

“Conceptualisations and Representations of Milan Urban Area”

Matteo Del Fabbro*

© by the author

(*) Gran Sasso Science Institute, viale Crispi 7, 67100 L'Aquila, ITALY.
matteo.delfabbro@gssi.infn.it

Paper presented at the RC21 International Conference on “The Ideal City: between myth and reality. Representations, policies, contradictions and challenges for tomorrow's urban life” Urbino (Italy) 27-29 August 2015. <http://www.rc21.org/en/conferences/urbino2015/>

MATTEO DEL FABBRO, GSSI

Conceptualisations and Representations of Milan Urban Area

The institution of metropolitan authorities in Italy (Città metropolitane) raises, once again, the question of identifying the “urban entities” that have been developing for fifty years now. Beginning with literature review of the last three decades, the paper then goes on to present five different representations of Milan urban area and ascribes them to two distinct scientific paradigms: “functional”, based on the measurement of interdependence between places, and “spatial”, based on the analysis of urban morphology. The comparison among these representations demonstrates that some

urban agglomerations outside the core area are recognised by both paradigms, and that provincial (NUTS-3) administrative borders do not match with any of the analytical territorial interpretations. Finally, I try to corroborate the hypothesis that the different approaches are reducible to a single theoretical framework.

Keywords: metropolitan area, urban region, urban system, city de facto, urban network, Milan, Città metropolitane

1. INTRODUCTION

On 1 January 2015, in accordance with the Law 56/2014, nine metropolitan authorities (*Città metropolitane*) in Italy replaced their respective Provinces with regard to political and administrative functions¹. From the outset (Law 142/1990), the rationale of this new institution has been the need to *adapt* administrative structures to the territorial dynamics that, since the “Italian miracle” (Crainz, 1996), have been considerably transforming the conventional image of city and its relationship with the countryside. Italian cities have been growing over the decades, not only physically, but also relationally and functionally, in that previously dis-connected geographical areas have progressively become parts of an integrated urban system (Calafati, 2009).

The institution of metropolitan authorities brings the focus back on the divergence between administrative and socio-economic local structures in Italy, and thus on the need to *identify* emergent territorial phenomena. Indeed, if one acknowledges the need to adapt to something, one should also understand to what. The academic community has devoted a growing attention to the comprehension and analysis of the unprecedented territorial morphologies triggered by economic development, both with general contributions (Indovina, 1990; Fuà, 1991; Clementi, Dematteis & Palermo, 1996; Dematteis & Bonaverò, 1997; Munarin & Tosi, 2001; Calafati & Mazzoni, 2008) and with geographically delimited studies (as far as Milan case is concerned: Boeri, Lanzani & Marini, 1993; Palermo, 1997g; Balducci, Fedeli & Pasqui, 2008). However, it can be stated that a shared identification of these new “urban entities” has not been made, neither within the scientific community, nor in public discourse.

This paper addresses the methods of identification and interpretation of contemporary urban and territorial phenomena. I concentrate on a specific case because the enquiry into the new “urban entities” clearly has applied implications. In particular, I will illustrate the case of Milan – one of the widest and most complex urban systems in Europe. My aim is to contribute to a more open debate between the different theoretical and disciplinary approaches that characterise Italian scientific discourse in the last few decades. Opening a discussion on the new “urban entities” – along with the formation of metropolitan authorities – is a challenging opportunity for the scientific community, as well a growing need for Italy.

This paper illustrates some relevant interpretations of Milan urban area's territorial structure, having recourse to cartographic images. Section 2 presents the two main scientific paradigms that have characterised regional science and urban planning in Italy in the last three decades. All the studies devoted to Milan urban area can be ascribed to one of these two paradigms. The territorial entities identified by these studies are presented in Section 3. The varying size, shape

¹ Bari, Bologna, Firenze, Genova, Milano, Napoli, Roma, Torino, Venezia. In addition to these, Reggio Calabria (delayed because of the temporary lack of elected local government), Cagliari, Catania, Messina, Palermo and Trieste (whose institution is in charge of semi-autonomous Regional governments) must be counted, totalising thus 15 *Città metropolitane*.

and features of these entities express both different underlying conceptual bases and different ways to apply the same conceptual bases. This is followed by an analytical comparison (§ 4) between the different interpretations of the territorial structure, which (i) highlights a partial convergence between the findings of opposed paradigms and (ii) argues for the inadequacy of the provincial (NUTS-3) borders as jurisdiction area of the new metropolitan authority (*Città metropolitana di Milano*). I will then discuss (§ 5) the main strengths and weaknesses of the two scientific paradigms – as they have been stated in literature – and I will try to analyse the hypothesis that, notwithstanding the dichotomy, a single theoretical framework can include both the “functional” and the “spatial” paradigm. of them. Section 6 concludes the paper, summarising the main findings.

2. CONCEPTUALISING THE CITY: TWO PARADIGMS

Two very different ways of interpreting urban phenomena have been developing in Italy over the past three decades – along with inputs from international literature. The first one consists of attempts to “regionalise” Italian territory and is based on the concept of Functional Urban Region (FUR). This scientific paradigm – called “functional” – adopted the term “metropolitan area” (BBSR, 2011; OECD, 2012) and, in order to analyse urban areas, starts from a general definition and proceeds to empirically identify territorial entities that can be defined as “urban”. This approach prefers a quantitative methodology. The second paradigm – called “spatial” – introduced the term “urban region” and stressed on the varying social, economic, and morphological features characterising contemporary urban areas (Soja, 2000). This territorial interpretation starts, on the contrary, from localised observations and moves up to identifying relatively homogenous settlements. This approach favours a qualitative methodology. Research related to the functional paradigm has been carried out mainly by geographers and economists, while the one related to the spatial paradigm has been developed mostly by urban planners; with some limited but significant exceptions.

The starting-point of the functional paradigm can be traced back to studies carried out in the 1960s. The US Census Bureau uses a demographic threshold to determine potential cores of metropolitan areas nationwide; density of non-agricultural employment to determine which areas can be regarded as “metropolitan”; and commuting thresholds to include neighbouring counties to the core. The first two criteria – population size and employment density – can be defined as “homogeneity” criteria which express “attributive” features, in that they refer to single localities. The third criterion – commuting patterns – can be defined as an “interdependence” criterion which expresses a “constitutive” feature, in that it refers to interrelations between components of the system (Sforzi, 1990; Ercole & Martinotti, 1994).

British research, led among others by Peter Hall (Hall & Hay, 1980), attribute greater importance to constitutive features, which from a theoretical point of view means that the research object is no longer conceived as “the core city’s area of influence” but as “a system of interrelated localities”. These analyses identify the core city through an employment threshold and adjacent localities are aggregated according to commuting patterns. The urban system so identified, broadly corresponding to the extension of the labour market, is defined as Daily Urban System (DUS), the area in which an individual’s daily activities are concentrated.

Notwithstanding the variety of criteria and operational steps, both the methodologies summarised above refer to the same definition of the city, conceptualised as a “relatively self-contained complex of integrated localities, characterised by an economic base dominated by the tertiary sector and a social base dominated by the middle classes” (Martellato & Sforzi, 1990: 17)². Self-containment has different meanings according to the variables taken into account: in the case of “attributive variables”, it indicates a given level of a socio-demographic feature (e.g. the percentage of non-agricultural employment) within a certain area; in the case of “constitutive variables”, it indicates that a given percentage of exchanges between localities (e.g. daily commuting) occur within a certain area.

Significantly, in the same years that the functional paradigm peaked in Italy, alternative approaches to the urban phenomenon, sometimes explicitly contesting that approach, were being put forward. Two main sources can be identified to trace back these new approaches: on the one hand, the theoretical stance that conceived the city as a “network” rather than as an “area”; on the other hand, the methodological practice to start from the observation and description of actual urban forms rather than from a general and abstract definition. This research line was first applied to Milan as early as 1987, in two monographic issues of the magazine *Urbanistica*, collecting contributions by renowned architecture professors and professionals. The opening text stated that the peculiar gaze of architects and urban planners allowed to “read into what is not visible beyond the urban form” (Boeri, 1987: 46). Indeed, the research subject was not conceived as the urban morphology per se, but as the relationship between urban forms and “social demands, their potential expression and their political recognition” (Secchi, 1988: 93). The physical urbanised surface was thus analysed seeking for traces and evidence of social and economic actors (Boeri et al., 1993). The interpretation of urbanisation as functional areas was taken over by that of “settlement” (*ambienti insediativi*), defined as “a complex of settlement principles and social processes that evolves in time and space, maintaining some peculiar features” (Palermo, 1997a: 14).

² The translation from Italian into English of this quotation, as well as of all the quotations from researches originally published in Italian, is provided by the author.

3. REPRESENTATIONS OF MILAN URBAN AREA

The images presented in this section embody different interpretations of the urbanisation process in the region of Milan. They operationalise the different approaches illustrated in the previous section. It must be noted that, even within the same scientific paradigm, interpretations of empirical reality can vary: the assumptions of both the functional paradigm (§ 3.1 and 3.2) and the spatial paradigm (§ 3.3 and 3.4) lead to different representations. The present review also reveals the importance of terms, as different interpretations of reality pick up different spatial categories – “metropolitan area”, “urban system”, “network of cities”, “urban region” – whose meanings are therefore not interchangeable.

