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Report:
The Optimal Centrality,
as a Guideline for Urban Strategy

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1. Introduction

The City Action RDT Programme which represents the premise of a wide survey of opinions, assessments and plans which the EU Commission has implemented with the studies promoted (for which this Conference represents an initial summation) is founded as is known on three objectives and five actions.

The first objective is *"to develop new global urbanistic concepts aimed at the promotion of human centred (agora) city plans which, by applying technology options will enable social cohesion, cooperation for co-development of human being, multicultural and multiracial co-existence"*; from which derives a first related action, to develop these concepts *"integrating technological building blocks and verifying applicability to actual city cases"*.

The second objective is *"to create the condition, by using technology options, to master the pressures from the globalization of the economy on the city development choices and future prospective with the aim to maintain the local diversity and valorize the local resources"*. From which two actions derive: the first aimed at *"identifying instruments to promote the city and its regional basin as local interactive networks"*; and the second aimed at *"promoting the development of new functions and services from intra-and trans-urban networks"*.

The third objective is *"to contribute to develop technology options for the realization of the sustainable city"*. From which two actions are derived: the first is aimed at developing *"simulation models of given cities for effective assessment of alternative actions"*; and the second to *"assess technology options to approach the challenges of a saturated city system"*¹.

¹As is known, the Commission has implemented five separate studies for the five programme actions, which are being discussed in this Conference. See *Toward a Better Liveable City*, background paper for the "City Action RDT Programme" (Commission of the European Communities, 1994).

The multi-national study group coordinated by the Planning Studies Centre, which I represent here, has committed itself to elaborating Action 2, which concerns identifying instruments to promote the city and its regional basin as local interactive networks. The Planning Studies Centre had been previously involved in similar research in Italy², and the City action programme constituted a good opportunity to verify whether the approach adopted for the Italian research would be applicable to other European national situations and configurations³.

Nevertheless, from the beginning of the organization of the work (which has been confirmed in the first steps taken in the research in the first few months), we realized that Action 2 of the programme, apart from its obvious correspondence to the second objective, was strongly and directly linked to the first objective (and thus correlated with Action 1). And, moreover, it could provide criteria for the appropriate research for Actions 3, 4 and 5 as well, in a specific way for each of them.

The main purpose of this report is in fact that of discussing how research into an *optimal relationship* between "the city" and its regional basin, constitutes the premise, and therefore the preconditional and "strategic" guideline, of an urbanistic nature, to provide future urban development plans with the capacity to realize:

- on the one hand, *greater urban identity and a city-effect*⁴, without which any identity risks being lost both for citizens who have achieved this identity, and for those who have not yet achieved it;

²Carried out for the Italian Government with a contribution from the Italian National Research Council, in the framework of the preparation of a "ten-year" plan for the Environment (1991).

³Apart from Italy, three national territories are involved (France, Germany, Great Britain), with relative study groups.

⁴Obviously for city dwellers, and thus from the human point of view, as is underlined (slightly rhetorically) in the City Action RDT Programme.

- and on the other, *greater "sustainability"*, i.e. a way out from urban "overloading" (because of traffic, pollution, overcrowding, etc.), which make today's cities difficult places to live in.

2. A Critical Aspect of the Approach to the *City Action RDT Programme*: Their Interdependence

To achieve its intention, in this report I will discuss some of concepts which underpin the articulation into three objectives and five actions, underlining their *interdependence*. In this way I do not intend in any way to discuss their validity (rather I would like to reaffirm their good efficacy as an approach for future reflection); I wish only to indicate, as said, their *interdependence*, in such a way as to not risk the mistake of believing that one wishes to work in separate fields of action, but rather different aspects and facets of the *same problem*.

