THE PROCESS OF MODERNITY AND ITS MATERIALIZATION IN SPATIAL STRUCTURE OF TERRITORY

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Abstract

A theoretical inquiry into the nature of modern cities, mainly from a sociological perspective, starts with a particular characteristics of modernity and leads to the conclusion that global metropolises – nodes within a world city network – are the key contemporary materializations of the process of modernity. Understanding to these metropolises, to the process of their construction and to the city-society relation in general is felt essential for overcoming the many environmental, social and political issues that are looming in front of us in near future.

1   Introduction

We would like to talk about contemporary cities. But the difficulties arises right from the beginning because even if we understand the term *city*, what is meant by *contemporary* city? Some parts of our cities are quite new, build let say during the last decade. But what about the older parts? The parts that were built 50 or 100 years ago – are they also *contemporary*? We just cannot think them out. Majority of people in this part of the world (Europe) is living in them. But there are even older parts, built hundreds and thousand years ago – and they are still quite contemporary, millions of tourists are visiting some cities precisely because of them, major investment and organizational efforts are being made to reconstruct or adapt these *historical* buildings and wider areas to the contemporary needs. And, if we dig deeper into the structure of cities, we often find that their spatial structure – their place in a landscape, the directions of roads and other communication channels – is also quite ancient.

So, what is the meaning of *contemporary* in the talk about cities? Is it the actual *use* of these structures and buildings that we made in different times for different purposes? Or is it the *structures* that are being build or at least planned with contemporary needs in mind? I think that in the talk of contemporary cities it is useful to have both meanings in mind. Project ESPON spells out the distinction between *structural* and *functional* relations:

> „*Structural properties* refer to those physical characteristics that are comparatively stable over time and in most cases have emerged as a

result of human endeavour spanning over centuries. Such structural properties are established land-use patterns, settlement structure and the distribution of population. *Functional properties* refer to the factual use of the physical environment such as various forms of production, consumption and communication." [1]

This distinction is very important but still rather static. But cities are dynamic places or entities and to capture this dynamics we need to introduce the notion of city as a *process*, which brings us closer also to meaning of contemporaneity, because then it is sufficient to look at the key processes that shape the contemporary city.

2   The process of modernity

So, what are the key processes that defines the meaning of contemporary times? In common language is quite often *contemporary* equated with *modern*. Sociologists struggle with the meaning of the word *modern* since the beginnings of sociology. It is therefore necessary to specify the meaning of the term. *Process of modernity* implies three other processes: *urbanization*, *modernization* and *capitalism*. However complicated and differently explained are these terms, we are going to understand them in this simplified way: *urbanization* is linked mostly to the process of planning, building and fixation of the social, ecological and economic relations in space, *modernization* means the unstoppable process of technological change, changing social relations and changing mental conceptions of the world, *capitalism* is for the growth imperative.

Put differently, the conception of *city* and *urbanization* means especially the material and at the same time spatial aspect of social relations, it is the materialization and spatial expression of the civilization in its widest sense. *Modernization* means change and therefore *modernity* means such society (or civilization) that has the general change not only enabled but that has also build it into its basic characteristics and institutions. *Capitalist mode of production* is inseparably linked with growth and the desire for profit – and for realization of this desire and at the same time systems necessity, there came the new development, the spatial expansion, which means incorporation of new territories into the urbanized system, or rebuilding, intensification and other far-reaching changes in spatial structure. The processes of urbanization, modernization and capitalist expansion are internally connected and dependent and therefore it is not possible to say that one process is the cause of the other – they are rather the elements, or constituent parts of one process which we are going to term modernity. The actual spatial-material expression of this process is the *modern city*.

So, the meaning of *contemporaneity* in modern times is defined by the character of urbanization, by the character of social and technological changes and by the character of capital accumulation. It is the "how" these processes

proceed – how and why they happen. Our *notion of time* is very much defined by the internal timing of these processes: not only the working time that is derived from technology of production and means of capital accumulation, but also the spread of technologies that makes our daily living and that shapes and reshapes our social life (for example timing of public transport schedules, of the use of various tools and appliances) – this is the short term notion of time. On the other hand, the long-term notion of time is very much influenced by the time horizons of housing provision (that is linked for instance to child rearing and structure of family) and means that enable it (how and when do we get the money to build, buy or rent our living space), the long-term conceptions of time are basically linked to the way we conceive our live in general: what are our values, what should we strive for, where and how we are going to live.

