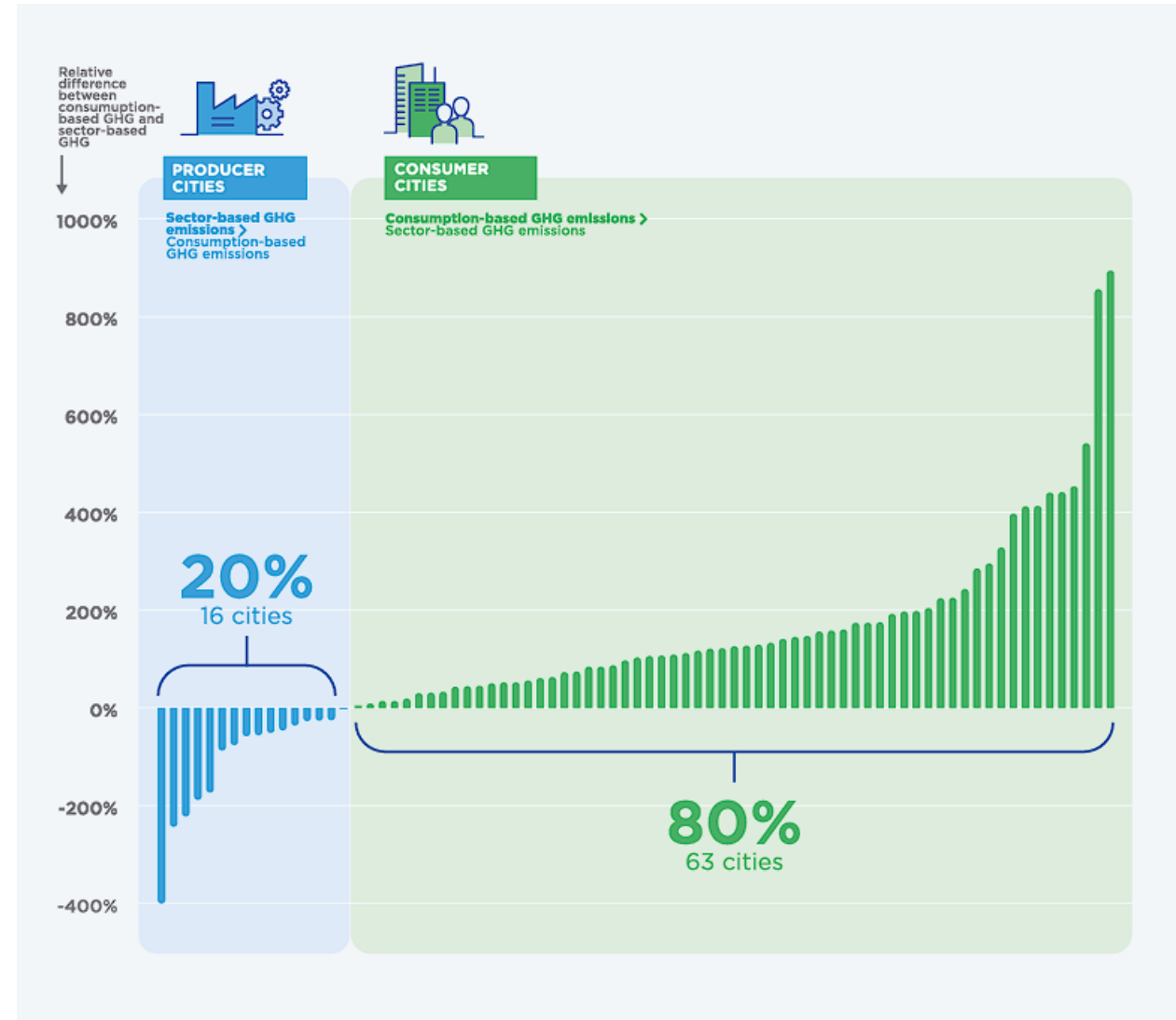


Source: Newman & Kenworthy (2015) *The End of Automobile Dependence*.