3.1 “Milan” as a metropolitan area

Among Italian researches that can be ascribed to the functional paradigm, the oldest one was carried out by Svimez (Association for the Development of Manufacture in Southern Italy), written by Cafiero & Busca (1970) and updated by Cafiero & Cecchini (1990), in which a similar procedure to the one used by US Census Bureau is applied to Italian territory. These analyses identify Milan metropolitan area as a vast region including 670 municipalities, including 7 “urban poles”: Brescia, Pavia, Varese, Como, Lecco, Bergamo and Novara. The resident population as of 1987 exceeded 7 million people, spread over more than 6,500 km² (2,500 mi²), with an average density slightly higher than 1000 inhabitants/km² (386 inhabitants/mi²). This representation aims to provide an image of a single regional economic space, divided into different poles among which Milan – the dominating one – contains about one fifth of the resident population and one fourth of non agricultural jobs.

The research led by Bartaletti (2009) may be regarded as an updated version of Svimez's analysis: even though the procedure is not exactly the same, this research is equally based on attributive features and takes US Standard Metropolitan Areas (SMAs) as a reference (Image 1). The procedure is based on the number of non agricultural jobs, both to identify core cities and to state the “metropolitan nature” of an urban agglomeration. In the first case, a given locality must have more jobs in qualified sectors (manufacture, trade, transportation, finance and banking, services to enterprises, education, health, research & development) than the national average for a population of 80,000; in the second case, this number must be higher than the national average for a population of 240,000. Following this, three main criteria are applied to aggregate municipalities to the core city: (a) increase in population (equal to or higher than 20% in a post-war inter-census decade³, or equal to at least 5,000 inhabitants in two inter-census decades, or equal to at least 60% in a forty-year period); (b) population density (at least 500 inhab./km² (193 inhab./mi²), or 375 inhab./km² (145 inhab./mi²) if coupled with a increase in

3 The official census takes place every 10 years in Italy.

population by 15% in one inter-census decade); (c) built-up continuity (if explicitly mentioned in the official Census)⁴. Commuting patterns are considered only as an additional criterion. The definition of the city cited above (§ 2, by Martellato & Sforzi) is also fulfilled by this procedure, since the selected criteria are regarded as proxies of “interaction” between localities.

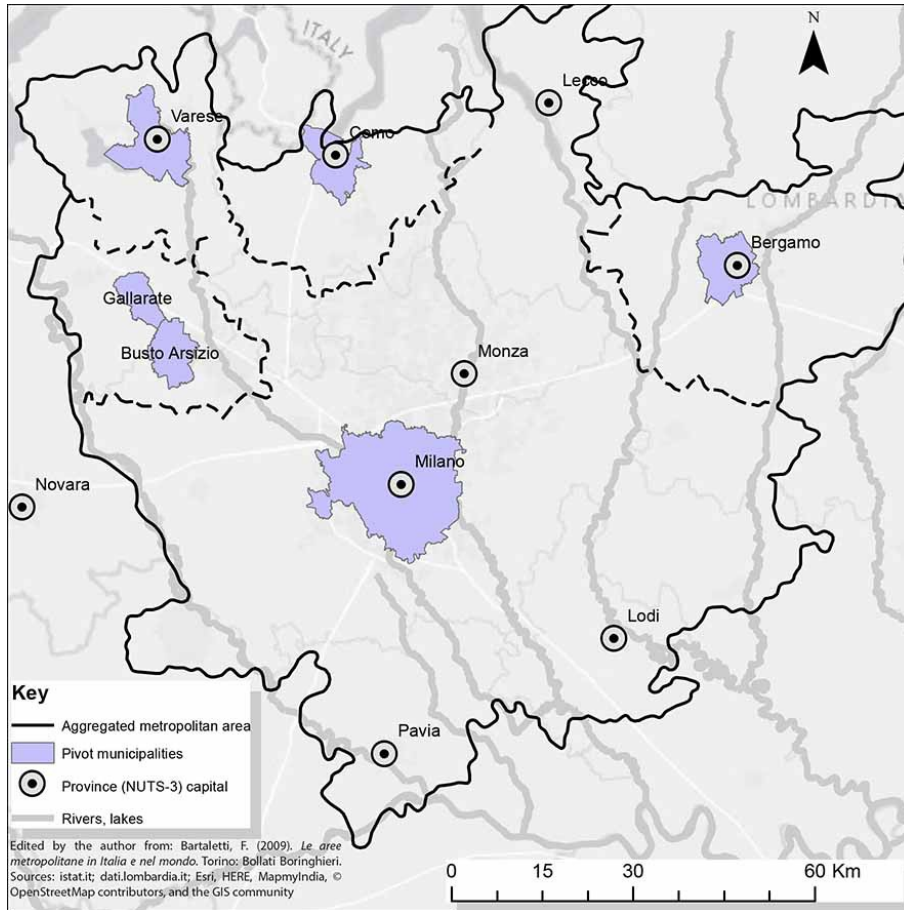


Image 1 – Milano-Bergamo-Varese “aggregated metropolitan area”

Thirty-three metropolitan areas are so identified nationwide, some of which, being adjacent to one another, are merged into “aggregated metropolitan areas”. This is the case of Milan, whose “simple” metropolitan area includes 4.9 million inhabitants as of 2006, whereas the “aggregated” metropolitan area of Milan-Bergamo-Varese covers most of western Lombardy, stretching from Prealps to Po river and from Lake Maggiore to Iseo Lake.

⁴ Built-up continuity is another attributive feature, but which is “morphological” (Ercole & Martinotti, 1994).

3.2 “Milan” as an urban system

The representation of Local Labour Systems (LLS) updated periodically by Istat, the national institute of statistics (1986; 1994, 2005)⁵, uses commuting patterns as the main criterion for regionalisation and subdivides Italian territory into daily urban systems (Image 2).

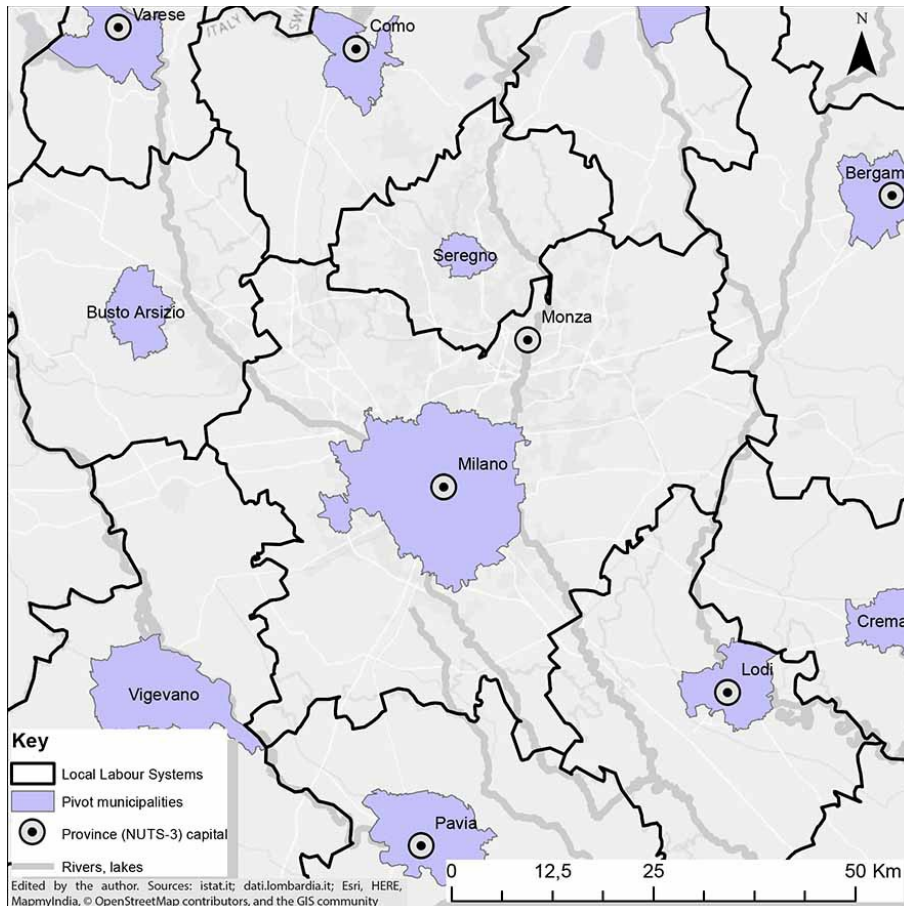


Image 2 – Local Labour Systems in Milan area

Unlike the other images illustrated in this section, Istat's image has, at least partially, institutional aims that the DUS regionalisation meets particularly well, due to the fact that it allows to cover the national territory entirely. Moreover, the methodological premises of this approach are such that the territorial units identified are relatively small and not necessarily “urban”. For these reasons, the authors of the Istat procedure (Sforzi, 1990) had elaborated a procedure to identify “second-tier labour systems” – named Functional Labour Regions (*Regioni Funzionali del Lavoro, RFL*) – and also to identify Italian *urban* systems as particular kinds of labour systems, namely those dominated by the tertiary sector and middle-classes.

