# From City Hierarchy to City Network: Reflections About an Emerging Paradigm

10

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## 10.1 Introduction

According to textbooks of theoretical geography and urban economics, the analytical model which still better describes in strictly economic and locational terms the structure of the city system is Christaller's and Losch's central-place model developed in the 1930s and 1940s. After the basic refinements introduced by Isard, Beckmann and McPherson, a huge literature has grown upon the same logical foundations and simplifying assumptions with the works of Parr, Beguin, Mulligan and others, but it has not changed the basic economic characteristics of the initial model: it still remains the more elegant, abstract but consistent representation of the hierarchy of urban centres.[1]

Nevertheless, real city-systems in advanced countries have deeply departed from the abstract Christallerian pattern of a nested hierarchy of centres and markets. The reduction in transport costs and the demand for 'variety' of the consumer have broken the theoretical hypothesis of separated, gravity-type, non-overlapping market areas; 'location economics' *à la* Hoover and synergy elements operating through horizontal and vertical linkages among firms have generated the emergence of specialised centres, in contrast with the typical despecialization pattern deriving from the theoretical model; high-order functions locate sometimes in small (but

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[1]For a recent presentation of the entire corpus of literature on central-place models, see Mulligan (1984) and Beguin (1988).

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specialised) centres where the model's expectations refer only to lower-order functions.

This evidence is not at all new, and the deficiencies of the model are often highlighted; but to change the underlying assumptions would mean to change the model itself, and no other set of clearly defined hypotheses have ever replaced the former ones.

On the other hand, another evidence contrasts with the logic of the model. Urban policies are increasingly addressed towards economic goals: to enhancing the efficiency of the local production fabric, attracting new sectors and functions, widening the markets of the local firms through better external transport and communication linkages. According to the logic of the model, this kind of goals lacks any economic rationale: location of sectors and roles of the single centres are defined on the sole basis of the requirements of scale economics and the advantages of city size. Once again, the hypothesis of the emergence of a new logic in the spatial behaviour of economic activities beyond the gravity one, and of the relevance of new economic elements beyond scale economics and transport costs, looks increasingly necessary and fruitful.

In the search for this new logic, some most recent theoretical reflections on firm behaviour may be used, and analogies with the approaches used in other disciplines or branches of economic theory explored. In particular the concept of 'firms networks', utilized in the theory of the firm to encompass all those new organizational and contractual forms that imply 'cooperation' among firms (strategic alliances, technological and commercial cooperation, joint-ventures, consortia, and so on), looks crucial in two respects: first because it provides us a new 'paradigm' to understand the economic and spatial consequences of those firm behaviours which are intermediate between competition and internal development, between 'market' and 'hierarchy' in the terminology of the institutional and transaction-cost approach to the firm (Williamson 1985); second, because it opens the possibility of developing the analogy of 'city networks', a concept that is already widely used in spatial planning and urban geography in countries like France and Italy, but which deserves a deeper theoretical underpinning.[2]

The aim of this paper is twofold:

- first, to analyse in theoretical terms the recent evolution of the city system, which has deeply departed from the abstract Christallerian pattern of a nested hierarchy of centres and markets, and to propose a new theoretical paradigm to understand its nature and evolution: the network paradigm;
- second, to analyse how the aforementioned change affects the tasks and nature of city planning, introducing the necessity on an intentional city strategy

[2]For the use of the 'network' paradigm in organization theory see: Boissevain and Mitchell (1973) and Johannisson (1987); for its use in the theory of firm behaviour, especially in an innovation context, see: Freeman (1990), Kamann and Nijkamp (1990), Kamann and Strijker (1991), Camagni (1989a, 1991).

concerning the functions performed by the city, its role in the spatial division of labour, its competitiveness and linkages with respect to the other nodes of the city network.

The nature of the emerging paradigm will be inspected first, at the firm level, both in general economic terms and in terms of spatial behaviour (Sects. 2 and 3); then, through the well-known logical link between the shape of the firm's market areas and the structure of the city-system, the evolution of the latter will be analysed in depth (Sects. 4 and 5); finally, in Sects. 6 and 7, the consequences of all this will be inspected as far as the nature and goals of city planning are concerned, both at the level of the single city and of the regional city-system as a whole.

## 10.2 Cooperation Networks: The Emerging Paradigm in Economic Behaviour

In recent years, a new interesting behavioural paradigm has emerged in the real world of firms' conduct, intermediate between the traditional ones of market resort and internal development: this new paradigm, cooperative in nature, has been identified in 'firms networks', and presents itself in the form of cooperation agreements and strategic alliances (OECD 1986; Foresti 1986; Camagni and Gambarotto 1988; Camagni 1989b; GREMI 1990).

Cooperation—technological, commercial, financial—appears as a new economic archetype in the era of continuing innovation and fast technological change, in the presence of 'market failure' when dynamic and innovative behaviours are concerned (the market does not deliver the right and punctual signals in this case) and of the high costs of a growth strategy based on the sole internal know-how (Camagni 1989a).

