The age of Metropolises

Metropolitan Management: Governance for Expansion

A New Scale

190910 Pedro B. Ortiz
1) **Phenomenon to address**
Explosive growth & economic power
<table>
<thead>
<tr>
<th>City</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roma</td>
<td>1m.</td>
</tr>
<tr>
<td>Beijing</td>
<td>700.000</td>
</tr>
<tr>
<td>Londres</td>
<td>600.000/1m.</td>
</tr>
</tbody>
</table>
Economies of scale
Agglomeration phenomena
# The United Metro/Nations

<table>
<thead>
<tr>
<th>Rank</th>
<th>City</th>
<th>GDP in US Billions</th>
<th>% of National GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>United States</td>
<td>15094</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>China</td>
<td>7298</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Japan</td>
<td>5869</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Germany</td>
<td>3569</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>France</td>
<td>2774</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Brazil</td>
<td>2476</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>United Kingdom</td>
<td>2416</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Italy</td>
<td>2198</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>India</td>
<td>1897</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Russia</td>
<td>1857</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Canada</td>
<td>1739</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Spain</td>
<td>1492</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Australia</td>
<td>1483</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Tokyo Japan</td>
<td>$1479 (25%)</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>New York USA</td>
<td>$1406 (10%)</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Mexico</td>
<td>1154</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>South Korea</td>
<td>1116</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Indonesia</td>
<td>846</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Netherlands</td>
<td>837</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Los Angeles USA</td>
<td>$792 (15%)</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Turkey</td>
<td>773</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Switzerland</td>
<td>637</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Saudi Arabia</td>
<td>576</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Chicago USA</td>
<td>$574 (18%)</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>London UK</td>
<td>$565 (23%)</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Paris France</td>
<td>$564 (20%)</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Sweden</td>
<td>537</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Poland</td>
<td>514</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Belgium</td>
<td>512</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Iran</td>
<td>499</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Norway</td>
<td>485</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Taiwan</td>
<td>467</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Argentina</td>
<td>446</td>
<td></td>
</tr>
</tbody>
</table>

Among the top 100, 45 metros

Information gathered by the author from several sources. Minor inconsistencies might be detected. [www.pedroborito.com](http://www.pedroborito.com)
Main Metropolis as % of National GDP

(... and political significance)

60% - Egypt, Philippines, Argentina...
30% - France, England, Spain...
5% - Germany, Italy, China, USA...

Unitary Decentralized
Federal
Metropolises are not aggregation of municipalities. They are an entity on their own.

Aggregative = Summation

Synthesis = Integral
TERRITORIAL GOVERNANCE

City Hierarchical/Orbital Governance
Citizens/Municipality Dialogue

Metropolitan Matrix Governance
Inter/administrative Dialogue

Source: www.PedroBOritz.com
TERRITORIAL GOVERNANCE

City Hierarchical/Orbital Governance
Citizens/Municipality Dialogue

Metropolitan Matrix Governance
Inter/administrative Dialogue

Bottom-Top Dialogue

Peer Dialogue

Regulatory Plan = Admon/Private

Strategic + Structural = Inter-administrative

Source: www.PedroBOritz.com
Alternative to Metro Matrix Mental Map?
Mosquito strategy planning approach:
Random extensive ‘blood’ extraction
2) How to manage it
Collective Intelligence
METROPOLITAN GOVERNANCE

Sub-systems
- Objectives
- Management

Institutional
- Governance
- Sustainability, Growth & Equity
  - Economic Efficiency vs Social Equity
  - Development vs. Environment
  - Dispersion vs. Concentration

Economic
- Economic Efficiency

Social
- Social Equity
- Redistribution
  - Collective Consumption
  - Accessibility to Opportunities

Built Environment
- Infrastructures
- Economic Investment

Physical Environment
- Sustainable Development

Source: www.PedroBOrtiz.com
20th C: Cheap Labor
21st C: Innovation
(temporary monopole)
National Government systems
- Unitary
- Federal
- Confederal
NATIONAL-STATES GOVERNANCE SYSTEMS

Confederal

- Sovereign unit/States

Unitary

- Centralized Ministries

Federal

- Sovereign Federal Union
  - States

Unitary Decentralized
Collective Intelligence
- Pixeled
- Gestalt
"Collective Intelligence is the capacity of a group to make the right decision in a reasonable span of time"
# Metropolitan Governance

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Round Table</td>
<td>Cognition</td>
</tr>
<tr>
<td>2</td>
<td>Parallel Projects</td>
<td>Coordination</td>
</tr>
<tr>
<td>3</td>
<td>Shared Project</td>
<td>Cooperation</td>
</tr>
<tr>
<td>4</td>
<td>Management Agency</td>
<td>Join (not merge)</td>
</tr>
</tbody>
</table>

