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The city-effect and the planning process: critical consideration from a multinational viewpoint

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Abstract

Over the past thirty years, the author has examined on several occasions the concept, the role and the possible quantification (through adequate social indicators of urban welfare and urban life quality) of the 'city effect' within the planning processes of the "advanced countries" of the world. This subject has been resumed and codified in a recent international research – headed by the author within the Research Program of the European Commission – concentrating on four EU countries (France, Great Britain, Germany and Italy). The results were interesting, but only applicable to the European countries, and possibly other "western countries" of the OECD.

It would be opportune to verify these results, comparing them with other countries of the world, especially developing countries, and to evaluate them in the light of different demographic, social and cultural contexts. It would also be opportune and useful to debate and research more about how the historical context is changing the concept of cityness and the needs and values inherent to the city effect.

In this paper the author, briefly sketches out the approaches of the mentioned research at the European scale in general terms, and after having developed some critical considerations about the foundations of an extension of research in the said directions, in order to extend the debate and to collect opinions from other colleagues on the theme and its feasibility (Part I). He then illustrates (Part II) the result of the research carried out in cooperation with the other institutes (mentioned in Appendix II of Part II) in the form of a proposal of reorganisation of the territory of the four examined countries, according to the criteria and premises of the discussed urban systems policy.

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Part I

1. Introduction

1.1 Spatial planning at a multi-national scale

Once upon a time, spatial planning was born in the bed of town planning. It was, essentially, a *physical* form of planning. Town plans or territorial plans, called "masterplans", have always been essentially physical, in the sense that they have occupied themselves with the design of a physical use of land-space or (which means the same) with the design of the use of physical land-space (if we start with the concept that the "space" is only a physical element).

However, since some time ago – maybe we can agree that this has been happening since the end of World War Two – the traditional town planners have extended their vision; it is not possible – they have said – to determine a "physical spatial" *optimum*, if not in relation to *non-spatial* (socio-economic-institutional) conditions and constraints[1].

This provoked (as it should have) a great change in the theory and the practice of spatial planning. In fact, from it has been derived a vast extent of researches, the main ones having been the *regional economics* (or more generally, "*the regional science"*), which have explored, largely, the inter-relations between the traditional physical-spatial planning with the non-spatial socio-economic aspects; and "the planning theory", which covered the inter-relations between traditional physical spatial planning and the non-spatial institutional aspects (like procedural aspects, decision theory, theory and sociology of communications, theory and philosophy of law, etc.).

But old habits die hard. The systemic integration between spatial and non- spatial phenomena has not quite been assimilated in the *forma mentis* of the land-spatial planning scholars. The extensions of vision on the part of the traditional town planners, to which we have referred, remained in the state of…mere extensions. They didn't give way to a real *meta-disciplinary* reconsideration, to a new generalist approach to planning, which come not only – as is the case, for instance, of our planning school associations – from the ancient planning schools intended for the most as town planning schools, which are mostly located in the traditional schools of architecture as urban and regional departments.[2] The core of these extensions is always town planning, which is only with difficulty related to the other planning levels, the national and multi-national ones, which are by now so influential on local life.[3]

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[1] I wish remember some old stimulations on the subject: first, in the magistral way, from Walter Isard , (the father of the 'Regional Science') (1969; see also 1998); and in the circle of town-planners, from M.M.Webber,(1964) and R.A.Bird (1968) and more recently from P.Hall (1996).

[2] In some universities (for instance, in the University of South California at Los Angeles) the traditional department of urban and regional planning has merged with the department of public administration. This is the right way to renew the approach!

[3] It seems to me dutiful, however, to remark, within these observations on the "systemic shortcomings" of the above-mentioned "extensions" on the part of the town-planners, that similar shortcomings have been registered within the other disciplinary approaches which should have contributed (and should still be contributing), to an *integrative and complete form of planning*, and to its teaching. In any case, the traditional planning schools have been more open to the other different

Attempting to respond to that imperative of systemic vision, the planning schools – even while remaining in their own beds – have been spread in many different directions. Among these directions has been the application of physical planning on different scales, including national and multi-national scales (and I think that the pressures, in the time in which we live, of the phenomenon of so-called globalisation, are inducing town planners to bring their attention also to the global scale).[4]

In the European area (which is the area in which I live, and which I know better), there have been many attempts of physical planning at the national scale. Although, I repeat, the core of these attempts has always been the land use, they have tried to be open also to socio-economic considerations of a "national" kind. This, in spite of the fact that none of them has been conceived in terms of strict coordination with national socio-economic plans, where existent. Nor, therefore, have these attempts ever achieved the character of components incorporated in national initiatives of integrated planning, as spatial dimensions of them.

In the European area, people have also even had a very important example of physical town planning officially brought to the multi-national scale: *The European Spatial Development Perspective (ESDP)*[5]. This event, the "construction" of these perspectives (which have never been conceived as a master plan) can assume an indicative and significant value, very important for European policy as a whole and, for the national land use policies. It is a significant event which deserves the greatest consideration.

However, the object of my paper is another: it is not to enlighten regarding the ESDP's merits and its progressive political meaning. It is, on the contrary, to enlighten regarding its defects. Starting from the ascertainment that the contents of the ESDP, and the way with which people have arrived at its definition, is that of the traditional way to consider physical planning, even on the other, more usual, scales

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approaches than the other disciplinary schools such as economics, sociology, administration and management sciences, etc. This argument, which is outside the scope of this paper, has been the object of many of my other writings (Archibugi, 1980;1992; 1994, 1995a, 2003). It has also been the subject of a first authentically interdisciplinary conference in 1992 (Palermo: the First World Conference of the Planning Science on the theme of Planning Techniques and Institutions), promoted by the Planning Studies Centre and the sponsorship of the UNESCO, the United Nations University and the European University Institute) We can say that this conference has been so interdisciplinary - with the attendance of many scholars coming from so many different strands - that it has failed to get continuity for further work or for the construction of a network for the reconstruction of an integrative (spatial and non-spatial) methodology of planning.

[4] This scale has already been approached by many town planners, especially those of a "Marxist" background, who have interpreted and described the evolution of the concentration of capitalist system interests at the world-wide scale as the key factor within which an unbalanced growth of power has developed between some great cities, as centers of world power, to the detriment of the other cities that are suffering an ongoing impoverishment of their urban values. I refer to some others (with many followers) like David Harvey (1973, 1985, 2003, 2006), Saskia Sassen (1994, 1996, 2002) and many others. This vision (or paradigm?) in my opinion contradicts another trend of scholars of the urban evolution, which on the contrary has shone a light on how the spatial impact of the modern technology (especially the ITC) favours the diffusion of the urban values in the territory, a phenomenon that has sometimes been called "de-urbanisation" or even "counter-urbanisation" (See for instance Berry (1980), Kunzman and Wegener (1991)). But, in these visions, it is difficult to distinguish the effects from their interpretation or "reading keys" and therefore, I think, that we must consider them very questionable. Anyway, they are not the subject of this paper.

[5] European Commission, 1997. See also by the European Commission the Reports (1999a, 1999b, 2000, 2001).

(the urban and the regional ones), my opinion is that this character put it in the condition of: (a)to be poorly useful to the implementation of its strategic objectives (the socio-economic cohesion); (b) to be based on evaluation presuppositions which are very unclear and fallacious enough; (c) to delay instead of hastening an experience of unitary and integrative approach to planning.

1.2 The case of the ESDP and its limitations.

I will not judge the experience that I have taken as an example, the ESDP, from the point of view of its political effectiveness, which has been the angle from which it has, for the most part, already been assessed.[6] I intend to assess it from the point of view of its "scientific" effectiveness. In effect, I think that any kind of plan – even the plans that don't intend to be executive or master plans, but only indicative and propositional in order to be taken into account in the heap of general political decisions - cannot avoid knowing its impact, even with *other dimensions* incorporated in the planning itself: the socio-economic dimension, the sectorial one, the institutional one. All this on the assumption – not always justified – that the physical spatial dimension includes (or better, blends) with itself, even the full consideration of the effects by any kind of socio-economic decision on the physical environment.

The scarce familiarity of the "constructors" of the ESDP with the concept and the method of planning *multi-dimensionality* is rendered evident particularly in the scarcity of references to a *shared concept of cities*, whether in the official documents through which people arrived at the ESDP or in the preparatory studies that the European Commission has developed in the aim of coming to the elaboration of such documents.

The European Economic Community (today *Union*) has, for since time, promoted a policy of "social and economic cohesion" among the member countries.[7] This implies also that we should start from the shared definition of the basic criteria with which one evaluates such "cohesion" (values, methods, measures).

In the "socio and economic cohesion" we can flow together all the decisions which define the non-spatial, i.e. which are not aimed at the physical-spatial use of the territory: social welfare, economic development, quality of life, quality of work, quality of services, security, technologies, criminality, etc. It is difficult to sustain that something of the decisions or actions at which is aimed such a policy of "social and economic cohesion" could not have a relationship with the physical spatial land use of the territory and, vice versa, that every decision aimed at a better use of territory could not have a relationship, and an impact, on the multiple factors of the social cohesion. Nevertheless, in the process which has led to the ESDP, we are very

[6] The ESDP has been object in the last few years of a great quantity of analysis and debate. And it has had the honour (I am not sure if deserved), of much interest from the most influential man among the planning theorists, Andreas Faludi. Leaving aside a wealthy bibliography of comments and analysis of the ESDP made by Faludi in his papers (some forty of them), his historical critical reconstruction of the process of making this important political document of the European authorities (written in cooperation with Bas Waterhout) (2002), will remain a basic source for anybody wanting to talk in the future about ESDP.

[7] It is in the Single European Act of 1988 that this policy began, with further little steps in the Treaty of Maastricht (1991), and those of Amsterdam and Nice (1997 and 2000).

far from the proposal of "perspective" that could be the result of a full integration of two points of view.

In some official documents of the European Economic Commission, "territorial cohesion" is spoken of as a synonym of spatial planning.[8] We are not going much more beyond vague expressions, no further specified, in order to avoid their use in different concepts. But what are the points of real contact between the territorial policy and action with the social and economic cohesion policy? Not one of the historical ESDP documents tells us.

In my opinion, an important (perhaps the most important) point of the suture or pivot, between the two policies, is *the city*, where are developed the majority of those things that concern the individual and the social welfare of the people. At least, as long as mankind does not lose its stationary state of living (and doesn't become again nomadic and ubiquitous), the city – as a concept and as reality – will remain (against all its great transformations) the place in which are materialised the greatest number of the interpersonal relations for the majority of the population. It is also the place in which the worries of the physical planner and of the socio-economic one, are unified and are integrated. The place in which the physical welfare and the socio-economic one are implemented.[9]

Moreover, the city is also the place in which the greatest risks of modern life are terribly homologising themselves, instead of differentiating themselves according to geography, history, the climate and economic development: pollution of every kind (atmospheric, water, air, waste, noise) health organisation, traffic, various kinds of congestion, accessibility to services (today ever more personal services), etc..

A socio-economical and territorial *cohesion* between countries and national societies, cannot but start from a greater cohesion intending and harmonising the concept of the city itself, its requirements, that which optimizes the services and the quality of life. This is something that has value for any kind of multinational political approach.

In a multinational approach, this is not conceivable without a hypothesis of multinational policy. Neither is a multinational policy conceivable without any kind of form (from the weakest to the strongest) of supra-national authority. Also inconceivable is an authority which intends to get the strategic objective of a greatest socio-economic cohesion, but does not establish some references, some standards, some targets and instrumental objectives, which could be commonly accepted. From the other end, if such authorities have some sustainable powers for the achievement of a greatest cohesion (for instance, the financial means, like the structural funds, in the case of the ESDP), it cannot but have a homogenous method for the measurement of the success of its action, if such funds are spent well or poorly, if they are addressed to obtain results adequate for the cost.

If all this must be pursued, it is not reasonable to have a method of measuring that is incapable of comparing situations that are analogous and comparable;

[8] For instance, the term has been introduced by the Amsterdam treaty.

[9] A good deal of the works by Peter Hall (for instance, 1995a and 1995b), 1999, are oriented in this direction. A rare exemple in planning literature of research towards a real integration of physical and socio-economic approach is the work of Phil Cooke (1984), work that go far beyond what I called - above - 'extension' of mere physical planning, and trying a true effort in a 'meta-disciplinary' approach focused – however – in a still undefined 'regional' ambit and the factors of its 'innovation'. (about which he became a well-known scholar). The Cooke's true meta-disciplinary approach has been perhaps the factor of his regrettable lack of influence in subsequent planning theorist's literature.

otherwise, it means comparing objects that are incomparable (say, 'cities'). The demographic and territorial requirements of cities, in order to compare their character, for instance the needs or the welfare levels, must be equal. Otherwise the comparison is foolish and fallacious, and leads to evaluations and decisions which are totally misleading.

Regarding this need and this imperative, we find no trace in all the paths which have led to the ESDP in Europe. I believe, on the contrary, that it is an essential requirement for every multi-national approach of planning (meants of course, as 'integrative' socio-economic planning).

Naturally, the concept of city, and of what produces the city effect, or *cityness* has been through history in a permanent transformation; probably, in recent times it has been more rapid, and in the future it will be even more so. However, is it possible to avoid it if we wish to have an idea about what to do in order to improve the urban condition and to render it more cohesive at a multi-national level? A good deal of the political – and, alas, also the academic – speeches that people make on this subject are pervaded with implicit and self-referential statements, and when people try to make their references *explicit*, the speeches are dissolved in a series of arcane, uncontrollable notions, that are not measurable. This turns the town planning discourse into nothing more than a pretty chat. The contribution that spatial or town planning must make to the political decision is that of providing a homogenous reference framework which could allow adequate evaluation and rational decisions; and, I insist, it should do so independently from the degree of enforcement that the public authorities of the superior level can, as a matter of choice or a result of circumstances, exercise on the public authorities of inferior level.

1.3 The critical foundations of a selected lexicon

From what we have said can be derived the reasons for a preferred lexicon, which deserves to be rapidly outlined, in order to avoid the dangerous subjective use of the terms.

In my opinion, when we (planners) use the word "planning", we should conceive it without adjectives. If we should accept some adjectives, they should be only the procedural and / or methodological ones - such as *integrated*, *systemic*, *unified*, *strategic*, *comprehensive* and others - which are not true substantive attributes, because the concept that they express is already included in the word that they should be illustrating. These are different from the adjectives that add something *substantive* to the above nude and crude concept of planning (as we say: *physical*, *urban* or *spatial planning*, versus *economic*, *environmental*, *social*, *transport*, *tourism*, etc. planning). When we say that the attribute is already included in the concept – in our case, the concept of planning – it means that if the attribute would fail, the concept itself would also fail; in our case, if planning would not be together, integrated, systemic, unified, etc, it would no longer be a real true planning, and it would not deserve to be called such.

From all this it can be derived that spatial or territorial planning (risen from the logical ashes of the physical territorial one, which is on the contrary still thriving on the professional level of the city architects), is a delimitation that is damaging to the concept of planning, because it adds to it something specific, and risks taking away

from it the capacity to be effective, because it is shorn of functional, systemic relationships with many other non-spatial factors that, if ignored, influence strongly the result.[10] How many physical spatial plans, apparently rational, fail only because they have not taken into account the economic financial constraints or the availability of the stake holders for which they have been conceived? Is it not almost all of them?[11]

Even regarding the concept of "city" we need finally to arrive at a univocal concept, just to avoid misunderstanding. Here the enterprise seems to me easier because for some time people have identified the city[12] in a set of functions which concerns the welfare of its inhabitants (of course, changing over time, but not for this reason indefinable). At the same time, the fact that we have given to this concept a *normative* flavour – the achievement of a standard of urban welfare coming from the presence of those functions – has simplified its concept in respect of all the infinite attributions that the geographical descriptive analysis has believed to introduce. In the face of the numerous variables, urban patterns and conditions, the city concept problem is reduced to the definition and quantification of a *theoretical model of city.*[13]

Thus, this model became an unavoidable element of evaluation and measurement for a policy of urban welfare. In fact, it is difficult to conceive of an urban policy and planning without a reference to this model, which indicates the priorities of the improving interventions.

The terms most used to qualify this concept of city in the most modern way are "urban system", "optimal city", "sustainable city", "cityness", "city effect", "optimal urban centrality" and a legion of other terms. Even here, it should be clear that – taking a distance from the *descriptivist* obsession – all these terms mean the same thing, the same concept: a *set of functions* for the citizen, - optimised, given the circumstances; a set of functions which give to the citizen the sensation of living in a *complete* city, in a territorial or spatial system, in which it is possible to evaluate and measure (within the limits concerning the functionality of the spatial level in question and in comparison with those of other systems of its own level) merits and

[10] Here is one of the basic reasons for the failure of spatial planning of professional origin, where it has not yet penetrated the critical spirit of the planning theory, despite the fact that even this planning theory has not been liberated from its own "spatial" origins. In my opinion, the reasons for the crisis of planning must be sought in the missed acquisition of a new meta-disciplinary or neo-disciplinary identity of planning. [I have developed this concept in my work *Planning Theory: from the politological debate to the methodological reconstruction* (Italian edition 2003, English edition forthcoming.)] In a congress of planning schools (*tout court*) such as that in which we are, we should find ourselves in an environment free from the spatial and physical-urban influence, but this is not the case. On the contrary, I have the strong feeling that here the spatial bias predominates.

[11] I cannot liberate my head from the idea that the ESDP conclusions to which I refer myself are destined to have little impact in positive terms on the policies, or at least they are no more than a reflection *ex ante* of trends that would take place even without the ESDP. (This would besides largely justify the victory, achieved in the long period of elaboration, that has imposed on the title of the ESDP the word "development" against those that would prefer in its place the word "plan".) A nice immersion in the language confusion about the land use policies in the various European countries, is the reading of the European Commission's document "*On the Systems and Policies of Spatial Planning*" (European Commission, 1997)

[12] Beginning from the celebrated 'school of Chicago' – essentially of urban sociologists – in the '20 and '30 of the last century.

[13] Of course a city conceived with the latest characters of the 'modern' city (P.Hall, 1997 and 1999, J.Rautsi 1993).

defects, advantages and disadvantages, presence or shortcomings of functions, through appropriate indicators.

Between all those terms, maybe the most "neutral" and more adherent to a modern concept is that of "urban system".[14]

The definition of such an urban model (or system) of reference, beginning from its territorial or demographic dimensions, is an indispensable or unavoidable premise (in order to make sense) of an urban multinational policy (also national or regional ones).

2. Towards research into a multinational city effect of reference.

Introducing this substantive vision of town planning at a multinational scale, the intent of this paper is to present the findings of a research implemented – exactly – at a multinational scale, which was just aimed at providing a frame of homogenous references for the elaboration of a unitary and integrated notion (or concept) of urban systems (or "city effect" or "cityness"). First of all, it is worth saying that this research, even if addressed to the improvement of the spatial planning procedures in the European Union, and even if funded by the framework program of research and development of the union that is periodically promoted, has been applied only to four countries of the union: France, Germany, Italy and the UK.[15]

The pivots of the research are simply two:

1. The identification of a set of urban indicators capable of helping to build a model of the urban system that is acceptable at the multinational scale.

