A Strategy for the Modern City

Research Guidelines Oriented to the Identification of the "Optimal Centrality"

by Franco Archibugi*

Paper presented to the 9th AESOP Congress
University of Strathclyde, Glasgow
17-19 August 1995

* Dept. of Planning and Territory Sciences,
University of Naples "Federico II"
Planning Studies Centre, Rome
Via Federico Cassitto, 110, 00134 Rome
Tel/Fax: (06) 71354200 - E. Mail psc@iol.it

A Strategy for the Modern City

Research Guidelines Oriented to the Identification of the "Optimal Centrality"

Contents

****

1. The Definition of the Current Urban Problem

1.1 The Terms of the Modern Urban Question

The main problem today for cities and urban organisation in Europe (and also in other economically developed parts of the world[1]) 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:

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);
2. Guaranteeing that the concentration of urban services (necessary for the city-effect) does not produce such an overloading of functions as to make *liveability* unacceptable or unsustainable from the environmental and social point of view.

[1]For 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).

The two contrasting goals pervade the current "urban question", 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, etc.

1.2 The Current Debate on the Urban Environment

It is the second of the two objectives (that of *"liveability"*) which has attracted the attention of town-planners and the public, in the debate on the future of the city[2].

The first objective, that of *city-effect* - to be ensured for all citizens - has been considered the automatic result of the urbanization tendency, understood as a tendency of all citizens to live in cities (whether large, medium, or small) or near to them; or, at least as the result of a general tendency not to give up, as hap-

[2] Initiatives on the subject have multiplied on an international scale. Firstly some important documents have come from the OECD and the European Community, now Union. The following should suffice for all: the OECD (Urban Affairs Group): *Environmental Policies for Cities in the '90s* (OECD, 1990) and the EC Commission, *Green Paper on the Urban Environment* (EC Commission, 1990). And international conferences have proliferated. Among the most important: the OECD Conference on: *"The Economic, Social and Environmental Problems of Cities"* (Paris, Nov 18-20 1992); the international conference, promoted by the OECD-EC-Berlin Senate on *"Urban Environmental Improvement and Economic Development"* (Berlin, Jan 24-26 1989); the international forum, promoted by the OECD-UNEP on *"The Global Environment and the City"* (Osaka, July 2-3 1990); the EC Conference on *"The European Future of the Urban Environment"* (Madrid, April 29-30 1991); the "workshop" of the European Foundation for Improvement of Living and Working Conditions" on *"Land Use Management and Environmental Improvement in Cities"* (Lisbon, May 6-8 1992); the International Symposium on *"Urban Planning and Environment"*, (Seattle, March 2-5 1994) promoted jointly by the Universities of Washington (USA) and Groningen (Netherlands); the more recent European Conference *"On Sustainable Cities and Towns"* promoted by the European Union (Aalborg, Denmark, May 24-27 1994).

pened in the past for important portions of the population, the city's superior services, i.e. those which produce the *city-effect*.

In fact this first objective has been considered achieved automatically not only with the tendency to urbanization mentioned, but also with the effect of modern telematic technology, which greatly reduce the need for the spatial concentration of urban services, whose access can be reached *aspatially*, or *telematically*, i.e. making the city not a physical fact or system, of "distances", but rather a system of abstract communications via cable (the *"wired" city*).

Moreover, in the current debate on the city, there is a tendency to consider that telematics modifies the actual concept of "city-effect": not by eliminating it completely, but by eliminating the way in which it was seen to be produced only by the propinquity of the urban services and the catchment mass[3].

Thus not only is urbanization considered the main factor, achieved automatically, of the *solution* of the need for the city (or of city-effect), but it is also considered likewise that the city-effect is transferred in this way to another territorial scale other than the urban one; more precisely to a *meta*-territorial, *meta*-spatial scale. Thus discussion centred around the "city non-city", the "invisible city" and the "global village", and other fanciful expressions of this kind. For which reason, either the need for the city disappears (it is considered a physical fact), or it is automatically resolved by the progress and application of technology.

