Typology of urban regions :
configuration, internal dynamics, external influences and global perspectives

This paper intends to make a contribution to the global inventory of urban regions, particularly concerning configuration and its consequences on management, on growth potential and on quality of life of the inhabitants. Questions of origins, changes of scale, criteria for definitions, desirable adjustments and new perspectives are addressed.

1. Origins

Referring to a selection of concrete examples, one can observe various motivations for the foundation of human settlements:
- internal dynamics - natural resources, defence, regional services, independence from or expansion within a broader political system
- external influences - political decision, colonial initiatives, foreign investment...

Founding decisions were taken in relation to site characteristics, whether river crossing, defendable high ground, a viable port... and also to satisfy given functions: market, fortress, colonial outpost... In many cases, the essential characteristics of configuration and of role have been carried through to the present day. Such weight of history is generally considered as being an attribute, in contrast to the new creation, which allegedly lacks "soul"!

The significance of such spots on the earth can be appreciated, with attempts made to measure the consequences of their present reality, when responding to the need to provide for essential new functions that had been unforeseeable in the initial stages of development: a railway junction, a seat of higher level of political power, a university, an airport...

Some settlements have remained relatively small, referred to as villages, towns and cities, while others have become great cities with world-wide influence, to be considered more and more as urban regions. However, the founding nucleus tends to maintain all of its symbolic value, even when its geographical position causes serious difficulties when setting out a strategy for management and growth.

2. Change of Scale

The change of scale of the more successful cities is taken into account and their ease of adaptation to new requirements, which have appeared through time, can be appreciated. Without slipping into geographical determinism, it can be affirmed that the phenomenon of site has its role to play, not only in the choice of foundation, but in deciding which settlements could best grow into major cities and even into focal points for urban regions.

Until the period marked symbolically by the year 1800 one can appreciate that the multitude of villages, towns and even key cities, in the most varied regions of the world, were, by present day standards, of relatively modest dimensions. Rail technology then enabled significant extension of some urban centres, accompanied by the englobing of others nearby. With the automobile the explosion of scale has become a phenomenon of our time, bringing us to accept the reality of the "urban region".

Some of these have attained exorbitant dimensions but the "mastodons" reveal accumulated problems such as: difficulties of accessibility, (distances, time and energy consumption),

environmental stress, fundamental dependencies on distant resources as well as fierce competition within the global pattern.

There is need for clearer perception and definition of regions if we are to discuss, usefully, questions of management and of perspectives. Also we need to distinguish between the management of urban regions in either static or in dynamic phases of their existence. Is there real need for strategies of dynamic growth or would a process of gradual transformation, with improvement of quality be more suitable? In the context of the economic doctrine of perpetual growth, is there not the tendency to neglect the real achievements of the creative process and to hurtle towards infinite dimensions? Has not the time arrived to take more fully into account the quality of life of the inhabitants and for these same inhabitants to assume greater environmental responsibility?

3. Criteria

In such a short reflection concerning certain aspects of the urban region, it has been decided to concentrate on the criteria that could transform the urban region into a "convivial region" for our time. Those referred to in the paper of that name, presented by the author at last years ISoCaRP congress, are mentioned in Note 1. These are taken into account in the choice of several significant categories of configuration of regions for daily and weekly living. They do not have equal weight in all climates and cultures, but the examples of configuration presented below can be used as bases for comparison between specific cases. Common factors are ideals of quality of life, of participative governance and of sustainability.

Full participation by a population implies accessibility for all to key functions and also common responsibility for the impact of urban functions on the agricultural and natural environment. Such factors are specific to the scale inferred by the convivial region, as against exclusive adhesion to the world cyber village.

4. Typology and Strategies

A single method of analysis is applied to the six categories of site and of urban pattern presented below. Such systematisation of analysis is achieved by use of a "site target" as a tool (Ref.1). Of course there will be as many variants as there could be case studies, but this concentration on several examples is intended to illustrate major differences that become apparent.

What then might be the influence on the management of each such urban region and what might be the perspectives?

Inland (Fig.1)

The first category is the continental settlement, the crossroads at the river crossing or at the high point within a given territory. The important disadvantage of having no ocean access is compensated by having optimum accessibility between the chosen site and its immediate surroundings, i.e. at a regional scale.