[14] The term "city", on the contrary, immediately stimulates a historical descriptive casuistics, and it risks losing us in the dimensional lexicons dear to the geographers – from the micropolis to the megalopolis – which have always had little meaning of substance. The discontinuous use of these terms, although I declared that they have the same meaning, (at least in their normative flavor), can be sometimes motivated by the need to accentuate – in determined circumstances of environment or of argument – some shades of meaning which we need to employ. This is the case, for instance, of the title of this paper, in which I have preferred to use the term (not the concept that it is the same) "city effect" rather than "urban system", because it seemed to me immediately more perceptive of the specific political content that I wished to give to the concept.
The term "urban system" has been used in literature with several other meanings, among them even meanings different from the use that I would make here. [For a general glance at the several uses made, within a "systemist" conception, I would have nothing better than to refer the reader to some collective works by C. Sergio Bertuglia (1987, 1990, 1994, 1998)] Therefore, its use would require a long reconsideration of the term that I do not here have the time to make. However, in presenting, in the following sections, the results of a multi-national research on the urban future in Europe, the research participants agreed to maintain the term "urban system", used with the same meaning as "urban effect", normatively meant, in the same research, because there they had the time to relate its correct meaning, which pervades all the research. (For more arguments, see Archibugi, 1995a e b)

[15] The project considered a further extension of the research to other significant countries of the European Union, but, although this was not done, the research authors still think that the urban system model and the urban indicators that have been found with the research can have a validity for a good part of the other European countries and also non-European countries in the same advanced state of development. In **Appendix no.2** of this paper there is the schedule of the entire staff of six European Research Institutes that have cooperated in the research (under the guidelines of the Planning Study Centre of Rome, which elaborated the research project approved by the tender by the European Commission).

2. The identification of a territorial distribution – on a concrete national territory of each of the four countries – of urban systems capable of meeting the requirements of the formulated model of the urban system.

Such distribution is presented as a proposal to the national government (and at the same time to the regional and local government), concerning an organisation by the urban system of all policies having a spatial dimension.

On these two pivots has turned all of the research approach and process. [16]

The (theoretical) concept of the urban system (alias "city effect" or "cityness") has strongly conditioned the research on the factors of urban welfare, giving them a reasonable quantitative proportion.

At the same time, the exploration of the situation in some selected cities, by means of the surveying of some indicators of state, on the list of those considered significant to give substance to the urban system concept, allowed us to give to the urban systems some reference spatial objectives.

The reference to such objectives approximately quantified, has helped the researchers in the formulation of the proposals of territorial urban aggregation, on which to articulate later the territorial and distributional policies in every country.

Thus the urban systems designed have become (where possible) the statistical surveying units, appropriate to the chosen set of indicators. Any other statistical units have been considered misleading and fallacious. However, the chosen indicators have become the instruments of control of the consistency of the territorial areas to become the "urban system of reference" for a national policy of interventions. With respect to the logic adopted, any other territorial policy of intervention becomes arbitrary, disordered and chaotic, not conscious of the real effect achievable and achieved; certainly, not deserving of the qualification of rational plan.

Posed in these terms, the setting up of the research gave the following results.

2.1 The set of urban indicators

The research has tried to identify what phenomena and urban services could guarantee an appropriate city effect.[17]

Agreed on such lists, the researchers have explored – each with the means available to him – in the chosen sample cities, [18] which could be the functional level of access and fruition to the phenomena and service of the list.

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[16] This research has been published in a synthetic edition(and limited copies) by the Planning Studies Centre, under the editorship of Franco Archibugi, with the title *The Future of the Urban Quality in Europe: Towards a New Concept and Strategy of "European Urban System"* (Rome 2003, second edition). In the remainder of this paper, quotation of the research will be made with reference to this publication.

[17] **Table 1** [6.2 in the research text already indicated, PSC, 2003] shows the list of the "central" indicators on which the research turns, after a vast analytical procedure and debate on them. (See chapter six of research in the quoted volume).

[18] There were twenty sample cities (five for each of the four countries investigated). The selection of the sample cities has been made as follows:

– Two cities chosen from among the "large" cities, (one with a more "developed" economic context and the other less developed economically).

From this enquiry[19] a framework has been born for every country, from which the researchers have "negotiated" among themselves a frame valid at a multi-national scale.[20]

In the research process, the negotiation among researchers has simulated a political institutional process. Obviously, the simulation has been largely easier than that which could be in a real political institutional process. However, the modalities of the stage could be not very different, and their clearness (in a technical level) could not but facilitate the real process.

2.2. A reference taxonomy for the 'urban system's model

In formulating a theoretical model of reference of urban systems,[21] one must face the problem of the different types (or patterns) of city. In fact, we can ask ourselves: does the urban pattern have an impact on the possible urban policy that we have to identify at the multi-national scale (in the end to obtain a greater social and economic cohesion, the main objective of the European Union)?

The conclusion to which we have arrived is that the urban pattern *has no direct impact* on the socio-economic cohesion and on the citizens' welfare. However, the organised existence of true 'urban systems' (city effect, cityness, etc.) does have such direct impact. In fact, that existence is its condition. And, since the urban pattern can often have a strong influence on the application itself of an urban systems policy, aimed at their creation and at their territorial balance, then the urban pattern can have an indirect influence on that cohesion and that welfare. So, its impact on the socio-economic cohesion can be defined as indirect. For this reason, within the logic and policy of the urban system it is advisable to include also the consideration of the urban patterns.

For this reason also in the research it was first tried to build a sort of possible taxonomy of urban system patterns, to help not only in the classification *ex post* of the urban system both identified or created, but also to help *ex ante* in the

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– Two cities chosen to represent "medium and small-sized cities",(one with a more "developed" economic context and the other less developed economically).
– One city with a strong individual character.

The choice criteria of the cities recommended to the researchers has been:

– The representation of certain general factors in common to all the centralities (such as city size or other factors of differing geography).
– The diversity of lifestyles.
– The exclusion of those cities with specific factors that would create a distortion of the sought-after theoretical centrality (such as the capital city, or administrative centre of this type.

[19] In the investigation the national researchers have searched, as far as possible, to consider (and therefore to draw) column A: state indicators; B: standards, needs and lag indicators; C: target and goal indicators, D: input indicators; E: process (throughput) indicators (efficiency, effectiveness, etc.); F: output (achievement) indicators.

[20] In **Table 2** [10.4 in the quoted publication] are shown the indicators both of city effect and overloading considered acceptable by the team of researchers at the conclusion of the exploration of situation in the twenty cities investigated. For further information on the modalities of the research on the indicators, and about the negotiations related to them, see chapter from 7 to 10 of the quoted volume.

[21] About such models, see chapters 11, 12 & 13 of the research volume (PSC, 2003).

identification of possible optimal configuration of such systems and of the policies aimed at their organisation.

2.3 The traditional pattern

A first, very simplified taxonomy has been drawn – in the research – by a very traditional pattern of spatial characters.22

First, the research has classified and articulated the diversity and multiplicity of the urban systems model, with regard to

a. *Structure*
b. *Form* (or morphology)
c. *Quality* (obviously urban)

a. *Structure*

The word "structure" is used here only to mean the nuclear physical structure of the built-up area of settlements (thus, the word could be considered inadequate, but for the moment, nothing better has been found.) The diversities in structure can be reduced to three fundamental types:

1. the concentric (or mono-concentric) structure[23]
2. the polycentric structure[24]
3. the diffuse structure[25]

It is obvious that the distinction suggested is applied to structures (urban systems) of an equivalent level or territorial scale (in our case, the "urban system" distinguished by the common requirements and structural components previously discussed). At different territorial levels or scales, the structures cannot be compared, and probably change in type: a concentric structure could become polycentric, a polycentric one could become diffuse, a diffuse one may show concentric features.

This is why one structure cannot be "preferred" to another, unless there is a strict correspondence with historical, geographical and – above all – functional circumstances in which they are manifest, or to which they can be applied.[26]

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[22] Among different classifications, I have chosen the most simple. It has been drawn by an old didactic work (Archibugi, 1980) and improved more recently I other work (Archibugi(1995a) to which I refer the reader for wider discussion.

[23] The *concentric* structure is based on settlements with a concentrated nucleus, which is extended to a greater, or lesser extent, intensity and density. It is a structure whose compact mass has a strong capacity for *centripetal* gravitation up to the level of saturation, and *centrifugal* gravitation beyond that.

[24] The *polycentric* structure is based on the presence of *several* (more or less concentric) *nuclei*, of which none is so clearly superior to another in gravitational force as to make the latter hierarchically inferior. Rather, these nuclei maintain a certain interaction between them, in terms of the reciprocal *inter-action* of functions.

[25] The *diffuse* structure is based on the presence of a large number of nuclei of different sizes and hierarchical levels, none of which is so important as to have an *exclusive* gravitational force on its territory.

[26] More information and evaluations on the urban structure can be found in the work on *"Theory of Urbanistics"* already quoted (Archibugi 1995a).

TABLE 1
The "Core" List of Indicators

Thematic Area	City Effect Indicators
Economies of scale	GDP per capita compared with national average
Localisation economies	Proportion of employees in the tertiary sector
Centrality	Retail commercial area m^2 per capita
Critical mass	Service threshold
Innovation potential	1) Number of firms established per capita and per year 2) R&D employment
Supra regional / international interlacement	Number of international congresses, fairs, and exhibitions held per year
Socio-cultural diversity	1) Number of workers in the arts 2) Nationally or internationally relevant live performances
Accessibility/availability of public services	Number of ecography machines and computerised axial tomography scanners operating
Social mobility	University graduates
Urban morphology	Provision of open public space
Subjective contentment	Degree of satisfaction
Public opinion/image of the city	City image in national media
Demographic attraction	Annual immigration rate

Thematic Area	Overload Indicators
Impacts on natural environment	1) Air pollution 2) Tons of waste produced yearly compared with national data
Impacts on economy	Level of commercial rent
Impacts on housing conditions	Average housing rent to income ratio compared with national data
Congestion of transport system	Average commuting time to work
Social disintegration	Number of one person households
Sociological and psychological consequences	Number of persons with mental illness
Consequences of impacts on physical health	Life expectancy
Demographic consequences	Fertility rate
Danger to life	Violent crimes
Accessibility/availability of public services	Average duration of waiting lists for surgery in hospitals
Impacts on participation	Electoral participation
Congestion of administration	Average duration of civil proceedings

Source: F.Archibugi, *et alii*. *The future of urban quality*, etc, quoted in Note 10 of this paper.

TABLE 2
City Effect Indicators and Standards, and Overload Indicators and Acceptable Thresholds

City Effect Indicators

Indicator	Reference Value	Comment
Population density	10.5 persons per hectare	Average value in the 5 sample cities, short of external standards (UK)
Demographic dimension	361,000 inhabitants (higher thresholds if tertiary activity is more than 49%)	City Effect increases with urban size up to a certain point (361,000 inhabitants) and then decreases. Higher threshold if tertiary activity is more than 49% (Italy)
Headquarters location: number of trading premises (headquarter sites of companies located in the area with turnover of more than £20 million relative to population size)	4800 persons per company	Average value in the 5 sample cities, short of external standards (UK)
New firm formation	0.003 registrations per head of population	A surrogate for the level of entrepreneurial activity. Average value in the 5 sample cities, short of external standards (UK)
Number of applications for business start-up loans	23 per 10,000 heads of population	Average value, short of external standards (Germany)
Level of employment in the tertiary sector	Over 75%	Average national value (UK)
R&D employment	10 per 100 heads of population	Relative level of technological development and entrepreneurship. Average value in the 5 sample cities (UK)
Occupation in the arts	13 per 10,000 heads of population	Average value in the 5 sample cities (UK)
Art galleries	One service unit per 33,400 heads of population	Value of the urban system used as exemplary (Italy)
Share of population that can reach the following facilities within 10 minutes (%):		Best value for cities over 500,000 inhabitants (Germany)
Retail shop/supermarket	over 90%	
Physician	88.1%	
School	over 80%	
Kindergarten	over 75%	
Public transport connection	99%	
Pub	over 95%	
Park	over 85%	
Retail sales area	over 1.5 sq. m. per inhabitant	National mean (Germany)

Night time entertainment	One unit per 30,000 inhabitants	Average value (UK)
Number of seats in performance venues	22.24 seats per 1,000 population	Average value in the 5 sample cities (UK)
Seats in cinemas and theatres	20 per 1,000 inhabitants	Average value (Germany)
Average time to reach an international airport	50 minutes	Average value (Germany)
Public transportation services closing time	01:15	Best time (France)
Number of beds in surgical services	2.8 per 1,000 inhabitants	Best value (France)
Medical specialists	17 per 10,000 inhabitants	Average value (France)
CAT scanners availability	1 per 150,000 inhabitants	Average value in the 5 sample cities (UK)
Provision of open space	300 persons per hectare open space	Average value (UK)
Herbalists	One per 180,000 persons	Average value (UK)

Overload indicators

Indicator	**Reference Value**	**Comment**
Demographic dimension	55,000	Urban overload effect shows an increasing trend over this value (Italy)
Degree of concentration of $N0^2$	30 parts per billion (ppb)	EU standard
Public transportation services average speed:		
peak	15.45 m.p.h.	Best value (UK)
off peak	19.22 m.p.h.	Best value (UK)
Percentage of derelict land	0.3%	Lowest value in the sample (UK)
Unemployment rate	10.6%	National mean (Germany)
Proportion of long term unemployment	32%	National mean (Germany)
Income support rate	5.9%	National mean (Germany)
Reported offences annually (except larcenies)	42 every 1,000 inhabitants	National mean (Germany)
Reported larcenies annually	62 every 1,000 inhabitants	National mean (Germany)
Violent crimes annually	3.5 every 1,000 inhabitants	Best value (UK)
Waiting time for surgery	3.2 months	Best value (UK)
Delay before criminal trial	11.9 weeks	Best value (UK)
Maximum traveling time between any two points within the metropolitan area	80 minutes	Theoretical threshold (Italy)

Source: F.Archibugi, *et alii*. *The future of urban quality*, etc, quoted in Note 10 of this paper.

b. *Form*

By the word "form" (or morphology), the proposed taxonomy means the figure of a geometrical type that the group of settlements or built-up areas, together with the flows that they determine, gives to the system in question.

In this case as well, we have limited the set of possible geometrical forms to four fundamental types, to which others can be referred:

1. "linear " form[27]
2. "reticular" form[28]
3. "star-shaped" form[29]
4. "polygonal" (or "circular") form[30]

The four essential basic types derive – by combination (like the primary colours that, when united, generate secondary colours, etc.) – other non-basic forms that we will call "hybrid" or composite.[31]

c. *Quality*

It must be remarked that the word "quality" as applied the urban system is used here to mean the pre-existing supply of private and collective urban services and historical cultural assets which the urban system has inherited from the past. It is very difficult to classify the diversities of the urban quality without an ordinal scale of the value, or the intensity, of that quality itself. In essence, quality in this taxonomy has been divided into three single levels: 1. high; 2. medium; 3. low.[32]

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[27] The '*linear'* form, obviously, absorbs all systems based on a continuous or discontinuous linear development, whatever appendix it may have, whether "T-shaped", "Double T-shaped", "comb-shaped" or "double comb-shaped".

[28] The *reticular* form does not, on the other hand, develop any geometrical figure and, due to its prevalently polycentric or diffuse structure, favors a network of relations of each centre with all the others, *without favoring any particular axis* (such as to configure some spatial forms).

[29] The *star-shaped* form, prevalently born from the concentric figure, is one of its most widespread variations. It gathers a hierarchy of situations (and nuclei) with regard to a "centre" which is the meeting-point of the star's radii. This centre may have a diverse consistency, like the radii; and the respective apexes of the radii may have nuclei, which are hierarchically inferior and dependent on the central nucleus (this is the case of "satellite" cities).

[30] The *polygonal* (or *circular*) form consists of a relationship between various nuclei (with an implicit, and thus polycentric type structure) that gives form to a figure linking the nuclei. This figure, which not only does not favor any of the nuclei (like the reticular form), but also prepares a subsequent connection for them, returning, however, to the starting point. Geomorphologic conditions which allow transversal axes between the nuclei (when there are more than three), would bring the polygonal form to the reticular form.

[31] For example, the configuration of the "star-shaped" onto the "polygonal"(or circular) form produces the "*wheel-shaped*" form (that, however, begins to resemble the reticular form). A semi-wheel (e.g. because of a geo-physical barrier, like the sea) produces a "*fan-shaped*" form, and so on.

[32] A series of rich and complex attributions could be given to each of the three suggested adjectives listed. The aim, however, of the desire to maintain a qualitative typology at a level that

The typology of the urban system according to structure, form and quality, provides a polyhedral set of cases that correspond to the connection of the various types.[33]

3. A typology according the planning strategy

But the most important feature of the adopted taxonomy in the research has been the introduction of a "policy-oriented" pattern: the "*strategic" pattern*, where *strategy* means the *planning (or programming) intervention or approach*, suggested by the urban system policy aimed at the city effect re-equilibrium (or greater cohesion).

This type of planning intervention or approach grasps the diversity between the various urban systems from the point of view – as said – of *strategy*. This classification has become a very important instrument for the purposes of any urban systems policy.

3.1 An essential typology of strategic role

Wishing, however, to reduce to a minimum this classification of the interventions regarding this latter strategy, we have considered it worthwhile to define only three types of strategy.

1. "*polarisation*" strategy;
2. "*de-polarisation*" strategy;
3. "*rationalisation*" strategy;

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is at the same time, both sufficiently general and linked to the classification of requirements, that suggested limiting the attribution in the following way:

- the "*high"* level has *all* the superior urban services which are capable of producing the *city effect;*
- the "*medium*" level has *many* of the above, but not *all*;
- the "*low"* level has only a *few*, or *none* at all.

[33] Three types of structure by four types of form by three types of quality give exactly thirty-six theoretically possible connections, and thus ideal typical models of the urban systems. Some of the theoretical connections between the types of *structure-form-quality* have, however, an intrinsic contradiction, conceptual in nature that renders their identification in concrete cases very improbable. For example, it is rather difficult to imagine a concentric-shaped system that has a continuously reticular morphology, or a system with a diffuse structure, with a co-terminal star-shaped morphology. Nevertheless, connections in the great majority of cases are possible, even if they are not all found in a given particular national case.

Geomorphologic conditions will strongly condition the presence or absence of this or that group of typologies. For example, it is doubtful whether typologies with a constantly present *reticular* form can be produced in geomorphologic conditions that have a high aerographical presence or with altitude differences. The polyhedron that arises from the set of interconnections between structural, formal and qualitative typologies constitutes a multi-dimensional matrix in which – as mentioned – not all the cells are likely to be filled; and there will not be (even theoretically) the urban systems that are susceptible to being ascribed to any of those cells. (More considerations on this matter are in the already quoted book by F Archibugi, 1995a.)

The *"polarisation"* strategy is characteristic of all those systems which have a future potential to reach, with a strategic intervention, the requirements of the urban system and thus of the "city effect". This is particularly true if they manage to overcome the present centrifugal dispersion of many areas and nuclei towards "poles" that are external to the identified system. Therefore, the "polarisation" strategy concerns these urban systems that can be seen in terms of "re-equilibrium", in as much as they were more or less adjacent to already consolidated metropolitan systems to which they have to represent an alternative in order to "overturn" the gravitation, at least in their more peripheral parts.

The *"de-polarisation"* strategy, on the other hand, is characteristic of all those systems whose supporting axis currently suffers from an excessive centripetal gravitational capacity, producing an effect of congestion which risks paralysing the functioning of the system itself and produces a "periphery" effect in the same over-extended system. The strategy of "de-polarisation" concerns, in essence, those urban systems "based on the current metropolitan areas".

The *"rationalisation"* strategy is characteristic of all the systems which, while there is not excessive polarisation and thus no need for "de-polarisation", still do not have equilibrium in the functional distribution of activities, (and therefore of flows) within their territory. These systems, while being potentially autonomous towards the outside, must still reach the type of internal "organisation" that can allow them to achieve the critical threshold of functional integration for the installation of superior urban services.

The intervention or approach concerns, obviously, the transition of a certain territory already configured, or only configurable, *as an (urban) system* from a *present* state to a *future* (programmatic) state. The transition is, in fact, realised by *the planning intervention and approaches* (and not by a mere spontaneous evolution of the circumstances). [34]

This is why the typology of urban systems according to the strategy to be adopted for them, constitutes the "core" of an urban systems policy (as understood in this research).[35]

However, this brings about some further considerations regarding the relationship between characterisation of urban systems by type (typology) and their strategic planning.

[34] In chapter 15 of the quoted research book is outlined how the strategy for the realization of urban systems presents itself. I reproduce in **Table 3** an example of diversification of strategy according to the structure of systems in question.

