CITY NETWORKS AND THE SEARCH FOR REGIONAL POTENTIAL

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FOREWORD

Since 1990, the project "Vulnerability in Networks" has been a part of the research programme at CERUM. The project receives financial support from the National Board of Civil Emergency Preparedness (ÖCB). It is being developed in close collaboration with the joint project being carried out by CERUM and IFS entitled "Sweden in European Networks".

A central theme of analysis in the project is the impact of new infrastructure and communication technologies on Swedish vulnerability. In this paper, Westin and Östhol discuss the transformation of the traditional territorially based functional regions into functional networks. This transformation will reduce the dominance of the central place economies in favour of multi-core city networks and network cities. It will change patterns of vulnerability on both national and regional levels. In the process, traditional administrative units of collective interests will be questioned or become obsolete. From the point of view of civil emergency preparedness, the question of an appropriate organisation in the network society becomes central. What type of organisation may best manage the new pattern of vulnerability?

Umeå, October 1992

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1. INTRODUCTION

European integration will imply a deep transformation of economic and political systems on the continent. One sign of this is the activities around EC. To a large extent, the new vitality of the EC reflects developments in transportation and communication technologies which remove barriers and create new patterns of accessibility. We are facing a phase of major structural shift in the functional, cultural and administrative networks inside Europe as well as in the relation between Europe and other parts of the world.

The emergence of such new networks is driven by mutual interdependences between infrastructure, localized economic activities and the political systems of various collectives. Generally, the slow time scale of infrastructure settles the arena and determines the structure of more quickly changing activities and networks in space. Hence, infrastructure bounds the functional and cultural networks which give rise to administrative subdivisions. Today, this enslaving of fast processes by slower is weaker. Infrastructure, economic and political systems all undergo a process of change. This structural instability creates genuine uncertainty and a degree of unpredictability in the European development. However, it also gives prospects for replacement of obsolete structures and opportunities for new actors on the arena. The formation of new collectives and the establishment of their administrative expressions have consequently become highly political processes with large conflict potential.

Physical infrastructure consists of collective and semi-collective goods often characterized by large scale, durability and indivisibilities. Generally, collective decisions and political will are needed in order to realize infrastructure investments.

Westin (1990) discusses the relation between differences in time scale and structural change.
However, through its long term effects on economic and cultural structures, infrastructure investment also exerts pressure on political systems of collective decision making. In this paper we argue that implicitly, while making decisions regarding infrastructure investments, collective systems also initiate their own transformation.

In response to previous investments in infrastructure, especially telecommunication and passenger air flights, the old "central place" pattern of spatial interaction and its functional regions and administrative borders is being challenged. A second conclusion of the paper is that such a transition will result in new forms and a redistribution of potential and vulnerability. This gives the process its deeper political meaning.

An indicator of pattern transformation is the increase in regional mobilization around Europe. Regional mobilization reflects a competition for private and public investments. However, it also involves cooperation among existing and new political units. New constellations of actors are created in order to cooperate in the competition for critical positions in the spatial network, while other disappear from the arena. In the paper, we discuss two related topics which are associated with this spatial integration process. We suggest that the ongoing integration favours establishment of functional networks. Those networks are topologically different from the functional regions associated with the central place economy and will replace some of them. Furthermore, those new networks must be matched by a new administrative subdivision in order to maintain efficient collective power. This gives the, often suppressed, spatial dimension of political science a new important role. The dynamic interaction between functional and administrative networks becomes a central topic in the analysis of political power.

Östhol, A. (1991)
The second topic is directly related to regional mobilization. Given the structural instability Europe faces today, regional mobilization is brought about by a perceived risk of being forced into a group of backward or slowly developing regions. The interaction between those two processes implies that regions need a new type of collective entrepreneur with the ability to increase network potentials. Such regional entrepreneurs have to develop identities and strategies for cooperation and competition. Apparently, the weakening of the central place region in relation to the network region has introduced greater degree of uncertainty in the mobilization process.

The paper is organized as follows. In section two we discuss the transformation of functional regions and networks. Section three introduces the activities taken at the European level in support of functional regions and networks. In section four these activities are compared with examples of mobilization initiated at the regional level. Section five contains a discussion of new problems in collective decision-making. Finally, in section six we summarize the paper.