From this conception, which considers technology prevalently exogenous to the development of the city, it results as

[3]On the wired city as well much literature has developed, although the journalistic approach has largely prevailed over the scientific one. Good references to the set of research carried out in this field is in the collective volume by Brotchie et al. (1985), in particular the essay included by J. Dickey (1985). Work should also be recalled by M. J. Webber (1982) and T. Mandeville (1983). I would like also to recall the noteworthy amount of interventions on the subject from Italy collected by Corrado Beguinot, over several years of promotion of studies and debates on the "wired city" (see for all C. Beguinot ed., 1987, 1989; T. Giura, 1992; and C. Beguinot and U. Cardarelli, 1992) at the University of Naples.

well that the said technology not only makes the objective of achieving the city effect superfluous, but also tends to resolve automatically, or "naturally", the second fundamental objective mentioned, that concerned with the *recovery of the urban environment* or "liveability", or *ecological city*, as is said nowadays. If the city-effect is not of a physical nature, if the city is not going to be a "non-city", then the effects on liveability and on urban degradation (congestion, pollution, etc.), which today are essentially produced by spatial, territorial "overloading" of the urban services, are eliminated with new technology; it is sufficient to give the time and means to apply it[4]. *The wired city is also a clean or ecological city and vice versa*.

Naturally, this vision of a given automatic tendency on the part of technology to resolve both the afore-mentioned fundamental town-planning objectives, rest on the postulate that the need for the city, or for the city-effect, may be satisfied in an a-spatial way, or over distance, with telematic means. If this was not completely true, or at least only true in part, the expected automaticness (or the action limited only at promoting it, or rather at accelerating the application of the wired city, as the main - if not only - solution to the problems of the city) would be translated into a seriously negative factor for the achievement of the two basic objectives under discussion.

In fact, if the implementation - on which efforts would be concentrated - of the wired city were not to satisfy fully the needs for the city and did not achieve the city-effect, then the physical factors would subsist in favour of urban concentration and the demand for "centrality". Nothing would have been done to achieve the city-effect (the first objective), and thus doing, the factors which - in seeking the city-effect - create the overloading of the city and consequent degradation, would be left to

[4]This is, for example, the pervasive attitude which emerges from the majority of work on the "ecological city" which are proliferating at the moment. On reflection, this in fact was the attitude of the first experts who dealt with the subject in the 1960s: for example the works of Melvin M. Webber (1963, 1964, 1982 etc.).

operate unhindered, and without an alternative strategy. At the same time, the achievement of the second fundamental objective would be delayed: the recovery of the urban environment.

Leaving aside, nevertheless, whether telematics and information technology reduce, or replace, the need for the city[5], the same *over-attention* for the problems of the urban environment (the second objective) - which today are manifested in such a widespread and redundant way - when accompanied by an equally widespread *lack of attention* for the problems of the city-effect, tends to realize a negative effect with regard to its *own objective* of city recovery and liveability. In fact the logic of systems, which is the logic of inter-dependencies (which commonly tends to be ignored) tells us that in this case, if it is true that the overloading of the cities is favoured, or rather determined, by the citizens' desire for the city-effect, the equilibrium of the load could be obtained by trying to produce the city-effect in another way (or elsewhere), and *not by ignoring it*.

In conclusion, what we wish to emphasize here is that *the two objectives in question are inversely dependent in their pursuit:* i.e. the tendential actions which pursue one, create damage in the pursuit of the other. And that, consequently, a correct policy of territorial achievement of the two fundamental objectives of the current urban question must *at the same time* deal with one and the other, without preference. In fact, the greater chance of obtaining results in one rely on the success of the other. Otherwise, the efforts aimed at the success of one risk being inefficient and inane.

1.3 The Role of the City-effect

[5] A vast panorama of the possible impact of new technologies on the future city is in the collection of essays on the "future of urban form", already quoted, edited by Brotchie et alii (1985). See also Newton and Taylor (1984).

This joint attention for the two objectives is relatively absent in the current debate. Today the "ecological" city and the single city liveability factors are examined in essence.

The enquiries on liveability tables in cities, which use "liveability indicators", recurrently point out that the most liveable cities are small and medium-sized, and definitely not the large metropoli[6]. But these enquiries never tell us, or they never ask, why despite their decidedly higher liveability standard, they are not chosen as preferred locations, even by their most dynamic citizens (the young, the "brains", etc.). The most obvious answers (often of a deductive and not inductive type) are that in these cities suitable work opportunities do not occur. But we should ask ourselves then why these work opportunities are not developed. And why, all things given, are the unliveable cities *preferred* to the liveable ones, both in terms of contemporary production settlements (jobs) and for homes. The most obvious answer, and also most ignored, is that in the first the city-effect is enjoyed, whereas in the second it is not.

We will never manage to make the unliveable cities more liveable, on the one hand, and the liveable cities more appetising on the other, if we do not manage in a different way the city-effect in the unliveable (because they are overloaded) cities, and if we do not create a city-effect in the liveable cities. In short in each case *it is the city-effect which constitutes the key to sustainable urban development*, and liveability is a function which must be considered a variable dependent (and not independent) on this.