Objective 1 - summed up in the term "agora", which encapsulates a way of "living" the city socially, by means of "building" or architectonic technological solutions, which lead the citizens to intensify their social relations and achieve greater social cohesion and integration, needs (in order that any tools aimed at achieving it do not become illusory or fail) that those tools conceived and designed to achieve Objective 2 are present at the same time, concerning the identification of an *appropriate urban regional basin* with an adequate network of services and functions (summed up by the term "glocality"). An example which will suffice for all: Objective 1 could be realized (and in effect, it has been pursued by scores of urban plans and realizations in this mistaken way) by the concept of "new towns", in order to respond to the needs of greater sociality and integration in comparison to the anonymity and human solitude of the large overcrowded city. I would not hesitate to claim the whole history of urbanistic thinking has attempted to realize in the city the

building modes able to provide social integration and cohesion. There is nothing new from this angle. But the failure of the urbanistic experience of this type lies in the fact that the "size" within which these new town units could be realized, did not take into consideration that in order to obtain a real city-effect it was necessary to achieve a critical mass of required services by an equally *critical mass* of users, which that size simply did not realize. And it has not served any purpose the fact that in one generation after another of new towns (e.g. in Great Britain), there has been a doubling of size. Even the latest British "new towns" of the 1980s, four or five times bigger than those of the early 1950s, have not yet resolved - in my opinion - the problem of the adequate *critical mass* for the development of the indispensable city effect. They were not wrong in achieving Objective 1, but just simply inadequate in achieving it in harmony with the constraints imposed by Objective 2 as well.

It would be a mistake therefore to criticize them in themselves; but it was a mistake to design them without the "prejudicial" requirements of Objective 2 in mind.

The same holds true for the objectives on which actions 3, 4, and 5 are based: those involving:

1. giving an international validity to cities, or
2. introducing engineering techniques that can ensure the best containment or management of pollution, or best physical urban environment
3. improving urban traffic flows, or
4. those which adopt methods of modelisation and appreciation of the interaction between urban phenomena in order to ensure monitoring and control of urban events such as to improve so-called "governability", would be initiatives all destined to fail, *if not applied to appropriate urban basin units*, defined and selected beforehand, which might resolve (now, or which have at least the objective potential to resolve) the problem of the city effect.

An example for all: the cities in Italy which have the highest urban quality, ecologically and sociologically speaking, on the basis of pollution, crime and daily time use indicators, etc. are also the same more culturally and socially stupid cities, which have been abandoned by the young and by the "brains", and by all the activities which make a city modern, stimulating and inspiring. We have in Italy small and medium-sized cities loaded with history and prestige and tourist interest, good sanitary infrastructures, low unemployment rates, whilst in the great unliveable cities which are polluted, congested, overloaded, the user demand is overflowing, and the sick end up in hospital corridors or in basements, simply because the best doctors prefer to live in the large cities. Even Florence, an internationally famous city and place of cultural pilgrimage, and until relatively recently was an important centre for music, publishing and fashion, has now lost its role in comparison to Rome or Milan. The cultural polycentrism is not progressing but if anything regressing, with serious harm for culture itself and without any particular compensatory benefits. In fact, there is the damage of overloading in these great metropolitan centres.

These brief notes and examples are given to point out that a policy for the city must now - as always - aim to know and achieve the minimum conditions for obtaining results as terms of reference, and to operate on these conditions the necessary trade-offs.

3. The Terms of the Current Urban Question, Operationally Understood

The main problem today for cities and urban organisation in Europe (and also in other economically developed parts of the

world⁵) can be summed up (with all the imperfections of any summary) in the tendential *conflict* between two fundamental goals of urban settlement, which become two contrasting goals of urban policy which I consider the "urban utopia" as well:

1. Ensuring a high level of access to the functions or "superior" urban services that produce the *city-effect*, which no modern citizen is *prepared* to give up (or which would be a policy goal guaranteed for all citizens) and guarantee a sort of sufficient competitiveness of the city with respect to other cities;
2. Guaranteeing that the concentration of urban services (necessary for the city-effect and competitiveness) does not produce such an overloading of functions as to make *liveability* unacceptable or unsustainable from the environmental and social point of view.

The two contrasting goals pervade the current "urban question and utopia", characterising,

- on the one hand, the *contemporary tendency for a "total" urbanisation* of the population;
- but also, on the other hand, the *current effort to recover the urban environment*, which is compromised by pollution, traffic congestion, social separation and disintegration, the degradation of the urban landscape, etc⁶.

⁵For an overall panorama of the literature and how today's urban "question" has developed proficuously see Pred (1977, 1980) and Hirschorn (1979). A masterly work on the subject is that by Harvey Perloff on the planning of the post-industrial city (1980).