2. FUNCTIONAL REGIONS IN TRANSITION - TOWARDS FUNCTIONAL NETWORKS

Analytical interpretations of data show a firm process of decentralization of activities from the inner core of large European cities to their surrounding areas. This massive and long-term process has resulted in metropolitan areas and city-regions which cover extensive territories. Physical links of infrastructure and intense interaction along them tie such areas together. A similar process on a different scale may also be observed in and around smaller cities. In Sweden this process of urban sprawl has not been hindered by political actions. Instead, the aggregation of Swedish municipalities

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into larger units between 1952 and 1974 reflected a will to adjust the administrative borders to the size of those new functional regions.

At one level this process has implied that the boundary between the city and the countryside has become more diffuse. Only fractions of the sparsely populated areas in northwestern Europe may today be characterised by a high degree of independence in relation to neighbouring cities. Despite this decentralization, city agglomerations remain because there are limits for the distance at which high interaction is possible. Such limits are set by the distance where commuting and service trips on a daily level are possible. Those distances mark the borders of city agglomerations.

Meanwhile, in order to develop economic and political potential, a number of cities have made efforts to exploit the possibilities for intensified interaction at extended distances. Advantages of successful integration are that returns to scale may be utilized, costs may be shared and a more efficient supply of internal and external infrastructure may be obtained. The concepts "multicore city-region" and "corridor" describes this inclusion of neighbouring cities into territorially integrated networks.

Apparently, the idea of a multicore city-region is in conflict with the established "central place theories" of Christaller (1966, 1933) and Lösch (1954, 1939). Using different approaches (inductive and deductive), they found that the market areas for supply and distribution of goods established hierarchical relationships between cities. In agricultural and industrial societies, cities are organized into central places of different order depending on their functional attributes and areas of dominance. The city at the top of the hierarchy, the single place where genuinely expensive commodities, goods, services and avant-garde culture are available, became the central place of "highest order". Empirical observations also show that in this system, cities within an integrated nation are ordered by a logarithmic rank-size distribution
on an approximately linear curve. As is shown in the case of Sweden in Figure one, the overall form of the curve has remained constant during the industrialization, although cities change size and rank due to population growth and changes in their role in response to an evolution of functions and infrastructure.

Isard (1956), developed the model by Lösch and introduced more realistic assumptions of an unevenly distributed population that declines with distance from the centre, and a transport network located at the centres of both the city-rich and city-poor areas. In the Lösch model, transportation links were located at the borders between those areas. Isard motivated his pattern by the existence of economies of scale in transportation. The work by Isard implied an important step toward an integrated understanding of the static problem of spatial allocation in space, market areas, and infrastructure networks in central place economies. Today, the scientific task is to model and describe the dynamic transformation of this system when new communication systems are introduced.

Central place economies are characterized by a high accessibility in vertical communication, between cities below and above each other in the hierarchy, compared with the horizontal accessibility with other cities of the same rank. Commuting to jobs and services takes place from the hinterland to the nearest centre or up and down in the hierarchy. This pattern of hierarchical interaction and dominating market areas of functions such as markets for food, clothes shops, luxury items, health, care service, etc. made it possible to subdivide the geographical territory into "functional regions" at different levels.

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4 See also Funck, R. (1990)
FIGURE 1. Rank-size distributions of Swedish cities the years 1855, 1917 and 1970. Source: Carlestam (1978)
A functional region is a polarized region and an example of a network in which internal interaction of a given territorially determined type is stronger than the interaction with external areas. In the central place economy each functional region is dominated by its centre. It is important to observe that the central place economy and its associated infrastructure technologies leads to a subdivision of the spatial territory into functional regions based on spatial adjacency.

In Sweden, the most commonly referred functional regions are the labour market regions which first appeared around 1960. The borders of such a region is given by the limits imposed by the need to commute each day. Generally, a labour market region develops around a city agglomeration. When identifying those borders, the transportation activities by households within a twenty-four hour time budget are considered.

Such daily travel to jobs and services dominate the total number of trips by households. They have been a basis for agglomeration benefits and the economic advantages given by cities. The size of cities have thus been constrained by the average speed of travel and the average time spent on travelling. During this century, average speed and thus the distance travelled has, as shown by Table one, gone through a remarkable increase.