Examples are: Paris, München, Wien, Madrid, Moskva, Budapest, Alice Springs, Saint Louis...

In principle a maximum proportion of population will enjoy optimum accessibility, but secondary barriers might play an important role : flood plains, canal or rail line. In many US cities, the fact of being born on the "wrong side of the track" can have dire social consequences ! Nearby mountains, or desert, may or may not affect the density of the

population concerned. The disadvantages of having no direct access to ocean transport, for arrival of raw materials and for exportation of material goods, need to be compensated by the concerted development of other infrastructure (canal, rail and air).

From a spatial point of view, growth potential would seem to meet a minimum of constraints. However space between equivalent centres becomes important in the struggle for political power and for the highest possible level of services. For example, Paris has succeeded in imposing its presence on surrounding cities, while Strasbourg has difficulty in doing so, in spite of its European functions.

Internal development strategies vary widely. An option of polycentrism has been adopted in Paris in order to "save" the nucleus. The opposite option has been chosen for the United States model, where massive rebuilding of the original nucleus has taken place. Exceptions to this process do exist, such as the Empire State Building, the Rockerfeller Centre and the UN precinct in New York, but is there not a general lack of significant architecture worthy of conservation of the overall central areas?

Attitudes to continental cities vary widely. For Australians the inland city is almost unthinkable, whereas for the French it is the supreme reference. Hundreds, even thousands of examples could be identified throughout the continents. When such cities have grown up out of the land, the specific character of each has been printed in time. When new cities are conceived to satisfy new functions, time is necessary so enable the quality of the built environment in order to compensate for possible deficiencies in the natural environment (cf. Almaty compared to Altana as capital of Kazakhstan).

Peripheral ocean access (Fig.2)

Examples are Cairo, Canberra, Toulouse, Granada and "Peaklands" – the latter being a theoretical region, with Sheffield as reference point and with its double ocean access. The Milan-Torino-Genova triangle is also an interesting example of a group of highly complementary cities working together at a regional scale.

In this category the peripheral ocean access facilitates world trade, while the full potential of accessibility for the population to centres of decision is maintained. Access to the ocean environment is more specifically for port and leisure activities rather than for residential use or to determine character for the inner city.

Peripheral ocean access with maritime penetration (Fig.3)

Examples are London and Oslo. This would seem to be an ideal configuration for both internal and external accessibility. There is minor loss of potential accessibility, but only for the outer areas of lesser density.

Saint Petersburg could be considered as being in this category. However, the choice of the estuary site, motivated by over-riding political considerations, proved to be extremely difficult to develop.

Median coastal situation (Fig.4)

Perth and Brisbane, as post-colonial cities established by political decision, come into this category. There is considerable loss of potential accessibility within the outer circle of reference, but the median circle remains intact. While the ocean occupies a considerable part of the periphery, compensation can be made by higher densities for inner areas. Some of the Chinese coastal cities that are at present experiencing massive development, in contrast to the inland regions, have comparable configurations.

Central coastal situation (Fig.5)

Some of the post-colonial cities, such as Sydney, Fortaleza, Abidjan... have achieved strong maritime character, the symbolic reference centres included, but this is at the price of the loss of almost half of potential accessibility. The negative side of this is the longer lines of communication, inciting reflection about the need for alternative centres that are more convenient for the majority of the inhabitants. A strategy of adjustment to the overall pattern of development is probably desirable.

Peninsular situation (Fig.6)

Mumbai, Bahia Salvador and Dakar, even Darwin, are examples of this category of configuration, mostly resulting from extrapolation from a past situation of dependency on outside decisions. There is only a minimum proportion of population, living in acceptable conditions, that have optimum accessibility to key functions and so to full participation in economic activity and governance. Adjustment is therefore urgent if amelioration to the quality of life, or major growth, is to be envisaged. There are in fact real difficulties for a majority of the population, not only for the immediate urban region, but also for the whole of the territory concerned.

Even rail access is limited as compared with the multiple access to a city such as Paris. There can of course be compensations, e.g. tunnels and bridges, but such solutions imply high costs of construction and of maintenance as well as high vulnerability. A strategy of polycentrism would need to be examined, accepting that factors such as traditional symbolic spaces and micro climates need to be balanced by social and political considerations.

