

MORPHOLOGICAL PATTERNS OF URBAN SPRAWL TERRITORIES

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Abstract. In the context of global criticism on urban sprawl, the questions which arises are: *what can we do with the expansion forms already occurred in most part of our cities; can they be fully or partially integrated into the city?* But first, *which exactly are the common morphological features of urban expansion areas in large European cities, and (by comparison) in Romania?* The urban form correlated to these „sprawl patterns” and „sprawl mechanisms” shows more then the lack of planning, but a social input in occupying the territory, related with a specific meaning of the landscape. The paper explores the relationship between the five distinct morphological patterns ways of forming in relation to spatial and landscape shapes which they generate, in the territories of sprawl, all illustrated through case studies of Bucharest.

Key words: expansion, growth, pattern, periphery, landscape

1. Context and connections

Between urban expansion and urban sprawl we often put an equal sign. First because it's difficult to make an exact term translation from English into other languages, and second, because the more current and terrible phenomenon of urban sprawl has become a star, undermining the "authority" of the older concept of urban expansion.

Following the European Commission, Environment European Agency, Report 10/2006, urban sprawl is defined as "a phenomenon of geographical expansion of urban areas due to peripheral implantation of sparse types of functions (most of them residential), at the expense of large areas mainly agricultural". Also, urban sprawl is correlated with a

decrease in density of urban areas by territorial spread faster than urban population growth. In other words, sprawl describes the fact that cities excessively grow on surface and that the territory is artificialized at a rate much higher than would impose the demographic factor only.

On the other hand, the term urban expansion has a slightly less negative connotation. Some critics of urban sprawl considered urban expansion as acceptable as necessary to cope with increasing urban population. „Urban spatial expansion results mainly from three powerful forces: a growing population, rising incomes, and falling commuting costs. Urban growth occurring purely in response to these fundamental forces

cannot be faulted as socially undesirable" (Brueckner, 2000). Besides this, for us it's important to notice that urban expansion produce a larger morphological types of urban fabric than sprawl, which rests a monotone dynamics - "a movement of populations and activities from the center to the periphery of the city, as summarized by the metaphor of volcano" (Lacour, 1996).

Both urban expansion and urban sprawl are forms of cities' growth, but they should not be confused with it: urban growth can be achieved without necessarily increasing the urban territory, by re-densification (*infill development*) of existing urban fabric, peripheries renewal, or reconstruction of the city onto itself. Furthermore, urban growth is a result of the natural urban dynamic - a phenomenon that strongly binds on the demographic mobility and economic developments in the regional context.

2. Methodology

First, the study revealed a needed distinction between the urban growth and urban expansion, since the current literature tends to overlap them and urban planning is overwhelmed by the "compact city" syndrome. How compact? compact and in what way? - here are the questions for which this work can foster a future response. But for this, it is necessary to understand all forms and relationships that occur in the context of urban expansion and after its occurrence. The morphological and spatial patterns are explained in connection to morphological mechanisms occurring in sprawl areas, due to different driving forces. Also, these mechanisms are discussed in correlation to the possibility of urban metabolism to assimilate the new spatial forms appeared in cities' peripheries. In the same context of

argumentation is investigated the ecotonal function of the periphery-that which facilitates the selection of entities in the territorial growth and aging process. It throws a new light on the peripheries landscape understood in an innovative and prolific way, revealing its hybrid traits.

3. Urban dynamics and metabolism

In the well-known study of Burgess, in the far 1925, the growth of the city is concerned with the definition and description of processes, as those of (a) expansion, (b) metabolism, and (c) mobility (Burgess, 2008). The typical tendency of urban growth is the expansion radially from its central business district by a series of concentric circles (Burgess, 2008). Far from this theory (but without totally disprove it), we assert that urban growth may be even more fundamentally stated as a result of a organization and disorganization processes, as it is the anabolic and katabolic process of metabolism in the human body. The state of metabolism of the city may be measured by mobility, but the accelerated urban sprawl is now associated with the profound change of mentality in the way of housing, consumer, transportation and recreation. Areas in the city of the greatest mobility are found to be the last expansion territories of the city. New urban mobility including huge infrastructure and multi-modality brings a break in the logical chain mobility-expansion-metabolism. In morphological terms at least, the metabolism of such elements was never achieved and never will be able to be done with the "elegance" as it was in the case of gare Saint Lazare in the urban fabric of Paris. The new territorial dynamics are rather characterized by hybridization and „parasitism“, by "grafting" the new structures sometimes

foreign into pre-existing sites. With the 90s, there is a break in peripheral metabolism of all the implants (either new industries, retail, residential, highway junctions, etc.), which must deal with ever more sophisticated dynamics and connections in the adjacent territory. Mobility does not occur after metabolism, but long before it, put it even under question. But for to assimilate which is foreign element, any organism needs some time, patience, and therapy at a "molecular", small scale. Foreign forms of urban tissue are not only foreign, unassimilated forms, but carries with it a range of meanings that come to reflect a particular social consciousness. It can not metabolize what was given without preparation and detailed knowledge of this mechanisms.