However, although the speed of travelling has increased, the part of the time budget spent on travelling by households seems to remain around one hour. In Table two this invariance over time is indicated by empirical material from the USSR.

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5 Kungl. Arbetsmarknadsstyrelsen (1960)
6 Marchetti (1988) and Grubler (1990)
TABLE 1. Travelled distance in kilometres per day and person in Sweden.
(Source: The Swedish road administration, 1990)

<table>
<thead>
<tr>
<th>Year</th>
<th>Distance (km/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1900</td>
<td>0.5</td>
</tr>
<tr>
<td>1930</td>
<td>4</td>
</tr>
<tr>
<td>1950</td>
<td>9</td>
</tr>
<tr>
<td>1970</td>
<td>25</td>
</tr>
<tr>
<td>1989</td>
<td>36</td>
</tr>
</tbody>
</table>

The size of cities is thus closely related to the distance possible to cover within half an hour. Since speed has increased, the territory possible to cover with a given time budget has been extended and the functional region around each city has also expanded. One consequence of this is that as a city grows, the internal communication system has to be improved in order not to increase internal friction and prohibit development. This implies that both the external and internal network is important for the size and wealth of cities.

Besides the functional networks given by territories dominated by market areas, it is generally possible to delimit other networks based on cultural interaction with respect to dimensions such as identity, language, kinship and religion as well as networks based on other time scales of interaction than twenty four hours.

Functional regions based on a territory with intense commuting to jobs and services are in this perspective merely territorially bounded special cases of functional networks. Different functional networks form the base for different administrative networks and collective decision units.
TABLE 2. Average number of hours spend on commuting during a week for males and females in the USSR. (From Grubler, 1990)

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>City of Pskov, 1965-1986</td>
<td></td>
</tr>
<tr>
<td>8 hr day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 hr day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>hrs/week</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>
Intense interaction gives rise to common values, interests and an identity which may be a source for collective initiatives and decision making. Owing to this, there has generally been an approximate coincidence between administrative borders and appropriate functional networks at the time of the subdivision of administrative regions. However, as will be discussed further in section three below, there are also examples of cases where administrative networks have been created in order to form such functional networks.

Through the development of new communication technologies and investments in infrastructure, friction decreases and changes direction in space. In response to this, the pattern of interaction also changes and existing administrative borders may become obsolete or constrain collective action. Hence, the generic case is that the spatial boundaries of administrative regions reflect old polarized regions.

In Figure two below, the dependences between infrastructure, interaction in space and collective decisions are illustrated. The most obvious dependence is the direct effect of collective decisions on infrastructure systems. Such decisions may be classified into two types:

- Passive adaption
- Creative construction

Passive adaption is characterized by infrastructure investments development in entire response to persistent bottle-necks within the transportation system. In contrast to this, creative construction implies that infrastructure is regarded as a creator of spatial structures and the arena of action.
INFRASTRUCTURE

LOCATION PREFERENCES

FUNCTIONAL AND CULTURAL NETWORKS

COLLECTIVE DECISIONS

ADMINISTRATIVE NETWORKS

FIGURE 2. Interaction between infrastructure, functional and administrative regions for collective decisions.
A creative infrastructure policy implies that investments are used to construct missing links between internal nodes and in relation to important external nodes. Examples include the elimination of accessibility barriers with respect to information, culture, critical masses of labour and consumers with favourable attributes.

Figure two also indicates that the effect of infrastructure on collective decision making operates indirectly through changes in patterns of location and interaction, that is, establishment of new functional and cultural relations which in turn cause pressure on existing administrative borders. Hence, while making decisions about infrastructure, the system of collective decisions also determines its own transformation. This transformation is not always recognized as a dynamic outcome of such decisions.

Furthermore, one may in relation to Figure two, observe that political science has studied collective decisions with less attention to the dynamics introduced by infrastructure. Economics on the other hand often has neglected the impact of collective decisions on infrastructure development and thus on the allocation of resources in the economy. We may now witness a renewed interest both among political scientists and economists in the relationship between infrastructure, interaction, mobility and collective decision making.