⁶In the following paragraphs, I will use concepts in part illustrated in the background work to the already mentioned Act-vill research, discussed in the international academic AESOP conference held recently in Glasgow (17-19 August 1995) (See Archibugi, 1995) See also a work on the "The Ecological City" (Archibugi, 1996).

4. Large Cities and Medium-Small Cities

Despite noteworthy differences in the urban history of European countries, and of the derived urban framework, the "urban question", as we have briefly indicated above, is emerging in a substantially *uniform* way both in Europe and (with some differences which we will discuss later) in the entire Western world⁷. This may provoke, or allow, a remarkable convergence of approaches in *urban policy on the European or American scale*, founded on the development of "*new urban concepts*"⁸. In the urban geography of nearly all Western countries, a situation is arising which can approximately be summed up thus:

- on the one hand, we have important and *larger cities* (LC) *which have reached the highest levels of the city-effect* (the great capitals, the metropoli) but which, exactly because of this, are the object of a growing overloading of functions, with respect to their territory; this overloading is degrading any urban quality and factor of liveability. We can call these *LC type* urban situations;
- on the other hand, we have *small and medium-sized cities* (SMC) which, despite once being important cities, and having recently recovered functions and population increases (because the overloading crisis of the great cities has placed them in an advantageous position) *have not yet reached sufficient city-effect and competitiveness levels*. We will call these *SMC type* urban situations.

The two situations must be analysed separately, because they present a somewhat different phenomenology, from many points

⁷ In the "third world" the differences of urban organization are very different to those of the "Western" world. And such differences would imply analyses substantially different from those applied to the western cities. The strategies as well could be very different. Such a comparison leaves aside nevertheless the objectives of the present analysis which only concerns the European situation and that of the West

⁸ To use the terminology of the background paper of the "City Action RTD Programme".

of view. But they must also be analysed in their mutual relationship because they are largely interdependent in any concrete national reality⁹.

5. Different Problems in the Two Types of Urban Situations

The LC type cities already enjoy the city effect; they may have too much of it, in the sense that often the necessary "critical mass" is overabundant in relation to the territorial resources available and the degree of concentration inherited from the past.

In fact, because in the past this agglomeration took place by spontaneous gravitational force, an overloading has normally been seen of the "historic" centre, and a sprawl-like expansion, with the creation of "peripheries" which, albeit autonomous, always depend, for the city-effect, on the congested historical centre or down-town area. The result of all this is the loss of human sociality ("*sociality*"), of a sense of belonging and identity ("*identity*"), and environmental liveability ("*sustainability*").

The SMC type cities, whilst suffering sometimes in some central points from traffic congestion, or pollution, or urban landscape degradation, have in comparison to LC type cities a liveability or an urban quality which is decidedly higher. In recent times, the shortening of distances (due to the lowering of transport technical times) and the telematic technologies have strongly increased the chances of these cities as places of settlement, both for residential and production purposes.

In recent times, the SMC type cities have drained the exodus from the country - where it still persists - to a greater extent than

⁹This is what has been done in the "Quadroter" research promoted by the Italian National Research Council as "strategic project" in which is hypothesized in Italy the identification of 37 urban eco-systems, founded essentially on the effort to "franchise" the small and medium-sized cities from the attraction and supremacy of the large metropolitan areas. (See Archibugi, 1991)

the LC type cities; this has given the impression of a larger expansion of the same and of a sort of "de-urbanisation", as has often been said¹⁰. In most cases this is rather the product of the statistical error in not considering the increase of residents of the municipalities of the first, second and third band around the central band of LC type cities (hit by the spill-over phenomenon), as belonging as well, in the comparison, to that of the sprawl-like expansion of these cities¹¹.