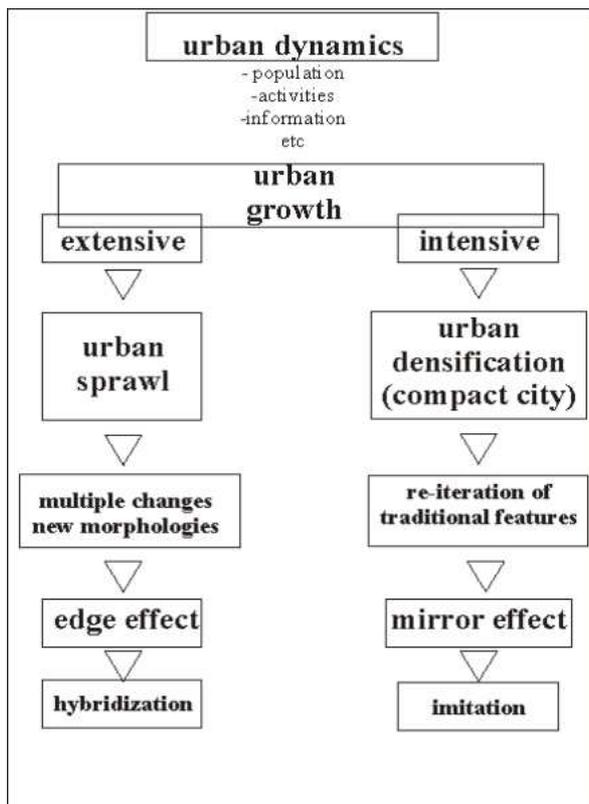


Fig. 1. Intensive / extensive urban growth at the morphological level

3.1. Urban growth vs. expansion

There is a partial overlap between urban dynamics, urban growth and urban

expansion, with the worst case in urban sprawl phenomenon- the most criticized of all, pointed for all its disastrous effects on the environment.

But, whether we admit it easily or not, much of what counts as "urbanization" today is in fact suburbanization, and in the first stage, it is sprawl, the dominant mode in which cities have built.

Seen through the growth of cities in the last period, urban morphology reflects these differences of urban form coming from the different degree of new „implants“ metabolism. Urban growth naturally favors the appearance of various forms (sometimes foreign ones) as every age of a living organism brings physical or mental updates. Moreover, not all territorial dynamics are leading to urban growth, and not all urban growth is leading to sprawl. Sprawl phenomenon seen not only in its negative sides, but as part of urban growth, including the urban development (possibly harmonious at a time) is a vision that can bring benefits in future urban planning.

4. Driving forces and morpho-mechanisms of sprawl

As we mentioned, we have identified several specific mechanisms that formed emergence basis of five morphological patterns which we will later explain in this paper. They are related to the driving forces that globally lead to the outbreak phenomenon of sprawl - as economic growth, behavior changing towards living comfort (increased demand for individual homes with garden), real estate speculation (and all associated financial systems), increased motorization, weakness of control in urban and regional planning. Changing preferences for the consumption of

space will affect growth and and this is possible to investigate and mathematicalallly modeled (Batty *et al.*, 1999). By the same authors we can talk about developing as a general *epidemic model* (Batty *et al.*, 1999, p.4). based on a morphological matrix of spatial aggregation, in which development is divided into three constituent parts: *established development* (in the context surrounded by other development)(...), *new development* (which has just made the transition from undeveloped land), and *available land* (Batty *et al.*, 1999, pp. 4). Starting from the model above, which attaches a great importance to free land (voids) in the territory structure, I have revealed a number of machanisms, manifested either independently or synergic, depending on particular factors.

The most common mechanism by which specific spatial forms appear sprawl phenomenon is the *fragmentation*. This means, in a first instance, successive sub-division of agricultural parcels, reducing street hierarchy, jumps in the street connectivity (lack of collector roads), consequently leading to a discontinuity throughout the peripheral tissue.