The objectives of the new behavioural model may be summarized in the following:

- to reach sufficient scale economies, through the merging of R&D facilities, production or marketing structures;
- to control the market of complementary assets, necessary for assuring fast reaction capability; and
- to control the development trajectories of crucial complementary assets, in order to assure continuous innovation capability.

The advantages of the new behavioural form are found in the avoidance of high transaction costs which are inescapable when crucial inputs are requested through the market, and in the reduction of the high costs implied by the strategy of internal development of a new technology or competence.

The new cooperation strategy is typical of firms operating in high-tech sectors, but also more traditional sectors are increasingly adopting the same strategy, in their search for rejuvenation and restructuring processes. This strategy implies a

**Table 10.1** The three logics of spatial organization

| | Organisational logics | | |
|---|---|---|---|
| Levels and aspects | Territorial | Competitive | Network |
| Firm: | | | |
| Nature | Local market firm | Export firm | Network firm |
| Crucial function | Production | Marketing | Innovation |
| Strategy | Control of market areas | Control of market shares | Control of innovation assets and their trajectories |
| Internal structure | Single unit | Specialized functional units | Functionally integrated units |
| Entry barriers | Spatial friction | Competitiveness | Contiguing innovation |
| City system: | | | |
| Principles | Domination | Competitiveness | Cooperation |
| Structure | Nested Christallerian hierarchy | Specialisation | City networks |
| Sectors | Agriculture, government, traditional tertiary activities | Industry: industrial districts and filières of specialisation | Advanced tertiary activities |
| Efficiency | Scale economies | Vertical/horizontal integration | Network externalities |
| Policy strategy | None: size determines functions | Traditionally: none, as export-base determines growth; Nowadays: strengthening of competitive advantage of each centre | Intercity cooperation: Intercity physical network provision |
| Intercity cooperation goals | None (except military or diplomatic goals) | Intercity division of labour | Economic, technological and infrastructure collaboration |
| Networks of cities | Hierarchical, vertical networks | 'Complementary networks' | 'Synergy networks' 'Innovation networks' |
| Single City: | | | |
| Nature | Traditional city | Fordist city | Information city |
| Form | Relatively internal homogeneity | Monofunctional zoning | Multifunctional zoning, policentric city |
| Policy goals | Power and image | Internal efficiency (clockwork city) | External effectiveness and attractiveness |
| Symbols | Palace, cathedral, market | Chimneys, skyscrapers | Airport, trade fair |

different attitude with respect to spatial relationships: in fact, it calls not just for the simple control of product markets or inputs markets, but also for direct linkages with other innovative '*milieux*', where a specific know-how or technology is developed, or with firms which were previously either competitors or simple providers of production inputs.

## 10.3 The Three Logics of the Spatial and Market Behaviour of the Firm

From a theoretical and abstract point of view, it is possible to identify three logics of spatial behaviour of the firm: we may call them the territorial, the competitive and the networking logic (Table 10.1).

According to the first logic, the territorial one, a firm sells (and buys) from the geographical space it gravitationally controls. Space is therefore organized into the well-known Löschian honeycomb of market areas, where the friction of space, embodied in the transport cost, at the same time differentiates the products of the competing firms and represents the strongest entry barrier into the market.

The crucial function of the firm is production and its strategy consists in the control of the market area defined around its geographical location.

According to the second logic, the competitive one, the market of a firm is not restricted to the local territory, as transport costs do not play a relevant part; the firm may sell anywhere, trying to control the widest *share* of the global market. Competitiveness, differently achieved and interpreted by the different firms, becomes the crucial element in the economic arena, and marketing the crucial function of the firm; the market of each production unit is limited by both its relative economic strength and by the 'variety' demand of consumers. 'Two way' trade, or the geographical interchange of the same products in two directions, becomes the role, as, for example, Turin people are no more obliged to buy only Fiat cars.

In its search for effectiveness and economics of scale, the firm is more and more organized into specialized units, performing only one of the functions of the production cycle: manufacturing, R&D, marketing, general management. This specialization pattern, which takes advantage of both scale economies and location economies (as each functional unit may be localized in the most appropriate spot, given the characteristics of its production inputs) replaces the integrated organizational model of the previous case.

Space and spatial dis-homogeneities are no more a simple constraint to the output market, but are directly exploited by the firm in a global optimization process which takes into consideration, beyond the accessibility to geographical markets, the accessibility to labour, skills and other production inputs. The location of the firm is therefore determined by geographical and historical specificities, and no more by a single logic, as it happens in simplified general equilibrium models. With respect to these latter, location becomes completely random. Only in the case where a production input may be realistically assumed as perfectly immobile

(though scattered in geographical space) and the accessibility to it as costly, a regular pattern of locations may be re-built on the basis of spatial *input* markets (Parr 1989).