We repeat: this inter-dependency, which from being negative must become positive, between the two objectives of contemporary urban development, is not always present in the current debate. On the contrary, it tends to be neglected, even when the separate terms are understood well. The objectives of *liveability*

[6]See for example a collective work edited by Elgin et al, 1974.

and/or *local identity*[7] are not necessarily in contrast with those of *sociality*. They are in *potential* contrast however (and unfortunately in real contrast as well, judging from almost all the European urban experiences) with the objective of the city-effect. This occurs also because the latter is conditioned by a demographic urban dimension (with the constraints of commuting accessibility) and by a catchment area which is sufficient to ensure the co-presence of all the superior urban services which are indispensable for its production. We can call it the *"critical mass" for obtaining the city-effect.*

2. Two Situation Typologies in Western Urban Geography

2.1 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 differ-

[7] For example, in the recent interesting document for the organization of a research programme for the EU Commission (called "City Action Research", Actvill), (EU Commission, 1994), three fundamental objectives for a modern urban policy are listed; to create the conditions for a) greater social cohesion and development (E , *"agora city"*); b) conditions for better local identity, in respect to global homologation (*"global-local city"*); c) conditions for environmental conservation and sustainability (the *"sustainable city"*). The agora city can be indifferently considered as analogous to the city-effect, since social cohesion in the city may be strongly conditioned by the achievement of a critical mass of events and users which produce this social cohesion (level of human intercommunication, we may recall the studies by Richard L. Meier, 1962). But it can be considered a fundamental pre-requisite of liveability. Thus also the global-local city (or "glocality" as it has been called with a curious but not pointless neologism) may be considered a requirement both of the city-effect and of liveability, according to the point of view chosen. Whilst the sustainable city is decidedly an attribute of liveability. The most important thing to remember are the dialectic relations intercurring between the three or two requirements, which produce situations of optimal or dosed choices (trade offs): "to what extent are we prepared to lose in sustainability or liveability to obtain the agora or city-effect"? and vice versa. And "what do we have to do to reconcile to the utmost possible one with the other objective?"

ences which we will discuss later) in the entire Western world[8]. 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"*[9].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 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 of view. But they must also be analysed in their mutual relationship because they are largely interdipendent in any concrete national reality[10].

---

[8] 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.

[9] To use the terminology of the terms of reference of the European Union Commission Act-Vill Programme, mentioned in note 7.

[10] This 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).

2.2 Various 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 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 said[11]. In most cases this is rather the product of the statistical error in not considering the increase of residents of the

[11]On 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 der Berg *et al.* (1989); Cheshire & Hay (1989); Kunzmann & Wegener (1991).

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 cities[12].

Therefore, the cities of SMC type, certainly enjoy greater "sociality", "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 class leaders) 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, which will worsen even more the environmental crisis in the sense mentioned above[13].

[12]To 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).

[13]Many of the studies recalled above (Note 11) talk a lot about the "decline" of these cities, of "competitivity" 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.

3. The Potential Alternative Solutions

3.1 The Two Goals of Urban Policy: The City-Effect and Liveability

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.*

3.2 The Interdependency between the Two Policies

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 settlement 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 "reequilibrium", 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 princi-

ples or criteria - is substantial. It gives rise to very different subordinate strategies.

3.3 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 (for example, the intervention by Ebenezer Howard, and his disciples, Raymond Unwin and Thomas Adams, who were the first theoreticians of modern town planning) is marked by the problem of "decongesting" the spontaneous centralities of the large cities.

The *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[14] - 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 banal than innovative - of the eternal town planning problem.

3.4 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.

[14]For a more extensive critical and interpretive review overall of these guiding ideas I would refer the reader to my lessons currently being published on the "theory of town planning" (Archibugi, 1995).

4. The Structured Research into the Solutions of the Problem

4.1 The Need to Provide the Two Policies with Greater Cognitive Instruments

The knowledge of constraints, in each of the two policies, is often lacking, i.e. of the conditions, which have to be respected for the feasibility of a strategy such as that indicated. These constraints must be the object of study, research and experiment.

In the traditional experience of town master plans in European and other Western cities, more plans have been faced without any knowledge or definition of these constraints (and, moreover, without them even being taken into serious consideration), than those which have taken them into serious consideration.