Poor land fragmentation is often accompanied, in functional terms by another mechanism, that of *juxtaposition*: joining incompatible functions (housing/ industry or housing/infrastructure), overlap of adverse interest (public/private), jumps in scale of the urban fabric, cultural "colonization" (urban values colonizes the rural world). The third mechanism identified (illustrativ for Bucharest) is the *intercalation*, characterized by joining of mutually dependent functions (agriculture -

housing, storage - housing), lack of communication between different entities, passive co-existence between segregated communities, completely disjoint between very different architecture and lifestyles (McKee *et al.*, 2004).

Both juxtaposition, and intercalation bring with them another phenomenon, that of *parasitization*, regarding the urban image and the relationship between morphology and environmental factors. On the one hand, it refers to that aggressive development to an item (often natural) that it smothers; on the other hand, it means a completely alien inoculation into an existing context. In both cases there are significant risks of pollution and there is an alteration of the landscape on its natural qualities.

The last among machanisms and one with the strongest imprint (also the hardest metabolized) is the *randomisation*. It may include all the other mechanisms that parts of it, but its meaning is one of total fracture from the city and the creation of enclaves or points with weak further connectivity opportunities. Known as the "leap frog" (Heim, 2001) development, it is an uncontrolled development on totally unprepared for urbanization land (Jenks *et al.*, 2000) it tends to a particular "vernacularization" through successive adaptations to an unfavorable context.

These re-affirmes that urban morphology is a combination of particular mechanisms based on „historical antecedents or accidents - the initial conditions - combined with the generalities of the development process". (Batty *et al.*, 1999, pp. 32).

4.1. Ecotone and symbiosis in sprawl peripheries

The urban fringes, as areas directly affected by urban sprawl, often denominated with the term of periphery (including the negative connotation) are places of confrontation, interference and hard-metabolism of contradictory elements coming from the very dynamic anthropic environment. From a strict environmental point of view, periphery is acting as an ecotone (Stan, 2009), as long as it's a *transition space* between two or more adjacent ecosystems, a region of between two biological communities. The main characteristic of ecotones is that the number of species is higher, involving richness, diversity and productivity for the same area (the edge effect).

Extrapolating this fact, and observing the landscape of urban peripheries, we noticed that urban, peri-urban, rural and natural forms of life are co-existing and fighting in a *transition zone* situated at the limit of urban structure. Here, the *edge effect* is manifest by the richness of morpho-typological spatial and functional patterns, by social diversity, pluralism and formal information, a composite image and a hybrid semantic. Keeping the analogy with natural ecosystems, in ecotonal area of periphery occurs „the natural selection“ phenomenon: it resists the structures considered poor, the vague land, the ambiguous, flexible patterns, suitable for a variety of uses (Stan, 2009).

In this perspective, the new patterns of urban growth and the metabolism of sprawl patterns are more geared toward the idea of *symbiosis*; once irreconcilable these elements are to seek for new ways of negotiation in a more environmentally friendly and open systems, accepting all new technologies and their challenges.

5. Sprawl as process and the changes of urban limit

In these new areas of the recent urban expansion limit can not be classically conceived as border or as a founding element. Although the term of periphery itself etymologically carries the sense of limit by the suffix "peri", the actual meaning is rather new. Whether or not, the process of urban expansion and emerging peripheries had been taking in discussion simultaneously with all the baggage of meanings brought and used by *postmodernism*. It promotes (to say briefly) a culture of fragment, where the role of the limit is fundamentally different from the previous. In the last decades of the 20th century, the dissolution of the center as philosophical concept is allied with a new understanding of the Territory as a *multiplicity of unstable entities crossed by limits which can not be defined in terms of coherence* (Stan, 2009). The fluidity and volatility of contemporary urbanization necessarily foregrounds the notion of limit (Gaussa, 2003). With urban studies often focused on the identification of problems and the articulation of solutions, limits have historically shaped various research agendas. But today, these limits occupy an even more central place in contemporary intellectual discourse and assumes a multitude of meanings and interpretations, having resonance in several overlapping discourses related to the city.

The limit is not compact anymore and it doesn't assure a stability; by opposite, the new limit of the expansion areas are acting inside of a very dynamic structure (a *patched pattern*), and it creates *interstitial spaces* (called sometimes *in-between spaces*) - mobile, emerging and carriers of growth. "Any sort of multiplicity grows

from the middle, as a blade of grass or as a rhizome" (Deleuze and Guattari, 1980): placed under the sign to these new models of growth, the City is looking for arguments for all forms of urbanity that it gets.

For the same authors, *un-territorialization* is seen as a *multiplicity of limits, cuts, folds* that must be unfold and re-connected to understand this rhizomatic growing, horizontal and intense in its every point (Derrida, 1997).