The gradual increase of human interaction has, as was mentioned above, expanded the territories of most functional networks. Neighbouring cities are in this process integrated into systems of multicore city-regions. Marchetti has suggested that when those large metropolitan areas are treated as single entities, the global rank size distribution of cities will obtain it's classical linear shape.\(^7\) In Figure three, the kink in
the rank-size distribution based on cities is suggested to disappear when the metropolitan corridors are introduced.

FIGURE 3. Global rank-size distributions with and without large metropolitan city-regions, so called corridors. (Marchetti, 1988)
The kink in the existing global rank-size distribution indicates that strong national borders, create a more horizontal international rank size city pattern with a group of national top cities of similar size. If Marchetti has right, does the old administrative borders of the world's largest metropolitan cities hide the real global hierarchy. Furthermore, the previous global dominance by Europe and the Rhine system would have been lost to Japan and the Shinkansen corridor. Also USA would have passed Europe in such an analysis based on central place theory.

As is indicated by Figure four below, the evolution of new communication systems and corridors may imply a qualitative change in the topological form of the functional networks: a shift from the central place city region to a territory with a multiplicity of centres - the multicore city-region. At the top of Figure four, we have the traditional central place city with it's hinterland. The pattern of interaction is dominated by vertical accessibility and hierarchical diffusion of information. The second class of functional city regions is the multicore city-region which may be stretched across vast territories through a system of shared infrastructure. Still, the distance possible to travel within half an hour seems to be critical to the size of such a corridor. Although the development of multicore city-regions changes the interaction from vertical towards more horizontal exchange, the overall structure between different multicore city-regions seems, at least so far, to follow the traditional hierarchic pattern indicated by the rank-size distribution in Figure three. On the other hand may air traffic, telecommunication and high-speed trains generate global and local "city networks" without a spatial adjacency. This is illustrated by the third network in Figure four. Such city networks have their precursors in the networks the medieval Florence and Venice established by sea links.

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FIGURE 4. The central place city, the multicore city-region and the city network
As an administrative region, the central place city with its natural centre represents a simplification in terms of negotiations between spatial interests. In contrast, the multicore city-region requires reasonably equal access and development between its centres in order to remain as a united administrative region.

This is necessary in order to foster a sense of community and common identity among decision-makers and individuals in the city who represent spatially dissolved collectives and political units. Without it, a will to break loose from the cooperation, an open conflict with the favoured centre, is likely to emerge among actors who find themselves to be disfavoured or not gaining enough welfare from the cooperation. The multicore city-region must, in this respect, maintain a degree of social equality between its centres in order to ensure survival based on voluntary, democratic agreements and reciprocities.

The multicore city-region and the city network represent alternative forms of functional networks: networks with a structurally different set of internal connections as compared with the hierarchies obtained from interaction based on the central place economy. This will not exclude hierarchies completely, but will generate lesser levels, probably a development towards bi-level structures. The transformation has begun and has already created competition and cooperation between regions in order to keep and improve given positions.

3. INTEGRATION ACTIVITIES AT THE EUROPEAN LEVEL

Europe has rapidly moved into a period of bifurcation in which the stable system of collective decision making i.e institutions, administrative borders, collective networks and common values, has become structurally unstable and is undergoing qualitative changes. The development of faster, more flexible, and individualistic infrastructure
acts as the "splitting factor" of the system. At the bifurcation, processes change time scales, and the enslavement of quicker processes by slower ones may be broken. One sign of how structural instability gives rise to new opportunities is the initiatives taken in order to constitute new administrative regions and networks at the European level. The aim is to create functional dependence by the creation of new administrative networks. New collectives will be formed, infrastructure developed and functional networks created in order to strengthen those administrative networks. There is thus a dualism imbedded in this process. With reference to our previous division of infrastructure development into passive adaption and creative construction, one also may claim that creative construction of the kind initiated by various European decision bodies has the best chance of becoming successful during this period of structural instability.

An example of attempts to create functional dependence from above is the EC effort to form networks between cities with common features. The aim of such initiatives may be illustrated by the meeting of ministers responsible for regional policies and planning in Turin in November 1990. The ministers concluded that:

1. There is a need to enhance interconnections and exploit potential complementarities among cities, with special focus upon peripheral regions.
2. Special attention has to be given to internal and external frontier areas. The development of these will need further sustained and careful focus.