This conception of *modernity* is inspired by the works of David Harvey [2,3] – especially his emphasis on processes "that are more important that things", and his analysis of spatial relations. But quite influential were also insights of Immanuel Wallerstein [4,5] – for instance his notion of "world-economy dominated by core-peripheral relations and a political structure consisting of sovereign states within a framework of an interstate system" [6] that is based on detailed analysis and interpretation of historical evidence. Both, Harvey and Wallerstein, base their research and theoretical approaches on methodological approach of historical materialism that was first articulated by Karl Marx. While Wallerstein focuses more on macro-level, a geopolitics of the world-system, Harvey, with his background in geography, deals predominantly with cities, regions and the detailed process of their development that takes into account various cultural practices.

To take the *process of modernity* down on earth, we must realize that notion of *context* is fundamental in all theoretical and practical dealings with spatial geography, buildings and cities in general – that is in its study, planning and realization as well. And a *context*, a kind of background, for dealing with cities and territories are, besides the well known geographical and material features, also the *social processes* (under this term are subsumed also the cultural, political and economical processes) that are always in some way linked to the places. The dominant social processes, a kind of processes without which all thinking about cities, space and territory would loose its ground, are therefore subsumed under the above defined term *process of modernity*.

To appreciate the intermingling of *processes of modernity* along with its contradictions, let's quote Harvey:

> "*First*: capitalism is under the impulsion to accelerate turnover time, to *speed up* the circulation of capital and consequently to revolutionize the time horizons of development. But it can do so only through long term investments (in, for example, the built environment as well as in

elaborate and stable infrastructures for production, consumption, exchange, communication, and the like). A major stratagem of crisis avoidance, furthermore, lies in absorbing excess capital in long-term projects (the famous "public works" launched by the state in times of depression, for example) and this slows down the turnover time of capital. (…)

Second: capitalism is under the impulsion to eliminate all spatial barriers, but it can do so only through the production of a fixed space. Capitalism thereby produces a geographical landscape (of space relations, of territorial organization and of systems of places linked in a "global" division of labor and of functions) appropriate to its own dynamic of accumulation at a particular moment of its history, only to have to destroy and rebuild that geographical landscape to accommodate accumulation at a later date." [2, p. 19]

Here we have it: the process of capital accumulation (*capitalism*) and production of space (*urbanization*). Harvey also links the drive for technological change (*modernization*) with the same process of capital accumulation (technological advantage enables short-term but nevertheless huge profits and also elimination of competitors).

In a similar way writes Wallerstein of *urbanization* as an expansion of modern world-system: capital in its search for profit establish its production facilities in areas where labor is cheap (countryside, countries on periphery) and rather unpenetrated by commodity relations (people generally base their living on their own self-sufficient or localized production). Then came the social change – incremental commodification of more and more areas of life, spread of money relations and changes in living environment. Within several decades the labor gets more expensive for capital to buy and more organized. Environment gets more and more built-up and also incorporation into the world economy gets intensified.

So, *urbanization*, if it is driven by the strive for capital accumulation, stands also for *expansion* and *commodification* and its particular mode is very much shaped by available technological means (compare for instance city-blocks of 19th century Paris, American postwar suburbs or skyscrapers of todays Shanghai and Dubai).

Finally, I would like to disentangle the term *process of modernity* from its either optimistic (equating it with progress or the idea that new is better) or pessimistic connotations (a notion that change, technology or capitalism is root of all social vices). I use it just as a name for quite complex and also contradictory process but without any moral judgments – it can be both good and evil at the same time.

3   Global cities, metropolitan regions and world city network

Considering these processes of modernity, how they are expressed in contemporary cities? What are the key processes that defines actual meaning of *contemporary*? Quite insightful are in this respect works of Saskia Sassen and Manuel Castells. They both acknowledge the impacts of technology on society, or more likely, the specific intermingling of technology, society and spatial organization.

Sassen focuses predominantly on changes of the world economy, changed character of production and how it translates into spatial structure. Her key term is a *global city*. According to her,

"the combination of spatial dispersal and global integration has created a new strategic role for major cities. Beyond their long history as centres for international trade and banking, these cities now function in four new ways: first, as highly concentrated command points in the organization of the world economy; second, as key locations for finance and for specialized service firms, which replaced manufacturing as the leading economic sectors; third, as sited of production, including the production of innovations, in these leading industries; and fourth, as markets for the products and innovations produced. These changes in the functioning of cities have had a massive impact upon both international economic activity and urban form: Cities concentrate control over vast resources, while finance and specialized service industries have restructured the urban social and economic order. Thus a new type of city has appeared. It is the global city. Leading examples are now New York, London and Tokyo." [7]

Sassen therefore clearly shows how technology that enables decentralized production leads, within the *process of modernity*, to the centralization of control and profits in certain suitable places – in *global cities*. The role of *global cities* lies especially in their *capability* to produce *global control*. Sassen focuses not on power, but on production: production of the inputs that creates the capability of global control and also the occupational infrastructure of jobs that are part of this production. *Global cities* make a system of cities that cooperates in these respects rather than compete.