5.1. Compactness, dispersion: re-composition and reinvention

Starting from 1975 and with a strong wave in 1990's in Europe, the emergence of urban peripheries produces a mutation in the concept of limit itself: from *compactness* to *dispersed, fractalic or rhizomatic* model. "The city of the future is a place where the fragments of something once broken are recomposed" (Rosi, 1984) and suppression of the precis boundaries of time and place is seen like the „dialectical processus that exists in memory between remembering and forgetting" (Eisenman, 1984).

After 1980's, a new theory organized around the New Urbanism movement insists that *compact city* is the only acceptable model for the sustainable development of cities. The limit is restored as a vehicle of order and hierarchy. It has a new role in spatial and functional differentiation for obtaining the mix- use, diversity and harmony between the vehicle and pedestrian circulation. Also, with general principles such as quality of life and urban sustainability, New Urbanism leads to return to the cities traditional model of organization with gradual transition from high density in center to low density to periphery

(urban-to-rural transect hierarchy). This model differs greatly from conventional urban development (or sprawl) by focusing on urban intensification, creating limits to urban growth, encouraging mixed-use development and placing a greater focus on the role of public transportation and quality urban design. During the early 1990s, compact city policies derived from New Urbanism current were enthusiastically implemented by many planning authorities, particularly in the United Kingdom and throughout Europe, as they were linked to the goal of "sustainable development", popularized by the 1987 Brundtland Report. However, at this stage there was limited critical analysis of whether the compact city could fulfill its promises in delivering sustainability. As a result, a heated debate regarding the compact city has dominated the urban planning literature since the mid 1990s, with many concluding: "...it appears that intensification policies are fraught with contradictions and difficulties" (Williams, 1999). Follow-up studies began to show that the predicted benefits were not happening as they should have been, and that the claimed benefits of urban compaction "...are at the very least romantic and dangerous, and do not reflect the hard reality of economic demands, environmental sustainability and social expectations" (Elkin *et al.*, 1991). From another point of view, while the extensive urban sprawl brings formal and spatial hybridization, accepting an *inherent creativity* and *innovation* as preliminary conditions, the intensive, compact city requires a *permanent re-invention* within a restrictive morphological wide and the risk is that of iteration or formal worthless imitation (Gordon and Richardson, 1998).

These critiques of the compact city model have not generally advocated strongly for a return (or continuation) of urban sprawl, but rather questioned whether intensification can deliver on its promises of a more sustainable urban future, and also whether urban compaction is acceptable to the general public, and can be feasibly implemented. The acceptability and feasibility issues of bringing such a radical change to the urban landscape should not be underestimated, particularly because urban sprawl is attractive at an individual level. The motivation for urban expansion is so located in the human brain and in the deep aspiration to be closer to nature and to have better and better comfort. Some studies show that "most people want to have their own homes in their own lots" (Baldassare, 1992). The lure of a large house on a large lot, with good automobile access to facilities (even if they are located a long way away) is unsurprisingly attractive at the individual level, even if unsustainable at the city or regional level. This creates an unstable contradiction where on the one hand sprawl is encouraged through its attractiveness for individual homeowners and property developers, in many cases supported by public funding of infrastructure to service the developments or mortgage subsidies to promote home-ownership; but on the other hand the resulting sprawl causes an almost endless list of problems for cities and regions as a whole, including traffic congestion, loss of productive land, increased air pollution and spiraling infrastructure costs among others (Duany *et al.*, 2000).

An example for this contradiction is even Bucharest, which in the past 20 years has experienced a population drain to peripheral areas and especially to the

north, where the natural environment "offer" is richer.

In this fragil limit of the city itself (in fact, localities with different administrations), in zones as Iancu Nicolae str., Sos. Pipera, Odai, the residential developments emerge in violation (or ignoring) of the local planning regulations and this fact verifies the distance between the the individual (or small group) strength of those of the public policy. The result of this confrontation is an area that seemed to illustrate „how not to do planning” or the „no planning at all territories”.