[35] More arguments on the roll of the typology of urban systems according to the strategy for an urban policy are debated in chapters 11 & 12 of the quoted research book.

TABLE 3
Objectives and policies according to different cases of urban systems

[As derived from the cross-section of 'strategic' and structural characters of the typology proposed]

	Plan's strategy		
	A. Polarization	**B. De-polarization**	**C. Rationalization**
	General Objective: Discouraging extra-systemic gravitations.	General Objectives: Encouraging extra-systemic gravitation. Privileging infra-systemic gravitation.	General Objective: Increasing the quality of the infra-systemic functional integration.
Structural character			
I**. Concentric**	**I-A.** (very rare case) Privileging the main Nucleus and concentrating the rare services there.	**I-B** Diminishing the specific weight of the concentric Nucleus. Creating extra-systemic alternative polarities. Discouraging communications with adjacent Systems. Dismembering cases of gigantism in the service Units. Protecting the free areas of the System.	**I-C** Researching alternative polarities within the System. Dismembering the superior service Units, excessively concentrated (giants) and de-localising them in the territory. Protecting the balance between intensive zones and free areas. Strenuously protecting the last free areas.
II. Polycentric	**II-A** Concentrating rare Services into few Nuclei or Centres of the bearing-Axis. Discouraging extra-systemic gravitations	**II-B** Increasing the 'reciprocity' flows between Nuclei and Centre of the System. Interrupting or disturbing the extra-systemic gravitations. Specializing the functions of Nuclei.	**II-C** Specializing the functions of Nuclei. Assuring circular fluidity of the extra-systemic relations.
III. Diffuse	**III-A** Concentrating (new) rare Services only in a Nucleus or Centre of the bearing-Axis. Privileging the acquisition of clear formal characters.	**III-B** (An extremely improbable case)	**III-C** (very rare case) Ensuring broad access to all services. Encouraging the acquisition of character and identity.

Source: F.Archibugi, *Teoria dell'Urbanistica*, Rome 1996. Table 11.1

3.2 Typology of pattern according to plan's strategy

This typology is an instrument for the "reading" of the city, or the urban system. It is indifferent, however, to the type of reading carried out, whether of the existing reality (present) or of the plan reality (future). [36]

In town planning, the typology may concern both of these types of reading. The typology (*structure, form, quality*) may help to *describe* the present reality of the urban system (once the requirements have been identified and ratified), or to describe the reality of the plan, i.e. the *future* reality as designed from the plan .

The type *according to strategy*, however, only concerns the transition between *present reality* and *plan reality*; thus it is not divided – like the other typologies – according to the reading of the present or of the plan.

The transition between present reality and that of the plan, which gives meaning to the "designability" of town planning, implies the need never to confuse a typology of the present with one of the plan, except in the *strategic* case.

3.3 .The strategy as interdependency between 'urban systems'

Strategies are articulated into two aspects:

1. The strategy concerning the desired programmatic and future "consolidation" of the urban system in question, on the foundation of *functional components* which it must acquire as an essential requirements for being an "urban system";[37]
2. The strategy concerning the salient features of interdependency between the urban systems and of the interventions proper to each urban system, to give it a configuration coherent with the general strategy described in point 1 above.

The first aspect of the strategy is general and common to all the identified urban systems: it is a question only of indicating, configuring and designing the geomorphologic circumstances and pre-existence of each. The second aspect of the strategy implies a "diversification" of the type of intervention and thus of the strategy itself (albeit in general terms). This gives rise to a real typology of urban systems regarding the strategy of interdependence of these systems.

Instead of developing the specific urban policy suitable for each of the two types of strategies that the research tried to identify, I consider it more useful

[36] On the question of the "reading" of plans there are some interesting reflections in Mandelbaum (1985, 1990).

[37] In other words, the strategy indicates the *load-bearing axis*, the *free area*, the *service centres*, the *support infrastructural lines*, the *sub-systems of environmental and heritage-cultural recovery*, etc. all of which constitute the components of a programmatic urban system, even in the case in which these components are not yet actual. (For more information on these components see my work on the foundations of city planning; (Archibugi, 1995a.)

here[38] to illustrate concretely how the scenario of territorial reorganisation by urban systems has been formulated for the four countries considered.

In fact, it is perhaps opportune for the reader to assess the strategic typology and the subsequent policies while having in hand, as a reference, the actual territorial units which should be the object of this strategy (and thus, the object of the urban policy), which this research has aimed at outlining in general.

This is what will be seen in the Part II of this paper.

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[38] A broader discussion on the criteria and the methodology from which to derive the urban policies, through the cross-section of formal and strategic models and patterns (at the scale of urban systems), would take too much space and has already been developed in my work, repeatedly quoted, on the foundations of city planning (Archibugi 1995a).

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Part II

4. A tentative proposal of spatial reorganisation (by 'urban system') in the four countries studied

4.1 Premises: meaning and limits of the formulated scenario of urban reorganisation.

As we have said repeatedly, the research has been oriented towards the provision of a first attempt at a *re-organization of urban land us*e in Europe, in spirit by the application of the findings, on the theme of 'optimal centrality' in the territories of the four countries studied. This first attempt has had the exclusive objective of a definition of the operational framework of the urban policy, through a re-organization of the centralities that bears in mind the two following goals:

1. Elimination of the possible overloads of the centralities acquired by the great cities;
2. Modes of acquisition of a optimal centrality (city effect) for the medium-to-small sized cities;

This scenario has been proposed as an example of the future work to be developed, *with more care and attention*, inspired by the criteria, principles and indicators of optimal centrality emergent in the t research in question.

The structural and morphological diversity of the urban framework of the four countries studied are well-known and have been largely treated by geographical and town planning literature,[39] even including many studies promoted by the European Commission[40]. Here, we will make a summary based on the analysis of our research referring to individual national reports.

What emerges immediately is the great diversity in the relationship between the national territory *as a whole* and the distribution, on the same territory, of the *urbanised areas.*

a. For *France*

For France, the territorial distribution of the non-urbanised areas is the largest in absolute terms, and the concentration level of those urbanised areas is, equally, the largest[41]. Therefore, keeping in mind the level of critical demographic mass

[39] A selective reference could be made to: Mainardi (1973); Hall and Hay (1980) Cheshire et al. (1987 and 1989), Burtenshaw et al. (1991); Kunzmann and Wegener (1991), Rautsi, ed. (1993), van den Berg, et al. (1982, 1998), European Institute of Urban Affairs (1992).

[40] European Commission, 1991, 1994, 1996, 1997.

[41] In regard to those of comparable European countries, the French urban framework remains characterized by the weight of the Capital (with a ratio 7 to 1 between Paris' population and that of Lyons, second city of France), by the relative weekness of the regional 'metropoles' (which do not reach, for ex., the size of Milan, Monaco, Birmingham, or Barcelona) and by the regularity of the dissemination of the medium and small towns. The prevailing model is that of urban multi-

(valid for any country and any kind of urbanisation) which the research has highlighted in order to obtain an acceptable level of urban life (i.e. the *city effect* or *cityness*) a strategy of territorial reorganisation, in terms of territorial redistribution of urbanisation, seems destined to meet the largest obstacles, i.e. the greatest historical "impediments". These obstacles can be so large as to suggest that we introduce into the general logic developed in our research (the logic of the urban system, i.e. some territorial units sufficient for all superior urban services) the idea that a certain amount of the territory must necessarily be denied a systemic functionality. This land must be considered a "no mans land", reserved almost exclusively for natural and historical/cultural conservation, but not annexed to any existent or programmed urban system.

This suggestion would evidently contrast with the general logic of the research (that of an urban systems policy) but it would be an almost obligatory solution, adapted to the peculiar characteristics of the French territory. The scenario, however, whereby large portions of the French territory would be abandoned, would create, in any case, other difficulties from another point of view. Such difficulties emerge from the fact that we would force an exodus of the population still settled in these areas (in order to ensure even to this population an acceptable level of urban life).

An alternative – of which the French report shows a scenario – is to imagine some of these as urban systems, with little towns within wider and deserted territories which are most critical in terms of the relationship between catchment area and accessibility. Hence, these systems can achieve their difficult take-off only much later in the future, and are defined by their uncertain consistency and difficulty with which they are implemented.

An analogous situation to the French one does not exist in any of the other three countries examined [42](except for some areas of very limited dimensions: for example, Scotland and some areas of Wales in Great Britain, and the Mezzogiorno in Italy). These areas – even if more limited in size – have reproduced the scarce acceptability of the relationship between catchment-area /accessibility. However, their most important limitation renders the presence of an urban system of doubtful consistency and implementability, but more acceptable in this scenario, which reduces them in absolute number and postpones them for the future.

b. for *Great Britain*

Thus Great Britain – like France – is marked by the urban hyper-concentration of the capital region in comparison to the rest of the national territory, with all of

municipal agglomerations in rural environment, whilst the conurbations or greater zones urbanized are very rare. (See DATAR, 1988).

[42] Even if it can be reproduced, with even more extreme manifestations, in other countries of the Union like Spain or Sweden.

the connected and well-known problems that derive from this.[43] Given its minor territorial extension, however, Great Britain did register the existence of other wider areas of metropolitan conurbation, such as that of the West Midlands and the Northwest which, even at different scales, show this same problem of hyper-congestion. Consequently, the adoption of the same kind of strategy as the London area is suggested. The minor territorial extension of the country, furthermore, makes the infra-systemic accessibility problems less difficult (for those urban systems that are territorially "forced", present in Great Britain).

c. for *Germany*

In Germany, conversely, a strongly balanced scenario (in the sense of the criteria and principles elaborated in our research) of urban structure was already offered at the outset. This balance could possibly be improved only for the conurbated regions of the Ruhr, (and even here it presents some performance indicators superior to that which we would expect, thanks to the good policy control of environmental impact which is practiced in that country).

However, problems could be created for the Berlin area if its development, re-launched after the reunification of the country, would not be in the spirit of equilibrium criteria and polycentrism suggested in this research. As a whole, we cannot avoid thinking that the relative balance of the German urban framework could have been an important factor in the elevated performances in this country in the last decades.

d. for *Italy*

Italy presents two very different situation regarding the urban framework, one in the centre/north of the country and the other in the Mezzogiorno. In the centre/north, the situation of the distribution of the urban structure is similar to that of Germany but it is also stongly altered by the development of a "Milanese conurbation" which has the possibility to involve even Turin and the rest of Piedmont. This situation risks reproducing the same problems of imbalance felt in France and Great Britain, at territorial scales closer to the British than the French. A policy and strategy of strengthening the urban systems in this area of the country could have the effect of improving the situation and thus averting the risk mentioned above.

In the Mezzogiorno, on the contrary, the starting scenario of the urban structure is more similar to the French one, even if at a reduced territorial scale.

[43] In both countries, the relations between the Capital and the rest of the countries has been the subject of a vast literature that certainly we will not evocate here: we will mention – for France - only the well-known work of Francois Gravier on 'Paris and the French Desert', from which started a good deal of the efforts of the French regional and territorial policy in the last fifty years; and – for Great Britain – a historically resuming essay by B.Robson (1986) 'London versus the rest' (1890-1980). Less radical assessments, but nonetheless explicit, on the subject can be found in Simmie, ed. (1984), Cuthbert (1986), European Commission (1996), Hall and Hay (1980).

There is a hyper-centralisation and congestion of the conurbated area of the "capital", Naples, and its metropolitan hinterland,[44] and a relative "desert" interrupted by some relatively important urban centres such as Palermo, Catania and Bari. However, in the Italian case, the territorial dimension of the peninsula renders the accessibility of the 'desert' less grave than in France, and the problems connected to the creation of alternative urban systems, therefore, are less insoluble.

From an examination of the distribution of existent urbanisation and the most evident problems in the four countries, the study suggested a strategy (and a consequent scenario) for the territorial urban reorganisation in each, supported by many statistical relationships among urban density and territorial surface, which we will recall only in the large scale.

Anyhow it is still propitious to recall that the statistical data from which we can extract these statistical relationships is strongly conditioned by the statistical base used; that is, the administrative statistical units in every country. Normally they correspond very rarely to the appropriate units for data collecting, measuring and planning which our research has emphasised, and for which a pre-definition is indispensable in giving a more meaningful sense to the discourse on urbanisation, de-urbanisation, sub-urbanisation and even counter-urbanisation that we are currently making.

Data that is more meaningful, in this sense, could be obtained in two different (but converging) ways:

- the creation of homogenous (and therefore, comparable) units of data collecting on a European scale. Even the urban system suggested by the proposed scenario could already be a good statistical base, for measuring urbanisation, which could furnish more meaningful data that that currently in use;
- territorial data collecting of some localised phenomena (for example, residential areas and even all types of natural or anthropic resources) through information and/or telematic technologies (satellites, etc.) which scholars, on behalf of their committed institutions, still have difficulty accessing despite the incredible progress of the technology.[45]

[44] As known, for centuries Naples was, after London and Paris, the most densely-populated city in Europe, and in the same time also the Capital of the Kingdom of the Two Sicilies (corresponding to the present 'Mezzogiorno'). This role has been performed by Naples for a time much longer in the history than the 'modern' one (begun only with the unification of the country at the end of the past century). At the epoch of the creation of the Italian State (1970), Naples' population was three times greater than the Rome's. (Archibugi, 1995a and 2005)

[45] On this point, the European Commission and particularly DGXII, in cooperation with other sectors of the Commission (other DGs, Eurostat, and the Environment agency), could do very much .

4.2 The historical national context of the new urban system policy

a. *The French Case*

The proposal of reorganisation that concerns the French territory is strongly conditioned by the old, but recalcitrant, problem of the imbalance between Paris and the rest of France. Successive spatial policies in France (overall, those that have been carried out by DATAR),[46] have been dominated by this problem and have always constituted a response to it (even if of different and sometimes opposite natures).

Thus during the 1950s and 1960s, France started a policy of *metropoles d'equilibre* (metropolises of equilibrium). This policy has been an attempt to strengthen the larger French cities peripheral to Paris,[47] and to make each a pole of attraction for a wide territory, therefore mitigating the attraction capacity of Paris in respect to their own territories.

This policy – together with other initiatives of decentralisation funded by public and private investment – registered some results in the first period after the Second World War (established by the French team report as the three decades between 1945 and 1975). The growth of the Paris region (*Ile-de-France*) compared with the rest of the country registered some rhythmic decline and some negative migration-balances were even registered. The creation of new jobs permitted a superior proportion of families, which otherwise would have migrated to Paris, to remain in the area of the *metropoles d'equilibre*. But even if some success in development took place due to the expansion of the industrial investment (on which the government had some ruling influence with its regional policy), it has been contrasted by the nature of the tertiary revolution in employment which, being based on urban development, always had Paris as the privileged seat of the effective settlements.

In fact, in the field of urban development and its centrality, the policy of the *metropoles d'equilibre* did not have the same success as the decentralised industrial investments. The hinterlands of these *metropoles* were too vast to make a real shift of their gravitation from Paris to the new *metropoles* possible. Being definitely larger than a "daily size", the hinterlands of the *metropoles* continued to gravitate towards Paris with the same difficulties and distortions (but also with the same advantageous reasons) as before.

Thus the French policy became aware of this scarce 'city effect', competitive with respect to Paris, in the *metropoles d'equilibre* policy and also of the

[46] Of which there is an appropriate critical panorama in the French national report of the research [PSC (1996), vol, I-B, *France*, para 2.2). The DATAR (*Delegation a l'Aménagement du Territoire et à l'Action Regionale*, since 2005 changed as DIACT, *Delegation interministerielle pour l'Aménagement et la Competitivité des Territoires*) has been the historic agence of the French gouvernement where all hypotheses of a national land use and physical planning have passed (among a vast production of documents, see particularly: 1971, 1974 a e b, 1977, 1993, 1994.

[47] It was a matter of six metropolises: Lyon, Marseilles, Strasbourg, Nantes, Toulouse and Bordeaux.

impoverishment that the concentration of public effort in the *metropoles* had on the medium and small cities of the general French hinterland.[48] Thus the French policy of *metropoles d'equilibre* has been integrated (according to some) or shifted (according to others) into a policy of the *villes moyennes* (from 20,000 to 100,000 residents). Thus a policy of assistance and promotion of this new territorial unit has been inaugurated; a policy which, although wishing to be integrative to that of the *metropoles d'equilibre*, in practice sings the requiem of the old policy because the new one creates systemic conditions contrasting to its success. In reality, a policy aimed at satisfying everyone (at the territorial level) has been set up, but it is unable to satisfy anyone because the policies annul each other due to a lack of systemic consistency.

On the other hand, the intermediary cities were not sufficient to satisfy the condition of urbanity or city effect, even if they were strongly aided by investment in infrastructure and economic privilege. Their sizes, mainly the size of their catchment areas, were too modest to stimulate an increase of the superior services that contribute to the city effect. If the policy of the metropoles d'equilibre was wrong because of territorial excess (which, as we know,[49] impeded the daily accessibility), the policy of the *villes moyennes* was wrong by territorial deficit of catchment area (which impeded the birth of appropriate superior services). The stalemate between the two policies, and the "spontaneity" that followed from it, could not but continue to privilege the Parisian area.

If, in some way, a "decentralisation" of Paris has occurred over time, it has occurred not from political and rational choice, and not with benefit of a more balanced development of the urban structure of the country, but from the natural "spillover" of the local overloading; transferring the problems of the overcharging from the core of the metropolitan city to its peripheries.

After the 'Yom Kippur war' in the mid 1970s, all over France the hope of governing development collapsed. As a result, in the peculiar zone of French territorial policy, the re-conquest of the concentration of Paris against any foolish aspiration of re-equilibrium occurred.

The institutional-regional strengthening – which had a certain effect in this period – has served to remove certain responsibilities for choices concerning territorial ordering from the national level. It served to make any decision even more decentralised – and, in this case, more chaotic. The problem of an urban policy, essentially a problem of a re-equilibrium if the city effect at the scale of the national territory (overall in countries such as France, that are strongly unbalanced under this profile), has become a regional problem, meaning that it has been cancelled as a problem.

The problems of an international and European "competitiveness" have contributed to the creation of the basis for a theoretical justification of the *laisser faire* of the Parisian hyper-concentration. Some problems of "prestige" and "grandeur", together with the presumed greater competitive effectiveness (at the

[48] Impoverishment has been manifest through the loss of efficiency of those intermediary services already in place in the small and medium centres.

[49] See chapter 5 of the quoted research book on the concept of the "urban system", and chapter 12 on "the requirements of the *modern* city (or urban system)".

international scale) of the large dimensions, justified the concentration of the *Grands Travaux* in Paris and the research of a "European function" (all of which, furthermore, do not seem necessarily to derive from gigantism).

As has been expressed with efficacy in the report of the French team, having ascertained the failure (but we prefer to say the "lack") of any kind of typology of urban policy of the past period, the debate on urban policy at the national scale[50] has presently been re-launched.

The many positions that, of course, are in contrast to each other are grouped into two models of policy: the first favours the concentration of effort into places that already show a certain competitive capacity; the other favours the establishment of objective standards and thresholds to assure access to urban values for the entire territory.[51] In reality – beyond the verbal and conceptual counter-positions that can also have a seductive value – the deepest arguments to support one position or another do not seem as distant as the counter-positions would induce us to believe. On the contrary, these arguments seem to bring an integration of concepts from which to draw the basis of less superficial policies.

For instance, those who support the efficacy of concentrated effort are right when they assert the need for strategic localisation, that is, when they research an efficiency-size for the territorial units on which to found a new urban policy. They promote the large cities, because they research just the "city effect",[52] without which the decentralisation policy would file its goals itself and the means invested in this operation would be wasted.

However, those who support the desirability of assuring a minimum threshold of accessibility to urban services for all citizens and, at the same time, try to valorise all the territorial resources of the country are also right.[53] It is a question

[50] A comprehensive vision of this debate comes from the papers collected as proceedings of the symposium, *Metropoles e Amenagement du Territoire*, organized in 1993 by Iaurif (Iaurif, 1993).