⁵ During the elaboration of this paper, a new version of LLS, based on 2011 census data, has been published by Istat.

However, RFL were not identified in the successive updates, thus making LLS useful only at the *local* scale of the urban phenomenon (see *infra*).

Working on the same database, but obtaining different outcomes, G. Boatti (2008) selects core cities according to the positive difference between jobs and active population of a given locality, and defines its urban system according to the intensity of commuting patterns (Image 3). This procedure is also coherent with the general definition provided by Martellato & Sforzi (§ 2). The author aims at defining functionally homogeneous areas that could potentially be turned into jurisdiction areas of new governance structures (G. Boatti, 2008: 11).

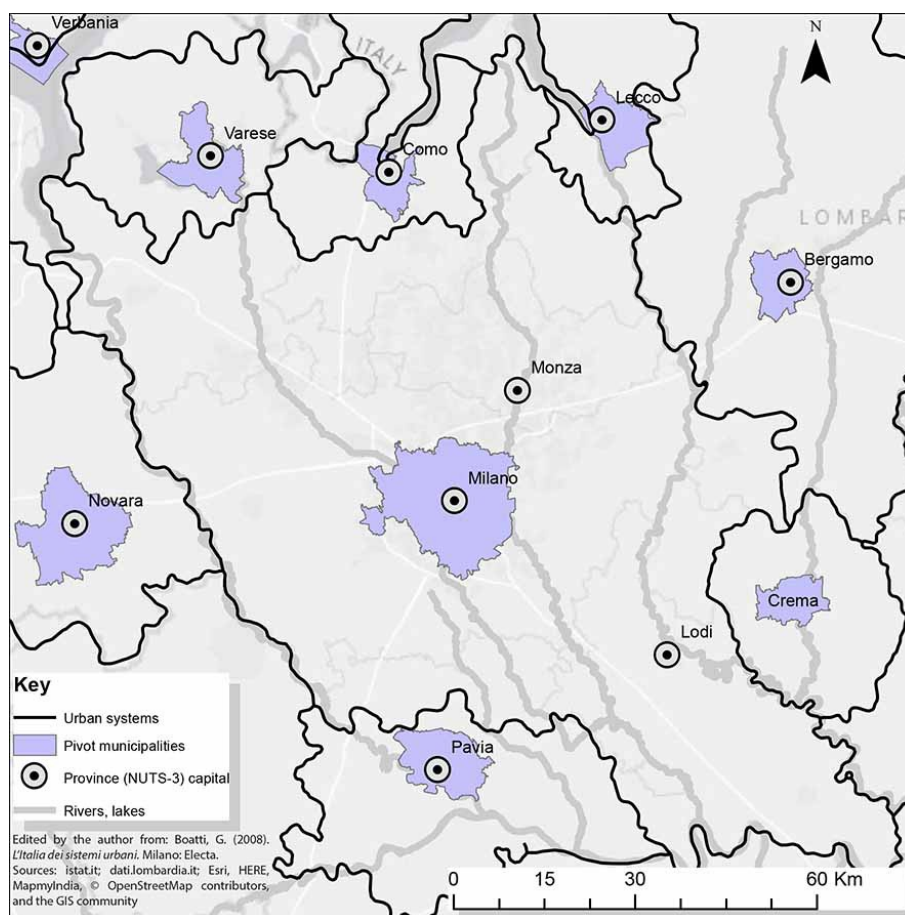


Image 3 – Milan urban system

Such an aim leads to a conceptualisation of urban systems half-way between “system of interconnected localities” and “core city’s area of influence” (ibid.: 14-19). The intention to propose new perimeters of government is also mirrored in the regionalisation algorithm, that – conversely to that of Istat – tends to highlight the main polarisation centres and to overlook minor territorial connections. In the case of Milan, this leads to defining a much wider territorial system (if compared to Milan LLS by Istat) and not recognising the territorial systems developed around smaller towns (Busto Arsizio, Seregno, Vigevano). The urban system so identified

includes two neighbouring Provinces (Lodi and Monza), that gained autonomy from Milan Province in 1992 and 2009 respectively, and incorporates territories from other neighbouring Provinces. According to the author, some neighbouring urban systems (Pavia, Crema, Como and Varese) represent “[functionally] autonomous poles, that nevertheless maintain a strong connection with the regional capital”, whereas other adjacent urban systems (Bergamo and Brescia) turn out to be “functionally discontinuous”, despite the “built-up continuity” (ibid.: 27).

3.3 “Milan” as a network of towns

As shown above, images derived from the functional paradigm represent urban areas as fundamentally *monocentric* systems (in some cases with polycentrism strongly dominated by one centre). On the contrary, the following images, illustrating the conceptualisations of the spatial paradigm, point at the *fragmentation* of Milan urban area – both in the network and “settlement” version.

The conception of territory as a network highlights how technological progress and growing interconnection among localities have made local markets more open to global economic actors, as trading costs sharply declined. Consequently, this conception conceives cities as interconnected nodes of a network in which relations between localities become less hierarchical and more complementary. The key point of this conception is that every node must have specialised functions, in order to be able to compete for the provision of services or products to the system (Dematteis, 1990; Camagni & Gibelli, 1992).

Actual images of urban areas based on such a conception are quite rare, however in the case of Milan we can refer to the one drawn up by Moretti (1991, 1999). Starting from the perspective of transport studies, she introduced an image of Milan urban area with the main road, railway system and 27 nodes. The nodes were selected using several transport plans at the urban and regional scale to evaluate the potential of route and railway junctions to be upgraded, so as to become leading centres of the whole network. Much more than simple infrastructural exchange centres, through reciprocal complementarity, these nodes are supposed to become new centralities at the regional/metropolitan scale: “together they make up the network of cities, a borderless network, which breaks up Milan [the core city] and unifies its territory” (Moretti, 1991: 25). In accordance with this view, new transversal connections, bypassing the core city, were proposed (Image 4).

Morandi & Pucci (2005) share the image of Milan urban area as a polycentric system with increasing transversal connections, contrasting with the traditional radio-centric structure of Milan. They present two cases – the municipalities of Seregno and Cinisello Balsamo – in which “new urban centralities”, i.e. new nodes of the network, are being implemented. In the case of Seregno, an important railway junction was being transformed into a complex and accessible

urban space, in the geographical centre of Brianza⁶ (a similar planning approach in the case of the sprawled city in Veneto is put forward by Fabian, 2014). In the case of Cinisello Balsamo regeneration projects in deprived neighbourhoods and the establishment of metropolitan functions contributed to upgrading urban quality in the peripheral zones of the Milan conurbation.

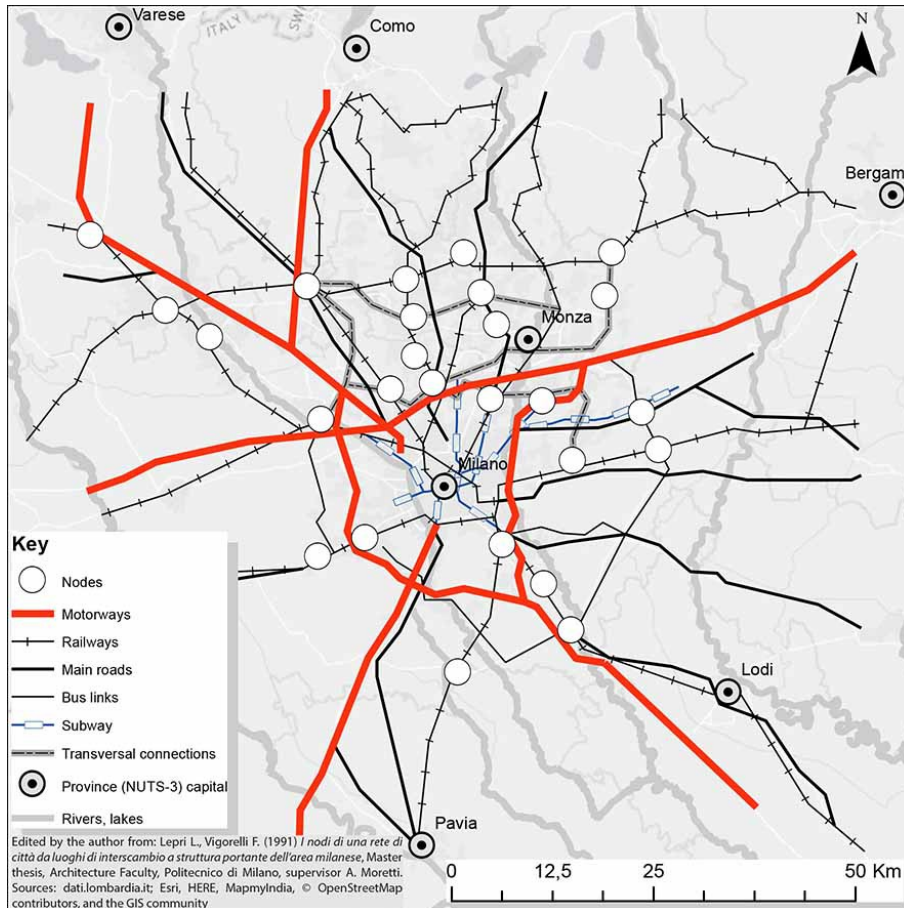


Image 4 – The nodes' hierarchy

3.4 “Milan” as an urban region

Other representations begin with the analysis of urban morphology and articulate the concept of “settlement” (*ambiente insediativo*). In these representations, localities are grouped in relatively homogeneous geographical settings with regard to morphological and socio-economic features. Therefore, territorial subdivisions are indirectly generated, even though they are conceived as entities with fuzzy boundaries and varying shapes. This is possible due to the methodological stance rejecting quantitative techniques in favour of qualitative descriptions and “evidence-based” interpretations.