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<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Management Institution</td>
<td>Sectorial</td>
</tr>
<tr>
<td>6</td>
<td>Metropolitan Government</td>
<td>Federal</td>
</tr>
</tbody>
</table>

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<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Delegated Unitary</td>
<td>Decentralized</td>
</tr>
<tr>
<td>8</td>
<td>Unitary</td>
<td>Centralized</td>
</tr>
</tbody>
</table>

www.pedrohortiz.com
‘Doing their own thing’
Disjointed Incrementalism
Collective Intelligence
- ID: Consumption
- Superego: Investment

Budget
Sectors (continuous and disc.)
Scales
Orbital v. Reticular
"A Metropolis is a set of urban units that share significant daily commuting"
<table>
<thead>
<tr>
<th>Scale</th>
<th>Discipline</th>
<th>Knowledge areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: 50,000,000</td>
<td>Geopolitics</td>
<td>UN. NATO. US. EU. IMF, OPEP,</td>
</tr>
<tr>
<td>1: 5,000,000</td>
<td>‘Regional’ (Continental) Politics</td>
<td>UN. OAS. WB. BID. ADB. AFDB.</td>
</tr>
<tr>
<td>1: 500,000</td>
<td>National Development</td>
<td>Politics, Economics, Sociology, Environment, Geography</td>
</tr>
<tr>
<td>1: 50,000</td>
<td>Metropolitan Planning</td>
<td>Economics, Sociology, Infrastructure, Environment, Utilities</td>
</tr>
<tr>
<td>1: 5,000</td>
<td>Urban Planning</td>
<td>Housing, Industrial, Services, Commerce, Transport, Environment</td>
</tr>
<tr>
<td>1: 500</td>
<td>Urban Design</td>
<td>Space, Volume, Semiotics, Engineering,</td>
</tr>
<tr>
<td>1: 50</td>
<td>Architecture</td>
<td>Light, Space, Texture, Materials, Structure, Installations, Budget</td>
</tr>
</tbody>
</table>
Metro-Matrix 1996

Polycentric Structure

Source: www.pedrohortiz.com
The Metropolitan Digit: The Urban Fabric Unit
The Metropolitan stem cell: The municipal **Balanced Urban Development (BUD)**
Economies of Scale Dilemma

Economic Efficiency v. Social Equity

Efficiency = Concentration

Dispersion = Redistribution
Two Systems

Radial - Orbital Features
- Market controlled by Supply
- Speculation
- Cost of land
- Congestion
- Unstable traffic equilibrium

- Centrality inaccessible to lower incomes
- Centrality = power: Centralized power

Reticular – Grid Features
- Market controlled by Demand
- Competition in cost of land
- Trip Alternatives
- Stable equilibrium traffic

- Multiple centralities
- Distribution of power: Peoples empowerment
King: Essential piece; game objective. Limited movement but determines all the strategy.

Queen: The most strategic piece. The one that articulates and supports the essential strategy of the game.


Knight: Territorial piece, articulates an area around it. Does organize and provides backing for secondary pieces.

Rook: Edge piece, controls the borders of the game. Develops long range strategies on the sides.

Metropolitan Conceptual Analysis
From empirical description to structural conceptualization

Conurbación: Urban Sprawl

Perceptive San Salvador

Conceptual San Salvador
1) Ampliación Aeropuerto
HUB: Asia Sur y Asia Pacífico

2) Tren Acajutla – San José: 120 km
Exportación Industrial México y USA

3) Centralidad 5º Centenario

4) Tren Cercanías Cojutepeque - Quetzaltepeque
Futuro: Santa Ana-San Vicente

5) LRT 5to Centenario – Sta. Tecla.
En el futuro Metro y Cercanías 5to. C.-Lourdes

6) Centralidad/Patrimonio Verde: Lago de Ilopango

7) a) Conexión Ilopango – Santo Tomas
b) Conexión Apopa - Tonacatepeque

8) Urban Rural Linkages, Altiplano edafológico

9) Centralidad Puerta Norte Apopa
Relocalización Logística y Productiva

10) Centralidad Este Soyapango - Ilopango
Aeropuerto Mercancías
Producción Alto Valor Añadido

11) Centralidad Productiva Sitio del Niño

12) Conexión San Martín – Mejicanos y
Tonacatepeque - Ayutuxtepeque
Metro Mental Maps
Let’s be intelligent rather than ‘smart’

Thank You