[51] Frankly, the present debate does not seem so different from that which dominated all the history of the French *amenagement du terriroire*, mainly in the 1960s and 1970s. It seems impossible that among the present authors of this debate, any historical memory of the prior debate could be turned off. The Datar and its archives are yet still in existence! This historical memory would serve to avoid having the same superficialities repeated, and to supersede them in a dialectic way, with the sure advantage of a designed solution and of the new policy outlines to adopt.

[52] They research such an effect, competitive even at a European level (with an insuppressible national prejudice behind the intention); aside from the fact that it is not clear what the European level could be, and in what respect the attention to European competitiveness would be different in nature (and would need to be researched in a different way) from the competitiveness of cities at the national scale. It is, moreover, no easier to understand why the city effect lost or not acquired at the national scale would be less undesirable than that lost or not acquired at the international scale.

[53] This seems to be the official inspiration of a "low orientation for the territorial planning and development" (of February 1995) that established; a) that a national plan to be prepared would assure that any point of the territory would be at a distance no more than 50 km from a highway or from a TGV station, starting from 2015; b) that 65% of the public scientific researchers, the health, cultural and university services, and the networks with an advanced capacity of communication, etc. would be located outside of the *Ile-de-France*, starting from 2005. The law of 1995 established that a "national scheme of territorial planning" (to be presented to the parliament within a year) should be prepared, introducing a notion of *bassin de vie* as the territorial unit of reference, organized by village (for the rural areas) and by urban network. A first draft of the

of seeing if it is possible to do both of these two things in an efficient way, i.e. a way capable of achieving its objectives. Otherwise there is only a waste of means.

In both cases, it is necessary to *go beyond*, and fix the threshold of feasibility of the two policies. This is the direction in which a recent French law[54] has gone, asking for a reorganisation of the urban equilibrium through the creation of certain "life basins" (*bassin de vie*) composed of urban networks, which seem to be roughly similar in their criteria to the "urban systems" postulated by this research. And, in fact, this is even the effort and direction towards which the first steps of our research has been made.

Therefore, in this case we do not have, as in other cases which have been politically debated or are present in the town planning literature, a solution corresponding only to one of the two positions discussed above. We need only evaluate which configuration must be carried out for the concentration of territorial systems to be created, and the number of territorial units that offers the best requirements to make both positions feasible.

Thus our research has attempted to propose a "system" of urban systems, capable of satisfying the aforementioned requirements.

Leaving aside the level of the general discussion, we must transfer the discussion to the proposed scenarios and to eventual alternative scenarios in search of that which responds better to the pre-defined goals, which are goals that associate, rather than divide, many positions.

b. The *British Case*

The proposal of reorganisation concerning the British territory has been strongly conditioned – as in the French case – by the presence of the greater London conurbation,[55] which goes far beyond "Greater London" (represented by the territory of the county) and extends even into many other nearby counties of the southeast. But Great Britain is different from France, as we have said, in that it must also "depolarise" the other conurbations of the West Midlands (Birmingham) and the northwest (Manchester-Liverpool), which have become excessive from the point of view of the environmental equilibrium.

Taking a glance at the British initiative in the matter of organisation (and reorganisation) of the territory,[56] we must recognise that this may be the country

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scheme defined the agreement of the multiplicity of actors of the territorial action. For the moment, the approval of a correct scheme has been postponed. See the report of the French team (PSC ,1996, Vol I-B, France).

[54] See previous note.

[55] Even British history has been dominated by the relation between London and "the rest". The capital has always been considered a factor of impoverishment of regional human resources, despite (and perhaps even causing) the strong, independence-oriented, Celtic national spirit (Irish, Welsh and Scottish). In the middle of the 17th century, at the heart of the Elizabethan era, Sir Francis Bacon, as public administrator, once said that there were more Welsh in London than in Wales, and this was much more than just a joke.

[56] See on this subject, the report of the British team (PSC, 1996), paragraph 3.2.

in which a *vision of the problem of the urban policy at a national scale* is more absent than in any of the others examined. Not only is there no national spatial plan (a *lacuna* which is also common in all the other countries examined), but there has never been any attempt to present the problem of a comprehensive vision of urban development and of urban "structure" at the scale of the entire island, as we will see later has occurred in France, Germany and Italy.

There has also not been a meaningful initiative on this matter in Great Britain, even at the regional level (which, according to circumstances here discussed, would not be the appropriate level for the urban re-equilibrium policy).[57] The *Regional Economic Planning Councils* (which were working between 1964 &1979) were consultative bodies which created regions of jurisdictional territories without much advance study of the delimitations. Furthermore, in the 1980s and 1990s, regional planning was carried forward from the "*Regional Planning Guidance*" published by the national government (Dept. of Environment) into areas normally larger than countries, traditionally entitled to produce "structure plans". But even in this case the "regional planning guidance" has never faced the problems of urban policy at the general level.

Structure plans, in fact, have been the best known and most practiced instruments for spatial planning in Great Britain. Even if they have never been integrated and guided by a policy of urban re-equilibrium at a national scale, these structure plans nevertheless represent the most well-known, consolidated and acknowledged bases for the implementation of spatial planning. This is the scale most close to that of the urban system as conceived by us. Therefore, in elaborating the scenario of spatial urban reorganisation for Great Britain, our attempt tried to retain the territorial delimitations of the countries (as defined in the last reform of 1974). However, in certain cases our conception of the urban system as producer of the city effect obliged us to put centres belonging to different countries together into an urban system (where the urban fabric has been thinner). In fact, this has happened when an individual country was too weak and too far from the critical mass required for the urban system.

c. *The German Case*

As said, among all the countries examined, Germany is the one that presents the most equilibrated territorial distribution of the urban centrality. There is a confluence of factors for this greater equilibrium, which are:

- *historical* (belated unification of many city-states or city-regions into a unique German state.)[58]

[57] On the other hand, in Great Britain there are no "regions" that have a political autonomy and elected officials like the other countries examined, and this probably has weakened the capacity to develop a spatial policy at that level. (In any case, this would not be the appropriate level, as said.) However, the last opinion could be considered somewhat arbitrary in light of what has happened in the other countries.

[58] A belated unification that, despite all contrary Bismarckian and Hitlerian efforts, has made Germany as a country "naturally" federalist and thus, on the territorial level, more equilibrated

- *geomorphic* (vast territories of plains, which seems the ideal situation to test the theorems of the theoretical models of spatial interaction.)[59]
- *spatial planning* (Germany was the country that before any other – from the time of the Weimar Republic – introduced a system of territorial ordering at different scales: national, regional and local, in a co-ordinated and comprehensive vision.)[60]

It was therefore also the "easiest" country for us in our attempt to experiment with and concretely verify the research hypotheses which the indicators selected.[61] On the other hand, as said, the old habit of controlling territorial organisation has meant that more than once in the administrative history of Germany there have been examples of policy-oriented evaluations of the appropriate urban regions. The last, and most significant, was the "Federal Territorial Planning Programme" (*Bundesraumordnungsprogramm*) of 1975, which formulated the distribution in the territory of a number of "territorial basins" (*Gebietseinheiten*), defined according to the following criteria:

- a unification of the functional areas;
- each basin contained at least one centre of a high order or an area of agglomeration;
- the most extended areas, without a centre of a high order or an area of agglomeration but which contained at least 500,000 inhabitants, were declared territorial basins with the goal of developing a strong centre (in our terminology, a centre "to be polarised");

The programme was obviously aimed at reducing the differences of urban living conditions (economic, social, etc., amongst which therefore was the city effect) between all the territorial basins thus identified. These basins, therefore, assumed the characteristics of appropriate basins of evaluation and planning.[62]

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with respect to the hyper-concentration of power and functions of the Capitals, when compared to the French and British cases.

[59] I believe it is not by chance that the spatial interaction theories (from Von Thunen to Alfred Webber, through to Christaller) found the most favourable breeding ground in Germany; and that Christaller would have very easily found the experimentation field for his theory in the Baden-Wurtenberg: as a German, "Christaller" was certainly more of a "realist" than an Italian or British "Christaller" would have been.

[60] This without considering that Germany was also the cradle – at the end of the last century – of town planning. The American (Daniel Burnham and Geo B.Ford), British (Thomas Adam and Raymond Unwin), Belgian (Ch.Buls) and, later on, French and Italian town planners have drawn from the first German scholars of the *stadtbau* (Reinhard Baumeister, Joseph Stuebber, Camillo Sitte, Theodor Goecke and many others), in order to develop the town planning discipline in their respective countries. (Naturally this was pushed by the urgent need to manage the considerable growth around the turn of the century, which is a phenomenon common to all these countries). For all these evaluations, and others, see Archibugi (1995a).

[61] We have also been lucky in that the German research group was made up of experts from the Federal Institute for Regional Research and Spatial Planning, which has long since collected and analysed the data on the territorial distribution of socio-economic phenomena, thus including those definable as "urban" according to the criteria developed here.

[62] More information on the Federal Regional Planning Programme of 1975 is in the report of the German group (PSC (1996), vol. I-B, Germany).

The 1975 Federal Programme did not last long. From a certain point of view it could be called a failure (like almost all highly innovative programmes, in any place or of any type).[63] But this programme is very similar to the effort made in this research to provide "strong" guidelines for the territorial reorganisation of the urban framework of the countries under examination according to common principles and criteria able to constitute the platform for a new European policy of the city. The following observation in the German group's report (mentioned at the end of the paragraph above) seems to us very wise and appropriate: regarding the German Programme of 1975, [it]

> …was an ambitious attempt to minimise the social costs of functional differentiation and spatial segregation of industrial societies but it never got practical importance. However, the strategic ideas of the decentral concentration of resources in developing centres and axes influenced the development and establishment of the regional planning objectives and strategies on the Länder level during the '70s. They are mirrored in the following programmes and plans on different planning levels.

The conception to which we have limited ourselves in the pursuit of this research leads us to say that this is not at all a failure, but rather a success. And it is properly such a success that we hope to achieve with the proposals in this research.

In any case, we must recall that at the beginning of the 1990s, the Federal Ministry responsible for spatial planning introduced guidelines for spatial planning (*Raumordnungspolitischer Orientierungsrahmen*) which were agreed to by the *Lander*. These guidelines refer to planning as an open process and – according to some colleagues – avoided the concreteness on the 1975 *Bundesraumordnungsprogramm*. They provide objectives and strategies for the spatial development of a unified Germany.

However, in our research we have considered this guideline too weak with respect to the older programme, and incapable of implementing an inversion of the trend of a hierarchical distribution of the urban effect in the entire German territory.

d. The *Italian Case*

In Italy, as in Germany, there is a history of attempts at territorial planning on a national scale. It is known as *Progetto '80*, a document prepared in 1969 by the Budget and Economic Planning Ministry, in anticipation of the Second National Development Plan 1971-1975 (which was then literally suppressed, as was any form of serious pluriennial planning). The official *Progetto '80* document was accompanied by a study called *Territorial Projections of Progetto '80*, in which the concept of "metropolitan" systems was introduced in a similar way to what is here called "urban systems".

[63] See the report of the German group (PSC (1996), paragraph 3.1 for some explanations given immediately by some authors for the failure of this program.

This document proposed that the national territory be reorganised into 30 "metropolitan systems" differing in nature and quality, in an attempt to combat the overloading of some "metropolitan" areas in Italy (e.g. the Milan-Turin-Genoa triangle that is strongly conurbated and deserves the name of "megalopolis", and the metropolitan areas of Rome and Naples, which are strongly monocentric and likewise destined to undergo higher levels of congestion and environmental malaise). The *Progetto '80* projections were decidedly "normative", and the document proposed to indicate the feasible operational modalities that did not aggravate the gravitation towards metropolitan areas and, additionally, the potential conditions needed in order for the small and medium-sized cities of the Italian hinterland to also reach values of "metropolitan" life, i.e. the city effect or cityness that has been the subject of our research and the theme of this paper at multinational scale.

At the time, the way *Progetto '80* suggested of achieving this was to create urban networks between small and medium-sized cities that would *resist* and *prevent* gravitation to the three large areas mentioned, and might even reverse the tendency, if a simultaneous strategy of areas to be polarised and depolarised was adopted.

The Italian situation, in comparison to the French one, was characterised by the presence of some important "medium-sized" cities (for example, Venice, Trieste, Bologna, Florence and, in the south, Bari and Palermo), which had not at the time undergone the attraction of great metropolitan centres, but which would have to be very careful to implement special self-promotional policies, in order to conserve their relative autonomy.

But in other less populated areas of the country (particularly in the centre and south), this advantageous circumstance was not produced. For this reason, it was necessary to implement a policy of urban networks between small and medium-sized cities. This was the only hope of providing the urban quality of life indispensable for the survival of such centres.

Progetto '80, despite being the official document of a ministry, was never adopted by the entire government (as was the case with the German Programme of Territorial Organisation of 1975). It suffered more or less the same fate as its German follower; it had only a "cultural" and orienting influence. However, many Regions followed the indications of the territorial projections of *Progetto '80*, or at least some of the developmental hypotheses indicated were implemented. However, in subsequent years, the system of intervention for the national territory followed completely different directions. These interventions were very sectorial and in no way coordinated, and to a large extent were implemented by the regions without any national coordination. The Ministry of Public Works, responsible for the "coordination of territorial planning", has been completely lethargic and will probably remain so for a long time to come.

As is better illustrated in the report of the Italian group[64], there have been other sporadic attempts at re-launching an overall vision of urban policy at the national scale.[65]

[64] PSC (1996), *Actvill Report*, (Italy).

4.3 The proposals for a urban system territorial reorganisation throughout the urban system logic

With this factual and historical panorama, and with the help of the threshold of urban (normative) indicators resulting from the research itself, the participants of the research have tried to outline for each country explored, a proposal creating a national pattern of urban systems, having the potential quality to reach the minimum of city effect, for the desired social and economic cohesion among European citizens.

In **Appendix no.1** are exhibited the four maps that report the scenario, graphically and symbolically outlined, of each country. To the maps is annexed the nominative list of each system: identifying number, a name, and the total population (in 1,000s of inhabitants). Further indicated are the various administrative units (departments, counties, etc.) to which each system belongs, and the name (with relative population) of the main urban centres included in the system.

a. *The French scenario*

For France, the proposed programmatic scenario has tried initially to resolve, in a reasonable and feasible way, two great problems that everybody is aware of (and which are probably historically interdependent to a large extent):

- the super-concentration of Paris, in comparison to the entire territory of the country;
- the great territorial spaces, in particular at the centre of the country, which have no urbanisation of any particular consistency.

This situation has made any exercise of redistribution of the urban weights, according to the criteria elaborated, obviously very difficult (but, on the other hand, doing so constitutes the purpose and meaning of this research itself).

As far as the super-concentration of Paris is concerned, it should be pointed out that the lines of direction adopted by the authorities in France for the management of the whole "basin" of greater Pairs (in practice subject to the

[65] In 1982, the Minister for Southern Italy again took up the *Progetto '80* study in order to orient the distribution of some special interventions in southern Italy. In 1985 there was another attempt on the part of the Minister of Transport to present a "General Transport Plan", which assumed the urban systems of *Progetto '80*, opportunely re-elaborated and redesigned, as a reference basis for the planning of urban transport. In 1990-92, the Minister of the Environment elaborated a "*Ten-Year Plan for the Environment"* (Decamb), in which a "Programme for the Urban Environment" was included. In this programme, the main inspiring principles of *Progetto '80* were widened to include the problem of identification of urban areas in which the compatibility between environmental "pressure" and the capacity of the territory to recycle and metabolise such pressure was realised. This led to a re-elaboration of the concept of urban systems which became "urban ecosystems" without changing their characteristics in any way (since ecological factors had already been present in the preceding *Progetto '80* studies as well). This last experience, the DECAMB-Urban Environment Program (1992), has been assumed as the basis of control of this research, and therefore also as basis of the proposal for territorial re-organisation presented by the Italian team in this research.

"regional" authority of the Ile de France) are not so distant from those which could inspire our research and its parameters.

The whole Parisian basin (Ile de France), with around 10 million "users", has been subdivided into 8 territorial units[66] which (to be really efficient) should represent an equal number of attempts to constitute complete "alternative centralities" to the historic centre of Paris. Excluding the historic "core" of the city,[67] of the remaining 7 units three constitute a first ring around the core,[68] and four constitute a second ring.[69] However, here we have considered it opportune to accept this subdivision (moreover administratively sanctioned by the French authorities, by means of their constitution in "departments"), although, perhaps, we would have preferred to institute not two rings of alternative centres around the core of the Ville de Paris, but only one. This would have allowed a solution with urban systems (or city regions) in "slices" for the territory of the Ile de France. This solution would be useful in order not to risk creating new "closed" situations "forced" by eventual Parisian urban growth. Rather, situations should be created that are largely "open" to long-term growth, wherever this should take place (inauspiciously for the rest of France).

For the second great problem – the scarcely urbanised territories of central France – the solutions proposed may offer nothing miraculous. They have proposed urban systems (or city regions) that are largely deficient from the point of view of "critical mass" of users (too low), and from the point of view of accessibility (too far) of each settlement to the various centralities indicated.[70] Nevertheless, the solutions proposed have seemed to us, in an evaluation of the "trade-off" between various advantages and disadvantages of alternative proposals (alternative scenarios) to be the most favourable. Certainly, it is more favourable than abandoning places and resources that have their own history and a not indifferent social, economic and human capital. (Likewise, it is more favourable to the solution of "concentrating" efforts on more favourable developments of "equilibrium metropolises", which would have resolved the conditions of "critical mass", but worsened those of "accessibility".) These solutions certainly[71] create tendential situations which go in the opposite direction to those hoped for, by further strengthening the Paris area. One thinks: "If accessibility to the centrality costs me so much, I may as well choose the Parisian one."

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[66] In which – excluding the historic *Ville de Paris* where there are more than 2 million inhabitants – constitute approximately a million inhabitants each (and this has created strong differences in the territorial breadth of the units). They have been indicated in the French map and table as the urban systems no. 13 to 17-D.

[67] The core is limited approximately by the "*boulevards peripheriques*".

[68] The city-regions or systems 17-B, 17-C and 17-D, corresponding to the departments *Haute-Seine*, *Seine-Saint Denis* and *Val-de-Marne*.

[69] The city-regions or systems 13, 14, 15 & 16, corresponding to the departments *Yvelines*, *Val-d'Oise*, *Seine-et-Marne*, and *Esonne*.

[70] In particular, this holds true for the systems or city regions indicated with the numbers 8 (Brest City Region); 18 (Orleans City Region); 19 (Champagne City Region); 25 (Poitou City Region); 26 (Limousin City Region); 30 (Savoie City Region); 35 (Valkence City Region); 38 (Roussillon City Region) and, of course, 41 (Corse).

[71] As past experience has amply shown (see paragraph 3), and as would have been easily predicted if the criteria of rationality recommended in this research had been applied.

This consideration has guided the attempt undertaken to "balance" the centralities in the best way possible, whilst respecting to the greatest extent the historical-cultural and administrative ("regions and departments") qualifications of the new "units" proposed. This is apart from those cases where the objective of material conditions of access and living indicates to ignore them. The exercise has been carried out (and this holds true for all the other exercises carried out for each respective country) in the hope of – as we have repeatedly stated – the evolution of income, life-styles and technologies of access to certain superior urban services and may reduce the "critical mass" thresholds of users necessary to create a city effect. Therefore in time the insufficiency of the "critical mass" inherent in the proposal will tend to be mitigated, if not actually vanish.

A more detailed commentary on the proposal can be carried out after suitable discussion and examination with other experts.

b. *The German scenario*

The scenario proposed for Germany (see Map 3 and attached table) obviously reflects the situation already described of greater equilibrium of urban weight throughout the territory.