- Sustainability – “Meeting the needs of the present without compromising the ability of future generations to meet their needs”
- Pillars of sustainable cities - Economic, Social and Environmental domains (Campbell – this week’s reading)
- Sustainability as resolving conflicts that emerge in maximisation of each

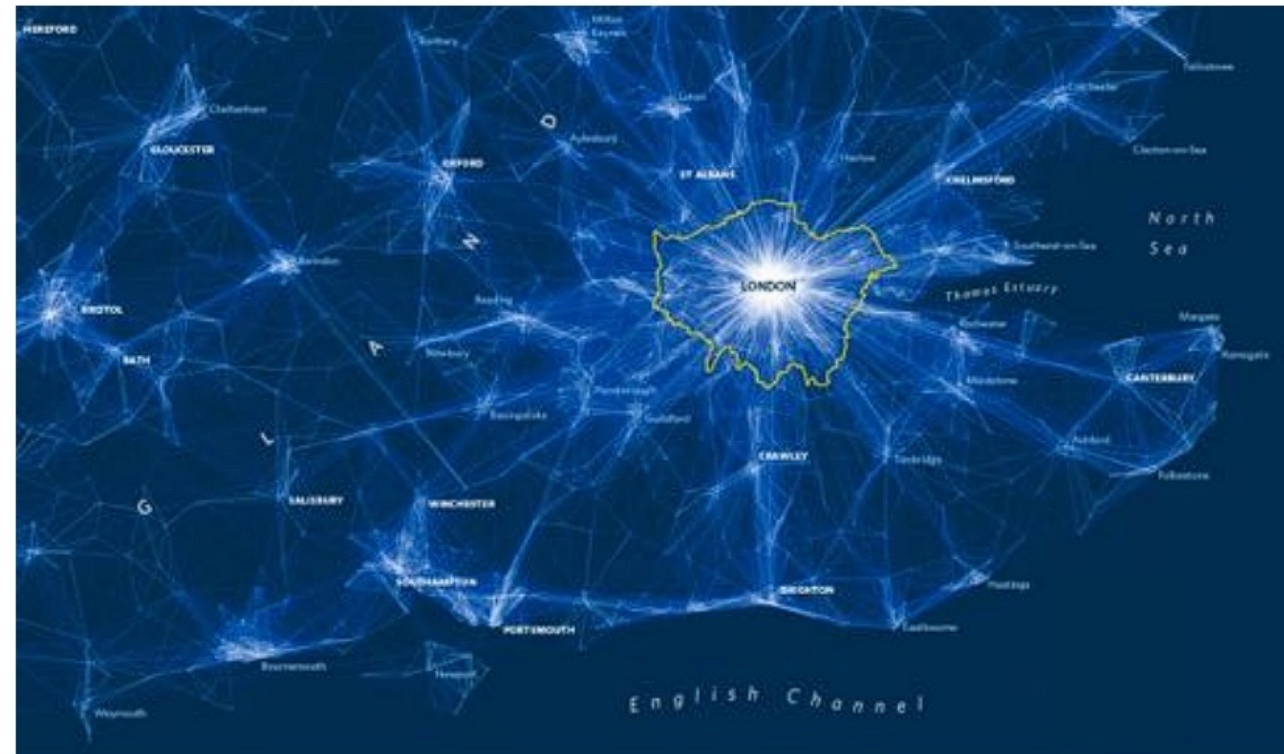


- Shift from managerial (top down governance) to entrepreneurial (bottom-up, competing, survival of the fittest) approach to urban governance (Harvey)
- Entrepreneurial cities try to optimise the conditions for production (tax breaks, land use zoning (business parks) etc. or consumption (housing, commerce, leisure) through regeneration, place marketing, tourist attraction
- Cities tilted towards consumption less sustainable – where do Western Cities lie?