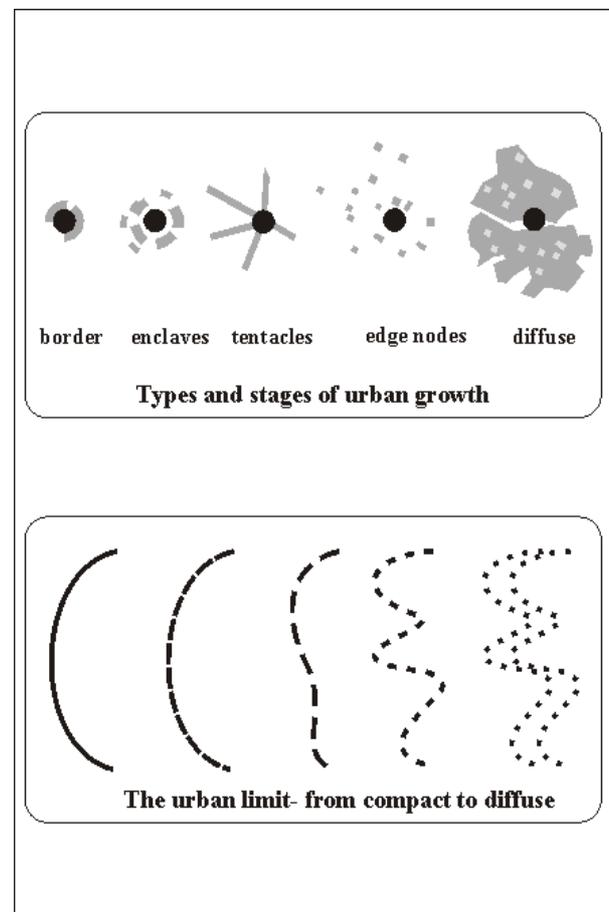


Fig. 2. Synthetic illustration of urban growth types of and limits' metamorphosis within these.
Source: Stan, 2009

5.2. Space forms produced by urban expansion

The history of cities in Europe and their transformation after the Second World War confirm the metamorphose of urban limit almost the same direction as it happened

some decades before in USA: from the net, closed limit specific to traditional towns, to broken, fragmented limit characteristic for the beginning of urban expansion period and finally, to the diffuse type of limit in late 1990-2000 (De Roo and Miller, 2000). Representing a change in the pattern of urban development allowed in the last hundred years, new urban forms occurred in peripheral areas (sometimes unplanned and chaotic) are creating a dispersed mosaic, a "segregated diversity". If we admit, according to Baudrillard that "space is the opposite of territory" (Baudrillard, 1991) and that it's responsible for over-sizing of all structures, we found that the difference between two major models of urban growth are disjunctive: first, the urban growth model is based on "past reference" (more specific to European cities) and second, the model of "exponential" growth directly embodies the future (more characteristic to American urban development). The new landscape of this un-metabolized forms in European urban peripheries has a tendency to move from monumental, geometric places, to „horizontal grid“, from transcendence and sense of history, to the indifferent vertical. As Baudrillard observed in the American cities "there is no landscape, but a virtuality of all landscape", the neutral space becomes an *exponential extension and intensification of multicultural, multiethnic and multi-use entities* (Baudrillard, 1991).

But the risk to understand in a such dichotomic way the evolution of urban expansion is too big to not be seriously taken into consideration. The perspective described above is criticable from the Sustainable Development point of view and the economic crisis of recent years confirm the need to reconsider the urban periphery as eminently vulnerable places, challenging the entire phenomenon of expansion. Peripheral metabolism of entities within an

urban organism which must be kept alive becomes a pressing issue in the whole system of the built environment.

The actual type of limit in newest urban sprawl areas is undoubtedly a complex one; its complexity is provided a) by the continuous multiplication of relations and connections between different parts of the periphery and between the periphery and the city (at the urban system or metropolitan level) and b) by the superposition of many different incongruent items, such as obsolete items (relics - industrial friches, export areas, railway, agricultural traces), ultra-modern elements (large infrastructural equipment, shopping centers, huge parking hubs, etc) and natural elements (parks, green belts, specialized parks, recreation, green corridors, protection curtains, etc.) (Mehaffy *et al.*, 2010). According to some other researchers on the „fringe belt“ issue the characteristics of this forms of expansion, specific to UK, include „(a) a sparse road network, with a low incidence of radial roads (ie running across the fringe belt), and hence constituting a barrier zone to vehicles, although, those radial roads that do exist (being historical arterial roads leading out of the city) tend to be heavily used; (b) large, often well-vegetated plots, frequently containing institutional, sometimes 'landmark', buildings of architectural note; and (c) the fact that they form a boundary between historically and morphologically distinct areas“ (Whitehand and Morton, 2004). They are heterogeneous in ground plans, building forms, and land and building use. Public utilities, parks, recreational areas and allotment gardens are characteristic of their medley of land uses (Whitehand and Morton, 2004). The physical patterns of low-density expansion lies with the principal lines of urban growth and means small or no control of land subdivision. As they results, these

development is uncontinuous, patchy, scattered and strung out, leaving agricultural enclaves with the urban limits.