Therefore, the cities of SMC type, certainly enjoy greater "sociality" ("*agorà*"), "local identity" and "sustainability": but have unfortunately also the defect of not reaching the critical mass for producing the city-effect. This simple effect makes them vulnerable in comparison to the general increase in urban quality. They will continue to lose more sophisticated strata of residents (the "brains" or leading classes) with a damaging effect on the quality of the "agora" itself. A good part of the preexisting fixed social capital (health, education and cultural infrastructures), will be underused, discredited and abandoned by sufficient maintenance: with the effect of not indifferent environmental degradation, in comparison to their acclaimed liveability. The residents, despite the environmental liveability will become more and more frustrated by a sense of marginalisation, in as much - we must not forget - at the levels of the city-effect of the past, that many of these SMC type cities, enjoyed a good and satisfactory position.

All this is translated into a great waste of territorial and urban resources, and in a persistent flow of functions towards the LC type cities, with a further aggravation of their overloading crisis,

¹⁰On this phenomenon many descriptive analyses which have grasped, nevertheless, only some apparent numeric phenomena, and not their substantial meaning. See some well known studies on the subject: Hall & Hay (1980); the collection of writings edited by Klaassen (1978); van den Berg *et al.* (1989); Cheshire & Hay (1989); Kunzmann & Wegener (1991).

¹¹To the extent that the actual phenomenon of "de-urbanization" or of "counter-urbanization" would deserve to be called "*hyper-urbanization*". For a discussion of the problem see Nijkamp & Schubert (1985) and Norton (1979).

which will worsen even more the environmental crisis in the sense mentioned above¹².

6. The Potential Alternative Solutions

Thus, *city-effect* and *liveability* - whilst both representing two unrenouncable goals (as said at the beginning) for any modern urban policy, which is common to the conditions of any urban situation - are presented in such a way as to lead to two different town-planning strategies in the two city typologies, even if they are nevertheless very complementary and interdependent strategies.

In the LC type cities, which are rich in city-effect, but lacking in liveability, the problem is posed of *finding the ways and means to resolve the problems of liveability* ("sociality", "identity", "sustainability"), *without compromising the existence of the city-effect*.

In the SMC type cities, with good liveability standards, but which are lacking in the city-effect, *the problem is posed of finding the ways and means to realise the city-effect, without compromising liveability*.

The two policies - which are somewhat different, and which will probably suggest very different operational solutions, and merit anyway being studied in a very different way - have something in common (besides the two general goals mentioned): they have in common the fact that they are strongly *interdependent*. The success of one, in fact, will inevitably depend on the success of the other.

It is unlikely that a policy aimed at resolving problems of liveability in the LC type cities, will be successful, if the settle-

¹²Many of the studies recalled above (Note 10) talk a lot about the "decline" of these cities, of "competitiveness" between these cities, etc. (See for the USA, Bradbury et al, 1982.) But these concepts should be revisited in the light of the conceptual parameters proposed here.

ment flow continues in these cities, well over the critical mass levels which have conferred on these cities the level of centrality that they enjoy. It would be like greyhounds chasing after a mechanical hare. The liveability desired would never be reached, and the environmental, social and technological policies (enacted in order to lighten or better distribute the overloading these great cities) would not have the capacity to be last over time; and therefore they would represent an irrational and disordered waste of resources. Their level of effectiveness with regard to the goals would be very low.

This flow of settlements would be destined inevitably to continue if in the cities and territories in which these flows originate the city-effect is not produced which is able to hold on to the citizens who now desire more and more to enjoy modern urban life to the full, without restrictions (as happened in the past). Therefore the success of overloading "riequilibrium", or "depolarisation" policies, to be implemented in the LC type cities in order to improve liveability, *depend* strictly on the success of policies to improve the city-effect in SMC type cities.

Vice-versa, it is unlikely that an increase of urban functions could be realised in SMC type cities (wherever and on condition that the indispensable critical mass to obtain an city effect), if we continue to invest means and resources in the strengthening of LC type cities, spontaneously growing, and if we continue to invest in the accessibility of these cities on the part of ever more distant territories, as an apparent answer to a spontaneous demand, which today is justified only because real alternatives are lacking. The success of an attempt to increase polyvalent urban functions in these SMC type cities, and a sort of alternative "polarisation" to that of the great cities (of which we will outline the requirements in the following paragraphs), depend only on the success of a policy of depolarisation in the LC type cities.

In this sense, the two policies - although different in their contents - are strongly complementary and synergetic.