According to the third logic, the network logic, innovation becomes the crucial function of the firm and the control of innovation assets and their time trajectories its main goal. The firm, wherever located, may overcome the weakness in crucial know-how of its internal structure and of the surrounding '*milieu*' by linking-up with other firms and by establishing cooperation agreements.

These transterritorial linkages apparently annihilate the spatial or geographical dimension; but in fact they do not. On the contrary:

- they emphasize the need for a presence of the firm in the information and communication nodes of the worldwide technological, commercial and financial networks; and
- they point out the crucial need for the firm to present itself as an efficient partner, this attribute being reached either through a strong internal culture or through its location in a 'district', highly rich in Marshallian 'industrial atmosphere' (Camagni and Pompili 1990; Camagni 1991, Introduction).

The geography of locations shows, as a consequence of the new organizational logic, a centripetal bias, originated both by the demand for accessibility to the nodes of the international information network and by the search for new synergies within the firm. In this second respect, the pattern of dispersed, monofunctional and specialized units is replaced by a pattern of functional reintegration in centrally located 'mission units', where the maximum of innovativeness may be achieved through the physical proximity of engineering, production, marketing and research functions (Camagni 1988).

How is it possible to pass from the locational logic of the single firm to the general spatial allocation of activities and functions? It is well-known that in what we called the 'territorial logic', agglomeration economies may explain the coexistence of lower order functions in centres where higher order functions are already located, and that gravity-type considerations may attract the different firms towards the centre of the territorial market areas, where demand density is higher.

In the 'competitive' logic on the contrary, agglomeration may derive rather from supply than demand considerations: the agglomeration of firms belonging to the same sectors ('district economies') or the same industrial complex (control of components suppliers, '*filières*' of local specialization) allows to reach higher levels of static and dynamic efficiency, giving rise to specialized industrial areas and '*innovative milieux*' (Aydalot 1986), made up of vertically or horizontally integrated firms (the long standing concept of 'localization economies').

The third logic is more complicated. In spatial terms it implies the presence of:

- nodes of localised and specialised know-how (in 'poles', 'districts', 'parks', 'valleys', 'corridors', ....) interlinked through cooperation agreements and financial/technological/marketing alliances; or

– multi-functional nodes belonging at the same time to different economic and spatial networks. In this respect the old concept of 'urbanization economies' is revitalized here in terms of interaction and synergy of network functions: the city gains a role as an interchange node among a set of worldwide networks of physical and information interactions.

If scale economies and generic agglomeration economies are the main efficiency elements that shape the spatial structure of location centres under the first logic, economies of vertical and horizontal integration are the main efficiency elements in the second logic, and 'network externalities' in the third one. In this last respect, the network operates as a 'club good' delivering advantages only to the members of the club, an intermediate structure between 'private' and 'public' goods.

The three logics of spatial organization presented here are of course to be considered as the theoretical archetypes, and not directly as historical behavioural patterns. In some respect, they have never coexisted, as they apply specifically to different sectoral specificities (respectively to the primary, secondary and tertiary or information sectors). Nevertheless, as these sectors or functions have prevailed in different and successive periods in recent history, the three logics may be assumed, very carefully though, as the leading paradigms of different 'accumulation régimes'.

## 10.4 The Structure and Evolution of the City System

What consequences may derive from the aforementioned logics of spatial organization on the structure and shape of the city-system?

The territorial logic is the basic theoretical underpinning of the Christallerian hierarchy of centres.[3] This logic applies well, even if in abstract and simplified terms, to the spatial behaviour of the following activities:

– agricultural production and markets (except for 'industrialized' agriculture producing mass 'commodities' and 'specialised' agriculture producing diversified products, like special wines, etc.);
– public administration and movement functions;
– private and public service activities; in particular, the "traditional" ones (retail and wholesale trade, health and education, . . .) but also the modern ones (private consultants, banking and insurance, advertising,. . .) and in general the activities where the customer bears the transport cost.

[3] As far as the micro-economic foundations of the central-place model and the spatial structure of each sector are concerned, the natural reference is mainly to Lösch; when on the contrary we refer to the general organization of centres and to the spatial structure of *all* sectors and market areas, we mainly follow Christaller. In fact, in Lösch's general spatial equilibrium model the crucial notion of urban 'hierarchy' is lost.

Therefore, the Christaller model applies well to those societies where these sectors account for the overwhelming share of economic activities. On the other hand, the model presents many drawbacks, which limit widely its empirical relevance in modem societies. In fact:

(i) it overemphasizes the role of transport costs, a fact that reduces its usefulness for the interpretation of industrial location and markets;
(ii) it neglects input-output relationships, and in particular horizontal linkages among specialised firms and, in spatial terms, horizontal linkages among specialised centres of similar size, performing different but complementary functions (in the model, only vertical, hierarchical linkages among centres of different size and rank are considered);
(iii) it neglects 'network externalities', or the 'synergetic surplus' that may come to the partners (firms or cities) of a cooperation network. These externalities may be utilized to explore the concept of 'city networks', as will be explained below.