Slightly different perspective offers Manuel Castells, who formulates his own theoretical approach to space and urbanization. He says that „all major social changes are ultimately characterized by a transformation of space and time in the human experience" [8, p. XXXI] and that we are just experiencing such social change. (Harvey in a similar manner speaks about *time-space compression*). Castells then introduces the distinction between the *space of places* and *space of flows* and stresses that space is not a tangible reality but a concept constructed on the basis of experience.

„If we look at space as a social form and a social practice, throughout history space has been the material support of simultaneity in social practice. That is, space defines the time frame of social relationships. This is why cities were born from the concentration of the functions of command and control, of coordination, of exchange of goods and services, of diverse and interactive social life. In fact, cities are, from their onset, communication systems, increasing the chances of communication through physical contiguity. I call space of places the *space of contiguity*. On the other hand, social practices as communication practices also took place at a distance through transportation and messaging. With the advent of electrically operated communication technologies, e.g. the telegraph and telephone, some measure of simultaneity was introduced in social relationships at a distance. But it was the development of microelectronics-based digital communication, advanced telecommunication networks, information systems, and computerized transportation that transformed the spatiality of social interaction by introducing simultaneity, or any chosen time frame, in social practices, regardless of the location of the actors engaged in the communication process. This new form of spatiality is what I conceptualized as the *space of flows*: the material support of simultaneous social practices communicated at a distance."
[8, p. XXXI-XXXII]

He argues then for the utility of this analytical perspective for understanding „the extraordinary transformations of spatial forms taking place throughout the world" and points to the „largest wave of urbanization in the history of humankind" as showed by UN data on population and urbanization of the world. Another point is that

„stream of research conducted in the last two decades (…) has shown the close interaction between the technological transformation of society and the evolution of its spatial forms. The most important characteristic of this accelerated process of global urbanization is that we are seeing the emergence of a new spatial form that I call the metropolitan region, to indicate that it is metropolitan though it is not a metropolitan area, because usually there are several metropolitan areas included in this spatial unit. The metropolitan region arises from two intertwined processes: extended decentralization from big cities to adjacent areas and interconnection of pre-existing towns whose territories become integrated by new communication capabilities." [8, p. XXXIII]

What is new about this *metropolitan region* is not only its unprecedented size but also the fact that this spatial unit includes both urbanized areas and agricultural land; it is a polycentric metropolis, with nuclei of different sizes,

functions and importance that are distributed along transportation lines. The boundary of such spatial unit is unclear and functional relations „extends the territory of this nameless city to wherever its networks go." These „cities" no longer fit into the concept of city. It is an integrated functional and economic unit but it definitely lacks the shared institutional or cultural identity. What explains the emergence of *metropolitan regions* is the relation between *space of places* and *space of flows* that needs to be somehow articulated. And this is why technology matters. All in all, technology is every time about *how* is something done, *how* some function or process becomes articulated.

What strikes me is that Castells says something about cities that is not really new in principle but what is certainly new in scale: Cities are communication systems. Their structure channel communication in a specific way. And agglomeration processes emerge at nodal points, where various communication networks overlap. It is the positive feedback loop: people go there where something happen, and something happen precisely there where people meet (similar finding express also Gehl [9] while talking about public spaces – in a scale of streets and houses). And it works also in opposite direction as a vicious cycle of abandonment. But the scale is certainly something enabled only by innovations: new technology and new kinds of social organization. It is „organically" entangled together and it facilitates *global communication*.

The study of *global cities* (based on pioneering work of Sassen), external relations of world cities and especially the relations between these cities is the major task for Global and World Cities (GaWC) Research Network. Peter Taylor, director of GaWC, specifies the World City Network in these terms:

> „World cities are generally deemed to form an urban system or city network but these are never explicitly specified in the literature. In this paper the world city network is identified as an unusual form of network with three levels of structure: cities as the nodes, the world economy as the supra-nodal network level, and advanced producer firms forming a critical sub-nodal level. The latter create an interlocking network through their global location strategies for placing offices. Hence it is the advanced producer service firms operating through cities who are the prime actors in world city network formation. " and:

> "Infrastructure networks are important and are necessary to support the world city network but they do not define it. Here the concern is for the world city network as a social network, a form of organisation where nodes are actors and links are social relations. The social relations of this world city network are economic, particular inter-city relations which operate to geographically structure the world economy." [10]

So, it is „large global service firms, not cities per se, which are the key actors in world city network formation". These firms were chosen as an indicator of globalization that can be easily studied: because they provide world-wide services they advertise also the location of their offices. Their structure is therefore discernible and measurable in quantitative and also qualitative terms. Although they are rather small firms, at least in comparison to the companies, organizations and corporations they serve, their advices have wide impact because they help to organize the big firms and influence the important decisions – corporate as well as governmental. It is not surprising then if the list of alpha cities corresponds to the political, economical and cultural centres of the world that occupy the media headlines.

