EVOLVING SIZE CLASSES OF INDIAN TOWNS AND CITIES ACROSS THE 20TH CENTURY.

Joël Querci, Sébastien Oliveau, 2013.
Introduction

Urbanization rate in 2011: 31.2% (USA: 84%, China: 52.3%)

Three urbanisation phases:
• Indo-Aryan urbanization
• Mughal urbanization
• British urbanization
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- Indo-Aryan urbanization
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Interactions between the four biggest cities: national stability.
Introduction

Rank - size distribution of Indian towns and cities for the East classical subsystem, between 1901 (bottom) and 2001 (top).
Introduction

The complexity of the Indian urban system

- The urban networks shape the structure of the system.
- The own dynamic of cities influence their relation with others.
- The urban system act on the balance of the urban network.
- The urban network organizes the cities dynamics.

Scalar relation

- Local scale
- Regional scale
- National scale

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A need: redefine the Indian towns and cities classes

- Class VI (less than 5000 inhabitants)
- Class V (between 5000 and 9999)
- Class IV (between 10000 and 19999)
- Class III (between 20000 and 49999)
- Class II (between 50000 and 99999)
- Class I (more than 100000 inhabitants)

Indian town

- At least 5000 inhabitants
- A density of population of at least 400 persons per sq. km.
- At least 75 per cent of the male main working population engaged in non-agricultural pursuits.
From classical towns and cities classes to evolving and dynamic towns and cities classes

If $Y_3 - Y_4 > Y'_3 - Y'_4$ so we look if $Y_3 - Y_4$ represents more than 25% of the maximal gap that we can find in the distribution, between two successives towns.

Here, the chosen gap $(Y_3 - Y_4)$ corresponds to the maximal gap that we can find between two towns. He represents 100% of the maximal gap.

$$y = -0.99x + 4.587$$

$R^2 = 0.9951$

Source: Census of India, 2001 / Author: Jill Quand, 2011
From classical towns and cities classes to evolving and dynamic towns and cities classes
From classical towns and cities classes to evolving and dynamic towns and cities classes.

Typology of Indian towns and cities in 1961.

From classical towns and cities classes to evolving and dynamic towns and cities classes

Typology of Indian towns and cities in 1981.
From classical towns and cities classes to evolving and dynamic towns and cities classes.
The spatial repartition of the evolving and dynamic classes of towns and cities
Spatial influence of Indian towns and cities with more than 10,000, in 1901.

Typology of towns and cities in 1901:
- Red: Cities with national influence.
- Blue: Historical cities with regional influence.
- Green: Cities with regional influence of lower importance.
- Orange: Historical cities with regional influence of lower importance.
- Yellow: Towns with limited local influence.

Source: Census of India, 1901. Author: Joel Queyrel, 2013.
Spatial influence of Indian towns and cities with more than 10,000, in 1961.

Typology of towns and cities in 1961:
- Red: Cities with national influence.
- Green: Industrial and cultural cities with strong regional influence.
- Blue: Cities with strong regional influence.
- Yellow: Towns with limited local influence.

Source: Census of India, 1961. 
Author: Joel Querci, 2013.
Spatial influence of Indian towns and cities with more than 10,000, in 1981.

**Typology of towns and cities in 1981:**
- **Cities with national influence.**
- **Industrial cities with very strong regional influence.**
- **Industrial cities with strong regional influence.**
- **Cities with regional influence.**
- **Towns with limited local influence.**

**Source:** Census of India, 1981.
**Author:** Joel Querci, 2013.
Conclusion

The complexity of the Indian urban system in 1981.

Regional urban networks force the structure of the system.

Towns are located around regional metropolises structuring themselves in networks around metropolises with national influence.

Proper dynamics of towns influence their relations with other towns.

The urban system acts on the balance of the urban network.

The urban subsystems act on the organisation of the regional urban networks.

Urban networks organise towns and cities dynamics.

The urban system put in concurrence the largest cities.

Scalar relation.
- Relational interaction.
- Relational interaction involving at least at city with very strong regional influence.
- Relational interaction involving at least at city with national influence.

Local scale
Regional scale of secondary order.
Regional scale of first importance
National scale
Thanks for your attention...

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