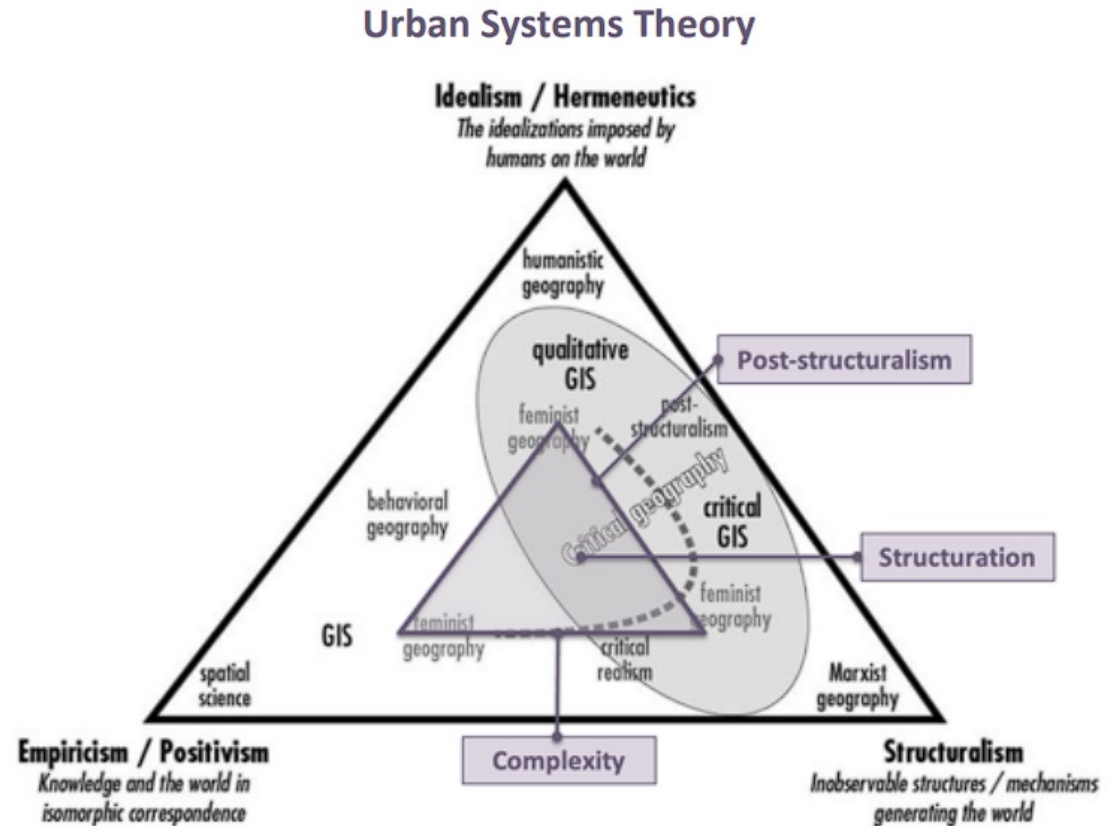


- Urban agency as constrained by territorial limits
- What is the dominion over which urban governance has agency? Is it, to extent an open system?
- Where does London End? What influence does the city have beyond where people might imagine its boundary? House prices, wages, employment transport networks?

Defining cities



- Thinking Geographically (Sheppard, 2015) proposed that thinking geographically requires us to have an understanding of and appreciate the full range of epistemological perspectives
- Over the last 10 weeks, we've encouraged you to use this epistemological tool-kit to better understand the cities we inhabit





Assignment 2



Read ***either*** of the two papers (A or B) and answer the questions below.

- **Paper A:** Yee, J. & Dennett, A. (2022) Stratifying and predicting patterns of neighbourhood change and gentrification: An urban analytics approach. Transactions of the Institute of British Geographers, 47, 770– 790. Available from: <https://doi.org/10.1111/tran.12522>

– or –

- **Paper B:** Suel, E., Polak, J.W., Bennett, J.E. et al. Measuring social, environmental and health inequalities using deep learning and street imagery. Sci Rep 9, 6229 (2019).
<https://doi.org/10.1038/s41598-019-42036-w>



Assignment 2 - Questions



1. Describe the epistemological orientation of the author(s)? What aspects of the study can you associate with specific epistemological paradigms?
2. How do the authors attempt to study neighbourhoods and their characteristics in their study? You should refer to both:
 - the overall research design
 - specific methods used
3. Given your answers above, reflect on the strengths and limitations of the study. What spatial and social processes are considered or not considered?
4. Do you think the authors achieve their research objective? What additional work may be done to contribute to the research field of this study?



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Assignment 2 – Question 1



- Primarily positivist:
 - Seeks to develop an objective evidence base
 - Emphasis on quantitative analytical methods and secondary data
 - Use Bayesian spatial structural modelling to understand how density and public housing affect premature mortality rates
 - Assumption that we can explain, predict and change the world



Assignment 2 – Question 2



- Study design and methods
 - General topic, specific research question, research gap from literature review
 - Use neighbourhood (area) level data on density, public housing, latent factors, etc. correlates with health outcomes – premature mortality rates
 - Bayesian spatial structural modelling
 - Potential for ecological fallacy
 - What are moderators? Exposure? Mediators? Confounders?



