The immense expansion of the urban occupation, and of its radius of influence, is the theme of studies and reflections along the second half of the XX century. This ‘new’ phase in the evolution of urban territories, the ‘metapolis’ (Ascher 2001), is not composed anymore of compact centres and dispersed peripheries or surrounding countryside, but it is reconfigured into a discontinuous extension, heterogeneous and multi-polar.

Parallel to this exaggerated urban, sub- or peri-urban expansion, the amount of information and data about it has increased immensely. This large amount of information does not necessarily lead in most of the cases to a better understanding, or to a better capacity to intervene this urban system. Furthermore, the information remains always very separated from the physical and spatial dimensions.

At the level of the physicality and spatiality of the metapolis, the representation and analysis always remains at a very aggregated scale. While we count with very detailed information in terms of data, we do not know much about the physical characteristics and logics of these urban agglomerations. We could even say that at the physical level, these regions are observed and represented still in a very traditional way and aggregated scale, as oppositions between compact urban centres and rural areas, crossed and interconnected by networks.

Detailed information and analysis of the physical and spatial dimensions has concentrated in the traditional compact centres. Starting in the year 60s, an interest in urban form generated an approach that concentrated in the study and aim for understanding of the morphology of the city. However, as M. Hays explains when referring to the Italian Tendenza, “what was missed by its arguments is that the very conditions of which its ‘ontology’ depends – namely the traditional European city – had, by the time of its theorization, already disappeared as a contemporaneous object of experience.” (Hays, 2001 p. 265)
The focus in the morphology of the city centres leads on one hand to a labelling of this approach as an outdated and even nostalgic observation of the city. On the other hand, the investigation in the metropolis today focuses mainly on quantitative information, and attempts to map in many ways this information. The question is then about the reasons why the investigation into the understanding of the physical and spatial dimensions at the scale of the metropolis has been scarce? The assumption is that there might be a change between the elements that are relevant and structuring in areas of traditional compact city areas and in areas of the metropolis that are discontinuous from the existent centres and linked more to networks.

Following that assumption, this text attempts to describe the elements that change and take a protagonist role in the formal and spatial sphere of the extended metropolis, and the way that they organize urban areas. Of course it is important to recognize that the last 15 years have seen the emergence of an interest and development of studies in the morphology or morphogenesis of urban regions (Oswald, Baccini 2003, de Mulder 2002, Boeri 1993, Font 1999). This research acknowledges those studies, and tries to utilize those experiences in a study of two strips along the regions of Randstad in the Netherlands and Bogotá in Colombia.

The departing point is a conviction that parallel to all the amount of data that we use to analyze or attempt to understand the contemporary metropolis, it is important to visualize, and further more to try to recognize organization patterns in the physical dimension. The urban occupation in the territory, at the level of the metropolis, still has a form and that form still obeys specific logics. The fact is that the form might be more affected by other type of factors than the ones that affected the traditional centres; those factors and the way they affect urban form in the metropolis is what this research attempts to discover by departing from an observation of the transformations at the level of the territory and the study of the ground plan.

In the following paragraphs I present concepts used for a morphogenetic approach in a still incomplete empirical observation of areas in the two urban regions. The concepts attempt to highlight elements that acquire importance when studying urban form in the metropolis:

**The totality:**

The amount of names and terms that have arisen in the last years is a clear example of the problem to define the totality (Edge City, Urban sprawl, dispersed City, diffuse City, Global City, Network City). In the contemporary metropolis, when observing in morphological terms the territory, the degree of connectivity given by networks and of discontinuity of expansions makes impossible to define clearly a totality. The totality might be relative and vary depending of the aspect observed.

To approach the issue of the totality and to be able to study the different variations that this one includes, this research observes a strip along the two urban regions. The strip is then a strategy to avoid having to decide about the totality and at the same time attempts to cover the different types of urban occupation at the level of the whole metropolis.
The Fragment

The fragmentation has always been observed as a negative condition of the contemporary metapolis. This study proposes to use that fragmentary condition to approach the different identifiable fragments in a morphological way in order to study its internal logic, and the relations to the rest of the territory into the definition of partial totalities. The idea of the fragment as starting unit of analysis allows to give more attention at the urban form and level of detail in an intermediate scale, while the relationship to the totality is observed from the direction of the fragment and not otherwise as it is normally the case.