⁶ Brianza is a hilly area stretching between the city of Milan and the Lakes.

The first among these representations, chronologically speaking, is the one by Boeri et al. (1993). Through the analysis of satellite images, they highlight the existence of three different urban settlement typologies: one is defined simply “urban” and corresponds to dense urbanisation patterns; the other two are called “networked urbanisation” and “low density urbanisation” respectively. Each of these three urbanisation typologies forms “the physical substratum of multiple systems for social interaction” (ibid.: 24n).

The “urban” environment is identified in three different geographical settings: Milan conurbation, southern Brianza (North of Milan), and Olona linear conurbation, centred on the towns of Gallarate, Busto Arsizio and Legnano (north-west of Milan). The Brianza and Olona settlements are “comparable in terms of built-up density and size to the urban area [centred on] Milan” but at the same time they constitute two examples of a “different type of city, radically new in comparison with the traditional image of the city” (ibid.: 24, 28). Such an originality derives from three main features: polycentrism; the influence of car mobility on urban morphology; and the presence of relatively low density areas within these settlements. Incidentally, the Milan conurbation also undergoes transformations of its traditional image. On the one hand, some “hyper-central” areas are concerned with the opening and consolidation of economic activities and social *milieu* more strongly linked with global networks than with regional context; on the other hand, first- and second-ring outskirts stand as a partial variation of the traditional radio-centric structure of Milan.

The “networked urbanisation” typology is found in three other geographical settings, respectively centred on the towns of Saronno (north of Milan), Vimercate (north-east) and Magenta (west of Milan). In these three areas, the minor centres and villages have not merged and the old infrastructural networks (roads, canals, railways, etc.) are still visible. Yet, these settlements undergo punctual spatial transformations, both residential and productive, that modify the historical territorial fabric.

Finally, two other geographical areas are defined as “low density” settlements: the foothills (in the northern part of the urban region) and the fertile plain (in the southern part). Even though these areas strongly diverge with regard to both landscape and socio-economic features, they are associated by the fact that peculiar natural elements have contained the urbanisation process. Also, these two areas occupy an intermediate position between “the large central 'cities' (Milan, Olona conurbation, Brianza conurbation) and the network of provincial cities in the plain (Vigevano, Pavia, Lodi) and the foothills (Varese, Como, Lecco)” (ibid.: 37).

The *Itaten* national research programme (Clementi et al., 1996) adopted this territorial interpretation, making minor changes. This was in turn adopted by Palermo (1997a) for a monographic analysis of “Milan Urban Region” (Image 5). Every “settlement” was studied from three points of view: patterns of recent urban development, socio-economic features, and commuting patterns; in order to “shed light on the multiple settlement patterns and social processes that make up and enable the interpretation of a 'plural territory'” (ibid.: 13-14).

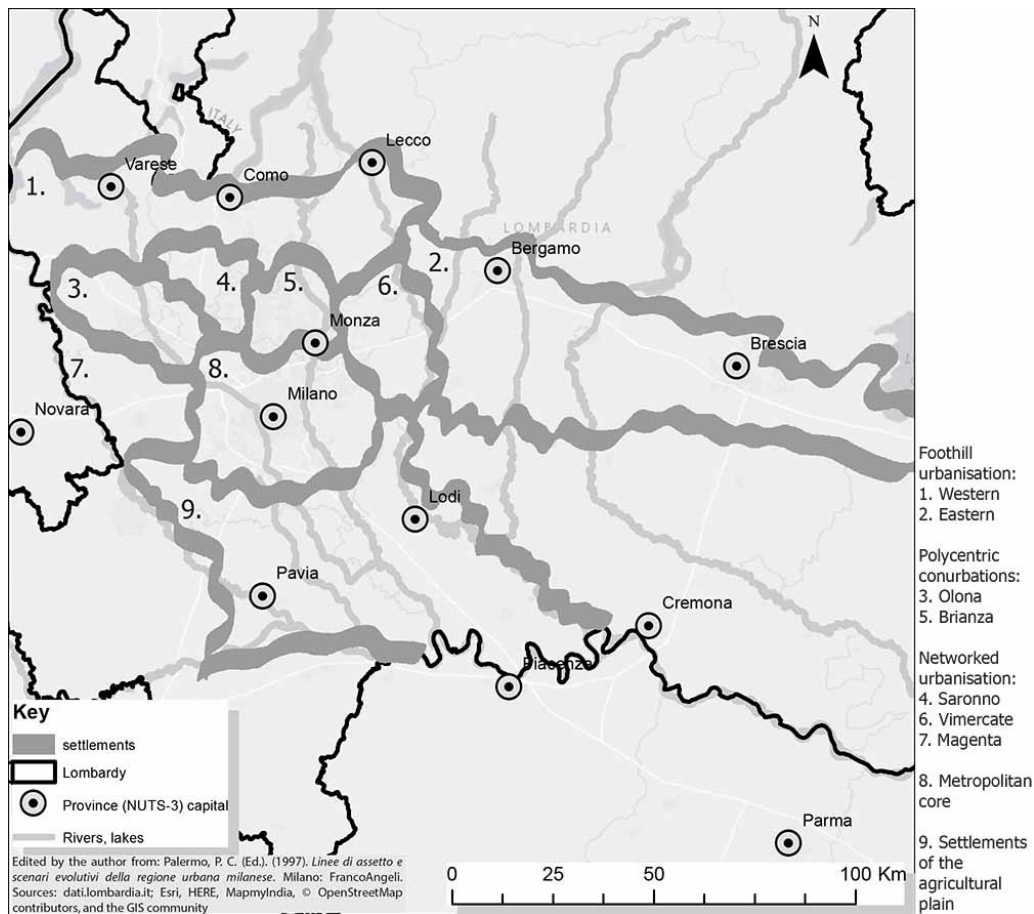


Image 5 – Milan Urban Region and its “settlements” (*ambienti insediativi*)

In this way, the author singles out three macro-areas that display common features and constitute potential geographical settings for relatively homogeneous territorial policies. The first one is the “foothill territory”, from Varese to Bergamo and beyond, that is characterised by a solid economic structure, a more fragile social structure – due to the lack of strategic capacities – and by a scarcity of territorial resources for new developments. The second one is the “peri-urban strip” – made up of the urbanised areas north of Milan – whose role within the urban region can vary: “mere outskirts of the metropolitan core, corridor for long-distance links, or new urban scaffolding for the urban region” (*ibid.*: 24). And finally South Milan, with a less clear identity, but with a “stock” of free space for the urban region. As one can notice, this piece of research lacks the analysis of the urban region's central area, that is the Milan conurbation; this is claimed by the author as an explicit stand against previous studies, that would have paid too little attention to the areas outside the main city.

The monographic issue of the journal *Territorio* entitled “New images of Milan's territory”, published in 1999, can be regarded as a turning-point for the scientific debate taken up by the spatial paradigm, concerning the case of Milan. As it has been stated, “the weakness of the

territorial paradigm⁷ was that it stopped evolving theoretically” (Calafati, 2009: 125) and reading the papers in that issue seems to confirm this statement. However, different research strategies were followed successively: from a solid and articulated systematisation of the theoretical and methodological insights previously elaborated (Lanzani, 2005); to a more pragmatic approach, less focused on outlining an image of Milan urban area and more eager to set a frame for policy design (Balducci, 2004).

The last contribution that I will illustrate is one composed by a research group from Politecnico di Milano (The Polytechnic University of Milan), who worked for the Provincial government that was in charge from 2004 to 2009. This territorial representation can be considered as the conclusion of an academic line of thought, as it embraces the ways of conceptualising territory put forward by the spatial paradigm and introduces them in a framework of policy design.