The studies envisaged by the EU Commission[15] seem to constitute a wonderful opportunity to proceed to an initial greater knowledge of such constraints and parameters of an urban strategy, on the European scale.

We start from the conviction that the research aimed at the action must above all be orientated towards providing the planning operators involved *cognitive instruments* in order to work, respecting the constraints mentioned above. Any action aiming at resetting the city balance concerning the *overloads* on the one hand, and an *absence of sufficient centrality* on the other, must be able to start from an assumption of parameters (of accessibility, loads, performance, cost etc.), which the research must supply.

[15] We refer in particular to the Act-vill programme already mentioned, but the same is also the case in many other programmes in course or being developed in other EU sectors (urban environment, regional policy, social policy, transport, etc.), and by other international bodies (OECD, World Bank etc.). For rapid information about these programmes, see some recent EU Commission documents (1992 and 1994-99).

The studies carried out up until now, although imperfect and insufficient, tend to show that now the *urban centrality* which counts, *does not differ much from city to city*, whatever their historic origin (administrative, industrial, or port etc.). Thus it is very probable that the proposal will give, as a result, rather similar answers, notwithstanding the differences between the cities empirically examined.

4.2 The Necessary Cognitive Instruments Postulated

In particular, these cognitive instruments may, it seems, be treated and developed (for the purpose of obtaining the first technical-scientific answers) in the framework of a traditional approach to urban and regional planning: as *instruments to promote the city and its regional basin as local interactive networks*.

For this reason, we will develop here further considerations, in the form of questions - and consequent potential answers - which the research desired should propose, in any implementation of the approach suggested.

5. 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 sufficiently strong and important to compete with the centre to be*

counterbalanced". Otherwise the action is destined to fail from th 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.

5.1 The Principal Research Operations to be Developed

Thus the development of town-planning research should firstly be devoted to examining what are *the constraints and conditions necessary so that strategies and planning interventions* (in each situation given) *have a possibility of success for the following: realising an adequate centrality and acquiring an adequate catchment area critical mass*.

Since both the strategies and policies of "decentralisation" (for the LC type cities) and for those of "centralisation" (for the SMC type cities) would be founded on the notion of "optimal centrality", or rather of the feasibile and sustainable centrality, in the future of urban studies, in the first place the following fundamental operations should be carried out:

1) to study and define, with appropriate "qualitative" and "quantitative" indicators, what the essential components are which ensure and produce such an "optimal centrality" and what critical mass can constitute its efficient justification[16]*;*

But, since any *conceptual* study of the *components of centrality*, however irreplaceable in a study which aims at action, and not only at the mere recording of past phenomena, cannot but arise from *theoretical* reflection, nevertheless this too deserves to be supported with empirical observation. Future urban studies therefore should also propose:

2) to study and illustrate what are the essential functional components which have produced today - or which are currently

[16]Obviously this examination could not be the object of factual analyses, but rather of conjectural analyses into which behavioural scenarios and life styles will emerge and predominate in the near future. Certainly it could be founded on factual analyses of urban situations in particularly dynamic environments and with a recognized leadership of socio-economic tradition and development. The most advisable technique for delineating these scenarios is the consultation of experts (with Delphi methods, for example) in the various fields in which urban life manifests itself: from educational services, health, culture, recreation, etc. which characterize in particular urban life and quality.

clearly producing - centrality, in a vast range of urban cases and situations.

Having gathered and defined the sufficent information and knowledge for operations 1) and 2), the future urban studies should proceed to:

3) a joint and parallel examination of the urban framework (or scenario) situations in some countries, in order to research concretely what "solutions" could be proposed for a reorganisation of this framework, in a coherent way with the results of the research operations 1) and 2).

5.2 The Definition of Optimal Centrality and its Constituent Parameters

Operation 1) (the definition of optimal centrality) will be developed along lines and sectors of analysis which will be listed here in brief.

As mentioned, in the first place *the "components"* of such a centrality will have to be defined and the role that each of these has, for itself and in relation to others.

The first of these components is:

a) *the demographic component*, i.e. the demographic area of potential users of the centrality in question.

Much has been written and said on the production of urban services which produce the city-effect, but we are still far from having formulated *threshold evaluations* which are adequate to support a homogeneous strategy, such as that at which the studies are aimed. The urban studies would therefore have to arrive - by means of a screening of the most important literature on the

subject - at a statement relative to the *minimum threshold* catchment area to achieve the city-effect.

The other essential component of centrality - which interacts with the demographic component - is:

b) *frequency of use of superior urban services*, which normally is a function of income, and of the availability (per capita) of opportunities and resources.