These limitations in the theoretical assumptions of the model are relevant, and in fact empirical observations provide conflicting evidence with respect to its outcomes. In particular, we may observe:

(I) processes of city specialization, especially in industry but also in services, which contrast with the prediction of Christaller's model about the hierarchical de-specialization of each centre (Cappellin and Grillenzoni 1983);
(II) incomplete presence of the whole range of functions in each city (all the bundles of goods and services of equal or inferior rank) (Emanuel 1988; Emanuel and Dematteis 1990);
(III) presence of high order functions in centres of lower order (Dematteis 1985);
(IV) horizontal linkages between similar functions (and cities): e.g., the financial network among top cities in the worldwide hierarchy.

Under these circumstances, our hypothesis is that a new paradigm of spatial organization should be considered, the *network paradigm*, which links with the new logics of spatial behaviour we have labelled as the 'competitive' and the cooperative, 'network' logic.

As far as the 'competitive' logic is concerned, it creates the well-known phenomenon of industrial districts, specialised by sectors or by '*filière*', and, as a result, a host of territorial relationships among centres based on privileged complementarity relations in both production and marketing. These relationships occur mainly at the intraregional level, as is the case, for example, of the specialized centres of the car industry *filière* or of the textiles industry *filière* in the Third Italy regions, with a spatial division of labour among headquarter, manufacturing, design, and equipment-producing centres.

The third logic, the 'network' one, in its turn determines a set of privileged synergetic relationships among centres that cooperate or interact in the same fields

or functions, through information, communication or transport networks. Analogous to a previous statement concerning network relationships among firms, a city-network may be considered as a 'club good', providing externalities to the partners which cooperate on the basis of horizontal linkages and perform the same functions. Also in this case, networks might be seen as a way of generating (urban) scale economies in a cooperative way, without implying a growth of the single centres, and of distributing the consequent advantage among the partners.

Therefore, in the organization of the city-system two kinds of city-networks appear:

(A) *complementarity networks*, made up of specialized and complementary centres, interlinked through a set of input-output and market relationship; the interurban division of labour guarantees at the same time the existence of a sufficiently wide market area for each centre and the achievement of scale and agglomeration economies. Good examples of these networks are provided by the specialised cities in Randstad Holland or in the Veneto area in Italy;
(B) *synergy networks*, made up of similar, cooperating centres. In this case the necessary economies of scale are provided by the network itself, which integrates the market of each single centre. Examples of this networks are the already mentioned financial cities, whose markets are virtually integrated through advanced telecommunication infrastructures, or tourist cities connected through cultural or historical 'itineraries'.

A third category, or better a sub-category of the second one, might also be found, namely:

(C) *innovation networks*, made up of centres cooperating on *specific* projects in order to reach a sufficient critical mass, both with respect to demand or to supply considerations. Examples of these networks are the recent cooperation agreements among French cities in the fields of infrastructure provision (airports, . . .), technological services, etc.

It might be important to note that these three types of city networks refer respectively to the three main goals (and categories) of the new network behaviour of firms which we have mentioned in Sect. 7.2.

The preceding reflections may be synthesized in the following definition: *city-networks (réseaux de villes) are systems of relationships and flows, of a mainly horizontal and non-hierarchical nature, among complementary or similar centres, providing externalities or economies respectively of specialization/complementarity spatial division of labour and of synergy/cooperation/innovation.*

This is mainly a deductive 'conjecture', in search of a proper theorization and empirical validation. Many aspects still require further indepth reflection; namely the economic rationale, the economic effectiveness and the law of motion of the new organizational logic and the way in which the new hypothesized network linkages may be observed and measured (Camagni 1990).

In this last respect, Dematteis' geographical school in Italy has attempted, for almost a decade, to reveal empirically the network linkages among the centres of the lower ranks in the Po valley (from province head-cities downwards). The linkages inspected refer to our first category—complementarity linkages among specialized centres—but the results are not yet conclusive, in my opinion. After having measured in a proper way the shifts between actual and theoretical sectorial mix in each centre, the existence of direct complementarity relationships is mainly inferred deductively in the case of couples of neighbouring centres of similar size presenting respectively a very high and a very low employment share in some sectors (Emanuel 1988; Emanuel and Dematteis 1990).

The main difficulty in this field is that the nature of the problem requires 'flow indicators' among the centres, while at this detailed territorial level mainly 'stock indicators' exist. The author was engaged in a huge research project using telecommunication flows data, whose early results look encouraging. The existence of network relationships among centres was deducted from the divergence of the real flows with respect to the abstract structure simulated by a spatial interaction model (Camagni et al. 1994).