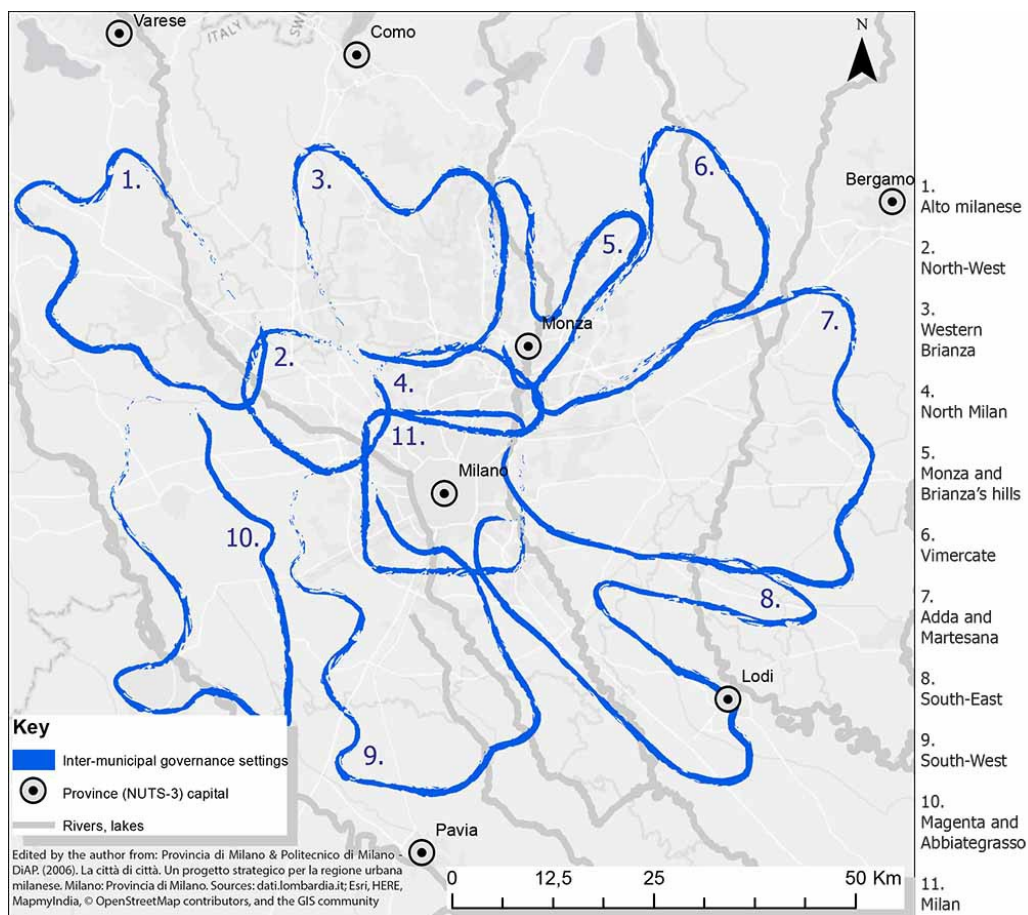


Image 6 – “City of cities” strategic project

⁷ The definition of “territorial paradigm” is slightly different from that of “spatial paradigm”, in that it integrates the hypothesis that a self-organising capacity in economic development and local governance is associated with a networked territorial structure.

Two main criteria to interpret Milan urban area are thus applied, one based on urban morphology and another based on the existing inter-municipal cooperation schemes: “associations of Municipalities, stable coordination arrangements ... strategic planning projects, creation of *ad hoc* agencies” (Provincia di Milano & Politecnico di Milano - DiAP, 2006: 84). Such an understanding of the territory can be associated with the experience of the Provincial Territorial Plan (*Piano Territoriale di Coordinamento Provinciale, Ptcp*) approved in 2003. For the elaboration of this plan, 12 supra-municipal units were defined, characterised by “a strong cohesion of territorial goals and local projects” (Morandi & Pucci, 2005: 184). In this way, the typical fuzziness brought about by the concept of “settlement” was revised on the basis of political-institutional criteria (Image 6).

The authors remind that the Milan urban region stretches well beyond the boundaries of the Province of Milan, involving ten Provinces: Milano, Monza, Lodi, Piacenza, Pavia, Novara, Varese, Lecco, Como, and Bergamo (cfr. Balducci, 2005). However, the image offered, composed of 11 subdivisions, is limited to the Province of Milan. These subdivisions correspond only partially to the “settlements” singled out by the spatial paradigm, being shaped rather by the existing administrative boundaries, especially those of the Province of Milan, the Municipality of Milan, and the Province of Monza (which at the time was about to start functioning). The overall image is that of a “city of cities”⁸, intended as a “combination of urban settlements, provided with their own centralities and urbanisation patterns, and yet interconnected” (Provincia di Milano & Politecnico di Milano - DiAP, 2006: 15).

4. TO WHAT DOES “MILAN” CORRESPOND TODAY?

In this section I will carry out a comparative analysis of the different representations of “Milan”. It seems appropriate to hold back from any attempt to outline a synthetic image starting from those presented above. Each of them is consistent with its own principles and it would be unfruitful to try to bind them to an artificial unitary vision. What seems to be more worthwhile, is rather a reasoned comparison among them (§ 4.1) and a comparison between these scientific proposals and the legislator's one – which assumes the extent of the new metropolitan authority to coincide with the former Province of Milan (§ 4.2).

4.1 Comparing representations of Milan urban area

From a qualitative point of view, by comparing the territorial entities singled out by the Istat and the planners' approach, one finds a partially unexpected evidence: the two “new urban entities” singled out by the planners are also outlined by the functional approach used by Istat.

8 This expression had already been used by Nel-lo i Colom (2001).

The Local Labour Systems of Seregno and Busto Arsizio overlap the “polycentric conurbations” of Brianza and Olona respectively (see Image 8); yet their perimeters do not exactly coincide, especially for the city of Monza, which is “merged” by Istat methodology – as well as by *all* functional methods – into the Milan urban system, unlike the spatial paradigm's approaches. Moreover, Istat's methodology does not recognise the settlements of “networked urbanisation” and splits them in different Local Labour Systems. One must also notice that Milan's Local Labour System is wider than the “metropolitan core” (see Image 5), because the former extends both on the actual conurbation and on other localities functionally linked to Milan but without a built-up continuity.

From a quantitative point view, the analysis of basic indicators such as resident population and population density draws a comparison among the various proposals for the identification of urban phenomena. Indeed, different criteria and different thresholds lead to different spatial definitions of the city (Parr, 2007).

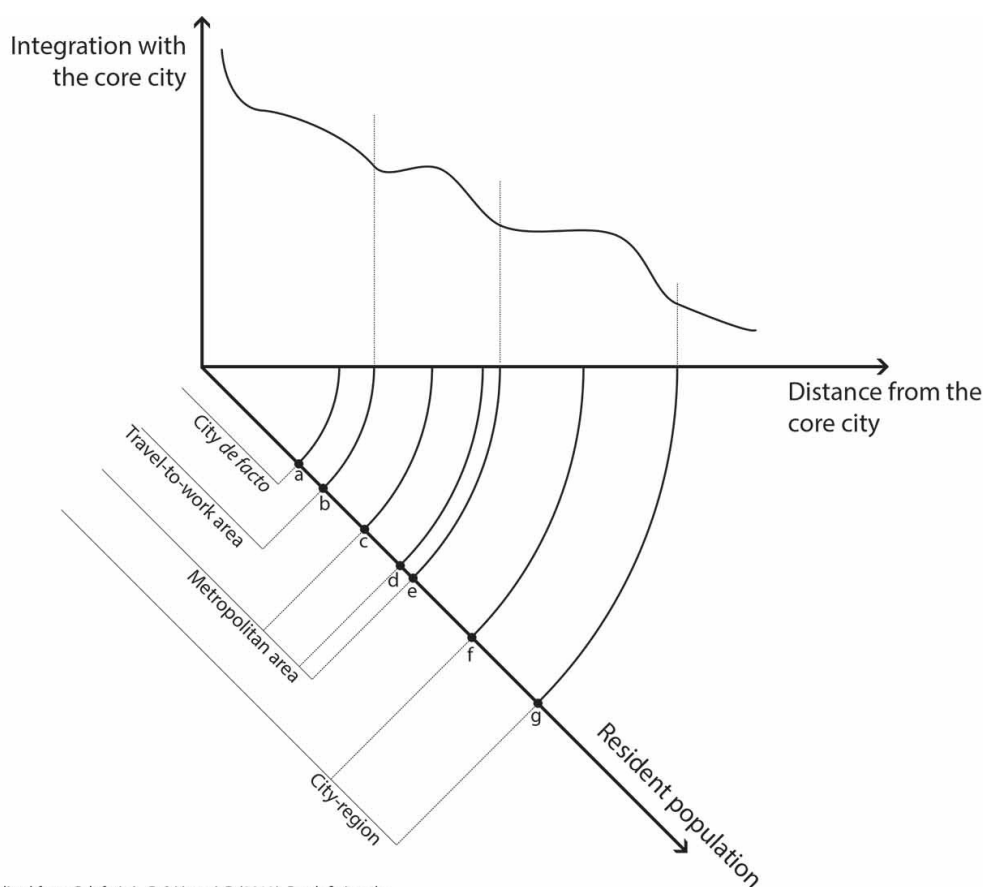
	a	b	c	d	e	f	g
Term adopted	City <i>de facto</i>	Local labor system	Metropolitan area	Metropolitan area	Urban system	Aggregated metropolitan area	Metropolitan area
Source	(Calafati & Veneri, 2013)	(Istat, 2005)	(OECD, 2012)	(Bartaletti, 2009)	(G. Boatti, 2008)	(Bartaletti, 2009)	(BBSR, 2011)
Criteria (v. § 2)	Interdep, homogeneity	Interdep.	Homogeneity, interdep.	Homogeneity, morphology, interdep.	Interdep.	Homogeneity, morphology, interdep.	Homogeneity
Residents ⁹ (millions)	2,53	3,12	4,01	4,96	5,33	6,78	8,4
Surface (km ²)	727	1348	2637	3876		5712	14600
(mi ²)	281	520	1018	1497	-	2205	5637
Density (inhab./km ²)	3485	2314	1539	1281	-	1190	575
(inhab./mi ²)	9003	6000	3939	3313		3075	1490