This heterogeneity mentioned above is a distinctive morphological element in the peripheral areas, not just in UK, where it overlaps with the fringe belt (which surround stable urban cores), but also for the urban periphery of cities with less orderly development. The more this development is more chaotic, the more the role of individual initiative and power is greater and planning regulation is low, so this heterogeneity in peripheral territories is greater. Although there are notable differences of scale and magnitude of these specific forms of expansion in Europe, from small towns to big cities, empirically, a number of common characteristics and types of formations can be pointed out. The typology presented below is a response to similar patterns of urban growth – taking in consideration a set of criteria as: space orientation, fill/open rate, footprint, green rate, dynamics of the outer limits, and degree of discontinuity. (Fig. 3)

1) the *border* type, characteristic to expansion areas which encountered a strong natural or artificial element as water, forest, or railway, motorway, etc. as obstacle for development. This peripheral area often has a linear form, the “zipper” place on the extent to which the city is tangent.

2) the *enclave* type, expression of seeking for alternative living, implemented mainly by the contribution of high class, or, by opposite, endaves of poor areas, rests from some unassimilated rural areas. This kind of peripheral area gives another type of spatial forms – we call them “patches”- having an aspect which make them very different from the rest of the territory and being surrounded by open, green or agricultural land.

3) the *tentacle* type (“fingers”) are urban developments along roads, coupled with

the rampant mechanisms of real estate speculation. Most of these types are characteristic to cities in the suburbanization period and their main feature is the capacity to seize the territory, on the growth direction.

4) the *fringes* type - are hanging a major road, penetrating territory on the main directions of preexisting plotting, with disordered street structure developed in dependence to agricultural forms.

5) the *diffuse* type, mainly related with the development of information technology; this type embodies a diversity of „clusters” – sub-urban or even rural small centres, each of them can mutate and become centers in metropolitan area.

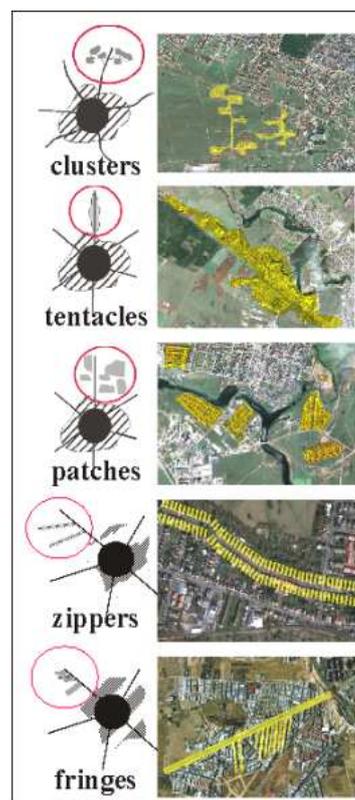


Fig. 3. Different types of formal patterns in urban sprawl areas, illustrating juxtaposition, intercalation and „leapfrog” development mechanisms. Source: personal communication

5.3. The morphology and the (re) design of the urban sprawl territories

The co-existence of these morphological and spatial different urban forms leads to the idea that expansion urban areas

seems to be a kind of "laboratory", land of experimentation, in that we distinguish the fight of the two major classes of factors: the declining / dominated items and the rising / dominant ones. A sustainable urban growth is thereby a process which can take place in the equilibrium state between these two factors. More recent research has raised important issues surrounding the complexities of the urban environment, which may lead to urban intensification policies having consequences far removed from the goal of more sustainable cities. The complexity of expansion zones claims that instead of concentrating on one particular solution, there is a need to recognize that a diversity of urban futures are likely to co-exist within a city and that urban compaction should only be seen as one way of achieving sustainable urban form. Furthermore, intensification policies are most likely to be successful when adapted to the existing urban landscape of the particular neighborhood where they are being implemented. To expect the same hypothesis to improve sustainability in very different environments is rather naïve, especially when considering the need to implement feasible and acceptable policies for local residents. However, recent literature does not propose a return to the days of urban sprawl, the negative impacts of sprawl on the cost of public services and land resources being widely accepted. Some researches stress the complexity of the relationship between urban form, function and sustainability, with a greater focus on the function of the city and how that affects sustainability rather than simply its form. In their book *Achieving Sustainable Urban Form*, Williams, Jenks and Burton claim that "...until fairly recently there was some consensus that compact urban forms offered the most

sustainable future." (Williams and Burton, 1999).

These peripheral developments appear to be important and part responsible of sustainability planning itself. The (re)"design" of the city, at neighborhood and community levels, has become an important consideration for creating successful urban environments, especially here, where the hybrid landscape claims for more complex approaches.