Within the EC, twelve regional cooperation networks have so far been established: 10

1. Regional development agencies made up by agencies, regions and several chambers of commerce. Their aim is to raise the quality of regional development activities.
2. A Mediterranean tourism and transport region, for the establishment of joint tourism projects and an upgrading of sea transport.

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10 Commission of the European Communities (1991)
3. A network of Atlantic regions. Joint projects are organized in the fields of computerisation of maritime links and marketing of sea products. The network also has a fund for expansion of small and medium sized firms and training for sea related activities.

4. A network for the application of communication technology, presenting joint ways for using modern communication technology.

5. A network of cooperation between Community regions and Eastern Europe, aimed at analyzing cooperation possibilities and the creation of a special cooperation fund.

6. A network for cooperation between universities and regional as well as local authorities, drawing up an information system of university research.

7. A network on public transport interchanges, which disseminates information regarding the integration of the various forms of public transport.


9. A town commission network made up by five sub-networks devoted to the themes of employment and professional integration, urban infrastructure, technological development and urban renewal.

10. The POLIS Network, on the use of computer technology to manage traffic in liaison with the EC-programme "DRIVE".

11. A network to assist areas being brought out of decline. Experience and information exchange on the phenomenon of decaying neighbourhoods and on successful initiatives halting this trend.

12. Network of automobile cities and regions. The purpose is to transform the competition between car manufacturing cities and regions into cooperation, by promotion of technology transfer to subtracting firms and cooperation between industry and local and regional authorities.

The basic idea behind the activities by the EC is that if networks among cities and regions succeed in bringing forth lasting alliances, the prospects for European integration will improve. One must question, however, if actors in such diverse "automobile industry" cities as Birmingham, Milan and Stuttgart will believe that they have common interests because they share a similar industrial structure. Common interests would be indicated if the initiatives from above are quickly matched by parallel bottom-up networks. If networks among places such as those mentioned shall last, they must be supported by a strong mutual interest in network exchange and investments in diverse and durable links of reciprocity.
If efforts to build city-networks like of those mentioned above prove successful, the practice would surely challenge the traditional models of regional formations and collective action discussed in section 2. These new city networks would be based on horizontal exchange rather than vertical hierarchies. In addition, as is shown at the bottom of Figure four, they would be established despite the fact that they lack geographical adjacencies. In this case integration does not merely result in a revision of old subdivisions of space, but represents the third form of a functional network, the non-adjacent city network. It is distinguished from the multicore city region by the fact that it consists of places without a common territorial border. Moreover, such networks are extended beyond both existing internal and external borders related to the national state.

The creation of non-territorial city networks creates a transformation of political and economic potential by preparing ground for new patterns of interdependency in a deeper meaning. It will create possibilities for new collectives. Those collectives will be formed to manage the new patterns of potential and vulnerability among individuals which is the outcome of a Europe based on higher mobility and faster interaction. Simultaneously, old centres and their regions will risk losing potential.

4. REGIONAL MOBILIZATION - IN SEARCH FOR NETWORK POTENTIAL

The transformation of existing functional networks will bring about an increased degree of uncertainty in the planning process at all levels. This uncertainty is made even stronger due to the unsettled rules of the game in the interplay between regional and national decision-making authorities on one hand, and the new bodies with ambition to coordinate policies continent-wide on the other hand. Parallel with the previously discussed ambitions to formulate political programs at the European level,
we may now also observe an increased activity among subnational politicians and authorities to formulate their own regional strategies.

It has in connection with this become obvious for an increasing number of regional actors that the traditional central place city system is slowly being undermined by European integration. For instance, with a dissolution of national borders, the position of the capital city in each country is likely to be reevaluated and questioned. Although the advantage of the capital in terms of accessibility and connectivity will remain for some time, the attraction given from a position as an administrative centre is likely to decrease. It is most probable that a smaller set of the capitals will be strengthened as nodes at the European level, while most of them will lose power they have obtained due to the dominance of the nation given of the national state.

The opening of the iron curtain between east and west adds a further dimension to the transition. However, although this is also a result of developments in communication technologies, it does not yet represent the type of integration going on in Western Europe. Instead the processes initiated between east and west and inside Eastern Europe are more of the type one may expect from the removal of major barriers between two systems. Taken together, the two processes generate complex and very interesting dynamics.