## 10.5 Towards a New Theorization

In spite of actual weaknesses in the empirical inspection, the theoretical research programme appears challenging and worthwhile. Some theoretical elements are already at hand, and on that basis the following statements may be proposed regarding the organization of the city system. These statements are addressed to the problem of the (in)-compatibility versus complementarity of the two paradigms, the hierarchical and the network paradigm, and to the analysis of the economic elements that might have allowed the latter pattern of territorial organization to outperform and substitute the preceding, historical pattern:

(a) economic space is organized according to an eclectic logic, and no longer according to a single principle. Different logics superimpose to each other on the territory, both because of a time succession and because they refer to different aspects or to different kinds of activities, giving rise to a complex pattern of overlapping spatial structures;
(b) the traditional Christallerian hierarchical principle remains visible as:
   b′. the regulatory paradigm of agricultural, administrative/bureaucratic and tertiary activities, whose main territorial logic is still linked to the definition of non-overlapping market areas; and as:
   b″. the 'memory' or the historical heritage from the times when the aforementioned sectors were the ruling ones, revealed by the persistence of agglomerations and centres long after having lost their historical role.

   Remembering that agriculture, public administration and tertiary activities together represent much more than half of total employment or value-added, it

is evident that the traditional model is far from becoming obsolete and useless, as it is argued sometimes;

(c) market areas for production inputs *à la* Parr, and in particular for labour inputs of various skills, contribute to the shaping of the city system, with regards to the search, by economic activities, of:
  c′. specialized labour, this case giving rise to a non-hierarchical structure of 'district areas' of sectorial specialization (the specialised districts of the 'Third Italy');
  c″. qualified labour, giving rise to a hierarchical structure of labour-market areas, a structure which is the most similar to the traditional Christallerian one; and
  c‴. just-in-time inputs and components procurement (Toyota city, Turin metropolitan area).

(d) The comparative advantage of local production, and, through it, of the single centres, is secured through:
  d′. internal economies of scale, as in the traditional model;
  d″. internal economies of scale, as in the traditional model;
  d‴. vertical integration between firms, '*en filière*' (the silk *filière* in Como is an excellent case, going from manufacturing to machine tool production, design, CAD, commercialization and worldwide image creation; but also the already mentioned car production *filières* organized on limited territories, going from R&D in mechanical engineering to design, marketing and manufacturing, are good examples of the same phenomenon) (Camagni and Diappi 1989);

(e) cooperative relationships among production units may establish network externalities for:
  e′. specialised and complementary centres, managing in a natural or a planned way the inter-urban division of labour (the aforementioned case of Randstad Holland, with the division of labour between Amsterdam, Rotterdam and The Hague);
  e″. top-ranking centres, acting as nodes in the information and communication network linking headquarter functions, financial activities, high-level tertiary activities with a multinational internal organization like consulting or advertising (the case of "world cities");
  e‴. centres of any order, specialized in the same sectors or functions, tightly interlinked among each other in order to capture the scale effects of being 'locked in' a network (we have here the cases of specialized financial centres like the Swiss ones; the centres specialised in advanced R&D; the tourist cities organised into 'itineraries', etc.).

From the point of view of the explanation of the empirical phenomena that contradict the traditional city-system model, points d′ and d″ may be utilised to understand specialization processes and the incomplete presence of the whole range of functions in a centre (points I and II above), while point d‴ may explain why a centre of a limited size may acquire an international standing, concentrating the whole range of its functions along a specialization filière.

A city system of a Christallerian nature emerges from the processes underlined in points b, c″ and c‴. On the other hand, a specialization pattern of city centres and a 'complementarity network' of centres à la Dematteis derives from statements c′, d′, d″, d‴, e′; a "synergy network" of centres derives from statements e″ and e‴.

According to most recent reflections (Dematteis 1988a, b; Camagni 1990), the traditional urban hierarchy simplifies and collapses into a hierarchy of city-networks, organised in three main levels (see Fig. 10.1):

- *the network of world cities*, performing the whole range of functions ('complete cities', in the terminology of Conti and Spriano 1989), competing and cooperating along high-performing information and communication networks;
- *the network of specialised, national cities*, interlinked through input-output and trade linkages; and
- *the network of specialised, regional cities*, interlinked through the same kind of linkages.

Within each type of network, the linkages are of course horizontal. Among the different types of networks, the linkages are:

- upward market linkages (as cities belonging to a lower order network may sell specialised products to cities of the higher order network);
- downward, hierarchical market linkages (of the traditional Löschian market areas type);
- downward, hierarchical input-market linkages (*à la* Parr).

The cities of the second and third network level are part of specialization or 'complementarity' networks. The cities of the first network level are contemporaneously the nodes of different types of high-level 'synergy' networks: telecommunication and transport, physical networks; business and headquarter information networks; personal networks of top managers and VIPs; financial networks; cultural networks.

## 10.6 Policy Strategies at the Level of the City System

The evolutions that we tried to depict and to inspect hitherto have a profound impact on the nature, the goals and the general philosophy of territorial planning.

