European typologies of urban systems

Erik Gløersen
The concept of polycentricity

**Normative definition**

"Polycentricity is about promoting balanced and multiscalar types of urban networks that are most beneficial from a social and economic point of view, both for the core areas and for the peripheries."
The concept of polycentricity

**Analytical definition**

A spatial organisation of cities characterised by

- a *functional division of labour*,
- *economic and institutional integration*,
- and *political cooperation*.
Core-periphery vs. polycentricity?

Core areas

- concentration of people and activity
- higher living standards
- relatively longer history of economic prosperity compared to neighbouring areas;
- concentration of local innovation *milieux*, and a general attractiveness for entrepreneurs;
- higher accessibility.
Core-periphery vs. polycentricity?

Core areas

• ‘places where things happen’

and

• ‘places where one gives orders’

How can “peripheries” be encouraged to act as “cores”? 

➡ Joint development strategies
The concept of polycentricity

“Blue Banana”

Brunet (1981)

“Bunch of grapes”

Kunzmann & Wegener (1991)
The concept of polycentricity
The concept of polycentricity
Polycentricity in the ESDP

- Macro level (Europe)
  - Promote several *global integration zones* in addition to the Pentagon

- Meso level (regional / inter-regional)
  - Integrate city-regions, enhance functional complementarity

- Micro level (intra-regional)
  - Improve economic performance through improved links and better co-operation
Polycentricity in the ESDP

Polycentricity at three levels

Macro
- European

Meso
- Trans-national / National

Micro
- Functional urban area
Empirical analysis of Polycentricity in Europe

- Initial building blocks: Functional Urban Areas (FUAs)
- Travel to Work Areas with more than 50,000 inhabitants or 0.5% of the national population
The building blocks:

1,595 functional urban areas (FUAs) in EU 27+2
Urban areas without rural ones?
Alternative approach: Isochrones

• Area accessible from FUA centre within 45 minutes

• Commuting *possible* within this area

• Neighbouring isochrones can overlap

• Statistics based on approximation to municipal boundaries
45-minute isochrones
Example 1: Oslo

- Smaller neighbouring cities can attract commuters from central parts of Oslo (e.g. Drammen).
- Traditional statistics based on Labour markets (left map) do not reflect these potentials.
- Polycentric integration scenario created by merging isochrones with 33% overlap → balanced system of 4 polycentric regions.
The Oslo region

45-minute isochrones

Labour market areas

Isochrone areas (overlaps in darker colours)
Potential polycentricity: the urban node perspective

Isochrone areas (overlaps in darker colours)

Polycentric integration areas (isolated isochrone areas in grey)
Example 2: Copenhagen

• Same polycentric integration scenario ➔ A unique polycentric region, which may act as a monocentric pole in a wider regional context.
Potential polycentricity: the urban node perspective

Isochrone areas (overlaps in darker colours)

Polycentric integration areas (isolated isochrone areas in grey)
Example 3: Stockholm

- Same polycentric integration scenario ➔
  Apparently very little potential for polycentric integration, nodes too distant from one another

- **But** only a question of perspective: which are the relevant nodes? The Stockholm Office of Regional Planning and Urban Transportation consider many nodes which did not qualify as FUAs
Potential polycentricity: the urban node perspective

Isochrone areas (overlaps in darker colours)

Polycentric integration areas (isolated isochrone areas in grey)
Base map: RTK report 1-2003
Horizons stratégiques urbains potentiels (PUSH) français et transfrontaliers


Poids démographique de la ville-centre de l’horizon stratégique urbain (population de l’aire urbaine):
- plus de 200 000 hab.
- 100 000 à 200 000 hab.
- 50 000 à 100 000 hab.
- moins de 50 000 hab.

Les couleurs plus sombres correspondent à des zones de recouvrement entre horizons stratégiques situés voisins.

Fond de carte: Eurostat GISCO Eurogeographics

Données:
- Institut de statistique des Pays de l’Union Européenne
- Base de données KUTS II ESPON
- Décodage PUSH-C: Carsten Schumann (NRIG)
Aires d'intégration polycentrique (PIA) françaises et transfrontalières

Le nom de ville indique le principal pôle de l'aire d'intégration polycentrique, en termes de population de l'aire urbaine.

Fonds de carte: Eurostat GISCO Eurogeographics

Données: Instituts statistiques nationaux
Base de données NUTS 8 ESPON
Délimitation PUSHS
Cartes Géoluxmann (RRC)
Identification PIA:
Erik Gieersen (Norregio)
Alexandre Dubois (Norregio)
Effect of polycentric integration across Europe: increased contrasts between core and peripheries.
Reassessment of FUA typology

• Main conclusion from isochrone analysis: polycentric integration cannot be based on size.
• Functional specialisation should be the main focus.
• To what extent can the FUA typology support this perspective?
A typology of FUAs, based on five functions

76 MEGAs
FUA typology

• Identification of MEGAs: Metropolitan European Growth Areas
• Scores (from 1 to 5) for 7 indicators
• Two indicators not taken into account after discussions with DG REGIO: administration and tourism.
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<th>Regional</th>
<th>Local</th>
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<td>Population</td>
<td>1 % E</td>
<td>1 000 000 + (up to 1% E)</td>
<td>250 000 – 999 999</td>
<td>50 000 – 249 999</td>
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<td>Industry</td>
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## Importance in the European urban network

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How can we assess the importance of this city?
Adding up very different indicators
Loss of information:
Functional specialisation
not differentiated from accumulation of mass
Principal Component Analysis:
K-means clustering
A typology of MEGAs
Continuous data: an alternative to FUA delimitation
Overlay with FUA centres
Conclusions – findings

• Polycentricity should build on functional specialisation;
• The quantitative methodology should be designed accordingly;
• Complex interaction between specialisation and rank – can European syntheses of these dynamics be used for policy applications?
Conclusions - methods

- Cities and towns can be analysed through their territorial context rather than through a hypothetical "functional boundary".
- Existing statistics reinforce and reproduce contrasts between primary and secondary nodes in each region.
- Using continuous data gives the best basis for evaluating the potentials of cities: main focus for ESPON?