5.4. The hybrid character of urban sprawl landscapes

According to Richard T. T. Forman and Michael Godron, a landscape is a heterogeneous land area composed of a cluster of interacting ecosystems that is repeated in similar form throughout (Forman, 1986; Godron, 1998). Extrapolating from this ecologist point of view, useful for understanding the expansion phenomenon, the landscape of urban periphery is identified as a "composition of landscapes" marked by an abundance of items, some of them in contradictory position, proportion and scale. The intense heterogeneity of the urban expansion landscape imposes a succinct definition of *hybrid*. This is a concept term that could explain both by the patches dynamics in peripheral landscape and the patchwork structure of its configuration. Landscape patches are defining the basic structure of the landscape and their quality influences the quality of the entire environment. The landscape patchwork (mosaic) structure is related to the limits of these patches that can be situated in a continuous or a discontinuous position. The hybrid landscape is a multilayer object (Gausa, 2003), working with systems, processes, dynamic mechanisms, linking information, joining and possessing them.

Also, the hybrid character is one that is developing far from any purity pattern, and can be understood both as compromise and composite feature (Gausa, 2003). Specific investigations in art, philosophy, architecture have concluded already that the hybrid is the common feature of current spaces and places - both meaning co-existence, trans-fusion, interconnection, ambivalence, heterogeneity. In the light of these concepts, hybridization is understood as a creative process which generates most of the actual world, a tactical strategy based on a combinatorial logic that can guarantee the presence of open, flexible, multi-face and thus, informal support.

5.5.. *The impact on landscape in urban sprawl areas*

Moreover, between the naturalistic, cultural and the technique paradigms, far from existing a distance, it exists an interaction and a dose transmutation: "natural energy inert mass materials or textures are combining with highly-sophisticated artificial materials, filiform and energy active, answering sensitive to environmental changes" (Abalos and Herreros, 2003). From their combination and mutual loans that they favor, it results a composite system in which the technological is responsible for reduction of changes, while the natural acts as an energy generator.

The urban extension produces an impact on the existing landscape that can be understood not only in terms of functional and ecological changes, but also in terms of morphological changes which are coming from the imbalance in the relationship between natural and manmade elements. The composite morpho-system generated by this phenomenon leads to consider the landscape as a spatial interplay revolving

between very different elements, structures, textures and patterns. In urban extension areas "the landscape no longer lies before the city and the city no longer lies within the landscape" (Shafer, 2003).

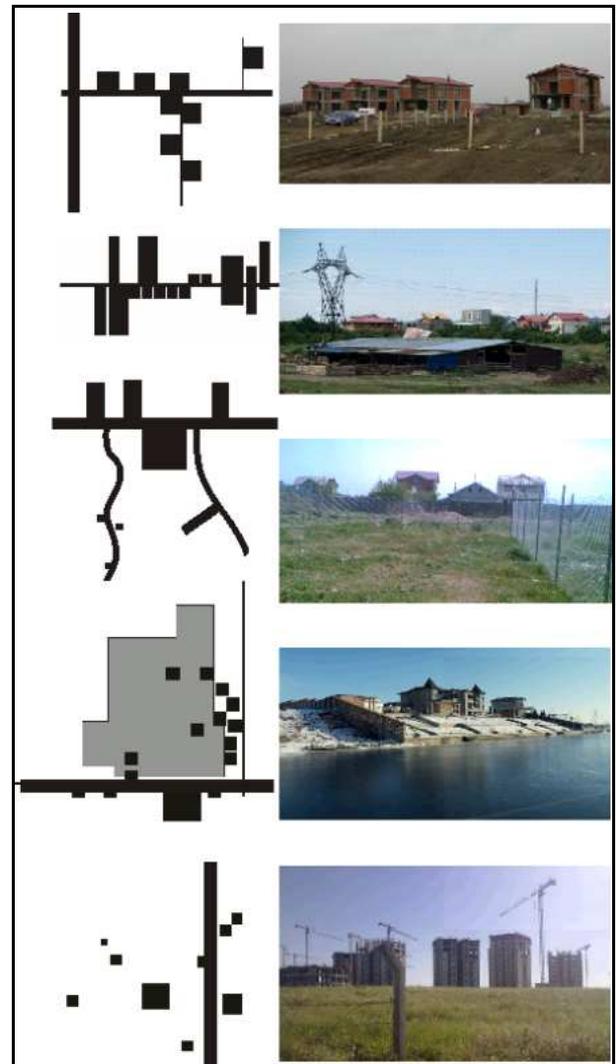


Fig. 4. The five mechanisms described above, illustrated by sprawl development in Bucharest, between 1999-2008. Source: personal communication

Landscapes exhibit a wide variety of patterns that remind rural culture as well as urban culture, tradition, as well as modernity, poetry as well as technology.