Notwithstanding this, it is very important that the diversity between the two policies - whilst supported by the same principles or criteria - is substantial. It gives rise to very different subordinate strategies.

7. The Typical Strategy for the Larger Cities (LC Type)

In the appropriate policies for LC type cities, the strategy must respond to the question "*how to decongest, loosen up, lighten, the hypertension towards the single, historic, city centrality in question?*"; or, in other terms, "*how to decentralise the functions?*" In fact it seems that without this decentralisation of loads, which go above the acceptable loads for liveability, any environmentalist policy is destined to be precarious, based on chance and unsuccessful.

In the history of any LC type city is found some attempt to decentralise functions; but these attempts have rarely been successful: in the direction of suitably alleviating the (more or less historic) centre, the "down-town" area, of its hyper-functions, and thus of its environmental degradation, and at the same time creating peripheral alternatives capable of being self-sufficient with regard to the centre.

The whole history of town planning as a discipline since its first steps at the end of the last century and at the beginning of this one is marked by the problem of "decongesting" the spontaneous centralities of the large cities¹³.

¹³The *garden city* by Howard, Unwin and Adams; the *ville radieuse* by Le Corbusier, the reconstruction of the city by Gropius, the *Broadacre City* by Wright, and the innumerable urbanism "charts" (starting from the famous one for "Athens" by Ciam of 1933), and almost all the guiding ideas which town planning has brought with it - despite their different solutions - have not done anything else other than rotate respectively around the same problem: *how to decongest the city from its concentric pressures and from its excessive pressures with regard to the available territorial resources, and how to ensure an environmentally "liveable" character*. From this point of view the contemporary disputes about the "ecological (or sustainable) city" seem to be only the current version - more ba-

8. The Typical Strategy for Medium and Small-sized cities (SMC type)

With a suitable policy for SMC type cities, the strategy must answer the question: *"how to increase the urban functions of the city to the point of reaching such an effect as to adequately withstand a comparison and competition with the quality of the services provided by LC type cities?"*. In other words, *"how to create a centrality which is sufficiently important and competitive?"*

In this case as well attempts are not lacking. Rather a tendency is common to almost all SMC type cities to take on - in one way or another - new functions which enhance services and image. Each centre tends towards "parochialism". And each "parochialism" reaches some goals. But much more often it achieves such a dispersion of resources, that it nullifies the apparent advantages, *without reaching any strategic result*. In the worst cases, the local initiatives, unless they are supported by an economic rationale, tend to fail after making initial progress. In this case as well the waste of resources is great and the effectiveness of the policies is very low.

9. The Approach Suggested: Searching for the Optimal Centrality

It has been said that the strategy applied to the LC type cities should answer the following question: *"How do we deconcentrate the great cities?"*.

And the first answer expected to such a question (we have also already said) is: *"to make sure that deconcentration takes place by 'units of deconcentration' which represent alternative centralities to the current overloaded centre, and which are suf-*

nal than innovative - of the eternal town planning problem.

ficiently strong and important to compete with the centre to be counterbalanced". Otherwise the action is destined to fail from the outset.

Likewise, the strategy applied to SMC type cities will have to answer the following question: *"how do we produce the city-effect in the small and medium-sized cities?"*.

The first answer expected for this question is: *"to make sure that such centres reach in some way (linking up between themselves, becoming agglomerated, interacting with appropriate networks and systems, above all of privileged intercommunication, etc), a "critical" mass which is sufficient for them to compete with the force of attraction of the great cities"*. Otherwise any effort to increase the coefficient of city-effect within such centres, will inevitably be not enough for the aim pursued, and consequently ineffective and unsuccessful.

In both cases, nevertheless, the work must be based on a concept of sufficient or, rather, optimal *"centrality"*, and of a sufficient catchment *"critical mass"* or threshold, in order to produce the indispensable city-effect. This concept is hardly known however. Neither are the effects which various technologies may have on it, or on its single components, such as telematic and information technology which are expanding at such a great rate.

Thus the first aim of urban studies today should be to examine such a concept of *optimal centrality* in depth, and how this concept can be a support for urban planning choices, and finally how it can be determined by a range of already available technologies, or which are to be promoted.