Assignment 2 - Questions




1. Describe the epistemological orientation of the author(s)? What aspects of the study can you associate with specific epistemological paradigms?
2. How do the authors attempt to study neighbourhoods and their characteristics in their study? You should refer to both:
 - the overall research design
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3. Given your answers above, reflect on the strengths and limitations of the study. What spatial and social processes are considered or not considered?
4. Do you think the authors achieve their research objective? What additional work may be done to contribute to the research field of this study?

Read the following paper and answer the last two questions.
(5-10 minutes to read, 5-10 minutes of pair discussion)

Kandt, J., Chang, S.S., Yip, P. & Burdett, R. (2017). The spatial pattern of premature mortality in Hong Kong: How does it relate to public housing? *Urban Studies* 54(5), 1211–1234. Available from: <https://doi-org.libproxy.ucl.ac.uk/10.1177/0042098015620341>


Moodle -> Material -> Workshop Slides -> Kandt_et_al_2017.pdf

3. Given your answers above, reflect on the strengths and limitations of the study. What spatial and social processes are considered or not considered?
4. Do you think the authors achieve their research objective? What additional work may be done to contribute to the research field of this study?

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Results and
interpretation

- Significant geographical disparities.
 - Map corridors of increased risk (Figure 2) with a detailed discussion.
 - Neighbourhood effects – neighbourhood data correlated with health outcomes
- e.g.,
- Higher affluence, the lower the risk of premature death
 - Higher centrality, the higher risk of type I
 - Higher housing instability, the higher the risk of type II

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Results and interpretation

association intensified after model adjustment. For public housing, we again observed a switch in directions: the presence of public housing was associated with increased type II PMR, but after controlling for all other area characteristics, notably neighbourhood affluence and housing instability, the association reversed. For men, both of these associations were significant; for women they seemed more moderate yet nearly significant.

- Focus on the role of **public housing** – and how it is different from the Western context.

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Discussion

- Specific link to Hong Kong context wrt. public housing (e.g., different policies compared to Western context, and better housing quality)
- Unexpected results – importance of context (e.g., urban density context, commuting and women's role)

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Limitations

- Cross-sectional: causality is harder to establish
- Some confounding factors may be left out
- Ecological analysis
 - Unobserved covariates that maybe associated with public housing (what can they be?)
 - Area-level associations does not necessarily relate to individual correlations (but you will need individual data!)

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Limitations

- Positivist approach - use of deductive reasoning to infer universal laws.
- Alternative view: the research generates causal hypotheses that may explain how urban density may be linked to health disadvantage. Can we use these to design more focused targeted research studies.



Strengths and Limitations



Strengths:

- Quantitative methods testing different models and their combinations
- Links to social variables using factor analysis

Limitations:

- Does not consider subjective experience, how density and public is actually experienced (idealist) or structural processes (how they are produced)
- Cross sectional study
- Consideration for self-selection: how people may select into certain neighbourhoods

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Future work

- Wider range of data at higher spatial resolution and/or individual level
- Mixed methods: quantitative and qualitative methods to further investigate complex relationships.



Reflection on its objective and future work



- Achieved its objective of mapping inequalities
- Correlation between public housing provision and health disparities, reversal of the direction of the effects after accounting for other area characteristics.
- Future work:
 - Additional variables? Confounding and/or control variables?
 - Longitudinal study, before and after public housing?
 - Complementary qualitative analysis to provide more detail on selected neighbourhoods
 - Urban policy analysis to study production of concentrated health vulnerabilities



Follow up study: mixed methods



Use of quantitative results to decide on neighbourhoods to visit: three neighbourhoods with different mortality profiles but similar urban density profiles

Sai Ying Pun: advantage for type I, and disadvantage for type II

Whampoo: health advantage across all

Sham Shui Po: disadvantage across all

- Focus groups where local residents are invited to participate structured around urban density, daily activities, health and well-being



Follow up study: mixed methods



Qualitative part:

Revealed importance of social practices, socio-economic circumstances
– i.e., the contingent mechanisms through which urban density affects individual health and well-being