A variable which is quite influential on the said frequency of use is the *lifestyle* of the interested populations, even if the growing homologation of lifestyles in advanced Western societies, is noticeably reducing any such differential. It would be convenient in future urban studies to develop these aspects and arrive at some conclusive judgements concerning the effect of such factors on the average behaviour of the consumer or user of urban services.

Another component of centrality is represented by:

c) *the accessibility to superior urban services*, expressed in terms of access times and costs.

Here the parameter within which the *acceptable thresholds of access* to such services can be measured is that of "dailyness", i.e. a parameter linked to the acquisition of such services within the time span of a day and the return to one's home at night. This is the parameter which may concern the *city-effect*, and the actual concept (however wide) of the "city". Other territorial "accessibilities" which involve travelling and transport in the life of individuals, do not concern "urban" accessibility, but rather the accessibility to other forms of spatiality use (holidays, business, professions, politics, etc.). They have an "inter-city" dimension, rather than an "infra-city" one, and cannot be considered as indicators of urban functionality. Naturally accessibility linked to dailyness does not imply that the access to the single service must be daily: it is enough if - when desired - it has the potential to be acquired by the user in the daily time span. Some services,

whose frequency of use is very rare for any user, can be judged as not constituting the city-effect, and are therefore excluded from the check-list of services whose presence produces the city-effect (whatever their frequency of use by the citizens). (For example: is the presence of an ordinary season of symphonic concerts or that of an adequate number of philately shops, or art galleries to be considered essential to produce the city-effect?)[17]

In conclusion, the accessibility (or presence) of superior urban services is an essential component (to be specified) to characterise centrality, of which the research intends to map the features. For brevity's sake, these have been defined as superior, in order to distinguish them from other services which - however important and essential (perhaps more essential than the superior ones) - are not necessary indispensable for the city-effect (e.g. secondary schools, hospitals, cinemas, sports facilities, etc.). The aim which this type of research should pursue is to examine the definition of "superior" in depth, and to discuss, with a wealth of argument, the importance of the services which make up centrality and define it. in particular we will discuss for each of these, what its predictable future will be on impact with the new technologies, in particular telematics and information technology: will this impact result in the substitution of daily spatial accessibility, or in simple "integration"? Or will there be no impact? This discussion will take place, case by case, but always with an eye on the problem of "centrality" (which produces the city-effect), and its new face, with its consequences on the parameters sought, which are to be provided for town planning, (see the general issue for research operation 1).

[17]The requirements of the modern city, and thus of city-effect, have been dealt with much more widely in many other writings by the author, to which the reader is referred (Archibugi, 1966, 1979, 1991). The essential aspects of a "theory" of urban systems, understood as a theory of urbanistics in modern terms, are resumed and developed in a more recent work, mentioned in Note 14 (Archibugi, 1994).

Another fundamental component for centrality (which is very bound up with that of accessibility to superior services) is that of:

d) sufficient *public spaces*.

Since such spaces (open, closed, monumental or otherwise, formal and informal) constitute nevertheless an ingredient which characterises centrality, as a factor of potential convergence with social and public life, in this case as well urban research should define its characteristics and necessary dimensions better.

As has been said, such an enquiry is strictly linked to that of superior services, many of which are also public or imply the occupation of public space.

Another essential component for the territorial delimitation of centrality is the existence of:

e) *a mix of fundamental spatial functions*

The research in question should pay attention also to this intuitive requirement, which is often used in order to contest a particular traditional approach to the "zoning" of activities (which in past town-planning experience was perhaps applied in a too schematic and dogmatic way, but which is unlikely to be avoided in the future, even if production technologies have clearly modified the terms of the question). Not in order to suggest architectonic solutions which achieve the "mix" of spatial uses on a building scale, as much as to *qualify (and quantify) the requirements of centrality*, in the spirit of the method and reasoning followed up to this point. Such requirements in essence concern:

- the physical possibility of locating any typology of production installation, without which the feasibility of centrality and its functions is substantially compromised;

- the physical possibility of absorbing, recycling and "metabolising" pollutants and waste within the space and catchment area of the centrality itself (apart from specific cases in which appropriate technologies allow for the management of such pollution on a meta-urban territorial scale);
- the physical possibility of satisfying, with adequate quantities of "free" nature and greenery, the "urban" needs for outdoor recreation of the users of the said centrality.

Among the components to be described and analysed there is:

f) *urban structure and morphology*, capable of guaranteeing efficient functioning.