The overall result is that in the German case, urban systems (or city regions) belong (in the proposal of reorganisation) to the category of systems to be "rationalised", i.e. to be reinforced in their structure, but which currently do not suffer either from too much dependence on others or from risks of overloading. And there are, conversely, very few systems to depolarise.[72]

In Germany, however, as in France (but without such unfavourable starting conditions), there are numerous urban systems to be developed and polarised –

[72] In our view these are only the following:

- The Berlin basin (no. 10), still territorially "restricted" in comparison to its current capacity of attraction. The purpose of this relative "restriction" is to give the possibility of alternative growth not only "peripheral" to the adjacent urban systems (Pomern, no. 4; Brandenburg, no. 6; Oder, no. 13), which are very weak and fragile systems, but also to "urbanise" a very vast territory with widespread urbanisation;
- The Hamburg basin (no. 2), which is on the point of suffering the characteristics of overcrowding but which, on the other hand, should not suffocate possibilities of greater development in the area of Bremen (no. 5), Lubeck-Kiel (no. 1) and Rostock (no. 3), which already have strong possibilities of growth (the first two) or development (Rostock);
- The basins of the Ruhr (nos. 11 and 17), whose current congestion, combined with the phenomenon of de-industrialisation, is creating a loss of "city-effect" (and thus useless de-urbanisation) to the benefit of a disordered growth of the adjacent territories that should instead be preserved; in this way the two basins of the Ruhr, when depolarised, could in a short time be aggregated to the category of the cities to be "rationalised";
- The Munich area, which absorbs an excessive urban function, because Bavaria is a region of limited urban density. This damages accessibility to the city for large portions of the urban population (and compromises its cultural development), thereby risking the compromise through overloading of the urban quality of Munich, itself already very satisfactorily developed.

alternatively to the existent ones. These include a large part of the new territories of East Germany [73], and those of the old West which are still peripheral[74].

Further comments and details will come following discussion and verification with other experts.

c. *The British scenario*

The British scenario (Map N.3) is, like France, dominated by the well-known problem (already mentioned) of the super-concentration of the capital, London. At the same time, this super-concentration is also realised in other conurbated areas of the country, the West Midlands (the Birmingham area) and the North West (The Liverpool-Manchester area). There are also (again as in the French case, but fewer in number) less developed rural areas which have never evolved substantial urban centres (such as the Scottish Highlands, North Wales, and to a lesser extent, Cornwall).

The scenario proposed has faced the first problem, that of London, by suggesting a division of the administrative area of Greater London, which pays more attention to the possibility of guiding alternative centralities able to "compete", and thus combat that of the old historic London "core". It was necessary to define a "new" catchment area, founded on real centralities with "central business districts", rather than on a division of the more or less residential areas or districts (i.e. founded essentially on the principle of the minimum house requirements).

For this reason, the territorial area of Greater London is regarded as insufficiently extensive to allow the definition of these alternative centralities. While its population (census of 1991) was 7 million, its catchment area, (even calculated only in terms of commuting and services), is acknowledged to be much larger. This is in part because of the choice made by many families to live outside Greater London (its population lost - from the post-war decade to 1981 - half a million inhabitants), and in part because of new access to activities in the territory of Greater London for residents from outside it. Thus the disequilibrium between the home and the place where it is possible to enjoy the city-effect has become much larger, representing an evident counter-indication for a better quality of life and with respect to some overloading factors, such as those relative to daily traffic.

The scenario proposed, therefore, suggests expanding the area of calculation of the appropriate ‘catchment areas’ to some territories of the counties adjacent to Greater London, in an attempt to "design" new urban systems (according to the

[73] Such as Meckleburg, no. 3; Pomern, no. 4; Brandenburg, no. 6; Oder, no. 13; Magdeburg-Dessau, no. 9; Chemnitz, no. 20.

[74] Such as Westphalia (Munster-Osnabruck), no. 7; the “Teutoburger city region” (Bielefeld-Paderborn, n.7bis; Kassel-Gottingen, no. 12; Westervald and Vogelsberg (Siegen-Marburg-Giesse), no. 18; Wurzburg, no. 24; Bamberg-Bayreuth-Coburg, no. 25; Regensburg-Passau, no. 30; the Black Forest (Schwarzwald), no. 33; and Bodensee (no. 34).

criteria of this research) with catchment areas that belong both to densely populated, albeit peripheral, areas of Greater London, and to territories of the adjacent counties (notoriously "dependent" on Greater London). Thus, a separation has been proposed for the area of London into a first system called "Inner London"[75] (no. 30), and another four "urban systems" or "city regions" (numbered from 26 to 29)[76] each including a (peripheral) part of Greater London and a (marginal) part of the respective counties.[77]

Obviously, the proposal should be articulated in detail, a task which falls outside the scope of this research. It could be opportune - in the case of a surplus of critical mass in the systems proposed - to split them further. The principle that we wish to affirm here, however, is that of a measuring of the minimum potential catchment area for the creation of centralities alternative to the historic centre of London, with which to orient guided policies of the concentration of private and (direct and indirect) public efforts able to lead to a spontaneous re-equilibrium of urbanisation and to the improvement of accessibility without compromising the quality of the city effect.

For the rest of Great Britain something similar, but on a much reduced scale, has been done for the super-concentrated areas of the Midlands and Greater Manchester. In fact, the logic of restructuring the counties, carried out in Britain in 1974 to create "metropolitan" counties, has been acknowledged. The counties of Merseyside (Merseyside City-Region, no. 10, which concerns Liverpool and the circle of cities conurbated with Liverpool) and Greater Manchester (Greater Manchester City-Region, no. 11, including likewise the city of Manchester and the circle of cities conurbated with it) have been recognised as a system (or city-

[75] In practice the territory included within the "North Circular Road" and "South Circular Road", thus including the boroughs of the City of Westminster, City of London, South Wark, Camden, Islington, Hackney, Tower Hamlets, Lambeth, Wandsworth, Hammersmith, and Fulham.

[76] These four new systems would be configured in the following way:

- a system of North-West London, (no.26), based on the functional integration of some areas of Greater London (Enfield, Barnet, Harrow, possibly Brent) with some municipalities of the county of Hertfordshire (St. Albans, Welwyn Garden City (New Town), Hartfield, Hertford, Ware, Hemel Hampstead (New Town), and municipalities of the county of Buckinghamshire (Watford, Amersham, etc.). The western limit of this system from the rest of the county of Buckinghamshsire could be marked by the Chiltern Hills;
- a North-East London system (no.27), based on some areas of Greater London (Waltham Forest, Redbridge, possibly Chingford and Woodford, Havering, and possibly Barking and Dagenham) with some centres of the county of Essex (Loughton, Harlow New Town, Epping, Bishop's Stortford, Chelmsford, etc. as far as Southend-on-Sea);
- a South-East London system (no.28), based on some areas of Greater London (Bexley, possibly Crayford, Bromley and Sidcup) with some centres of the county of Kent (Dartford, Darenth, Sevenoaks, Swanley, Foringham, Eynsform, Wrotham);
- and finally, a South-West London system (no.29), based on some areas of Greater London (Croydon, Sutton, Kingston-upon-Thames, Richmond-upon-Thames, Hounslow, Hillington) with all of the most important centres of Surrey (Epsom and Ewell, Leterhead, Guildford, Weybridge, Esher, Staines, Reigate, Horley, Dorking, Egam, Shepperton, etc.).

[77] Except for the county of Surrey, which would be entirely included in the System proposed as no. 29.

region). Correspondingly, alternative systems capable of upturning the traditional gravitationality of the centres of Liverpool and Manchester have been proposed.[78]

Something similar has been proposed also for the area of Birmingham.[79]

Around the critical area of London and the South-East, other systems or cities for "re-equilibrium" have been proposed to be used strategically to spread high urban values throughout the territory.[80]

For the remaining of Great Britain, the proposal recommends the "rationalisation" (with all the baggage of techniques and methods which this involves) of other already-developed centres with a "city effect" already exercised in the past, but which risk decline unless they are carefully defended or further promoted.[81]

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[78] For example System no. 7, which we have called the Lancashire City-Region. This combines the counties of Lancashire and Cumbria (a critical mass of around 2 million people), with the towns to be polarised of Blackpool, Preston, and Blackburn; (System no. 9), which we have called the Yorkshire City-Region. Integrating the counties of South and West Yorkshire with the cities of Leeds and Sheffield (and their respective conurbations) develops a critical mass which has no need to defend itself from any risk of dependence on the city-effect of Manchester or Liverpool, and even less so of London; finally, the relatively weak system of *North Wales* (no. 25). The towns here (the largest, Wrexham, has 40 thousand inhabitants) gravitate, and will continue to do so for a long time, to the strongly urbanised area of this part of Britain. The long distance, to this area, as an autonomous urban system, in the hope that with time it may contrast their traditional and natural gravitationality and dependence.

[79] Such as

- System no. 14, (to 'de-polarize') the *West-Midland City-Region*, made up of the further addition of the counties of Hereford and Worcester to the metropolitan county of the West Midlands proper.
- System no. 13, (to 'rationalize') the *East Midland City-Region*, which includes the counties of Derbyshire, Nottinghamshire, Leicestershire and Lincolnshire (total: 3 million inhabitants) and is thus a polycentric system between the cities of Derby (250), Nottingham (300), Leicester (300), and Lincoln (80) which have strong possibilities of balanced development.

[80] For instance:

- System no. 15 (*South Midland City-Region*), which includes the counties of Northamptonshire and Bedfordshire, as well as the part of Buckinghamshire to the north of the Chiltern Hills (approx. 1,500 inhabitants);
- System no. 18, which aims at creating a network of development between the medium-size towns of Oxford, Reading and Swindon, with strong possibilities of development;[80]
- System no. 16 (the *East Anglia City-Region*), certainly a problematic area, traditionally sacrificed and dependent on London, which may reach 2.5 million users. It may develop into a common network in which internal accessibility should be promoted;

To the South of London, we have:

- the Kent system (no. 22, the *Kent City-Region*, with 1.3 million inhabitants), which may "link up" a series of centres of high quality (Rochester, Canterbury, Gravesend, Margate, Folkestone, Dover) in a functional polycentric whole, which will have strong possibilities of development in connection with the English Channel;
- the system of the two counties of Sussex (no. 21: *Sussex City-Region*, 1.5 million inhabitants), which has strong possibilities of polycentric development in a restricted, but qualified, number of centres that are strongly growing, though still strongly dependent on London.

[81] These are the urban systems (or city regions) which depend on: *Bristol* (no. 17) and on the conurbated group of *Southampton-Portsmouth and Bournemouth*, etc. (no. 20) in England; *Cardiff* (no. 23) in Wales; *Glasgow* (no. 3) and *Edinburgh* (no. 4) in Scotland.

There are also three other systems that are likewise "to be rationalised". These refer to towns that have been relatively "anonymous" in the past and therefore of limited city effect, but which today have all the requirements - if opportunely developed - to reach high levels of urban quality. These are the systems of Newcastle (no. 5: *Tyne City-Region*, 1.7 million inhabitants), Cleveland (no. 6: *Tees City-Region*, 860,000 inhabitants), and finally *Staffordshire* (joined with Cheshire) with Stoke-on-Trent as the main centre of 300,000 inhabitants (no. 12).

There are also an important number of urban systems (or city regions) proposed for areas with limited urbanisation which, as for all the countries studied, must be developed and utilised with strategies of "polarisation" in order to recuperate, in time, a certain level of urban quality.[82]

d. *The Italian scenario*

The Italian scenario has provided much inspiration for the approach followed in this research, and perhaps contains more doubts and uncertainties than any other country.

It expresses the general goal inspiring the whole research, to lighten the overloading of some areas (recognised as "metropolitan" in the country) on the one hand, while on the other it suggests - for many other very weak urban areas - aggregation into urban systems capable in time of improving their "urban quality" and thus of providing a more satisfying city effect.

In Italy, the decongestion of metropolitan areas means in particular, decongesting and depolarising the various "historic centres" of the metropolitan areas. And the only strategy possible for contrasting the over-congestion, depolarising the function of the historic centre and reducing its overload is to design alternative centres which absorb part of the functions of centrality and public spaces that have been reserved for the traditional centre.

The amount of the alternative centrality of this type depends on the size of the population (*usership*) which currently gravitates on the hyper-congested centre, and on the standards of size of the catchment areas considered minimum for the functioning of alternative centres. An excessive spread produces an opposing result to the one sought for, with a further strengthening of the traditional centre and an enlargement of the disordered and chaotic settlements in the peripheries

[82] These systems are:
- systems nos. 1 and 2 in Scotland, the *North Scotland City-Region* (610,000 inhabitants) based on the city of *Aberdeen* (200,000), and the *Central Scotland City Region* (in total 1 million inhabitants) based on the city of Dundee (200,000);
- system no. 24 in Wales: *West Wales City-Region* (720,000 inhabitants overall) based on the city of Swansea (200,000);
- and the systems no. 8 and 19 in England: the *North Yorkshire and Humberside City-Region* (approx. 1.5 million) with the city of Hull (300,000) in a useful functional network with those of York (100,000) and Grimsby (100,000); and the *Devon-Cornwall City-Region* (1 million inhabitants) with the city of Plymouth (250,000) in a useful functional network with those of Torbay (110,000) and Exeter (100,000).

(which is a great waste of new resources), and the continuation of degradation in urban quality.

In short, the fundamental constraint which should inspire the design of new "central areas" is to redistribute the function "loads" over a catchment constituting a sufficient "critical mass" for the superior urban services provided beforehand (in a perhaps redundant way) by the historic centres that are to be decongested.[83]

Action for the design of alternative centres in the metropolitan areas coincides largely with another action, linked to this programme of actions, for the re-qualification of the metropolitan areas: that aimed at the re-qualification of the metropolitan peripheral areas.

In fact, the eventual alternative centres would certainly be placed within the peripheral areas, in strategic positions and in locations that would maximise the recovery of urban quality in these areas. It would mean the concentration in the pre-chosen locations of public spaces, (modern) monumental buildings, and meeting places, on the scale required by the prescribed catchment areas, and these would be more efficient and direct compared to the previous overburdening of the historic centres. The restoration of equilibrium between supply and demand for central areas, squares and public spaces, surely means initiating a process of recovery and re-qualification of today's "peripheral" areas and zones (besides better management of the balance between the pressures and the available territorial and environmental resources).

An accompanying action to the two previous ones, and aimed at the same objectives, is to restrict the planning and management of the urban transport

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[83] Such areas in the suggested scenario are:

1. *Rome* (No.22); an urban system of approx. 3.5 million inhabitants, where there are catchment areas in the metropolitan area that suggest at least four or five alternative centres;
2. *Milan* (No.5); an urban system whose catchment area has been, in this scenario, strongly reduced to develop the alternative urban systems in Lombardy and adjacent regions. Nevertheless, even in its reduced proportions, the Milanese system is configured in such a way that at least three alternative centres are justified, plus an alternative centre dependent on the strengthening of Pavia's historic centre into a single urban system;
3. *Naples* (No.25); with a catchment area justifying at least two alternative centres, besides the strengthening of Caserta's centre into a single urban system;
4. *Genoa* (No.12); whose catchment area justifies the strengthening of Savona into a single urban system;
5. *Turin* (No.2); the catchment area justifies the design of an alternative centre within the metropolitan area;
6. *Bologna* (No.14); the catchment area justifies the design of an alternative centre within the metropolitan area;
7. *Florence* (No.17); the catchment area justifies the alternative strengthening of Pistoia and Prato into a single urban system;
8. *Palermo* (No.35); the catchment area justifies another alternative centre within the metropolitan area, and the alternative strengthening of Trapani and its territory within the confines of the same urban system;
9. *Catania* (No.33); the catchment area justifies the alternative strengthening of Siracusa into a single urban system;
10. *Bari* (No.28); the catchment area justifies another alternative centre within the same metropolitan area.

systems of the metropolitan area in question to the chosen strategies of the previous actions, thereby maintaining an integrated design and programming.

In connection with the re-qualification of the metropolitan areas by means of the creation of alternative centralities, the Italian proposal also suggests programmes for the restoration of the historical centres within these areas.

The relief granted by the other actions will allow the reduction of overload in the historical centres, and allows also their restoration to their most suitable functions, and their adaptation to new functions (touristic, cultural etc.), without overburdening their building or urban structure.

A good urban "restoration" is, in short, essential for their renewal within the modified context of environmental pressure.

The historical centres of the metropolitan areas which deserve the most attention, within a framework of an integrated policy of environmental renewal, are those of Rome, Naples, Venice, Milan, Florence, Genoa, Bologna, Palermo and Catania. Many "actions" for recovery and restoration and special project elaboration are thus suggested.

But, as has been said, the proposal suggests at the same time the design of new "systems of cities" in the non-metropolitan areas. In the proposed scenario these new "urban systems" are identified as merges of small-sized cities individually incapable of reaching the critical mass of citizens and customers necessary to create a good city effect.[84]

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[84] These are:

1. *"Prealpine Piedmontese City"* (no. 1), based on the functional integration of Novara-Vercelli-Biella-Ivrea and adjacent territory (including Valle d'Aosta). The potential catchment area for the "superior urban services" (SUS) would consist of 1.1 million inhabitants that today gravitate towards Milan and Turin with serious social and environmental costs.
2. *"City of the Tanaro"* (no. 3), based on the functional integration of Alessandria, Asti and Cuneo and their territories; the catchment area for the SUS would be of 1.2 million inhabitants, who today gravitate towards Milan and Turin with serious social and environmental costs
3. *"City of the Lakes"* (no. 4), based on the functional integration of Varese-Como-Lecco-Bergamo and their territories; the catchment area for the SUS would be of 2.5 million inhabitants that today gravitate almost totally towards Milan, with very serious social and environmental costs
4. *"City of the Po"* (no. 6), based on the functional integration of the two very near cities (ignored by each other) of Piacenza and Cremona (plus the territory of Codogno); a catchment area for the SUS of about 700,000 inhabitants that today mainly gravitate towards Milan with serious social and environmental costs
5. *"City of the Adige"* (no. 8), based on the functional integration of Trento and Bolzano and their territories; with a catchment area for the SUS of about 800,000 inhabitants today marginalised from the SUS
6. *"City of the Garda"* (No. 7), based on the functional integration of Brescia-Mantua-Verona and their territories; a catchment area of about 2.2 million inhabitants that today continue to gravitate from the SUS towards Milan and the Venetian area
7. *"City of the Veneto"* (No. 10), which represents a good example of functional polycentrism between Venice-Padua-Mestre-Vicenza-Treviso (and also Belluno), that need to have better infrastructure. The catchment area is of 3.3 million inhabitants, and perhaps there is here the basis for a division into two complete systemic units: Venice-Treviso-Mestre-Belluno on the one hand, and Padua-Vicenza on the other

8. *"City of the Delta"* (no. 9), based on the functional integration of Ferrara and Rovigo and linked territories, with 600,000 inhabitants as a catchment area for the SUS
9. *"Julian City"* (no. 11), based on the functional integration of Trieste-Udine-Gorizia, moreover sanctioned by a special Region status; a catchment area of 1.2 million inhabitants and with many urban values inherited from the past, but with a parochial mentality that creates marginalisation
10. *"Emilian City"* (no. 13), based on the functional integration, already partly existent and in part to be reinforced, of Parma-Reggio Emilia-Modena; an overall catchment area for the SUS of 1.4 million inhabitants that still gravitate towards Milan and Bologna
11. *"City of Romagna"* (no. 15), based on the functional integration of Ravenna-Forli'-Cesena-Rimini and their territories; a catchment area of about 1 million inhabitants that are only in part included in an urban system of life and gravitate, anyway, towards Bologna
12. *"Tuscan-Tyrrhenian City"* (no. 16), already largely in existence with Pisa-Lucca-Livorno-Viareggio and Massa that need to be better functionally integrated; a catchment area today of about 1.6 million inhabitants with poor urban quality, even considering the rich values inherited from the past
13. *"Sienese-Maremman City"* (no. 18), based on the functional integration between Siena and Grosseto and their vast territories; about 500,000 catchment area inhabitants with a strong vocation for development and who gravitate for the SUS towards Florence and Rome
14. *"Umbro-Aretine City"* (no. 19), based on the functional integration of Arezzo-Perugia; a potential urban catchment area of about 1 million inhabitants, today varying in quality and gravitating towards Florence and Rome
15. *"City of the Marches"* or "Picene City" (no. 21), based on the functional integration of Ancona-Pesaro-Ascoli and Macerata (i.e. the Marche Region); a catchment area of about 1.5 million inhabitants with a very low urban quality and ready to split into two urban systems as soon as conditions allow (Pesaro-Ancona on the one hand, Macerata-Ascoli on the other)
16. *"City of the Tuscia"* (no. 20), based on the functional integration of Terni, Viterbo, Rieti and Civitavecchia; a potential 700,000 inhabitant users that today gravitate towards Rome with serious social and environmental damage
17. *"Latin City"* (no. 23) or City of Lower Latium, based on the functional integration of Latina and Frosinone and their territories (with the addition of Isernia); reaches 1.1 million potential users who enjoy a limited level of urban quality and gravitate, when they can, towards Rome
18. *"City of the Abruzzi"* (no. 24); finding it difficult to maintain urban values with a potential catchment area of 1.2 million inhabitants (the entire Region) who gravitate almost exclusively towards Rome
19. *"City of Internal Campania"* (No.26); based on the territorial integration of Salerno, Avellino and Benevento, which have very low urban values despite the noteworthy development of the Salerno area; a catchment area of 1.5 million inhabitants who continue to gravitate towards Naples with very serious consequences for the Neapolitan urban environment
20. *"City of the Daunia"* (no. 27); made up of the integration of the cities of the Molise (Campobasso, Termoli) with Foggia and the other centres of the province; with their territories, these reach a potential of almost 500,000 inhabitants, with a very weak urban structure, diffused and without special centralities
21. *"City of the Salento"* (no. 29); based on the functional integration of Brindisi-Taranto-Lecce; a potential catchment area of 1.7 million inhabitants including their territories, who today make-do with low urban quality that is mitigated by constant gravitation towards Bari
22. *"Lucan City"* (no. 30); based on the functional integration of Potenza and Matera, two non-existent urban entities; together with the whole of Basilicata constitutes a catchment area of just about 600,000 inhabitants who today gravitate towards Bari and Napoli
23. *"City of the Sila"* (no. 31); including the territories of the provinces of Catanzaro and Cosenza; of extremely low urban quality and promising extreme difficulties for functional integration, but with a catchment area of 1.5 million inhabitants

They involve about 80 "intermediate cities" that represent a very important part of the urban population which have not achieved modern levels of urban quality and which, in relative terms, are losing urban quality in comparison to the "metropolitan areas".