In this changing environment, collective decision-makers associated with regional mobilization are confronted by an agenda which calls attention to their ability to attract private and public investments, to create a competent labour force, and to promote the development of an appropriate infrastructure. In order to reach their potential, decision-makers representing collectives at city and regional levels may unite around common interests. As usual, rivalry between administrative units can be ended when challenge comes from outside. If this leads to the acknowledgement of a new functional region, mobilization is achieved by the initiation of cooperative
projects. With increased interaction it becomes easier to develop arguments for such cooperation and sharing of resources. In this way, previously separate administrative regions may form larger regions based on an enlarged functional region.

Regional mobilization may also, especially in a period of functional instability and reduction of prominent barriers, start the other way around. In this case it emanates from a joint political vision launched to create a new, enlarged polarised region. The hierarchic structure among cities and their regions must also be abandoned in favour of horizontal cooperation in order to improve competitive advantage compared with other regional constellations.

Traditionally, such efforts to form new regions have been constrained by the hierarchical city system and national borders. However, the new communication technologies open possibilities for cooperation between cities and city-regions at different levels in the city ranking. As is shown at the top of Figure five, one would thus expect an increased collaboration between cities in countries A and B, not directly in relation to rank, but for the purpose of exploiting synergisms and joint interests. The aim of such collaboration would be to create potential in the emerging European city network. On the other hand, if collaboration takes place in order to exploit returns to scale, collaboration between cities of similar rank would be dominant. The fact that the cities with similar rank also may have similar functions can imply that collaboration at a given rank may actually become the most common pattern.

Activities characterised by indivisibilities and demand for intensive interaction with many individuals or large "critical masses" will be located in cities with a high degree of node centrality. Hence, even in the emerging horizontal city system, some locations will have a more central position than others. Such node centrality is obtained by
investments in communication systems and especially in transfer links between different means of communication.

FIGURE 5. Cooperation between cities in countries A and B for the purpose of exploiting synergisms (I) and according to existing rank (II).
One may thus, as was discussed above, expect that the structure of the new city hierarchy will develop into a bi-level structure consisting of one set of cities acting as central communication nodes and the other cities.

The accentuated "race between regions" concerns the ability to attract relatively mobile resources such as skilled labour and to establish fixed infrastructure resources in a region. In this race, the network capacity of a city will apparently be significant. Political entrepreneurs have to realize that investments in internal and external infrastructure and cultural networks are crucial to the further development of their particular locations.

The responsibility for such long-term investments in infrastructure falls on a number of city and regional decision-makers. If they are unable to formulate a common vision in order to provide the city system with enough infrastructure, they may seriously harm their region's growth and cause increased vulnerability. It is well known that in periods of rapid transformation a part of any collective generally reacts against a deliberate move to a new structure. Fast changes combined with a lack of consideration about the collective identity may thus lead to paralysis instead of action. Failures in this area are followed by out-migration and decreased investments in the region.

Eventually, higher bodies of decision-making may compensate for failures at the lower levels. Problem regions may, for example, be provided with funding from either the EC or national states. But one must keep in mind that a harmonization of the regional policies among the member states in the EC implies a drift away from compensatory policies towards policies aimed at improving regional development potential. As a consequence, a longer growth oriented time perspective will be applied at the expense of short-sighted and acute problem-solving in establishments with profitability problems.
Apparently, collective decision-makers at the regional level must act outside their regions vis-à-vis both private and other collective actors. However, they also have to act inside their own network in search of a regional identity. The creation of identity serves the interest of reaching fundamental consensus (legitimacy) on the goals of the development. It also defines who is perceived to belong and not belong to a region or a non-territorial network. This is the logic behind regionalism and also a force behind the neo-nationalism which now may be seen in countries previously regarded as homogeneous.

The deregulation of Europe was intended to reduce barriers, promote mobility, and increase competition, thus aggravating regional mobilization. We have emphasized that a successful regional mobilization has as ingredients both cooperation and competition. This is line of thinking brings a new dynamic into collective decision making. The borders between collectives are part of a dynamic setting rather than fixed once and for all. New partners might be found; old partnerships may be finished and new constellations for cooperation and competition created.