By structure we mean here, for example, the presence and definition of a "load-bearing axis", of an "intensive area" and of a "free area" (which can be assigned specific coefficients of differentiated density); of lines of development in conformity with its morphological articulation (for example: "linear", "stellar", "reticular", etc.) on which the future territorial organisation can be conditioned coherently[18]. Future urban study should express standard values for all these elements from theoretical judgements or from surveys of satisfactory situations.

Finally, the hoped for studies should describe with a wide breadth of vision:

g) *the communications network* which is essential in order to ensure the efficiency of the centrality in question, having explored - service by service - the appropriate nature and technology for its accessibility.

[18]Discussion of the structural and morphological typologies of cities and urban systems and their relationship with urban strategy, can be found in numerous works by the author, amongst which see Archibugi, 1979. They are taken up again in the work on the "theory of urbanistics" already mentioned (Archibugi, 1995).

Among the communications "networks" discussed, is placed first the traditional one of *urban transport*, in its multiple forms (public and private, individual and collective, goods and persons). A research strand should examine what technological opportunities are offered to each of the components, examined above, of centrality - having a role in producing the city-effect - from the point of view of future technology. But it will be dedicated above all to exploring the technological instrumentation of transport and communication available for the needs of the city (or city-effect), identified in social integration ("agora"), in local identity ("glocality"), in environmental compatibility ("sustainability"), which are the postulates of the planning approach indicated above.

It can be gathered, from the check-list of components of optimal centrality which the future studies should examine and define, that such centrality is based anyway on a "*basin of a sustainable catchment area"* which is self-sufficient, and not a mere collection of urban architectural monuments. All the studies would thus be oriented towards the vision of a territory (region, or otherwise) which acts as a *basin* or *system* for a set of inter-human or inter-social relations, which are explicated in that "dailyness" which produces the city-effect[19].

In short urban research should be oriented to "qualify", and also "quantify", with suitable *indicators* (of load, state, meaning, result, achievement, etc.) all the components of the city-effect, as they are developed in the said basin, or area or region; and which on their part have been chosen as having an effect on the city-effect and on the function of centrality which allows it.

5.3. The Components of Centrality as Found in the Current Western Urban Situation

[19]On the system basin see specific writings by the author (Archibugi, 1981, 1994b).

The second research operation 2 - as mentioned - should aim at gathering, on the basis of the theoretical work of operation 1), an appropriate dossier of information through the survey of *current "urban situations"*, from which can be verified the state of things, in relation to the centrality of which we will attempt to configure the standard values.

The urban situations which could be examined and evaluated, will vary from case to case, and from country to country.

To give concrete results to this line of research, these "surveys" should have relatively common approaches. Without a common approach it would be difficult to compare the results. This is why the selection of the urban situations to be examined and evaluated should be influenced by common criteria, and the survey should be based on equally common questionnaires.

The common selection criteria could be the following:

- the selection of urban situations on the basis of the representativeness of some general factors in common to all centralities (for example, size classes, or other differential geographic factors, as the case may be: e.g. climate, for the indicators of heating emissions);
- the selection of urban situations on the basis of possibly different lifestyles which deserve to be borne in mind;
- and finally, the selection of urban situations also on the basis of the need to highlight (because of their exclusion) specific factors not having an effect on the theoretical centrality sought (e.g. some specific roles: capitals or particular administrative centres).

5.4. A First Attempt to Configure an Articulation of Optimal Centralities

It would be best if any research aimed at this approach concluded with a third operation 3) with which - on the basis of results of two first operations, will be carried out - for sake of ex-

ample - a first attempt to distribute - in the European territory 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 technical assumptions of parameters and indicators inspired by a largely common evaluation[20].

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.

[20]The 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 both by research in operation a) and by the verification in operation b) - 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).

6. Conclusion

In this contribution, we have wished to describe how a research activity, rather than going over the usual *analysis-before-planning* scheme, may arise from a good approach to the "problem" (or problems) of planning.

This approach is distinguished by the attention given to the constraints considered unavoidable for the "urban effect", understood in the modern sense. The general basic thesis of the approach is that any effort aimed at improving the urban environment which does not bear in mind these constraints is useless, and destined to fail.

Town planning, despite its long evolution (in this century), and its many schools of thought, has not gone beyond the "minimum units" constituting the city: whether these were "garden-cities", the minimum units of housing (Le Corbusier), the satellite towns, and "new towns", or the "periphery" units or "suburbs". Town planning has developed arguments for and against concerning how the use of these units might constitute the best form of the city. Town planning has also assumed the cities (big, small, medium, tiny, etc.) on which it is called to intervene with design, as they offered themselves for analysis. Town planning has still never either elaborated, or discussed, the concept of the *"minimum unit" of the city*, the minimum requirements so that a city can be had, or real urban life.