In fact, and remaining here at the level of the city system, from what we have called the simple 'territorial' logic, no real case for a policy intervention or strategy emerges: the pure logic of city size prevails, and size determines function at each level of the hierarchy. Each city is inescapably linked to its rank, and to the consequent functions, income and power (Table 10.1).

Also in the case of specialized cities, working within what we have called the 'competitive' logic, traditionally no policy strategy could be proposed, as city

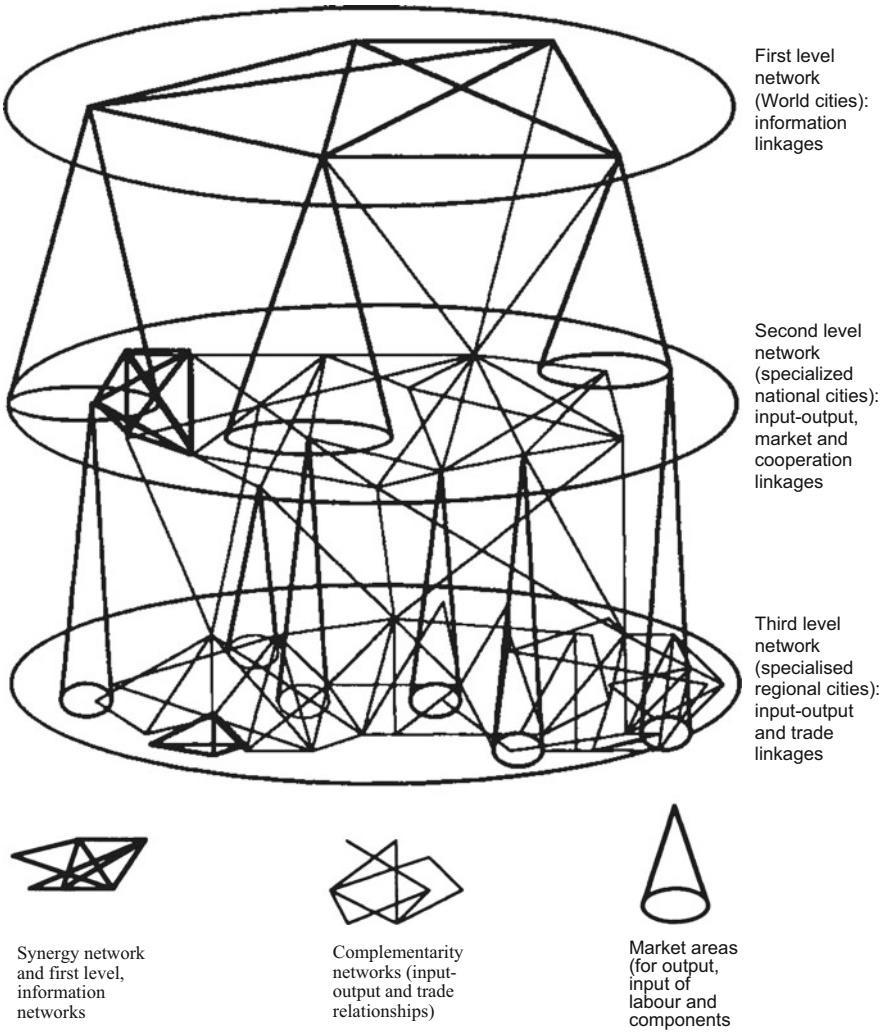


**Fig. 10.1** The hierarchy of city-networks

growth was only dependent on the growth of its export base. More recent reflections (during the sixties) on the role of 'residential' or service activities in securing the competitiveness of the urban export base and in providing chances for new industrial specializations have opened the way to possible interventions, directed towards the creation of an 'urban atmosphere' and an advanced urban culture. Furthermore, the reflections of the early 1980s on the role of the urban environment and urban quality of life in the attraction of both advanced functions and highly educated classes have led to the launching of new economic strategies for urban areas.

But in the case of the third logic, the network and cooperative one, a strong rationale emerges for economic policy intervention at the city and city-system level.

*The theoretical framework presented above leads to the definition of new policy strategies, based on the concept of city-networks*. In fact, the ideas of:

- a planned intercity division of labour;
- the strengthening of the competitive advantage of individual cities through *filière* integration of functions and possible complementarities with neighbour centres;
- the provision ·of intercity advanced physical networks in order to enlarge cooperation and synergy among cities of the same level, derive directly from the new illustrated model of economic behaviour.

The existence of complementarity networks of specialised centres opens up the possibility for the single centre to upgrade the reach of its market and of its image, through the development of the high-order functions that may secure its internationalization. These functions could not be developed on the sole basis of the demand of the local market; but, if a specific specialization is pushed ahead in terms of production quality, quantity and territorial (agreed) monopoly, and if the advanced function itself is devoted specifically to the treatment of the specialization sector, all the economic preconditions for its appearance and flourishing are secured. Examples of this are the location of advanced public activities like specialized fairs, technical research units and universities in centres that would have never been able to support these activities on the sole basis of the size of their core and their hinterland (Como and the silk *filière*, Brescia and the mechanical engineering *filière*, etc.).

