

Capability Theory and Urban Planning

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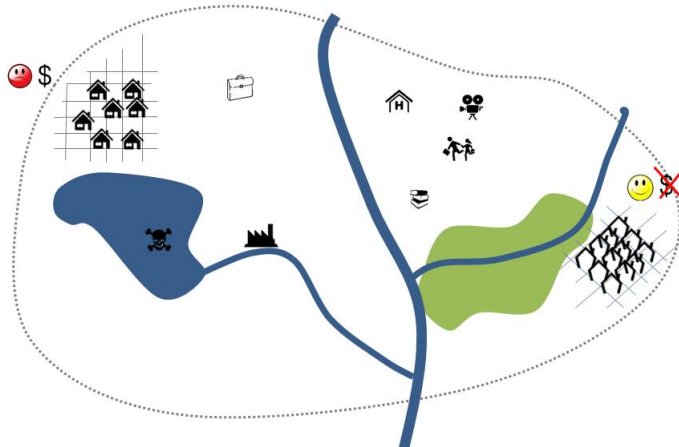
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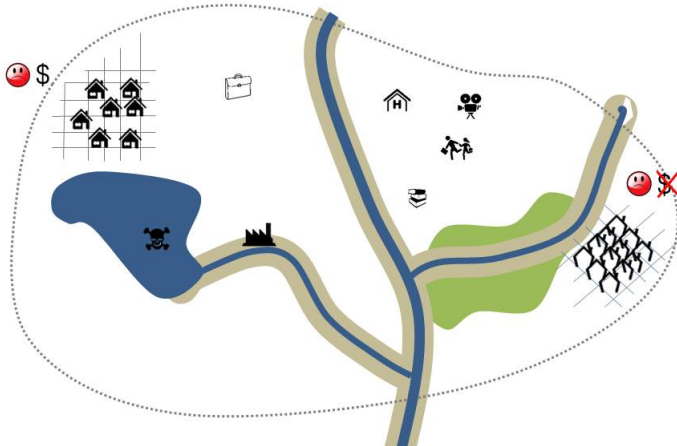
Outline

- 1 Motivations
- 2 Capability Theory
- 3 Urban Quality
- 4 An Example

Problems 1



Problems 2



Quality and Values

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Can we identify the “happy poor” and the “unhappy rich”?

What are capabilities?

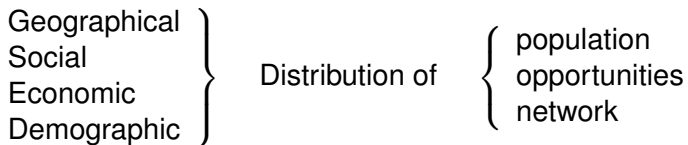
From endowments to capabilities

Wealthiness of people is not their endowments (what they own), but what they actually achieve or could achieve, the opportunities they have and can use.

- Commodities
- Functionings
- Capabilities
- Subjective assessment

What is urban quality?

A function of



More formal

- Ω population clustered in $\omega_1, \dots, \omega_n$ clusters
- L territory, divisible in I_1, \dots, I_m areas

Then $UQ(\omega_j) = \langle UQ(I_1, \omega_j), \dots, UQ(I_m, \omega_j) \rangle$

One step deeper

$$UQ_j(l_i) = \mathcal{F}(F_{jA}(l_i), F_{jQ}(l_i))$$

$$F_{jA}(l_i) = \mathcal{H}(q_j(l_i), c_j(l_i), k(l_i))$$

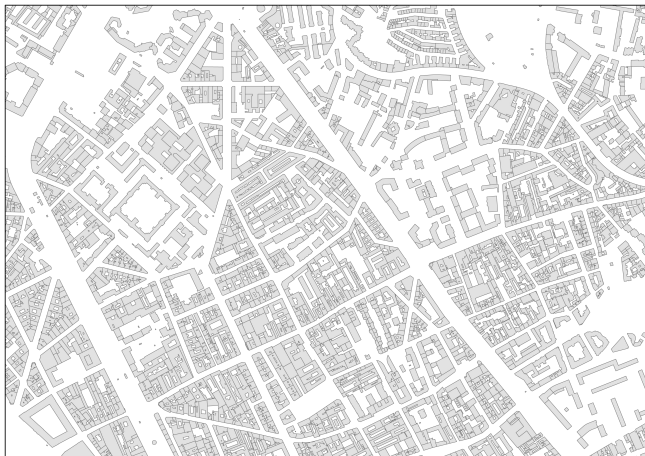
Even more details

$$q_j(l_i) = \sum_{x \in l_i} u_{ij}(x)$$

where:

- $u_{ij}(x)$ is the utility of cluster i in location j for a “nice” access to facility x ;
- to be learned through surveys or examples

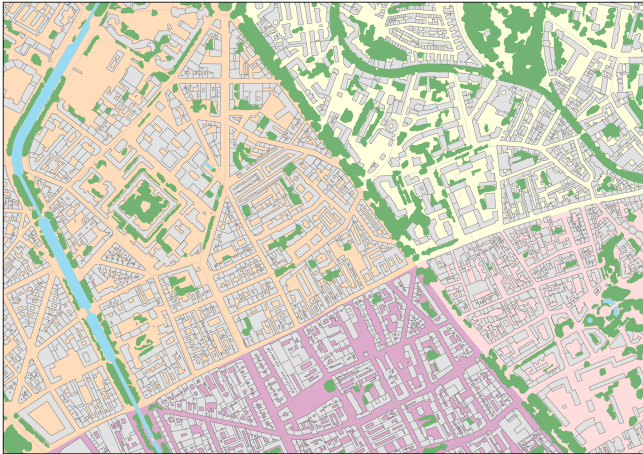
Paris 1



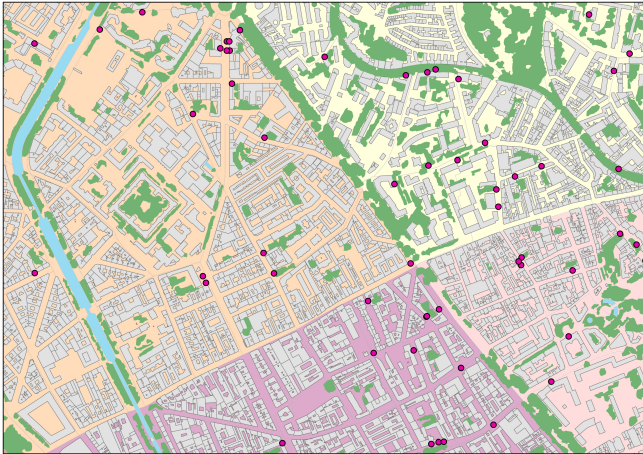
Paris 2



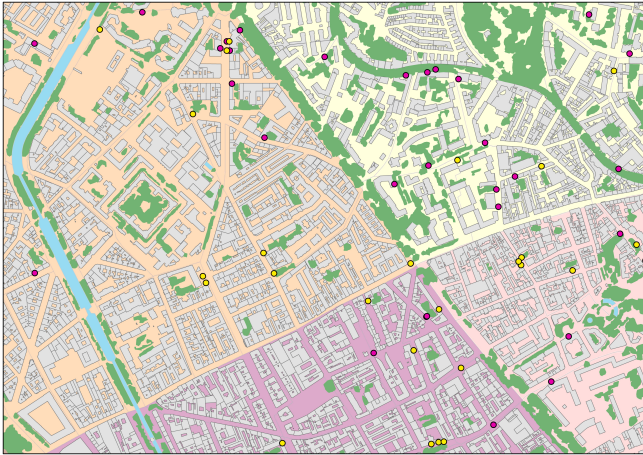
Paris 3



Paris 4



Paris 5



Conclusions

- 1 Availability of data allows to compute detailed measures of values and quality.
- 2 These need to fit an accurate segmentation of space and population.
- 3 They also need to fit subjective utility estimates.
- 4 However, the overall quality not necessary will result in an utility.