Without a policy of creation and design of the aforementioned "systems of cities", although the urban environment of these intermediate cities will improve in physical terms, it will tend to worsen in social and cultural terms. Moreover, many of these cities will become "peripheries" of the metropolitan areas (for many rare services they are already thus, while for others they have had to bear the cost of giving them up).

The 27 "systems of cities" (or city regions) proposed above are to be realised in different ways and within different lengths of time. However, they do have potential prerequisites in common, both within the territorial space in question, and within the minimum catchment area.

The absence of such a policy, moreover, will compromise any policy aimed at the decongestion of the metropolitan areas. In fact, without the "polarisation" of the intermediate cities formed autonomously, no "depolarisation" will be able to take place in the metropolitan areas, and any environmental policy in any Italian urban context will be destined to fail.

The 27 new "systems of cities" of the more than 80 "intermediate cities" may be classified and distinguished internally according to their degree of income development, which may to a greater or lesser extent facilitate the take-off of urban quality and the city effect sought, and according to their level of urban values which, although in decline, to a greater or lesser extent facilitates recovery.

For each of the "new system of cities" (as for the new "alternative centres" of the metropolitan areas), "Plans" will have to be elaborated - in agreement with the regions, provinces and other interested local bodies - that are in part indicative and in part normative, and of a national interest and nature

References of the Part II

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24. *"City of the Straits"* (no.32); based on the functional integration of Messina and Reggio Calabria, on the prospect of a more stable crossing of the Straits; of modest urban quality, with an urban catchment area of 1.2 million inhabitants
25. a system of small towns in *"Central or Southern Sicily"* (no. 34), made up of the agglomeration of various small centres of the provinces of Agrigento, Enna, Caltanisetta and Ragusa that are hard to polarise and are difficult to functionally integrate and are polycentric, but which represent a potential catchment area of 1.2 million inhabitants;
26. a "system of cities" of *"Southern Sardinia"* (no. 37), polarised on Cagliari but extended to the area of Oristano and the Sulcis; about 1 million inhabitants with low urban quality to be reinforced in a concentrated and polarising way
27. a system of *"Northern Sardinia"* (no. 36), polarised on Sassari but extended to the areas of Alghero, Olbia and Nuoro; a potential catchment area of about 600,000 inhabitants and urban quality that is still a long way from being realised.

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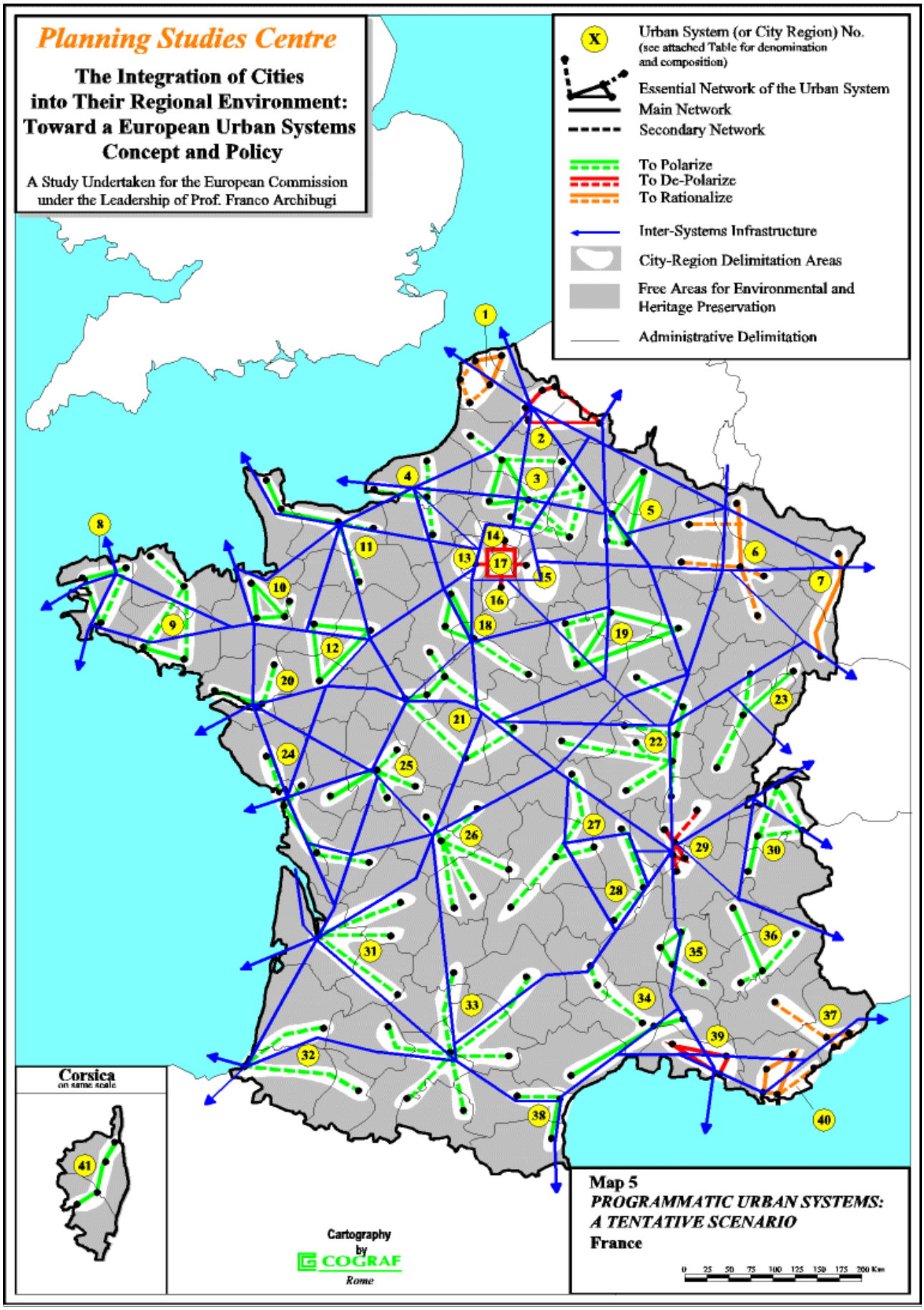
Appendix No. 1

A proposal for a new urban systems reorganisation for a long term socio-economic cohesion policy in Europe.

(In four Countries: France; Germany; Great Britain; Italy)

Abstract from an European Union research (Research and Innovation Framework Programme)
leaded by the **Planning Studies Centre** (Prof. Archibugi, Director)
with cooperation with other European research institutes
(see Appendix 2)


Planning Studies Centre
The Integration of Cities into Their Regional Environment: Toward a European Urban Systems Concept and Policy
A Study Undertaken for the European Commission under the Leadership of Prof. Franco Archibugi
X
Urban System (or City Region) No.
(see attached Table for denomination and composition)
Essential Network of the Urban System
Main Network
Secondary Network
To Polarize
To De-Polarize
To Rationalize
Inter-Systems Infrastructure
City-Region Delimitation Areas
Free Areas for Environmental and Heritage Preservation
Administrative Delimitation
Corsica
on same scale
Cartography by
COGRAF
Rome
Map 5
PROGRAMMATIC URBAN SYSTEMS: A TENTATIVE SCENARIO
France
0 25 50 75 100 125 150 175 200 Km

[Attached to Map1 - France]

Long-term reorganisation scenario of the urban framework

List of proposed urban system (FRANCE)[85]

System 1: Artois City Region
Total system: **1.400** (estimated)
Departments: Pas-de-Calais (minus Arras (41) e plus Dunquerque (83).
Cities And Main Centres: Dunquerque (83); Calais (80); Saint-Omer (20); Boulogne-sur-Mer (50).
System 2: Hainaut City Region
Total system: **2.550** (estimated)
Departments: Nord (minus Dunquerque (83), plus Arras (45).
Cities And Main Centres: Lille (169); Douai (48); Arras (44); Valenciennes (44).
System 3: Picardie City Region
Total system: **1.810**
Departments: Somme (547); Oise (725); Aisne (537).
Cities And Main Centres: Amiens (136); S.Quentin (70); Beauvais (54); Compiegne (43); Soissons (32); Laon (30); Abbeville (27).
System 4: Haute-Normandie City Region
Total system: **1.737**
Departments: Seine-Maritime (1.223); Eure (513).
Cities And Main Centres: Le Havre (199); Rouen (105); Evreux (50); Dieppe (26).
System 5: Ardenne City Region
Total system: **854**
Departments: Ardenne (296); Marne (558).
Cities And Main Centres: Reims (288); Charleville- Mezieres (63); Chalons-sur-Marne (56); Epernay (31).
System 6: Lorraine City Region
Total system: **2.305**
Departments: Meurthe-et-Moselle (711), Meuse (196); Moselle (1.010); Vosges (386).
Cities And Main Centres: Metz (117); Nancy (100); Epinal (49); Thionville (44); Verdun (27); Luneville (25); Bar-le-duc (21).
System 7: Alsace City Region
Total system: **1.624**
Departments: Rhin (953); Hauth-Rhin (671).
Cities And Main Centres: Strasbourg (257); Mulhouse (120); Colmar (67); Haguenau (27); Selestat (16).
System 8: Brest City Region
Total system: **838**
Departments: Finistere (838).
Cities And Main Centres: Brest (172); Qumper (60); Morlaix (21).
System 9: Bretagne City Region
Total system: **1.157**
Departments: Cotes-du-Nord (538); Morbihan (619).
Cities And Main Centres: Lorient (72); St.Brieul (56); Vannes (44).
System 10: Rennes City Region
Total system: **798**
Departments: Ille-et-Vilaine (798).
Cities And Main Centres: Rennes (206); St.Malo (46); Fougeres (28); Vitrè (13).
System 11: Basse-Normandie City Region
Total system: 1.390
Departments: Calvados (618); Manche (479); Orne (293).
Cities And Main Centres: Cannes (123); Cherbourg (35); Alencon (35); St.Lo (25); lisieux (27).
System 12: Maine-Anjou City Region
Total system: **1.496**

[85]The list is made up of the departments and main cities and centres composing the proposed Urban System (between brackets the population, in thousands of inhabitants, rounded up to ten thousand, at 1990 for the counties and between 1985 and 1990 for the cities).

Departments: Sarthe (513); Mayenne (278); Maine-et-Loire (705).
Cities And Main Centres: Le Mans (150); Angers (143); Laval (55).
System 13: Yveline City Region
Total system: **1.196**
Departments: Yveline (1.196)
Cities And Main Centres: Versailles (91); and other centres of the Paris banlieu.
System 14: Val d'Oise City Region
Total system: **921**
Departments: Val d'Oise
Cities And Main Centres: Cergy-Pointoise (113); and other centres of the Paris banlieu.
System 15: Seine-et-Marne City Region
Total system: 887
Departments: Seine-et-Marne (887).
Cities And Main Centres: Melun (35) and other centres of the Paris banlieu.
System 16: Essonne City Region
Total system: **988**
Departments: Essonne (988).
Cities And Main Centres: Evry (29) and other centres of the Paris banlieu.
System 17-A: Ville de Paris
Total system: **2.177.**
Departments: Ville de Paris (2.177)
Cities And Main Centres: Paris (2.177)
System 17-B: Haute-de-Seine City Region
Total system: **1.387**
Departments: Haute-de-Seine (1387)
Cities And Main Centres: Nanterre (89); and other centres of the Paris peripherie.
System 17-C: Seine-St.Denis City Region
Total system: **1.324**
Departments: Seine-St.Denis (1324).
Cities And Main Centres: Bobigny (43) and other centres of the Paris peripherie.
System 17-D: Val-de-Marne City Region
Total system: **1.194**
Departments: Val-de-Marne (1.194).
Cities And Main Centres: Creteil (72) and other centres of the Paris peripherie.
System 18: Orleans City Region
Total system: **976**
Departments: Eur-et-Loire (396); Loiret (580).
Cities And Main Centres: Orleans (110); Chartres (40); Chateaudun (20); Gien (15).
System 19: Champagne City Region
Total system: **816**
Dipartimenti: Yonne (323); Aube (289); Haute-Marne (204).
Cities And Main Centres: Troyes (76); St.Dizier (40); Auxerre (39); Chaumont (29).
System 20: Nantes City Region
Total system: **1.052**
Dipartimenti: Loire-Atlantique (1.052)
Cities And Main Centres: Nantes (264); St.Nazaire (68); La Baule (15); Chateaubriand (15).
System 21: Berry City Region
Total system: **1.392**
Departments: Loir-et-Cher (305); Cher (321); Indre (237); Indre-et-Loire (529).
Cities And Main Centres: Tours (145); Bourges (80); Chateauroux (60); Blois (52); Vierzon (40); Vendome (20).
System 22: Bourgogne City Region
Total system: **1.285**
Departments: Cote-d'or (493); Nievre (233); Saone-et-Loire (559).
Cities And Main Centres: Dijon (157); Chalon-sur-Saone (60); Nevers (45); Macon (40); Le Creusot (35); Beaune (20).
System 23: Franche-Comtèe City Region
Total system: **1.095**
Departments: Territoire del Belfort (134); Haute-Saone (229); Doubs (484); Yura (248).
Cities And Main Centres: Besancon (120); Belfort (57); Montbelliard (32); Vesoul (20); Lons-le-Saunier (20).
System 24: Charentes-Vandee City Region
Total system: **1.377**
Departments: Vandee (509); Charente Maritime (527); Charente (341).

Cities And Main Centres: La Rochelle (75); La Roche-sur-Yon (50); Angouleme (50); Saintes (30); Fontenay-le-Comte (20).

System 25: Poitou City Region

Total system: **725**

Departments: Deux-Sevres (345); Vienne (380).

Cities And Main Centres: Poitiers (80); Niort (60).

System 26: Limousin City Region

Total system: **721**

Departments: Creuse (131); Haute-Vienne (353); Correze (237).

Cities And Main Centres: Limoges (147); Brive-la-Gaillarde (60); Gueret (20); Tulle (25).

System 27: Auvergne City Region

Total system: 1.114

Departments: Allier (357); Puy-de-Dome (598); Cantal (158).

Cities And Main Centres: Clermont-Ferrand (136); Mont-Lucon (60); Vochy (35); ASurillac (30); Moulins (25).

System 28: St Etienne City Region

Total system: **953**

Departments: Loire (746); Haute-Loire (206).

Cities And Main Centres: St Etienne (200); Roanne (60); Le Puy (25).

System 29: Lyon City Region

Total system: **1.979**

Departments: Rhone (1.508); Ain (471).

Cities And Main Centres: Lyon (415); Bourg-en-Bresse (41); Villefranche-sur-Saone (31); Vienne (30).

System 30: Savoie City Region

Total system: **916**

Departments: Haute-Savoie (568); Savoie (348).

Cities And Main Centres: Chambery (55); Annecy (50); Thono-les-bains (25); Aix-les-bains (22); Chamonix (10).

System 31: Gironde City Region

Total system: **1.904**

Departments: Gironde (1.213); Lot-et-Garonne (305); Dordogne (386).

Cities And Main Centres: Bordeaux (208); Perigueux (32); Agen (31); Bergerac (29); Libourbe (23); Marmande (17).

System 32: Guascogne City Region

Total system: **1.113**

Departments: Landes (311); Pyrenees-Atlantique (578); Haute-Pyrenees (224).

Cities And Main Centres: Pau (83); Tarbes (51); Bayonne (45); Biarritz (30); Mont-de-Marsan (30); Dax (20).

System 33: Midi-Pyrenees City Region

Total system: **2.202**

Departments: Ariege (136), Aveyron (270); Haute-Garonne (925); Gers (174); Lot (155); Tarne (342); Tarne et Garonne (200).

Cities And Main Centres: Toulouse (354); Castres (50); Montauban (50); Albi (45); Rodez (25); Auch (25); St.Gaudens 20); Cahors (20).

System 34: Languedoc City Region

Total system: **1.918**

Departments: Lozere (72); Vaucluse (467); Gard (585); Herault (794).

Cities And Main Centres: Montpèllier (207); Nimes (130); Avignon (90); Beziers (90); Ales (46); Sete (40); Mende (15).

System 35: Valence City Region

Total system: **700**

Departments: Drame (414); Ardeche (277).

Cities And Main Centres: Valence (70); Montelimar (30); Privas (10).

System 36: Dauphiné City Region

Total system: **1.129**

Departments: Isere (1.016); Haute-Alpes 113).

Cities And Main Centres: Grenoble (151); Gap (30); Briancon (15).

System 37: Cote-d'Azur City Region

Total system: **1.102**

Departments: Alpes-de-Haute Provence (130); Alpes Maritimes (971).

Cities And Main Centres: Nice (342); Cannes (71); Grasse (35); Digne (15).