On the other band, the role of a top city on a first level city-network and the advantages it can extract from it, widely depend on the competitiveness of the city itself. Therefore, for the strategic planning activity the possibility is opened of:

- developing priority functions, in which the city has some comparative advantage (and this brings us closer to the case of specialised cities); and/or
- developing all the possible synergies among selected functions (e.g.: top management—transport—tourism—culture; fashion creation—fairs—tourism—art exhibitions;. . .).

Among first-level European cities, Paris is the one that is apparently following this strategy with the most clear intention and willingness.

The necessity, and on the other hand, the new opportunities opened to a strategic planning process at the city-system level, are strengthened by three considerations, which are very clear to certain national and regional government agencies in Europe nowadays:

- the consciousness that the main effects of the completion of the European Single Market will be on the large metropolitan and urban centres. The liberalization of capital flows; the establishment of a unified market for banking, financial and insurance services; the forecast establishment of commercial subsidiaries of big non-European multinational companies in the core markets of each country; the effects of the internationalization of the single economies; all these processes will strengthen the position of metropolitan areas within the general European city-system, but will also put the burden of international competition on the shoulders of these same areas, which will compete directly with each other (GREMI 1989). An example of this concern was the request of French Prime Minister Rocard to former Director of Datar, Mr. Carrez, to explore the conditions for "*affirmer la vocation de Paris à être la première des capitales européennes tant en matière économique qu'en matière scientifique et culturelle*" (October 1989);
- the probable effect of the disclosure of eastern European countries, which will shift eastward the economic and political barycentre in Europe; especially in France, this problem is felt with increasing preoccupation;
- the evidence that the European city hierarchy in terms of internationalised functions is much flatter than the hierarchy defined in terms of all economic functions (Reclus-Datar 1989); this fact opens the chance for cities belonging to our second-level network to acquire an international status (and connected wealth) in spite of their limited population size;
- the idea of the necessity for each city to elaborate a growth strategy on the basis of its perceived comparative advantage, and for the central authority to sustain in terms of financial resources these strategies, has been recently adopted by public authorities in France and Italy. In France, Datar is pushing cities to elaborate their own economic and development strategy, and is ready to sign the so called '*contrats de ville*' (city contracts), substituting the previous mechanism based on '*contrats de plan*' defined on a regional basis. In Italy, the same attitude is assumed in most recent planning documents of the Veneto Regional Government, while the Lombardy Regional Government is now considering a document prepared by its Scientific Committee for Economic and Territorial Planning advocating the strengthening of the network structure of the city system and an orientation of the spatial division of labour between cities ('*Politiche economiche e ambientali per la Lombardia del 2000*', June 1990);
- at the same time, the idea of a close cooperation between cities ('*réseaux de villes*') has been followed since some years in France; strategic planning documents based on a network philosophy are now under elaboration for the cities of La Rochelle-Poitiers - Angouleme, Montpellier-Nimes, some cities in Bretagne and other regions. Once again, the theme seems to be the cooperation in physical networks provision, the definition of a functional division of labour, the strengthening of complementarities and specificities ('vocations').

## 10.7 Policy Strategies at the City Level

The new spatial logic of economic organization has opened new degrees of freedom to planning functions and generated the conviction that the city needs, beyond the traditional planning documents controlling land use (the British Master Plan, the French *Plan d' occupation des sols*, the Italian *Piano Regolatore*, the German FNP – *Flächen-nützungsplan*), a strategic document emphasizing the perspective role of the city, the possible global scenarios, the goals and instruments of the planning process, the actors and the partners, the implementation phases and the assessment criteria. In this respect, the French tradition of the *Schéma Directeur* represents since the sixties an important anticipatory experience, mainly emphasizing the strategies in physical planning.

The new intervention philosophy based on non-compulsory, indicative and strategic planning has provided two extra-benefits to the general planning process. First, to avoid the traditional and paralysing opposition between 'rational—comprehensive plans', trying to control in a detailed and inflexible way all aspects of urban structure and growth, and the "deregulation" attitude (visible in the version of the British Inner City Policy and Enterprise Zones Policy followed by the conservative government in the eighties). Secondly, to allow the inclusion, in the general planning documents, of elements of political or social 'utopia' (as an example, the commitment of the Milano city government to devote 50% of derelict industrial land to parks and social services) (Table 10.1).