Chart 1 – Identification of functional areas: the case of “Milan” (2010)

In the case of “Milan”, the available territorial analyses are summarised in Chart 1, in which the wide range, in terms of population and surface, of the territorial objects identified can be acknowledged. These can be considered as belonging to different *functional territorial scales* of

9 Figures of resident population refer to a same year of reference (2010), after applying the rate of demographic change measured in the decade 2000-2010 in the OECD metropolitan area (+ 0.54 % per year) to the figures provided by Census for the years 2001 (columns “a”, “b”) and 2006 (columns “d”, “e”, “f”). Figures in columns “c” and “g” already referred to the year 2010.

growing size and population: city *de facto*¹⁰, travel-to-work area, metropolitan area, city-region (European Metropolitan network Institute, 2012: 85; Calafati & Veneri, 2013: 5).



Source: edited from Calafati, A. G. & Veneri, P. (2013). Re-defining the Boundaries of Major Italian Cities. *Regional Studies*, 47(5), 789-802.

Image 7 – Spatial definitions of cities: the case of “Milan”

This conceptualisation of the urban phenomenon can be expressed equally through a function in which, as the physical distance from a central locality increases, the average level of integration with this locality decreases. Such a formalisation assumes a mono-centric structure of the city phenomenon and a homogeneous “diffusion” of the integration level (conceivable as “urbanity”) from the core to the periphery of the urban region. However, the spatial approaches – whose findings are compatible with Istat's regionalisation (see *supra*) and also with major trends of urban areas in economically developed countries (OECD, 2012: 20) – have highlighted the relative polycentrism of Milan urban area, that is to say, a relatively uneven distribution of relational and built density. In order to account for this peculiar urban morphology, the trend of the integration/urbanity curve should thus follow small “bumps” between the points that mark

¹⁰ The concept of city *de facto* (Calafati, 2009; Calafati & Veneri, 2013) applies to those parts of a functional urban area that can be considered as fully integrated in a new “inter-municipal city”, in which localities are linked to one another not simply because of commuting patterns and in which municipal boundaries have lost almost any meaning in relation to daily practices of residents and city users.

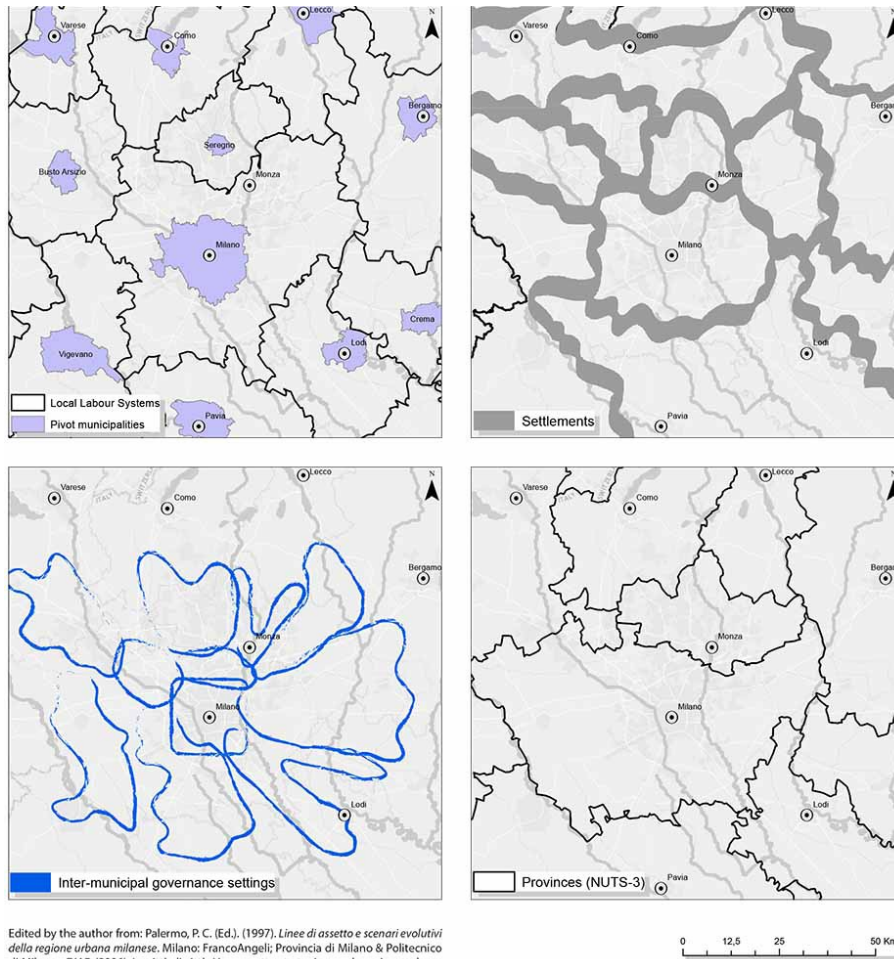
the passage from one territorial scale to another (Image 7). These “bumps” would account for the “peaks” of integration/urbanity brought about by sub-centres of the metropolitan area (Monza, Gallarate, Saronno, etc.) and by urban poles of the city-region (Varese, Como, Pavia, etc.).

4.2 The province of Milan as metropolitan authority?

When it comes to the comparison between territorial structure and administrative boundaries¹¹ (Image 8), concerning Istat's methodology, the following evidences can be highlighted: on the eastern and southern side of the province of Milan, the administrative boundary corresponds broadly to the functional area, whereas things are more articulated on the western and northern sides. Both Local Labour Systems of Vigevano and Busto Arsizio stretch across two provinces and include the western and north-western part of the province of Milan respectively. They therefore constitute a first relevant divergence between administrative and functional area. A complex and multifarious situation concerns the province of Monza and Brianza: the inclusion, within its boundaries, of the Local Labour System of Seregno reveals a partial correspondence between administrative and functional entity; at the same time, about half of the province, including its capital, falls into the Local Labour System of Milan, not being “strong” enough to make up its own territorial system. As for the images elaborated by the spatial paradigm, it can be noticed that provincial boundaries and territorial phenomena also diverge in them, especially with regard to the settlements named “Olona conurbation” – that stretches across the provinces of Milan and Varese – and “Saronno networked urbanisation” – located across the provinces of Monza, Como, and Varese.

The “City of cities” strategic project assumes instead the hypothesis that the provincial area can be regarded as a metropolitan governance setting, and consequently it “breaks up” the “settlements” (*ambienti insediativi*) – especially the one centred on the town of Saronno and the metropolitan core, the latter being fragmented into 6 policy settings or “cities”. The geographical areas identified are based on the typical assumption of strategic planning that neighbouring local authorities, through voluntary arrangements, tend to bring about higher metropolitan integration. However, this assumption runs the risk of overlooking some obstacles resulting from the dynamics of competition among local authorities for investments and from the transaction costs associated to a process involving a very high number of actors (Calafati, 2009: 116-120; European Metropolitan network Institute, 2012: 87). The need of adapting administrative structures to territorial structure has been recently acknowledged by leading figures of the spatial paradigm, which traditionally affirms the self-organising capacities of territorial systems (Lanzani, 2014: 56-58).

¹¹ Provinces in Italy are the NUTS-3 administrative level.



Edited by the author from: Palermo, P. C. (Ed.). (1997). *Linee di assetto e scenari evolutivi della regione urbana milanese*. Milano: FrancoAngeli; Provincia di Milano & Politecnico di Milano - DIAP. (2006). *La città di città. Un progetto strategico per la regione urbana milanese*. Milano: Provincia di Milano.
 Sources: istat.it; dati.lombardia.it; Esri, HERE, MapmyIndia, © OpenStreetMap contributors, and the GIS community

Image 8 – Comparing territorial interpretations: the case of “Milan”

On the cultural and political level, other facts seem to indicate that the idea of considering the provincial area as a setting for metropolitan governance – supported by the provincial Government in charge from 2004 to 2009, also through the “City of cities” strategic project – has been weakening. First, because the “strategic vision” did not evolve into policies and actions (e.g. the provincial territorial plan (Ptcp) was not approved within the end of the mandate). Second, because the political coalition governing the province in 2004-2009 lost the elections and its leading figures disengaged from this project and successively competed for regional or national elections. Finally, because this solution to metropolitan governance in Milan urban area was not shared even within local civil society and academia, and alternative views and proposals were being put forward in the same years (A. Boatti, 2007; Brenna, 2010).