The qualitative and quantitative definition of optimal centrality, is therefore a preliminary goal of research (formulated in the aforementioned way) which is indispensable for the support of both strategies and policies to be pursued in the *large cities* and *small-medium* ones.

10. The Measurement of Optimal Centrality

The tools, therefore, which the "City Action RDT Programme" intends to identify and provide for planning operators (decision-makers and planners) for a new and modern urban strategy in Europe, are measuring tools which may define the fields of oscillation of optimal centrality in a series of phenomena considered relevant for the aims of urban well-being and quality. We have to recognize that in this field research has not been very satisfactory up until now.

Any action aimed at riequilibrating the cities from their current or potential *overload* disequilibria on the one hand, and the absence of *sufficient centrality* and competitiveness on the other, must be able to start from the assumption of parameters (of accessibility, loading, performance, cost, etc.) which research must know how to provide.

The definition of optimal centrality should develop by means of research along various lines and sectors of analysis. These sectors could be¹⁴:

1. the demographic component or user number (which means thus the size of the autonomous functional city)
2. frequency of use of superior urban services
3. the accessibility to superior urban services
4. sufficient public spaces.
5. a mix of fundamental spatial functions
6. urban structure and morphology
7. the communications network

In short much research should develop on indicators and measurers of optimal centrality (with discussions, dissent, criti-

¹⁴The PSC study group is working in this direction and good results are emerging for the definition of Objective 2 of the *City Action RDT programme*. A wider articulation of the phenomena on which it would be a good idea to collect a portfolio of values (as it has been called in the text of the programme itself) is in the mentioned essay by the author presented to the IX AESOP Congress, Glasgow, August 1995 (Archibugi, 1995).

cism, etc. with the effect of improving the knowledge of planning processes).

But the overall portfolio to be enriched and diffused should be aimed at the construction - according to various states of approximation and perfection - of territorial scenarios and frameworks for the territories of European countries and of the European Unions overall, to be assumed as reference schemes for a balanced distribution of urban development, on which single initiatives and the territorial organization and locating choices of the operators can be orientated.

11. The Territorial Articulation of Optimal Centralities

It would be best that any research aimed at this approach concludes with an operation with which a first attempt will be carried out on the national and European territory - on the basis of the achievements in the research operations on the city-effect and overloading indicators - at a *reorganisation of the centralities* which bears in mind the two goals given in Para. 1:

1. *elimination of the possible overloads of the centralities acquired by the great cities;*
2. *modes of acquisition of centrality for the medium to small-sized cities.*

Together with the reorganization of the centralities of the type indicated above, we should proceed to the concrete formulation of the *initial proposals for the strategy of urban transport to be adopted in each of the urban systems "designed"*.

A scenario would be thus configured of a future organization of the urban framework of a country, region or supra-national territory, etc. which could give rise to political evaluation and decision-making procedures; but it would start from some tech-

nical assumptions of parameters and indicators inspired by a largely common evaluation¹⁵.

This scenario represents the only real, effective urban utopia which we could produce in our time.

Once this has been acquired by the political decision-makers, the said scenario could carry out a set of functions which are commonly assigned to these scenarios: a) freely guide the actions of the designers on various scales, sectorial and territorial, in which they happen to work; b) orientate the decisions of a number of bodies which operate in the territory, for the purpose of conforming to situations which are tendentially convergent and, therefore, synergetic; c) constitute the appropriate territorial reference for further operations of research and evaluation.

As Riccardo Petrella, the promoter of the "City Action RDT Programme, concluded some years ago, despite the undeniable obstacles, *"les moyens d'action pour l'Europe urbaine de l'agora restent considerables."*¹⁶

¹⁵The attempt at "design" here suggested and proposed, can only start from the methodological intention to provide a scheme of the final result of the set of research indicated. And this - whatever the level of examination reached by the indicated research on indicators and parameters of optimal centrality - must represent in the research stage only a "first" attempt, which is very approximate, and destined to be subsequently perfected and completed during the territorial planning stage by the competent authorities. The attempt is suggested, as mentioned, in order to exemplify a method. The research processes at the base of the construction of such scenarios have been illustrated by the author with sufficient analysis, in another work (Archibugi, 1979).

¹⁶Petrella, 1991.

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