The hybrid landscape of expansion territories can be read as "parallel landscapes" (Vanautgaerden, 2008)

existing next to each other, but also overlap and interact. This multiple landscapes are associated with the different activities and actors, with a different role in the production of space. In the very distinctive claims for space, the logics are recognized as different: a difference that underpins the competition between the landscapes of living, working, agriculture or nature, between diverse visions on the landscape, between parallel realities.

This new type of urban landscape cannot be assessed with the same kind of tools as the "classic" urban landscape, because the new reality doesn't correspond to any of the old spatial concepts. It's simply useless to operate in terms of Lynch concepts as nodes, paths or districts, because the new landscape scenography is more complex and includes/ accepts the ambiguity of scale, ambiance and shapes, the contaminations between elements coming from extremes different domains, the linear spatial intensification or mutation from an element to another. The order is a questionable concept related to the landscape morphology in the urban expansion areas. The overlap of rural footprints (as agricultural plot, rural roads, etc.) with the new urban fabric, the combination between old styles, shapes, materials and new ones generates a kind of new order, which, at first sight, seems to be a dis-order. To understand this new order is necessary to forget the classic principles such as hierarchy, symmetry or balance. The new large scale spatial composition are rather based on dis-junctions, discontinuities, fractures, opposition. And this dis-order should be taken as a transitory stage that can become an order

by re-arranging its elements and by finding the *networking element*.

6. Green landscape network

From a morphological perspective, this networking element could be a key to approach the changing landscapes in expansion territories; this link can be done by using all interstitial spaces, open spaces, residual spaces, former industries and rails, unused agricultural land, abandoned warehouses, etc.

The linking spaces existing in expansion zones are widely understood as neutral entities and available land resource for development, ready to build upon. All the big cities of the world have developed through gradual loss of green or open spaces (Beatley, 2000). Many of these cities, the most developed, are at the stage where, with an urban (and suburban) consolidated structure, can target their policies to the acquisition of neighboring territories in order to increase the amount of green area per inhabitant. The less developed but they can preserve what is behind a chaotic expansion and can turn this disadvantage into an advantage. "By connecting isolated open space, restoring the landscape, and upgrading ecological and aesthetical quality of the desolated landscape, the idea is to achieve a lasting improvement of the living and working environment" (Fershau, 2002). But here, the landscape quality depends in very much on how these spaces are arranged and designed, in the whole new coherence necessary to be re-established. Undoubtedly, green space is the most current networking element in such a disparate structure, with parts that cannot be expected to ever act together, but green space connectors are not very easy to obtain.

Strategies for "green linking" should not be regarded as an annex to the urban development operations, as it does currently, but as an active agent of sustainability. An important research direction is led by the "green urbanism" movement which brings up several possibilities to introduce environmental policies in developing cities, in order to achieve better sustainability: from projects on transforming the former industrial sites into parks or leisure areas, to projects for greening former exploitation, to the European programs involving and stimulating green technology (Amin, 2006). Among these, many solutions are implemented in peripheral areas - be it ex-agricultural areas or industrial sites, and their great merit is the creation of a coherent green morphology. But this green morphology should be designed together with the entire development program and the community awareness about the role of these green spaces both at micro and macro scale, at individual level as well as at social level. A very interesting example of a creative community -based organization is EcoStad Den Haag - part of the Netherlands Global Action Plan Initiative, having an active role in restructuring not only the green system of the city, but more, the mentalities; by re-banding the environmental action so that the word "green" is no longer associated with activities which are the privilege of the wealthy, or the pursuit of the weird (Beatley, 2000).

7. Conclusion

The paper outlines the discussion of peripheral areas and the polarized positions between the intensive /extensive urban growth models, suggesting a possible escape or reconciliation between the two. The proposed reflective analysis focuses on

one specific element of urban sprawl: the morphological „production“ of peripheral areas, briefly investigating on their diverse typology. The usefulness of the spatial typologies revealed is that, on it, can be build a strategy for intervention in the most sensitive or vulnerable areas, using them as a frame. On the other hand, the analysis of peripheral landscape typology revealed its hybrid nature, related to the mosaic structure of the territory. This leads to understand the concept of *order* in different terms, related to the position of this specific landscape in the entire urban network. Thinking on the problem of these spatial inheritance from a period of expansion growth of cities, we believe that landscape approach of periphery, with emphasis on open and green space landscape treatment, can be a handy solution, sustainable and in line with the population wishes.

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