5. FUNCTIONAL PARADIGM AND SPATIAL PARADIGM: IS DIALOGUE POSSIBLE?

I will present in this section some of the literature debate on strengths and weaknesses of the scientific paradigms illustrated above, in order to probe the hypothesis that they are reducible to a single theoretical framework, overcoming conceptual rigidities present in both of them. One can notice how the use of conventional but clearly defined spatial delimitations helps attain results that are comparable both at the national and international level¹²: since the concept of Functional Urban Region has been adopted by several research institutes, it has been possible to compare the results of these analyses with those of Istat's methodology (Calafati, 2014). Furthermore, the periodical update of the Local Labour Systems takes into account the development trajectory of territorial entities that are much more relevant from the point of view of territorial policies than administrative units. However, the identification of a border – an unavoidable step in functional methodologies – has been recognised as a conceptual weakness, even by some authors following this paradigm: “[the identification of a border is] an arbitrary break of the continuity characterising the actual variation of territorial phenomena” (Cecchini, 1992: 97).

The main criticism toward regionalisation methods was the one of “reductionism”, i.e. of simplifying the growing complexity of territorial phenomena: “since the decline of the 'Fordist-Taylorist' mode of organising the production and the city, the classical model of analysis based on commuting patterns has ceased representing a reliable reference to recognise relatively integrated economic and social 'systems'” (Vettoreto, 1991: 89). Such a judgement builds on various observations: on the one hand, the recognition of the transformations in the “metropolitan centres catchment area ... especially in regard with the supply of skilled jobs” (Camagni & Gibelli, 1992: 127); on the other hand, the stress on the underestimation of the spatial features of territorial phenomena, “[whose] nature and quality ... depend on the contextual conditions and relations” (Palermo, 1997a: 13). The research directions carried out by the spatial paradigm renewed the ways of studying urban and territorial dynamics in Italy, both from a substantive and from a methodological point of view. Namely, they introduced the emergent urban morphologies as a study object and a multidimensional methodology including sociological, architectural, economic, and geographical variables. On the contrary, attempts of delimitation of territorial entities were considered negligible and almost abandoned. On this aspect, representations produced within the spatial paradigm frame have been criticised.

First, scepticism towards the concept of *boundary* led to neglecting another concept, that of *density*. Indeed, if one accepts that the idea of city is, ultimately, linked to the fact that human activities tend to agglomerate in space (Sassen, 2001: 82; Storper, 2013) – which is equivalent to

¹² The concept of Functional Urban Region has been recently reformulated in an interesting way by OECD (2012).

say that one place is denser than surrounding ones – then it follows the possibility of identifying *an inside and an outside*, that is, a boundary – as flexible and variable as possible, but an element beyond which one is no longer in the “city”. It must be noticed that this statement does not imply a reference to a given type of *urban form*, on the contrary it is applicable to the various spatial definitions of the contemporary city: *città diffusa* (Indovina, 1990), sprawl (Bruegmann, 2005), post-metropolis (Soja, 2000). In other words, abandoning the traditional idea of urban density (Secchi, 2005) does *not* imply that the delimitation of the unit of analysis is no longer possible and necessary.

Another issue that seems to raise unsolved contradictions within the spatial paradigm is the mutual relation between the parts and the whole, that is to say between the various “settlements” (*ambienti insediativi*) and the urban region. On the one hand, the relative *autonomy* of single settlements is highlighted – as far as to state that they are mutually “irreducible” (Lanzani, 1996: 202; Ischia, 1999: 9); on the other hand the conception of the urban region as a whole remains implicit. Such an inconsistency has been clearly recognised by Indovina: “a fragment is such in relation to a whole of which it is a part; if everything is a fragment, nothing is a fragment” (2005: 14). This is to say that the clarification on how and to what extent the different parts are “autonomous” in respect to the whole, implies a clarification on the issue of the delimitation of the unit of analysis (Calafati, 2009: 93). Indeed, an indirect confirmation of this argument comes from the images put forward by the spatial paradigm itself: being actually unable to dismiss the concept of boundary, they had recourse to much more conventional delimitations than the self-containment thresholds, such as political-administrative borders (Provincia di Milano & Politecnico di Milano - DiAP, 2006) or rivers (Boeri et al., 1993).

Both paradigms have their strengths and weaknesses. Images derived from the functional paradigm seem to be easily comparable but too simplified; those from the spatial paradigm seem more accurate but often fuzzy. Is it possible to escape such an *impasse* through a conceptualisation that maintains the best of both paradigms? Or is a sharp opposition between them the only possibility? I will try to provide some evidence in support of the first hypothesis, that the two paradigms can be taken as *complementary* instead of *alternative* to each other.

In order to do so, I will refer to an important research programme developed in Italy within urban sociology, in particular under the initiative of Guido Martinotti. Starting from a functionalist approach (1988), Martinotti suggested researching the dynamics that were considerably transforming the physical and social morphology of cities. In doing so he indirectly embraced the analyses brought about by the spatial paradigm, especially in regard to the emergence of unprecedented urban forms. He added even more complexity, as he found the traditional sociological references – residents and eventually commuters – to be unsatisfactory in front of the growing and structural relevance of new urban populations, whom he named “city users” (Martinotti, 1993, 1999, 2011).

However, unlike followers of the spatial paradigm, he did not adopt the territorial self-organisation thesis, and kept working on the issue of governance, regarded as the “capacity to control and sort social, economic and political dynamics that concern large urban agglomerations in economically developed countries” (Martinotti, 1999: 11). Consequently, he argued for the necessity of *quantifying* the phenomena that were transforming cities as precisely as possible, i.e. *empirically* grasping their scope and intensity. In this way, the functional paradigm’s methodological tools had to adapt to the observations carried out by the spatial paradigm¹³.

6. CONCLUSIONS

The recent reactivation of the institutional process concerning metropolitan authorities (*Città metropolitane*) in Italy brings back to the fore the issue of identifying contemporary urban and territorial phenomena. Since, in the last decades, original interpretations of the emergent urban phenomena have been put forward, reviewing them seemed like a good exercise, in order to try and shape a common analytical framework. I illustrated the features and aims of six representations of Milan urban area and I proffered a classification based on two different scientific paradigms, defined “functional” and “spatial”. Notwithstanding the actual divergence between the research programmes promoted by these two paradigms, I put forward the hypothesis that the theoretical and methodological disagreements are not irreconcilable. By putting forward Guido Martinotti’s approach, I have tried to demonstrate that the research programmes practised by the two paradigms can be regarded as complementary and not contrasting to each other.

The emergence of new territorial entities, as territorial outcome of a long-term economic process, also raises the inadequacy of the provincial area as a setting for territorial governance. From an analytical point of view, all approaches displayed major divergences between provincial (NUTS-3) administrative boundaries and territorial phenomena (Palermo, 1997a; Istat, 2005; G. Boatti, 2008; Bartaletti, 2009); while the attempts that privileged political-administrative on analytical criteria (Provincia di Milano & Politecnico di Milano - DiAP, 2006) have been criticised on their theoretical assumptions and have had to cope with partial failure. It seems therefore reasonable to state that administrative limits of the metropolitan authority under implementation in the Milan urban region must be reshaped, in order to make them correspond more to functional or morphological territorial entities.

¹³ Along this direction, see Calafati & Mazzoni (2008). See as well Colleoni & Caiello (2013), who propose a sociological analysis of those low-density areas previously at the centre of the analyses by the spatial approach from the point of view of urban morphologies.

As for the case study – Milan urban agglomeration – the most important result is to have found that both “spatial” analyses and a major “functional” analysis (the one by Istat) recognise the existence of two new *urban entities*, developed through processes of merging among smaller centres, and located respectively in southern Brianza and in the Olona valley. Although some territorial units prove to be hardly understandable in an unequivocal way (such as the city of Monza), the recognition of these new “cities” appears to be inescapable when one observes that, in terms of residents and jobs, Local Labour Systems of Busto Arsizio – broadly overlapping Olona conurbation – and of Seregno – broadly overlapping Brianza conurbation – are among the 20 largest in Italy, comparable to those of Bari or Verona.

Thanks to Antonio Calafati, Francesco Chiodelli and Enzo Falco for the continuous exchanges during the elaboration of this work. To Matteo Colleoni I owe useful suggestions, that allowed to improve the paper in several parts.