4 The rise of global metropolises

If we once again level up the scale of our thinking about cities and their modern history, the character of the *process of modernity*, sketched at the beginning of this paper, became better conceivable. Although some authors, like Castells, frame their thinking in terms of rather fundamental „break in history" that was brought about by certain socio-technological leaps, I incline to think about cities and modern society rather in terms of continuity, that reflects more the thinking of Wallerstein and Harvey. In this respect becomes useful the distinction between *structural* and *functional* properties, spelled out in introduction: cities encompass both, stable structure (their shape, population, connections) and changing use that such structures accommodate (production, consumption, communication). But both evolve in time – that is the notion of process.

To illustrate the notion of continuity of the *process of modernity*, we are going to sketch the rise of *global metropolises*. Under this term is subsumed both, the meaning of Sassen's *global city* and Castell's *metropolitan region*, but also the meaning of *megacity* – city that is 'just' big in population terms. *Global metropolis* is an important hub within the network of global cities – it directs the globalization process in substantial way (meaning that the actors – firms and governments – are located there) and it benefits from it in substantial way – this stands for *global*. But it is also vast region of production and consumption – both rather fundamental aspects of the *process of modernity*, a powerful driving force of this process – and this is what stands for *metropolis*.

Historical development and emergence of *global metropolises* can be traced to the colonial era, where the colonial nations (Netherlands, Spain, England, France) imposed their rule over vast regions of the Earth and direct it from their *mother countries* (which is the original antique Greek meaning of the word metropolis) and especially from capital city. These cities have grown enormously in comparison to mediaeval and antique cities – in terms of population as well as number of buildings and built-up area. What limited their growth was basically the technology of the provision of human needs (provision

of water, food, adequate shelter, fulfilment of psychological and social needs) and organization of the whole society (the relations between various social groups and distribution of various goods in socially acceptable way). These nations (invention of „nation" is in the tradition of social constructivism also considered as social innovation) pioneered the use of most of those technologies and modes of social organization that lie at the basis of today's societies and cities they inhabit.

Paris and London are in a way archetypal cities of that period of early modernity (with metro and blocks of houses). New York and Chicago were built with these archetypes in mind but these cities radicalised the scale once again with exploitation of the use of electricity and oil and becomes archetypal cities of different kind (with downtown skyscrapers and vast suburbs). Later on, after World War II, emerged another new type of a city: megalopolis – whose archetypal examples are North-east Megalopolis (BosWash corridor) along the eastern coast of USA and Taiheiyō Belt (Shinkansen corridor) in Japan.

The reason behind putting all these types of a city under the name *global metropolises* is the fact that for them, in order to exist and sustain their functioning, there needs to be vast networks of different kinds in place (transportation corridors, pipelines, power lines, production and trade networks, immigration channels, networks of 'exploitation' etc.). How are all of these networks organized and which technologies are used to sustain them changes, but the places with all the millions of people living there is that what remains stable: once is such city established, its inhabitants do whatever they can to sustain its existence. That is the reason why the prophets of desurbanisation and return to traditional and small types of settlement (at least so far) ultimately failed: there is powerful mass of people that do their best to sustain their way of life that is *embodied* in *global metropolises*. But we cannot say it is inevitable. All that critics of modern society (Harvey, Wallerstein) as well as proponents of fundamental change (Castells) say is that the change is possible but it needs a leap in imagination: how to change the character of a *process of modernity* without too much violence and with respect to all that there actually is (several billion of people living in global metropolises and great part of the rest dependent on them in some way)?

Some would say it is pretty anthropocentric view and that we have to take into consideration also the nature – but this may be implicitly present in the sentence „without too much violence" - if we take in consideration not only people but other species as well. All in all, the basic question of social change may be framed such as: how to make the *process of modernity* respect all the living? In Castells terms: how to solve the contradiction between *spaces of flows* and *spaces of places*?

An outcome of the endeavour in this paper is also to say that simply „stop the flows" would make a lot of harm – as we can see in current financial crisis. But the same example shows also that the price of inaction, of 'business as usual' may become astronomic. It is therefore not a matter of choice but a matter of imagination, of freeing our mind out of some categories and words in which we think about the world. But then we have to invent the terms and their relations anew or to connect the 'empty' words to some conceivable meanings.

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