System 38: Roussillon City Region

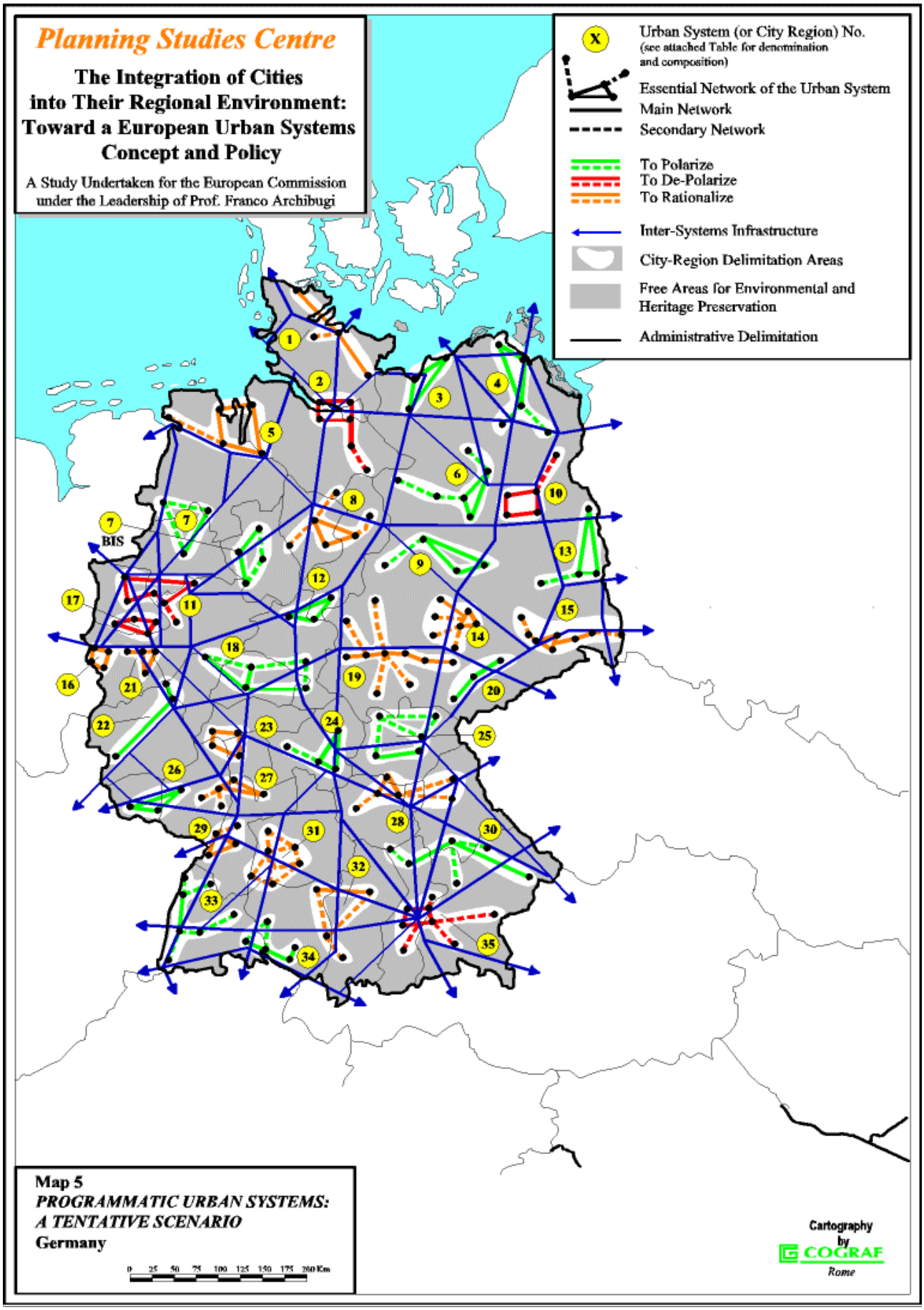
Total system: 661

*Departments:*Aude (298); Pyrenees Orientales (363).

Cities And Main Centres: Perpignen (105); Narbonne (41); Carcassonne (41).

System 39: Marseille City Region

Total system: **1.759**
Departments: Bouche du Rhone (1.759).
Cities And Main Centres: Marseille (800); Aix-en-Provence (120); Arles (120).
System 40: Toulon City Region
Total system: **815**
Departments: Var (815).
Cities And Main Centres: Toulon (170); Brignoles (30); Draguignan (25).
System 41: Corse City Region
Total system: **250**
Departments: Corse du Sud (118); Haute Corse (132).
Cities And Main Centres: Ajaccio (54); Bastia (45).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7 BIS
Map 5
PROGRAMMATIC URBAN SYSTEMS: A TENTATIVE SCENARIO
Germany
0 25 50 75 100 125 150 175 200 Km
Cartography by
COGRAF
Rome

[Attached to Map 1 - Germany]

Long-term reorganisation scenario of the urban framework

List of proposed urban system (GERMANY)[86]

System 1: Schleswig-Holstein City-Region
Total system: **1.686**
Analyseregionen: Schleswig/Ditmarschen (564); Mittelholstein (708); Ostholstein (413).
Cities And Main Centres: Kiel (248); Lübeck (217); Flensburg (88); Rendsburg (32) ; Schleswig (26) ; Husum (21); Eutin (20).
System 2: Hamburg City-Region
Total system: **3.420**
Analyseregionen: AR Hamburg (3.120); Luneburg (300).
Cities And Main Centres: Hamburg (1.700); Lueneburg (62), Stade (45); Uelzen (38); Buxtehude (32).
System 3: Mecklenburg City Region
Total system: **959**
Analyseregionen: Mittleres Mecklenburg/Rostock (446); WestMecklenbug (513).
Cities And Main Centres - Rostock (237); Schwerin (122) ; Wismar (53) ;
System 4: Pommern City Region
Total system: **1.034**
Analyseregionen: Vorpommern (534); AR Mecklenburg/Uckermark (500).
Cities And Main Centres: Neubrandenburg (90); Stralsund (76); Greifswald (86) ; Bergen (18)
System 5: Bremen City-Region
Total system: **2.618**
Analyseregionen: Oestfriesland/Wilhelmshaven (625); AR Unterwesen/Bremen (1.993).
Cities And Main Centres - Bremen (551) ; Oldenburg (147) ; Bremerhaven (131); Wilhelmshaven (91) ; Emden (52) ; Jever (15)
System 6: Brandenburger City-Region
Total system: **872**
Analyseregionen: AR Altmarck/Prignitz (472); as well as part of the Berlin basin, Brandenburg (400 estimated).
Cities And Main Centres - Brandenburg (95) ; Stendal (44) ; Tangermünde (12) ; Neuruppin (30) ;Neustrelitz (30).
System 7: Westfalia City-Region
Total system: **2.648**
Analyseregionen: Osnabrueck (618); Munster (1.483); Emsland/Cloppenburg (547).
Cities And Main Centres: Münster (267); Osnabrück (168); Lingen (51);
System 7 bis: Teutoburger City-Region
Total system: **1.991**
Analyseregionen: Bielefeld/Paderborn (1.991).
Cities And Main Centres: Bielefeld (313); Paderborn (110); Minden (83); Guterloh (81); Herford (70); Detmold (70); , Lippstadt (61); Soest (45); Reda (40).
System 8: Hannover City Region
Total system: **3.162**
Analyseregionen: AR Hannover (2.156); AR Braunschweig (1.006).
Cities And Main Centres: Hannover (524); Braunschweig (260); Wolfsburg (131); Salzgitter-Hohenrode (115); Hildesheim (103); Celle (72); Hameln (60); Wolfenbüttel (51); Goslar (46).
System 9: Flaming City-Region
Total system: **1.587**
Analyseregionen: Magdeburg (1.010); Dessau (577).
Cities And Main Centres: Magdeburg (270); Dessau (103); Wittemberg (53); Halbenstadt (47); Bernburg (42); Ascherleben (35); Coswig (30); Luckenwalde (27); Zerbst (20).
System 10: Berlin City-Region
Total system: **4.200**
Analyseregionen: Berlin-Brandenburg (5.052); less the regions of Brandenburg e Frankfurt/Oder (estimated: 450)
Cities And Main Centres: Berlino (3475); Potsdam (143); Eberswalde 60).

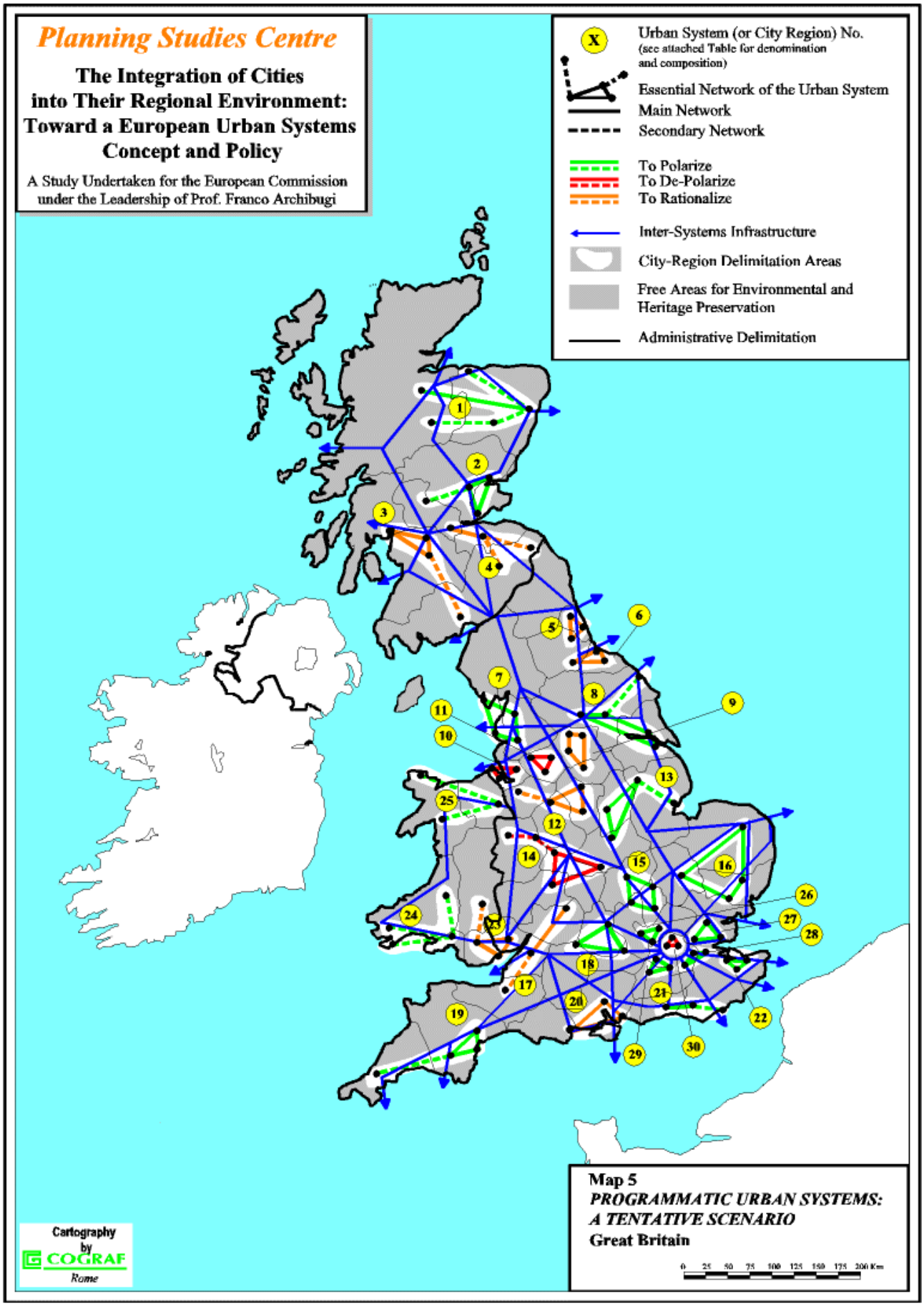
[86]The list is made up of the analysed regions (*Analyseregionen*) adopted by the BfLR and of the main cities and centres making up the proposed Urban System (between parentheses the population in thousands of inhabitants, rounded up to ten and by various periods between 1985 and 1994).

System 11: Ruhrgebiet City Region
Total system: **4.000**
Analyseregionen: part of the AR Ruhrgebiet
Cities And Main Centres: Essen (622); Dortmund (601); Duisburg (532); Bochum (401); Gelsenkirchen (297); Oberhausen (231); Hagen (214); Hamm (182); Mühlheim (180); Recklinghausen (125); Bottrop (114).
System 12: Nord Hessen-Harz City Region
Total system: **1.574**
Analyseregionen: AR Nord-Hessen (919); Harz-Gottingen (755).
Cities And Main Centres: Kassel (202); Gottingen (131); Northeim (33); Munden (26); Warburg (25); Einbeck (28).
System 13: Lausitz City Region
Total system: **1.073**
Analyseregionen: AR Lausitz-Spreewald (673); plus Frankfurt a.d.O. (estimated 400).
Cities And Main Centres: Cottbus (128); Frankfurt a.d.O. (83); Luebben (15).

System 14: Upper Saxen City Region
Total system: **1.960**
Analyseregionen: AR Halle/Westsachsen (1.960).
Cities And Main Centres: Leipzig (490), Halle (295); Zeitz (44); Weissenfels (40); Naumburg (34).

System 15: Dresden City Region
Total system: **1.665**
Analyseregionen: AR Dresden-Elbtal (1.665)
Cities And Main Centres: Dresden (480); Gorlitz (70); Bautzen (50); Riesa (50); Meissen (40).
System 16: Aachen City Region
Total system: **1.040**
Analyseregionen: Aachen (1.040)
Cities And Main Centres: Aachen (246); Eschweiler (60).
System 17: Nieder Rhein City Region
Total system: **2.800**
Analyseregionen: Part of AR Ruhrgebiet
Cities And Main Centres: Dusseldorf (574); Wuppertal (386); Monchen gladbach (261); Krefeld (245); Solingen (166); Neuss (150); Ludenscheid (75).
System 18: Hessen- Rothaar City Region
Total system: **2.535**
Analyseregionen: Sauerland/Siegen (1.145); AR Mittel hessen (930); AR Osthessen (460).
Cities And Main Centres: Siegen (114); Giessen (76); Marburg (75); Fulda (56); Wetzlar (52); Dillenbur-Herborn (50).
System 19: ThÜringen City Region
Total system: **2.589**
Analyseregionane: Sudthuringen (544); AR Nordthuringen (514); Mittel Thuringen/Ostthuringen (1.531).
Cities And Main Centres: Erfurt (200); Gera (126); Jena (105); Weimar (63); Suhl (60); Gotha (57); Altenburg (53); Eisenach (50); Nordhausen (50); Saafeld (35).
System 20: Vogtland City Region
Total system: **1.705**
Analyseregionen: AR Chemnitz-Zwickau (1.705*).*
Cities And Main Centres: Chemnitz (300); Zwickau (130); Plauen (80).
System 21: Rheinland City Region
Total system: **5.695**
Analyseregionen: AR Rheinland (5.695).
Cities And Main Centres: K**Öl**n (962); Bonn (296); Leverkusen (161).
System 22: Mosel City Region
Total system: **1.576**
Analyseregionen: Trier (502); AR Mittelrhein-Westerwald (974).
Cities And Main Centres: (Koblenz (109); Trier (99); Newwed (63); Andernach (28).
System 23: Taunus City Region
Total system: **2.074** (?)
Analyseregionen: AR Rhein-Main (2.074)?.
Cities And Main Centres: Frankfurt a.M. (660); Wiesbaden (270); Mainz (185); Darmstadt (139); Offenbach (114); Hanau (90); Russelheim (63); Bad Homburg vor der Home (52); Oberursel (42).
System 24: Unter-Francken City Region
Total system: **1.080**
Analyseregionen: AR Wurzburg (632); Main-Rhon (448).
Cities And Main Centres: Wurzburg (128); Aschaffenburg (65); Schwenfurt (55).

System 25: Ober-Francken City Region
Total system: **995**
Analyseregionen: Ober-Francken/West-Oberfrancken-Ost (995).
Cities And Main Centres: Bayreuth (73); Bamberg (70); Hof (52); Coburg (46); Kulmbach (30).
System 26: Saar-Pfalz City Region
Total system: **1.882**
Analyseregionen: AR Hunruck-Westpfalz (788); Saarland (1.084).
Cities And Main Centres: Saarbrucken (190); Kaiserlautern (100); Pirmasens (51); Saarlouis (40); Zweibrucken (35); Merzig (30).
System 27: Rhein-Neckar City Region
Total system: **1.894**
Analyseregionen: Rhein-Neckar (1894).
Cities And Main Centres: Mannheim (318); Ludwigshafen (168); Heidelberg (139); Worms (80); Neustadt (50); Weinheim (43); Speyer (45).
System 28: Mittel Francken City Region
Total system: **2.278**
Analyseregionen: Oberpfalz-Nord (509); Mittelfrancken/ Westmittelfrancken (1.769).
Cities And Main Centres: Nurnberg (500); Furth (108); Erlangen (102); Arnberg (43); Ansbach (40); Schwabach (40).
System 29: Baden City Region
Total system: **1.216**
Analyseregionen: AR Mittlerer Oberrhelm (1.216).
Cities And Main Centres: Karlsruhe (272); Pforzheim (106); Baden-Baden (50); Bruchsal (38); Ettlingen (37).
System 30: Donau City Region
Total system: **1.965**
Analyseregionen: AR Regensburg (920); Ingolstadt (411); AR Donau Wald (634).
Cities And Main Centres: Regensburg (133); Ingolstadt (90); Landshut (59); Passau (52); Straubing (41).
System 31: Wurtembergische City Region
Total system: **4.387**
Analyseregionen: AR Odenwald-Heilbronn (893); AR Mittlerer Neckar (3.494).
Cities And Main Centres: Stuttgart (595); Heilbronn (110); Esslingen (90); Reutlingen (96); Ludwigsburg (80); Tubingen (75); Schwabisce Gmund (56).
System 32: Schwabe City Region
Total system: **2.801**
Analyseregionen: AR Donau-Iller (624); AR Ostwurtenberg (623); AR Augsburg (935); AR Allgau (619).
Cities And Main Centres: Augsburg (264); Sonthofen (205)?; Ulma (114); Aalen (65); Kempten (61); Memmingen (40); Biberach (30).
System 33: Breisgau City Region
Total system: **2.126**
Analyseregionen: AR Schwarzwald- Baar-Henberg (787); Sudlicher Oberrhein/Hochrhein-Bodensee (1.339).
Cities And Main Centres: Freiburg i.B. (180); Villingen-Schwenningen (80); Offenburg (55); Lorrach (41); Tuttlingen (33); Freudenstadt (20).
System 34: Bodensee City Region
Total system: **837**
Analyseregionen: AR Bodensee- Uberschwaben (837)
Cities And Main Centres: Konstanz (75); Friederishafen (54); Ravensburg (45); Singen (44); Rodolfzell (27).
System 35: Munchener City Region
Total system: **3.662**
Analyseregionen: AR Munchen/ Oberland (3.079); AR Sudostober Bayern (583).
*Cities And Main Centres:*Munchen (1.255); Rosenheim (56); Freising (35); Dachau (34); Furstenfeldbruck (31).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X
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Essential Network of the Urban System
Main Network
Secondary Network
To Polarize
To De-Polarize
To Rationalize
Inter-Systems Infrastructure
City-Region Delimitation Areas
Free Areas for Environmental and Heritage Preservation
Administrative Delimitation
1
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Map 5
PROGRAMMATIC URBAN SYSTEMS: A TENTATIVE SCENARIO
Great Britain
0 25 50 75 100 125 150 175 200 Km
Cartography by
COGRAF
Rome

[Attached to Map1- Great Britain]

Long-term reorganisation scenario of the urban framework

List of proposed urban system
(GREAT BRITAIN)[87]

System 1: North-Scotland City Region
Total System: **610**
Counties: Grompian (530), Highland (210) Western-Orkney-Shetland (70).
Cities And Main Centres: Aberdeen (200), Inverness (40), Elgin (20), Pewterhead (20).
System 2: Central Scotland City Region
Total System : **1.020**
Counties: Tayside (400), Fife (350), Central (270).
Cities And Main Centres: Dundee (200), Perth (50), Kirkaldy (50), Stirling (30).
System 3: West-Scotland City Region
Total System: **3.140**
Counties: Strathclyde (2240), Dumprfries & Galloway (900).
Cities And Main Centres: Glasgow (900), Paisley (100), Greenec (70), Kilmarmock (50), Ayr (50), Hamilton (50), Cumbernauld (35), Dumpreies (30).
System 4: East-Scotland City Region
Total system: **860**
Counties: Lothian (750), Borders (110).
Cities And Main Centres: Edimburgh (500), Farfilk 40).
System 5: Tyne City Region
Total System: **1.750**
Counties: Northumberland (230), Durham (half: 300), Tyne & War (1.130).
Cities And Main Centres: New Castle-on-Tyne (230), Sunderland (217), South Schields (100), Tinemouth (70).
System 6: Tees City Region
Total System: **860**
Counties: Cleveland (560), Durham (half: 300) North Yorkshire as far as the Cleveland Hills: 200).
Cities And Main Centres: Middlesbrough (90), Darlington (90), Stochton-on-Tees (90), Hartlepool (....), Billingham (40).
System 7: Lancashire City Region
Total System: **1.910**
Counties: Lancashire (1.420), Cumbria (490).
Cities And Main Centres: Blackpool (160), Preston (100), Blackburn (100),
Carlslile (80), Burnley (80), Lancaster (50), Morecambe (50), Lytham (50).
System 8: North Yorkshire- Humberside City Region
Total System: **1.430**
Counties: North Yorkshire (part: 540), Humerside (890).
Cities And Main Centres: Hull (300), York (100), Grimsby (100), Haarogate (60), Scarborough (50), Bridlington (30).
System 9: Yorkshire City Region
Total System: **3.370**
Counties: West-Yorkshire (2.070), South-Yorkshire (1.300).
Cities And Main Centres: Leeds (496), Sheffield (550), Bradford (300), Huddersfield (130), Halifax (100), Doncaster (90), Wakefield (60).
System 10: Merseyside-City
Total System: **1.440**
Counties: Merseyside (1.440).
Cities And Main Centres: Liverpool (650), Birkenhead (140), St.Helens (105), Wallasey (100), Southport (90), Whiston (90), Huyton (70), Kirby (60).