Up to now town planning has dealt with how to build *in* the city, but not how to build *the* city.

It seems to us, in fact, that - as "science of the city" - town planning cannot ignore dealing with the city, starting from the normative concept of the city, as a point of reference for developing its choices and techniques of optimization of urban space.

This seems to be the essential starting point for "scientific" town planning[21].

This contribution has wished to make a contribution to clarifying only some aspects - those linked to the simplification of the obvious complexity of the city - of this total approach to the city.

Furthermore it wished to give the general outlines of an "agenda" of research aimed at studying and quantifying, with the appropriate indicators, the constraints which consider relative to the city-effect. In brief, an agenda of research aimed at elaborating *indicators of the urban effect* on the one hand, and, on the other, *indicators of urban loading-capacity.*

Whilst a vast literature has been produced relating to policies in favour of the sustainable city, with undefined confines, *with regard to urban effect indicators we know very little, and research is practically at the starting point.* Policies and urban plans manifest a clear ignorance of these indicators, and thus of the constraints which they represent for their efficiency.

At the same time, the greater knowledge of environmental impact, better known, has not resulted in the elaboration of *indicators of urban loading-capacity* sufficiently coordinated with those *of the urban effect*; thus also with regard to *urban "overloading" indicators* (connected to the presence of *indicators of city effect*) we know very little. The overloading indicators, or the (complementary) ones related to *optimal loading*, are an essential ingredient as well for the evaluation and quantification of the concept of *optimal centrality*. Until we carry out appropriate research in this field, we will not have the necessary instruments available to evaluate optimal centrality, which represents in turn the indispensable guide lines to make the policies for the im-

[21]To which the author has devoted a large part of his attention with regard to urban planology, and whose results are condensed in a work currently under publication (Archibugi, 1995).

provement of the urban environment efficient (the ecological city, sustainable city etc.).

BIBLIOGRAPHICAL REFERENCES

Archibugi F (ed.).(1966) *La Città-Regione in Italia, premesse culturali ed ipotesi programmatiche* [The City-Region in Italy, Cultural Premises and Programmatic Hypotheses], Boringhieri, Torino 1966.

-----(1979), *Principi di Pianificazione regionale*, [Principles of Regional Planning] (2 vols) Angeli, Milano 1979.

-----(1981), *Le Bassin d'emploi: aspects conceptuels et methodologiques, Seminaire sur le Gestion Previsionnelle de l'Emploi*, CEE, Bruxelles, 1981.

-----(1991), *A Strategy for New Public Spaces and Centralities: The Renewal of the Urban Environment*, Report to the EC Madrid Conference, April 1991.

----- (1992), *The "Urban Environment" Programme of the Italian Government Ten-Year Plan for the Environment (DECAMB)*, Paper prepared for the Urban Environment Group of Experts of the EC Commission, October 1992.

----(1994a), *Ecological Equilibrium and Territorial Planning: The Italian Case*, in *European Planning Studies*, Vol. 2, No. 2, 1994.

-----(1994b), *The "Urban Mobility Integrated Basin" and its Policy-oriented Identification: A Prerequisite of Rationality for any Planning of Urban Transport*, in European Spatial Research and Policy, Vol. 1, No. 2, 1994.

-----(1995) *The Theory of Urbanistics: Lectures on a Reappraisal of City Planning Methodology*, (in preparation).

Beguinot C. (ed.) (1987), *La città cablata. Lo stato dell'arte nella ricerca scientifica* [The Wired City. The State of the Art in Scientific Research], CNR-IPIGET and DIPIST, University of Naples, 1987.

-----(1989), *La città cablata: una enciclopedia* [The Wired City: An Enciclopedia], CNR-IPIGET and DIPIST, University of Naples, 1989.

Beguinot C. and U. Cardarelli (eds.)(1992), *Città cablata e nuova architettura* [The Wired City and New Architecture], 3 vols. CNR-IPIGET and DIPIST, University of Naples, 1992.

Bradbury, K.L. et al.(1982), *Urban Decline and the Future of American Cities*, The Brookings Institutions, Washington DC.

Brotchie J. et al.(eds) (1985), *The Future of Urban Form: the Impact of New Technology*, Routlege, London, 1985

Commission of the European Community (1990), *Green Paper on the Urban Environment*, 1990.