5. New Perspectives

What then are some of the new perspectives for the development of manageable urban regions in various parts of the world?

Common will
Even if the new millennium marks the end of direct and massive confrontation between financial and ideological power politics, there remains the need to discover the real complementarity between public and private sectors of the economy. In the meantime, economic will exists and is being exerted constantly and is recognisable in terms of maximum short term profit, even to expressions of greed and hypercentralisation of structures and of power. Where is the equivalent will for good governance, so necessary if it is to be capable of channelling the energies of the private sector into the creation of satisfactory living conditions at all scales? There will be no real headway in strategies for living together, in a predominantly urbanised world, if the right balance is not found.

Both dimensions will be needed if we are to avoid the negative forces of violence that could make peaceful urban living difficult to attain.

Definition and designation of convivial regions
Good management of urban regions implies that such regions have already been clearly defined and their viability tested. This has not often been achieved, so that on the ground we can observe much confusion in both concepts and in the designation of responsibilities at various scales. In the earlier parts of this paper an attempt has been made to identify dominant factors that could help to define urban regions able to compete on the world scene. Much political will and sensitive negotiation would be necessary to proceed towards

agreement and designation of a new pattern of regions throughout the world - fully convivial regions capable of satisfying the aspirations of the populations directly concerned.

Transcontinental infrastructure
In some of the above paragraphs we have noticed that cities with ocean access are more easily integrated into the world supply of raw materials and into the exchange of manufactured goods. Many inland cities have demonstrated their qualities, but they are the ones least likely to succeed in the present form of globalisation. The provision of sufficient transcontinental infrastructure is necessary if there is to be a better distribution of activities and population in inland sites.

Action
It is important to distinguish two rather different types of possible action leading to transformation of the regional spaces, each with two variations of the major option. Whatever the configuration constraints or opportunities might be, there is choice between options of following the market and that of concerted innovation.

In the first it is worth mentioning that of quality improvement accompanied by limited growth. Many European cities would come into this category. Then there is a more laisser-faire approach of extrapolation of existing structures, even when strong growth is sustained in time.

In the second option, depending on stronger government, innovation can solve fundamental problems inherent in the existing structures. Several examples can be mentioned. In Slovakia, a national territory at a regional scale, a town such as Zvolen, developed as both the national and regional capital in central Slovakia could well render service for a majority of citizens, with Bratislava reaming the predominant commercial centre and gateway to other regions of the European Union. Also, as pointed out in Fig.5, the example of Sydney calls for a better balance in the regional structure, whatever the charm of the historical centre might be.

Also in this second category, new foundations require clear policies going well beyond normal political mandates. There is a history of the creation of cities to respond to the needs of new major political functions. Delhi, Washington, Canberra, Brasilia, Abuja, Yamousoukrou and Altana all come into this category. But what of the need for a new wave of foundations in order to attain a better balance with the environment and also a better possibility of participative governance, as against exclusive gigantism and distant decision-making. How could such sites be identified and action taken to bring such action to fruition ?

Complementary fields of action
Whatever initiatives in spatial development and management might be, they must be accompanied by equivalent action in all complementary fields: social, economic; environmental with sufficient place for information and education. However, clarification of spatial policies is essential so as to participate fully in the overall process.

Notes
1) Criteria for convivial regions (cf. "Convivial Region" ISoCaRP 2003)
- the human person
- space to sleep, stand and move
- sufficient clean water and food
- conservation and/or amelioration of biodiversity
- energy : a maximum of renewable energy on the spot
- possibility of existence of sustainable human settlements within the region
- mobility of the population within the region, for the mass and not just for a privileged few

- possibility of transport links with other regions, by water, rail, road and air, with specific uses for each type of transport
access to and sharing of the global supply of raw materials
- clarification and perfecting of agreed planetary principles of governance
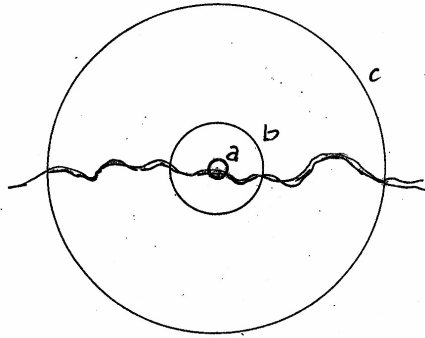- initiatives, healthy competition and mutual help"