System 11: Greater Manchester City Region
Total System: **2.590**
Counties: Greater Manchester (2.590).
Cities And Main Centres: Manchester (600), Bury (700), Stockport (140), Bolton (150), Oldham (105).

[87]The list is made up of the counties and main cities and centres composing the proposed Urban System (between brackets the population, in thousands of inhabitants, rounded up to ten thousand, at 1990 for the counties and between 1985 and 1990 for the cities).

System 12: Cheshire-Staffordshire City Region
Total System: **(2.050).**
Counties: Cheshire (980), Staffordshire (1.070).
Cities And Main Centres: Stoke-on-Trent (300), New Castle under Lyne (77), Chester (60).
System 13: Midland City Region
Total System: **3.500**
Counties: Derbyshire (950), Nottingamshire (1.030), Leicestershire (910), Lincolnshire (610).
Cities And Main Centres: Nottingham (300), Leicester (300), Derby (250), Lincoln (80), Chesterfield (80), Boston (30).
System 14: West-Midland City Region
Total System: **(4.190)**.
Counties: West-Midland (2.610), Hereford & Worcester (670), Shropshire (420), Worwickshire (490).
Cities And Main Centres: Birmingham (1.100), Coventry (350), Wolverhampton (300), Worcester (80), Screwsbury (60), Tamworth (50).
System 15: South Midland City Region
Total System: **1.440**
Counties: Northamptonshire (610), Bedfordshire (540), Buckinghamshire (Northside: 300).
Cities And Main Centres: Northampton (160), Luton (160), Dunstable (50), Milton Keynes (....).
System 16: East-Anglia City Region
Total System: **2.500**
Counties: Norfolk (730), Suffolk (670), Cambridgeshire (700), Essex (Northside: 400).
Cities And Main Centres: Norwick (130), Ipswich (130), Petersborough (120), Cambridge (100), Colchester (120).
System 17: Bristol-Gloucester City Region
Total System **2.000**
Counties: Avon (970), Somerset (480), Gloucestershire (550). *Cities And Main Centres:* Bristol (450), Bath (100), Gloucester (100), Cheltenham (80), Bridgwater (30).
System 18: Reading-Oxford-Swindon City Region
Total System: **1.900**
Counties: Berkshire (770), Wiltshire (600), Oxfordshire (600). *Cities And Main Centres:* Reading (200), Oxford (120), Swindon (100).
System 19: Devon-Cornwall City Region
Total System: **1.550**
Counties: Devon (1.060), Cornwall (490).
Cities And Main Centres: Plymouth (250), Torquay (110), Exeter (100), Small centres West-End (150)
System 20: Hampshire-City City Region
Total System: **1.410**
Counties: Hampshire (1.600), Dorset (680), Isle of Wight (130). *Cities And Main Centres:* Southampton (250), Portmouth (200), Bornemouth (130), Poole (100), Gosport (80), Farcham (80), Weymouth (45), Salisbury (40), Winchester (35), Dorchester (15).
System 21: Sussex City Region
Total System: **1.520**
Counties: West-Sussex (790), East Sussex (730).
Cities And Main Centres: Brighton (200), Worthing (100), Eastbourne (90), Hastings (80).
System 22: Kent City Region
Total System: **1.300**
Counties: Kent (apart from zones adjacent to Greater London) (1.300).
Cities And Main Centres: Rochester (60), Gravesend (60), Margate (50), Folkestone (50), Canterbury (40), Ramsgate (40), Dover (40).
System 23: South-Wales City Region
Total System: **1.520**
Counties: Mid Glamorgan (540), Gwent (450), South Glamorgan (410), Powys (120).
Cities And Main Centres: Cardiff (300), New Port (130), Merthyr Tydfil (60), Pontypridd (40), Pontypool (40), Rhondda (...), Bridgend (15), Montmouth (10).
System 24: West-Wales City Region
Total System: **720**
Counties: West Glamorgan (370), Dyfed (350).
Cities And Main Centres: Swansea (180); Llanelli (30); Pembroke (20).
System 25: North-Wales City Region
Total System: **660**
Counties: Clwyd (420), Gwynedd (240).
Cities And Main Centres: Wrexham (40), Colwin Bay (25), Bangor (20).
System 26: London North-West City Region
Total System: **(not evaluated).**

Counties: Parts of Greater London Council, Hertfordshire and Buckinghamshire.
GLC Boroughs: Enfield (258), Barnet, Harrow, possibly also Brent.
Centres in Hertfordshire: St. Albans (52), Welwyn Garden City (50), Hatfield (40), Hertford (25), Hemel Hempstead New Town (30), Ware (20).
Centres in Buckinghamshire: Watford (110), Amersham (70).
(The part of Buckinghamshire to be included in the system reaches the Chiltern Hills).

System 27: London North-East City

Counties: Parts of Greater London Council and Essex. Total System: (not evaluated)
GL Boroughs : Waltham Forest, Redbridge, (possibly: Chingford, Woodford), Havering (possibly Barking & Dagenham).
Centres in Essex: Loughton (..), Harlow New Town (80), Epping (..), Bishop'Storford (25), Chelmsford (100), Brentwood (..), Maldon (14), Southend on Sea (160).

System 28: London South-East City Region

Total System: **(not evaluated)**
Counties: Parts of Greater London Council and Kent.
Boroughs of Greater London Council: Bexley (possibly Crayford) Bromley (possibly Sidcup).
Centres in Kent: Dartford (50), Sevenoak (..), Swanley, Farningham, Eynsford, Darenth, Wrotham.

System 29: London South-West City Region

Total System: **(not evaluated)**
Counties: Parts of Greater London Council and Surrey.
Boroughs of Greater London Council: Croydon, Sutton, Kington-upon-Thames, Richmond-upon-Thames, Hounslow, Hillington.
Centres in Surrey: Epsom and Ewell (65), Leterhead (50), Guildford (70), Weybridge (50), Esher (50), Staines (51), Reigate, Horley, Dorking (15), Egham (21), Shepperton (10) .

System 30: London Historical Centre

Total System: **not evaluated**
Counties: Parts of Greater London Council
Boroughs of GLC: City of Westminster, City of London, SouthWark, Camden, Islington, Hackney, Tower Hamlets, Lambeth, Wandsworth, Hammersmith & Fulham.

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Essential Network of the Urban System
Main Network
Secondary Network
To Polarize
To De-Polarize
To Rationalize
Inter-Systems Infrastructure
City-Region Delimitation Areas
Free Areas for Environmental and Heritage Preservation
Adminastrative Delimitation
Map 5
PROGRAMMATIC URBAN SYSTEMS: A TENTATIVE SCENARIO
Italy
0 25 50 75 100 125 150 175 200 Km
Cartography by
COGRAF
Rome

[***Attached to Map 1 - Italy***]

Long-term reorganisation scenario of the urban framework

List of proposed urban systems or city-regions
(ITALY)

System 1: Northern Piedmont City Region
Total System: **1.085**
Provinces: Vercelli (373), Novara (500), Valle d'Aosta (118) Ivrea (Comp.) (94)
Cities and Main Centres: Novara (102), Vercelli (48), Biella (48), Aosta (35), Verbania (30), Ivrea (25).
System 2: Turin City Region
Total System: **2.130**
Provinces: Torino (2.130)
Cities and Main Centres: Torino (934), Moncalieri (59), Rivoli (52), Settimo torinese (47), Collegno (47), Grugliasco (40), Nichelino (43), Pinerolo (35), Chieri (31),Venaria Reale (31), Carmagnola (24).
System 3: Southern Piedmont City Region
Total System: **1.195**
Provinces: Asti (210), Alessandria (435), Cuneo (550)
Cities and Main Centres: Alessandria (89), Asti (73), Cuneo (55), Casale Monferrato (38), Novi ligure (29), Tortona (27), Bra (27).
System 4: Northern Lombardy City Region
Total System: **2.543**
Provinces: Varese (705), Como (808), Bergamo (953), Sondrio (177),
Cities and Main Centres: Bergamo (117), Varese (85), Como (85), Lecco (45), Gallarate (45), Cantù (35), Sondrio (22), Treviglio (25).
System 5: Milan City Region
Total System: **4.618**
Provinces: Milano (3.914), Pavia (492) Saronno (comp. 77), Busto Arsizio (comp.135)
Cities and Main Centres: Milano (1,321), Monza (120), Pavia (75), Busto Arsizio (77), Vigevano (59), Legnano (52), Rho (52), Lodi (42), Saronno (37), Paderno Dugnano (44), Voghera (40), Rozzano (36), Seregno (39) Limbiate (32), Lissone (32), Cesano Maderno (31), Corsico (35), Desio (34), Brugherio (30).
System 6: Western Padania City Region
Total System: **597**
Provinces: Cremona (330), Piacenza (267)
Cities and Main Centres: Piacenza (101), Cremona (72), Crema (33)
System 7: Lombard-Veneto City Region
Total System: **2.225**
Provinces: Brescia (1.059), Mantova (368), Verona (798)
Cities and Main Centres: Verona (254), Brescia (190), Mantova (50).
System 8: Trento-Upper Adige City Region
Total System: **908**
Provinces: Trento (459), Bolzano (449)
Cities and Main Centres: Trento (103), Bolzano (97), Merano (33), Rovereto (33).
System 9: Eastern Padania City Region
Total System: **603**
Provinces: Rovigo (246), Ferrara (357)
Cities and Main Centres: Ferrara (136), Rovigo (51), Cento (28)
System 10: Venetian City Region
Total System: **3.375**
Provinces: Venezia (818), Vicenza (761), Padova (831), Treviso (754) Belluno (211).
Cities and Main Centres: Venezia (301), Padova (212), Vicenza (107), Treviso (81), Chioggia (52), Bassano del Grappa (39), Belluno (35), Schio (36), Conegliano (35).
System 11: Friuli-Venetia Iulia City Region
Total System: **1.170**
Provinces: Trieste (256), Udine (520), Pordenone (256), Gorizia (138)
Cities and Main Centres: Trieste (225), Udine (96), Pordenone (49), Gorizia (38), Monfalcone (26).
System 12: Liguria City Region
Total System: **1.436**

Provinces: Genova (935), Savona (284), Imperia (217)
Cities and Main Centres: Genova (661), Savona (65), San Remo (56), Imperia (41), Chiavari (28), Rapallo (28), Ventimiglia (26),

System 13: Emilian City Region
Total System: **1.425**
Provinces: Parma (391), Reggio Emilia (427), Modena (607).
Cities and Main Centres: Modena (174), Parma (168), Reggio Emilia (144), Carpi (60), Sassuolo (40), Formigine (27), Correggio (20), Scandiano (22), Fidenza (23).

System 14: Bologna City Region
Total System: **906**
Provinces: Bologna (906)
Cities and Main Centres: Bologna (390), Imola (63), San Lazzaro di Savena (29), S.Giovanni in Persiceto (22).

System 15: Romagna City Region
Total System: **964**
Provinces: Forlì (614), Ravenna (350),
Cities and Main Centres: Ravenna (136), Rimini (129), Forlì (108), Cesena (89), Faenza (53), Riccione (33),Lugo (31)

System 16: Tosco-Tyrrenian City Region
Total System: **1.523**
Provinces: La Spezia (226), Lucca (376), Pisa (384), Livorno (337), Massa-Carrara (200)
Cities and Main Centres: La Spezia (99), Lucca (85), Massa (66), Carrara (66), Viareggio (57), Capannori (43), Camaiore (30).

System 17: Florentin City Region
Total System: **1.441**
Provinces: Firenze (1.176), Pistoia (265)
Cities and Main Centres: Firenze (388), Prato (166), Pistoia (86), Scandicci (52), Sesto Fiorentino (47), Empoli (43), Campi Bisenzio (35).

System 18: Southern Tuscany City Region
Total System: **468**
Provinces: Siena (251), Grosseto (217)
Cities and Main Centres: Grosseto (71), Siena (55), Poggibonsi (26).

System 19: Umbro-Aretino City Region
Total System: **914**
Provinces: Arezzo (316), Perugia (598)
Cities and Main Centres: Perugia (148), Arezzo (91), Foligno (53), Città di Castello (38), Spoleto (37) Gubbio (31), Assisi (25).

System 20: Umbro-Upper Latium City Region
Total System: **728**
Provinces: Terni (224), Rieti (149), Viterbo (287), Civitavecchia (comp. 68)
Cities and Main Centres: Terni (108), Viterbo (60), Civitavecchia (51), Rieti (45)

System 21: Marche City Region
Total System: **1.439**
Provinces: Ancona (439), Pesaro-Urbino (338), Macerata (297), Ascoli P. (365)
Cities and Main Centres: Ancona (100), Pesaro (87), Fano (54), Ascoli Piceno (52), Macerata (42), Senigallia (41), Iesi (39), Civitanova Marche (37), Fermo (35), Osimo (28).

System 22: Roman City Region
Total System: **3.650**
Provinces: Roma (3.650)
Cities and Main Centres: Roma (2.667), Guidonia Montecelio (61) Tivoli (53), Velletri (47), Fiumicino (46), Pomezia (42), Anzio (38), Nettuno (36), Ciampino (36), Mentana (33), Monterotondo (31), Albano Laziale (33).

System 23: Southern Latium City Region
Total System: **1.075**
Provinces: Latina (494), Frosinone (489), Isernia (92)
Cities and Main Centres: Latina (109) Aprilia (52), Frosinone (46), Terracina (37), Formia (35), Cisterna di Latina (32), Fondi (32), Cassino (32), Sora (27), Alatri (26), Gaeta (22), Ceccano (22), Isernia (21).

System 24: Abruzzi City Region
Total System: **1.266**
Provinces: L'Aquila (302), Pescara (292), Teramo (285), Chieti (387)
Cities and Main Centres: Pescara (119), L'Aquila (68), Chieti (56), Teramo (52), Avezzano (38), Montesilvano (37), Lanciano (34), Sulmona (25), Ortona (23).

System 25: Neapolitan City Region
Total System: **4.153**

Provinces: Napoli (3.090), Caserta (836), Sarnese (comp. 227)
Cities and Main Centres: Napoli (1062), Torre del Greco (99), Casoria (82), Pozzuoli (79), Caserta (71), Castellammare di Stabia (67), Portici (65), S.Giorgio a Cremano (61), Ercolano (60), Afragola (60), Aversa (54), Marano di Napoli (53), Torre Annunziata (50), Nocera Inferiore (48), Pomigliano d'Arco (42), Acerra (42), Azzano (40), Casalnuovo di Napoli (38), Maddaloni (37), Marcianise (36), Quarto (35), Pagani (34), Sant'Antimo (31), Sarno (31), S.Maria Capuavetere (30).

System 26: Campania hinterland City Region
Total System: **1.587**
Provinces: Benevento (296), Avellino (441), Salerno (850)
Cities and Main Centres: Salerno (144), Benevento (63), Avellino (55), Cava dei Tirreni (53) Battipaglia (48).

System 27: Molise-Southern Puglia City Region
Total System**: 938**
Provinces: Campobasso (239), Foggia (699)
Cities and Main Centres: Foggia (155), Cerignola (55), Manfredonia (58), Campobasso (51), Lucera (36), Termoli (29)

System 28: Bari City Region
Total System: **1.554**
Provinces: Bari (1.554)
Cities and Main Centres: Bari (337), Andria (91), Barletta (89), Molfetta (66), Altamura (60), Bitonto (55), Trani (52), Bisceglie (48), Monopoli (47), Corato (43), Gravina in Puglie (40), Modugno (37).

System 29: Ionic-Salentine City Region
Total System: **1.821**
Provinces: Brindisi (413), Taranto (592), Lecce (816)
Cities and Main Centres: Taranto (213), Lecce (100), Brindisi (95), Martina Franca (46), Fasano (39), Francavilla Fontana (34), Ostuni (33), Grottaglie (31), Mabduria (31), Massafra (31), Nardo(31).

System 30: Basilicata City Region
Total System: **610**
Provinces: Potenza (402), Matera (208)
Cities and Main Centres: Potenza (65), Matera (55).

System 31: Calabria Silana City Region
Total System: **1.497**
Provinces: Cosenza (753), Catanzaro (744)
Cities and Main Centres: Catanzaro (96), Cosenza (78), Lamezia Terme (71), Crotone (59), Corigliano Calabro (36), Rossano (34), Rende (32), Vibo Valentia (35).

System 32: Straits City Region
Total System: **1.262**
Provinces: Reggio Calabria (578), Messina (684)
Cities and Main Centres: Messina (263), Reggio Calabria (179), Barcellona (41), Milazzo (31).

System 33: Ionic Sicily City Region
Total System: **1.482**
Provinces: Catania (1.076), Siracusa (406)
Cities and Main Centres: Catania (337), Siracusa (127), Acireale (51), Paternò (44), Misterbianco (43), Caltagirone (38), Adrano (35), Augusta (34), Avola (31).

System 34: Central Sicily City Region
Total System: **1.240**
Provinces: Agrigento (476), Ragusa (296), Caltanisetta (282), Enna (186)
Cities and Main Centres: Gela (74), Ragusa (68), Caltanisetta (62), Agrigento (55), Vittoria (57), Licata (41), Sciacca (39), Canicattì (33), Favara (32), Enna (28).

System 35: Tyrrenian Sicily City Region
Total System: **1.673**
Provinces: Palermo (1.241), Trapani 432)
Cities and Main Centres: Palermo (693), Marsala (80), Trapani (69), Bagheria (50), Mazara del Vallo (49), Alcamo (43), Erice (30), Castelvetrano (30), Monreale (27),

System 36: Northern Sardinia City Region
Total System: **732**
Provinces: Sassari (459), Nuoro (273)
Cities and Main Centres: Sassari (121), Olbia (42), Alghero (40), Nuoro (37).

System 37: Southern Sardinia City Region
Total System: **926**
Provinces: Cagliari (769), Oristano (157)
Cities and Main Centres: Cagliari (176), Quartu S.Elena (65), Carbonia (33), Oristano (31), Iglesias (29),

Appendix No. 2

The European research team for the European Commission Framework Programme "Actvill"

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