-----(1992) *Urbanization and the Functions of Cities in the European Communitiy*, (European Institute of Urban Affairs, Liverpool John Moores University)

-----(1992) *Community Activities in Urban Matters*, Bruxelles.

-----(1994) *Charter of European Cities and Towns Toward Sustainability* (The Aalborg Charte"), 1994.

-----(1994) *European Sustainable Cities*, A Report, (DGXI) 1994

-----(1994-1999) *Urban: A Eu Initiative Program in Urban Field; Statements and Resolutions* (1994-1999).

Dickey J. (1985), "Urban Impacts of Information Technology", in: Brotchie et al. (see).

Drewett R. & A.Rossi (1984), *Urban Europe: Settlement Structure and Change (1959-1980)*, Gower, Aldershot.

Drewett R., R.Knigth, U.Schubert, (1992), *The Future of European Cities*, Part I, A Report to the Commission of EU, FAST, DGXII.

Elgin D. et al. (1974), *City Size and the Quality of Life*, Stanford Research Inst., Menlo Park 1974

European Foundation for the Improvement of Living and Working Conditions, (1994), *Visions and Actions for Medium-sized Cities,* Alicante, Volos October 1994.

Giura T. (1992), *Tecnologia e communicazioni in urbanistica* [Technology and Communications in Town Planning], DIPIST, University of Naples (Collana di studi di urbanistica, No. 13), 1992.

Hall P. & Hay D. (1980), *Growth Centres in the European Urban System*, Heinemann Educational Books, London, 1980.

Hirschorn L. (1979), "The Urban Crisis: A Post-Industrial Perspective", *Journal of Regional Science*, No. 19, 1979.

Jacobs J. (1977), *The Death and Life of Great American Cities,* Vintage Books, New York.

Klaassen L. H. (1978), "Desurbanisation e Réurbanisation en Europe Occidentale" in: Paelinck J. H. P. ed., *La structure urbaine en Europe occidentale*, Takefield, Farnborough, 1978.

Knight R. (1992), *The Future of the European Cities*, (The Role of Science and Technology, Part IV) A Report to the Commission of EU, FAST, DGXII.

Kunzmann K. & Wegener M. (1991), *The Pattern of Urbanization in Western Europe,* in *Ekistics*, Vol. 58, no. 350-351.

Mandeville T. (1983),"The Spatial Effects of Information Technology", in *Futures*, 65-70, 1983.

Meier R.L. (1962), *A Communications Theory of Urban Growth*, Mit Press, Cambridge, Mass.,1962.

Newton P. W. & M. A. P. Taylor (1984), *The Impact of Technological Change on Urban Form: Report of the CIB Futures Study*, CSIRO Division of Building Research, Melbourne, 1984.

Nijkamp P.& U. Schubert (1985), "Urban Dynamics", see in Brotchie J. *et al.*

Norton R.D. (1979), *City Life Cycles and American Urban Policy*, Academic Press, New York.

OECD (1990), *Environmetal Policies for Cities in the 1990s*, Paris.

-----(1995), *Urban Governance in the Oecd Countries* (Discussion Document), 1995.

Perloff H. S. (1980), *Planning the Post-Industrial City*, Washington DC, Planners Press (APA) 1980.

Pred A. (1977), *City-Systems in Advanced Economies*, Wiley, New York, 1977.

-----(1980), *Urban Growth and City-Systems in the US*, Harvard Univ. Press, Cambridge *Mass., 1980.*

Van den Berg L. *et al* (1982), *Urban Europe: A Study of Growth and Decline*, Pergamon Press, Oxford, 1982.

----- *et al* (1989), *Revitalisation of the European City. Structural Changes and New Requirements*, in Eurocities Conference, *Eurocities*, Barcelona, pp. 79-90, 1989.

Webber M.J. (1982) *Information Theory and Urban Spatial Structure*, Croom Helm, London 1982

Webber M.M. (1963) "Order in Diversity: Community without Propinquity", in: Lowdon Wingo Jr (ed.) *Cities and Space*, *The Future Use of Urban Land.*, John Hopkins Press, Baltimore, 1963.

-----(1964), "The Urban Place and the Non-Place Urban Realm", in Webber M.M. et al., *Explorations into Urban Structure*, University of Pennsylvania Press, Philadelphia.

-----(1982), "Urban Growth: What are its Sources?", in: *Cities - The Forces that Shape them*, Cooper-Hewitt Museum, Rizzoli, New York.