Reference :
1. TWITCHETT William, 1997, "Le Site Urbain : Potentialités", VILLENEUVE D'ASCQ, Septentrion

Dr. Bill TWITCHETT, Typology of Urban Regions, 40th ISoCaRP Congress

CONFIGURATIONS :

1)

Examples :
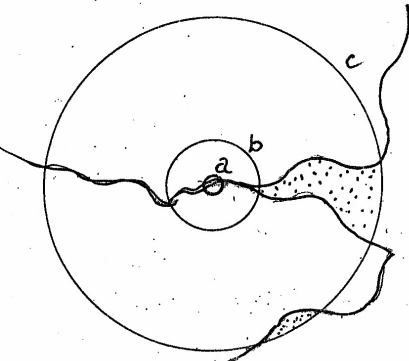- Paris
- Moskva
- München
- Saint Louis
- Budapest

2)
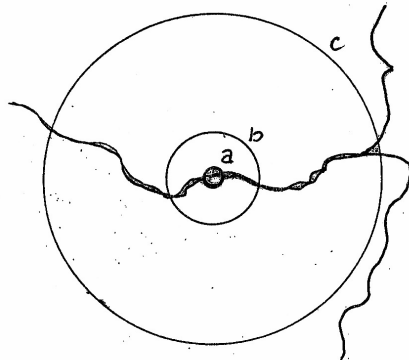
Examples :
- Cairo
- Toulouse
- "Peaklands"(cf Sheffield)
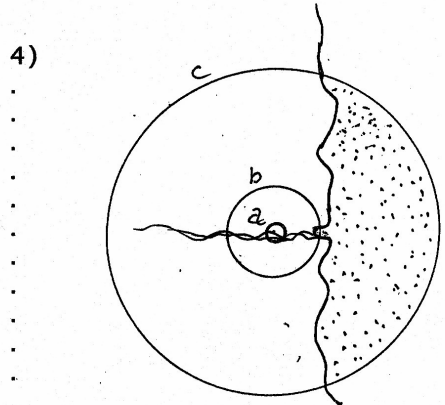
3)

Examples :
- London
- Oslo

Key :
Reference circles :
a - s=125 km2   r=6.307 km   ～～ Coastline   ∴∵∴ Ocean within c
b - s=2000 km2   r=25.226 km   ～～ River
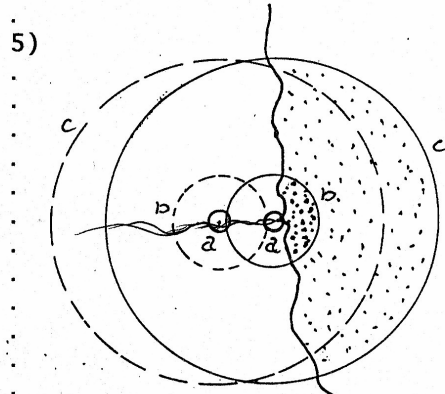c - s=32000 km2   r=100.905 km

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CONFIGURATIONS :

4)

Examples :
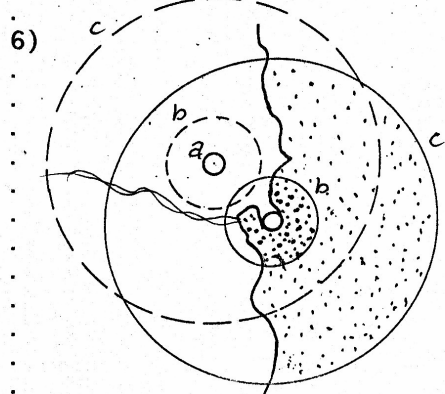-   Brisbane
-          Perth (au)

5)

Examples :
-          Sydney
-          Forteleza

6)

Examples :
-          Mumbai
-          Dakar
-          Bahia Salvador
-          Darwin

Key :
Reference circles :
a - s=125 km2   r=6.307 km   ‿‿‿ Coastline   ∴·∵· Ocean within c
b - s=2000 km2   r=25.226 km   ‿‿‿ River   ·∵·, Ocean within b
c - s=32000 km2   r=100.905 km

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