Preliminary studies indicate that there exists two sets of actors concerned with regional mobilization,

- Network actors
- Administrative actors

Network actors operate on markets not bounded by the territorial borders of an administrative region. Administrative actors are restricted by those boundaries. They are responsible for the provision of service in a certain territory and are usually part of a rather hierarchical system of governance and administration. When this type of actor suggests changes in the administrative borders it usually is in order to save resources by utilization of scale economies in administration.
Decision-makers of the network type are, by contrast more willing to establish new partnerships both inside and outside administratively defined regions. Little attention has been drawn to the fact that by doing so they become "regional entrepreneurs". As such they will be involved in the new dynamics related to the destruction of old and the creation of new values, structures and administrative borders. It is well known that regions may suffer from lack of private entrepreneurs. They may also suffer from lack of collective entrepreneurs of the network type. Apparently the success of regions in attracting private and public investments is dependent on the work of both categories of regional actors. However, with a lack of common regional identity they may easily be in conflict with each other.

5. COLLECTIVE DECISIONS IN A TRANSFORMING ENVIRONMENT - PROBLEMS, PROSPECTS AND RISKS

The risk of becoming a member of a stagnating region because of poor infrastructure and establishments with low productivity represents a challenge to any European. With the stiffer competition involved in the ongoing structural transition, uneven development and redistribution of power is likely to be amplified. Statistics also indicate that the era of national states has resulted in a greater disparity between regions than between states within the EC.

In the emerging Europe, the regional level both will obtain a larger degree of autonomy and responsibility because it must fill the vacuum created where the national states lose interest and control. Regions which possess network potential will gain power in this process. Network potential gives real autonomy and persistence in relation to political instability and decision-making incapability in other parts of Europe. Management of collective properties, creative planning and collective
decision-making have to be looked upon as important regional resources and regional concerns.

The implicit social contract between members of a collective that has been one of the basis of the national state will obviously be reconsidered. A process of negotiations between regions is necessary to form new agreements on future law and order as well as on the production and distribution of collective goods, this time also at the European level. In this negotiation, regions have to demonstrate their potential and are thus facing questions of the following type:

* With whom and for what should one become involved in conflicts?
* With whom and for what should one collaborate?
* What type of game is going on and what strategy should be used by the region? When should one act and when should one observe?

Those are problems that nations and private corporations have previously faced. Cities and regions must now develop this competence. As a first step, collective decision makers should be engaged in collaboration with and utilization of the networks that corporations in their region have developed.

Today, the transformation of any region into a C-region is the fanciest of regional planning and mobilization strategies. Generally, this is interpreted as a massive transformation of the economy with knowledge, creativity, fast transportation, and other forms of communication. The "cook book recipe" prescribed in order to become a C-region involves the promotion of those key factors. Adding to the attractiveness is a city centre which offers culture, is designed for unexpected meetings and has efficient internal and external communication systems for diverse import of commodities, services, innovations and ideas. Quality housing integrated with high accessibility also seems to be crucial. A successful regional strategy, in order to develop a C-region or any another type of desirable region, implies that collective
decision makers should concentrate their efforts on the design of the public room and the supply of infrastructure. In the literature there has been a discussion on the relevance of territorial or functional regional planning strategies.\textsuperscript{11} A network perspective on planning implies that both aspects must be seen as equally important. However, the territorial and functional processes that changes slowly and were markets generally fails in obtaining efficient solutions should be given priority.

When considering development strategies, it is, important to remember that investments in infrastructure are not a sufficient condition for regional growth. There are obvious risks for failure in an uncritical application of, for example the C-region concept without regard to regional character and historical bounds. The prospects for success with the C-region concept are, however, increasing as the whole European economy moves from industrial to the information society.

From a strategic regional planning point of view, a period of fast transition and instability should be connected with a preference for flexible communication systems, attention to the timing between various actions and use of management by sight with the help of a set of well chosen information links. Inflexible, slow or single purpose systems imply a high degree of risk-taking. High risk projects which consume a large part of available resources for a long time are obviously sensitive to their timing in relation to other processes in society. If the timing is wrong, the entire region may suffer because of over estimated demand or an inability to compete with other regions on the same market.