Different empirical experiences exist of the new attitude towards strategic planning documents in Europe (Gibelli 1990a):

(A) an experience of "strategic planning" proper, coming from a direct analogy with respect to the private companies' planning process. This tradition comes from some U. S. experiences in the early eighties, such as the Strategic Plan for the city of San Francisco, prepared by Arthur Andersen (1980), and mainly reflects the objective of an effective planning process. Economic goals for the city are inspected, implementation phases are defined, instruments and actors are activated, criteria for economic impact analysis and assessment of the outcomes are proposed. In Europe, similar experiences may be found in two strategic plans in Spain, Barcelona and Bilbao (*Plan Estratégico de Barcelona*, 1989; *Plan Estrategico para la Revitalizacion del Bilbao Metropolitano*, 1990, prepared by Arthur Andersen and in the Strategic Plan of Madrid, now underway (1992);

(B) strategic documents which align economic aspects with social and environmental issues, on the lines drawn by the Strategic Management Research Centre of Minnesota University. Belonging to this second tradition are the four documents preliminary to the revision of the SDAU of Ile de France (1989–90), the STEPL—*Stadtentwicklungsprogramm* in Munich (1983), the plans for the Lyon metropolitan area (Lyon 2010, 1988, prepared by a consortium of municipalities, SEPAL), for Strasbourg (Strasbourg Ville International, 1988) and for other cities like Montpellier and Nancy;

(C) strategic documents to insert important infrastructure interventions into a sound framework of economic and policy scenarios. Belonging to this class are two relevant planning documents of the Milan municipality: the *Documento Direttore Passante Ferroviario* (1984), referring to the construction of a major underground railway line, and the *Documento Direttore sulle Aree Industriali Dismesse* (1989–90), on the rehabilitation of industrial derelict areas;
(D) strategic documents mainly elaborated by the central government to assist the revitalization policy towards distressed urban areas: the British Inner City Policy documents of the eighties, mainly or totally drawn by the Department of the Environment;
(E) strategic environmental plans, starting from air quality control issues to launch major comprehensive economic and physical planning strategies, along the lines of the recent planning interventions in the Los Angeles metropolitan Area (Los Angeles 2000–1989; Air Quality Management Plan—1989; see Gibelli 1990b). Along these lines, many debates exist in Europe (especially in the big Italian cities), but no real and formalized experience (Fig. 10.2).

The main economic, locational and planning issues in these documents may be found in the following:

– attraction of valuable and crucial functions in the city;
– internal re-equilibrium of the location of these functions, in the direction of the realization of a 'polycentric' city, each centre encompassing multiple and integrated functions (residential, headquarter, recreational and commercial, technological);
– urban quality, in terms of parks and public services;
– avoid traffic congestion;
– proper and 'strategic' reutilization of highly symbolic buildings and derelict areas.

Conservative planning attitudes have contrasted the new 'modernist' philosophy, especially in countries like Italy. In fact, some risks do exist in the new approach, which have to be carefully inspected and counterbalanced:

– the risk of creation of a 'two speed' city, if mainly advanced and crucial functions are considered;
– the risk that these very general strategies, especially when elaborated outside the public administration, may represent only the vehicle for the approval of speculative projects;
– the risk of a disequilibrated relationship between the private and the public partner, in favour of the former, in the conception of the plan.

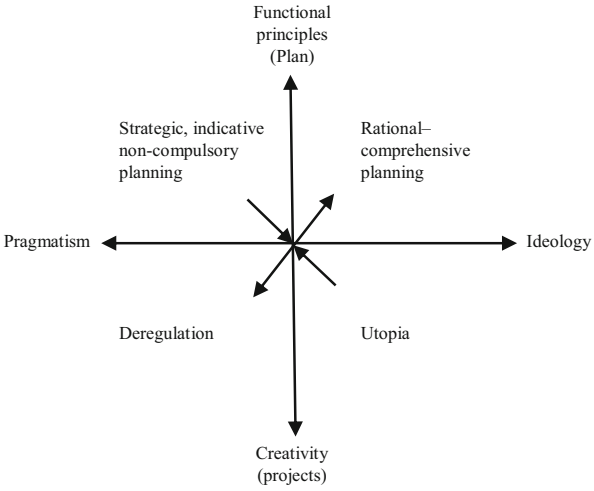


**Fig. 10.2** Urban planning philosophies Source: Gibelli (1988)

## 10.8 Conclusions

In this paper, it is shown how the logics that shape the city system are more complicated than the simple 'territorial' and hierarchical logic of the traditional central-place model. The control of the market of outputs, inputs and innovative assets is performed by the firm not only in terms of management of a gravity area, but also and increasingly in terms of network relationships.

The new behavioural logic of the firm parallels and partly determines the new organizational logic of the city system, where phenomena of specialization and networking also appear.

This new pattern of territorial relationships opens up new degrees of freedom for the planning activity, as a city is confronted with wide possibilities and alternatives as far as its development path is concerned. The case opens up therefore for intentional city strategies, both at the level of the single centre and at the level of the entire city-system.

This opportunity was recently grasped by a new attitude in city planning, concerning the presentation of strategic planning documents in many European cities and regions; these experiences have been briefly examined.

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