The networks

When the fragmentary condition of the contemporary metapolis is taken as starting point for an analytical approximation, it must be complemented with a study of the connectivity given by the systems of networks. The set of structures and relations from which each fragment takes part should be also revealed through the study. Studying the relation of fragments to infrastructural networks can be a way to look back at the totality from the point of view of the fragment, in order to observe how infrastructural networks affect the structure of a specific fragment and how they link it to various systems at different scales, making them part of various totalities.

The spatial discontinuity and discontiguity characteristics of the metapolis are based in the accessibility and connection given by networks. The fragmentation observed when looking at the evolution of the fragments is explained by the connection to various networks at different scales that give logic to apparently disconnected pieces. These pieces appear disconnected because they are belonging to systems at different scales. If each system is understood, then the pieces become parts of partial and different wholes for each of them.
The Void

When the totality is the métapolis, where the traditional city is just a part, or when this totality is almost impossible to limit, or it varies depending of how is observed, the void or the empty areas become very relevant. These areas, though not constructed, are not ‘empty’ in the sense that they serve in many ways (one of the most evident is recreation) the more urbanized or more compact areas. They are also slowly being colonized in a fragmented way that acquires a logic when observed in relation to the infrastructure networks, as in the example illustrated with the images.

The void has also a structuring role that can be observed at the intermediate scale, for example in the ‘Grand ensembles’ or the expansion areas of the functional city. Many morphologic studies have not come near to this type of urbanism and one of the reasons is the fact that when the ‘corridor street’ disappears, the structure of these urban areas is not anymore defined by the constructed element but rather by the empty one. A type of similar configuration in the sense of the built-unbuilt proportion appears in areas of dispersed urbanization. Nevertheless, the way of observation from which the traditional morphological analysis operates is based in a structure defined by the built tissue. The study of the emptiness must be involved into the morphologic study when facing urban regions, because it plays a structuring role and it is much more than just: ‘not built’.
Organization patters: repetition and continuity

When the study of urban form in the metapolis becomes morphogenetic, it can give account of the way evolution and transformation occurs. It also gives account of the relation between the elements and the way how this relation structures transformation. Through the study of the relations it is then possible to recognize or highlight their organization principles. The example shown in the images, of a fragment in the border of Bogotá shows how the principle of evolution can be simply abstracted into subdivision in a manner of tree derivations from the main connection route and successively subdivisions of previous subdivisions. The occupation organizes always along these lines and it densifies once the lines are connected and closed into a circuit.

If the observation of morphology attempts to be also relational and multi-scalar, then the study could help discovering organization patterns in urban areas, rather than to separate and divide areas into the scale of the basic unit. If organization patterns are recognised, those can be abstracted. These abstractions are useful as ways to explain origin, formation and transformation of urban areas and to understand other urban areas. This last point is based in the idea of repetitions. The preliminary observations in urban fragments in the Bogotá region show how early stages of evolution of nowadays-consolidated areas can be observed in border areas of Bogotá today. This allows us to talk about repetitions where the understanding of organization patterns can help explaining and foreseen future developments.
How to Continue:

In relation to the hypothesis that there is a shift when studying urban form in the traditional city centres and at the level of the metropolis, and for that reason the approach needs to be revaluated, this paper attempted to give an idea of the elements that need to be taken into account for this type of study in the metropolis. By observing the interaction between the fragment (including the void) and the networks, the fragment and the whole, and the networks and the relative totalities, it is possible to recognize organization and evolution patterns. These patterns represent processes that repeat in various sectors of the metropolis not necessarily continuous or contiguous. They can be abstracted, offering a panorama of processes occurring in the urban territory that can offer explanations for the current configuration as well as for possible developments and modes of location.

References