However, the dilemma with regard to massive investment projects stem from the potential in large scale investments. As is known from the debate on balanced or unbalanced growth and growth pools, such a big push may force the development in a region into a self-organizing path characterized by positive feed-backs. This type of

\textsuperscript{11} Gore (1984), Friedmann and Weaver (1979)
cumulative processes may be exemplified by the importance for the development of a region of an early introduction of a new technology or a critical resource, for example, a university.

Apparently, the European collective is not capable of providing all regions with an even and simultaneous development of infrastructure. A decision to invest in one part of the continental network is not necessarily a benefit to other parts. In times of rapid structural change and instability this comment only becomes more relevant. Regional and European decision makers once again face the classical question on spatial growth,

* Are there some fundamental processes which determine the size, number and distribution of cities?

This time a new problem arises:

* If such processes exist, have the recent developments in communication technologies implied any fundamental changes in their dynamics?

Given that such changes have occurred, the two fundamental planning problems become:

* Is there a network structure of cities which is beneficial for the overall growth and development of Europe? If this is the case, what implications does it have for existing cities?
* Is there a structure of European collective decision making which is advantageous for regions and for the treatment of regional conflicts regarding the development in Europe?

The division between territorially based collective decisions and collective decision making in movable and nontangible networks implies a demand for a new type of
decision-making unit and politician. Development of as pure as possible collective
decision-making units with specific election times for development of city
infrastructures and collective identities seems to be needed. The period of mandate
has to be adjusted so that stability in this long ranging processes will obtain created.

A major issue is how the transformation of Europe affects the division of power
between regions, the remainders of territorial states and the continental government.
The fascinating as well as frustrating characteristics of structurally unstable periods
are the low degree of predictability and large range of possible outcomes. One may
guess that if the result of integration is a to uneven distribution of income and
potential it may endanger the entire integration of the continent while if to much of
balance is forced on the system, the process will be interrupted and the obsolete
structure of national states will remain.

6. EPILOGUE

In this paper we have underlined that the landscape of nations and regions in Europe
is in the beginning of a remarkable transformation. We have discussed the birth of
the multicore city region and the return of the non-adjacent city-network as two forms
of functional networks which will replace the central place city with its hinterland.
Beside functional regions defined by daily interaction and service levels, there are
also polarized regions with a solid basis in a common identity, e.g regions based on
national character, religion, culture, language or employment in a corporation. We
have stressed that such polarized regions may also be transformed into non-adjacent
networks based on a strong common identity and reciprocities.

The multicore cities and non-adjacent network cities both challenge established
theories about city systems. The latter concept challenges the idea that politics is
territorial by nature. Both concepts are contradictory to the spatial pattern obtained from the classical central place theory. However, the new concepts still fulfill the old conditions of a polarized region, interaction inside the networks are greater than with the surrounding environment.

The notion of territorial states will obviously undergo modification. With a transnational level gaining in importance, it may be good advice to the national level to divert more power to its regions in order to obtain transnational gains and improve the national competitiveness. In this transformation, knowledge intensive areas with clear identities, attractiveness and appropriate internal and external networks, may increase their relative potentials. However, regional power should not merely refer to formal competences but rather to manifested autonomy. Key elements in the formation of a region are thus the three bases of identity, administrative responsibility and functional interaction. It is a political objective to bring those bases together. The political task is to combine cleavages with respect to the regional interest in the public opinion. The system as a whole are made up of such cleavages (Lipset and Rokkan, 1967).

Since integration also come to include larger freedom of action for the region, diversity, heterogeneity and competition among regions will increasingly have to be accepted. The social contract underlying citizenship in the national state will, in this process, be reconsidered, redefined and, in the longer run, probably replaced by a larger variety of contracts, each of which is related to different sets of functions and identities and different memberships in networks, collectives or clubs.

This is not to claim that all states, in an utopian manner, wither away. State structures are generally very sustainable. But it will in many cases become difficult to make a clear demarcation between regional, national and transnational policies and their origins. When it comes to the question of achieving redistributional goals, the region
may be a too small collective while EC is to large. On the other hand, such topics as infrastructure planning and policy may be divided at European, national as well as regional levels depending on the type of communication.

REFERENCES