References

- Balducci A (2004) Milano dopo la metropoli. Ipotesi per la costruzione di un'agenda pubblica. *Territorio* 29-30: 9-16.
- Balducci A (2005) Una visione per la Regione Urbana Milanese. In: Magatti M, Senn L, Sapelli G, Ranci C, Manghi B, et al. (eds) *Milano, nodo della rete globale*. Milano-Torino: Paravia Bruno Mondadori, 231-264.
- Balducci A, Fedeli V & Pasqui G (Eds.). (2008). *In movimento: confini, popolazioni e politiche nel territorio milanese*. Milano: FrancoAngeli.
- Bartaletti F (2009) *Le aree metropolitane in Italia e nel mondo: il quadro teorico e i riflessi territoriali*, Torino: Bollati Boringhieri.
- BBSR (2011) *Metropolitan Areas in Europe*. Bonn: Bundesinstitut für Bau-, Stadt- und Raumforschung (BBSR).
- Boatti A (2007) *Urbanistica a Milano*, Novara: CittàStudi.
- Boatti G (2008) *L'Italia dei sistemi urbani*, Milano: Electa.
- Boeri S (1987) Osservare Milano oggi. *Urbanistica* 89: 44-47.
- Boeri S, Lanzani A & Marini E (1993) *Il territorio che cambia: ambienti, paesaggi e immagini della regione milanese*, Milano: Abitare Segesta
- Brenna S (2010) *La strada lombarda. Progetti per una Milano città madre della propria cultura insediativa*, Roma: Gangemi.
- Bruegmann R (2005) *Sprawl. A compact history*, Chicago: University of Chicago Press.
- Cafiero S & Busca A (1970) *Lo sviluppo metropolitano in Italia*, Milano: Giuffrè.

- Cafiero S & Cecchini D (1990) Un'analisi economico-funzionale del fenomeno urbano in Italia. In: Martellato D and Sforzi F (eds) *Studio sui sistemi urbani*. Milano: FrancoAngeli, 69-105.
- Calafati AG (2009) *Economie in cerca di città*, Roma: Donzelli.
- Calafati AG (2014) Città e aree metropolitane in Italia. *GSSI Urban Studies Working Papers* (1).
- Calafati AG & Mazzoni F (2008) *Città in nuce nelle Marche: coalescenza territoriale e sviluppo economico*, Milano: FrancoAngeli.
- Calafati AG & Veneri P (2013) Re-defining the Boundaries of Major Italian Cities. *Regional Studies* 47: 789-802.
- Camagni R & Gibelli MC (1992) L'area metropolitana milanese e la legge 142: un approccio economico-territoriale in termini di organizzazione a rete dei centri urbani. *Territorio (prima serie)* 11: 117-134.
- Cecchini D (1992) Sui metodi di delimitazione delle aree metropolitane: esperienze precedenti e una proposta. In: Costa P and Toniolo M (eds) *Città metropolitane e sviluppo regionale*. Milano: FrancoAngeli, 95-111.
- Clementi A, Dematteis G & Palermo PC (Eds.). (1996). *Le forme del territorio italiano*. Roma: Laterza-Ministero dei lavori pubblici, Dicoter.
- Colleoni M & Caiello S (2013) Il peri-urbano e i suoi caratteri socio-territoriali. Una proposta analitica e empirica in Lombardia. *Sociologia urbana e rurale* 102: 97-115.
- Crainz G (1996) *Storia del miracolo italiano. Culture, identità, trasformazioni fra anni cinquanta e sessanta*, Roma: Donzelli.
- Dematteis G (1990) Modelli urbani a rete. Considerazioni preliminari. In: Curti F and Diappi L (eds) *Gerarchie e reti di città: tendenze e politiche*. Milano: FrancoAngeli.
- Dematteis G & Bonaverò P (Eds.). (1997). *Il sistema urbano italiano nello spazio unificato europeo*. Bologna: il Mulino.
- Ercole E & Martinotti G (1994) La definizione dell'area metropolitana milanese secondo il criterio di omogeneità. *Amministrare* 24: 3-33.
- European Metropolitan network Institute (2012) A Strategic Knowledge and Research Agenda on Polycentric Metropolitan Areas. The Hague: European Metropolitan network Institute (EMI).
- Fabian L (2014) Nuove strade a nord-est. In: Calafati AG (ed) *Città tra sviluppo e declino. Un'agenda urbana per l'Italia*. Roma: Donzelli, 267-300.
- Fuà G (Ed.). (1991). *Orientamenti per la politica del territorio*. Bologna: il Mulino.
- Hall P & Hay D (1980) *Growth centres in the European urban system*, London: Heinemann.
- Indovina F (1990) *La città diffusa*, Venezia: DAEST.
- Indovina F (2005) La metropolizzazione del territorio. Nuove gerarchie territoriali. In: Indovina F, Fregolent L and Savino M (eds) *L'esplosione della città*. Bologna: Editrice Compositori.
- Ischia U (1999) Differenti sguardi per un territorio urbano. *Territorio* 11: 8-17.
- Istat-Irpet (1986) I mercati locali del lavoro in Italia. Roma: Istat.

- Istat (1994) I sistemi locali del lavoro in Italia, 1991. Roma: Istat.
- Istat (2005) Distretti industriali e sistemi locali del lavoro 2001. Roma: Istat.
- Lanzani A (1996) Tra analisi sociale e indagine morfologica. In: Clementi A, Dematteis G and Palermo PC (eds) *Le forme del territorio italiano*. Roma: Laterza-Ministero dei lavori pubblici, Dicoter, 186-206.
- Lanzani A (2005) Ripensando Milano e la mega city region milanese. *Archivio di studi urbani e regionali* 84: 137-195.
- Lanzani A (2014) Per una politica nazionale delle città e del territorio. In: Calafati AG (ed) *Città tra sviluppo e declino. Un'agenda urbana per l'Italia*. Roma: Donzelli, 49-73.
- Martellato D & Sforzi F (1990) Il sistema urbano come unità d'analisi. In: Martellato D and Sforzi F (eds) *Studio sui sistemi urbani*. Milano: FrancoAngeli, 11-37.
- Martinotti G (1988) Le aree metropolitane: la regione metropolitana lombarda. *Amministrare* 18: 141-195.
- Martinotti G (1993) *Metropoli: la nuova morfologia sociale della città*, Bologna: il Mulino.
- Martinotti G (1999) Introduzione. In: Martinotti G (ed) *La dimensione metropolitana*. Bologna: il Mulino, 9-61.
- Martinotti G (2011) Dalla metropoli alla meta-città. Le trasformazioni urbane al tornante del secolo XXI. In: Dematteis G (ed) *Le grandi città italiane. Società e territori da ricomporre*. Venezia: Marsilio, 25-76.
- Morandi C & Pucci P (2005) La regione urbana milanese tra crescita e trasformazione. In: Indovina F, Fregolent L and Savino M (eds) *L'esplosione della città*. Bologna: Editrice Compositori.
- Moretti A (1991) Le linee e i nodi del trasporto pubblico come struttura del milanese: da area metropolitana a rete di città. *Territorio (prima serie)* 10: 11-28.
- Moretti A (Ed.). (1999). *Il paradigma del policentrismo: conoscenza e trasformazione del territorio lombardo*. Milano: FrancoAngeli.
- Munarin S & Tosi MC (2001) *Tracce di città: esplorazioni di un territorio abitato: l'area veneta*, Milano: FrancoAngeli.
- Nel-lo i Colom O (2001) *Ciutat de ciutats: reflexions sobre el procés d'urbanització a Catalunya*, Barcelona: Empúries.
- OECD (2012) Redefining "urban": a new way to measure metropolitan areas. Paris: OECD.
- Palermo PC (1997a) Ambienti insediativi e processi di trasformazione. Verso nuove immagini e interpretazioni della regione urbana milanese. In: Palermo PC (ed) *Linee di assetto e scenari evolutivi della regione urbana milanese. Atlante delle trasformazioni insediative*. Milano: FrancoAngeli.
- Palermo PC (Ed.). (1997g). *Linee di assetto e scenari evolutivi della regione urbana milanese. Atlante delle trasformazioni insediative*. Milano: FrancoAngeli.
- Parr JB (2007) Spatial Definitions of the City: Four Perspectives. *Urban Studies* 44: 381-392.
- Provincia di Milano & Politecnico di Milano - DiAP (2006) La città di città. Un progetto strategico per la regione urbana milanese. Milano: Provincia di Milano.

- Sassen S (2001) Global Cities and Global City-Regions: A Comparison. In: Scott AJ (ed) *Global City-Regions. Trends, Theory, Policy*. Oxford: Oxford University Press, 78-95.
- Secchi B (1988) Ritematizzare Milano. *Urbanistica* 90: 89-93.
- Secchi B (2005) *La città del ventesimo secolo*, Roma-Bari: Laterza.
- Sforzi F (1990) Problemi di definizione dei sistemi urbani. In: Martellato D and Sforzi F (eds) *Studio sui sistemi urbani*. Milano: FrancoAngeli, 41-68.
- Soja EW (2000) *Postmetropolis: critical studies of cities and regions*, Malden-Oxford: Blackwell.
- Storper M (2013) *Keys to the City*, Princeton: Princeton University Press.
- Vettoretto L (1991) 'Delimitazione' di aree metropolitane. Alcune note metodologiche in margine al seminario "Città metropolitane e sviluppo regionale in Italia: le città a confronto". *Archivio di studi urbani e regionali* 41: 81-97.