

SHAPE OF CATALAN CITIES

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Our subject is the shape which Catalan cities have adopted during the last one hundred years, which may have been subject to the processes of growth which accompanied the latest demographic thrusts. In the first place we would say that the analysis of the urban shape which we wish to sketch here is not based on the reasons for the expansion of the city nor on the shape of the new parts but mainly on the structural relationship of the latest growth with the historical nucleus of the city and on the topographic and substructural conditions of its territory.

Therefore, from the analysis of the geography of the territory and the structure of the centre and the urban growth we shall be able to typify five urban models, based on the different relationships between the centre, the extension, the territorial and topographical substructure, which we shall call: linear, radial, concentric, directional and dual models, because of the evidence of the street structure in relation to the urban stain.

The linear model.

We call the shape of a city, or of a town, linear when, taken as a whole, these four elements show on a diagrammatic description of the streets the existence of a powerful axial element.

The origin of this axis must be in a substructural element of the territory, a path or a road, or it might be that the elements of the topography enforce a lineal growth if there is expansion. However, the axis will always be the dual element of support of the urban structure in the sense that on the one hand it will guide all the flow of the territory where the city is situated and on the other hand it will support the use of services which will enable us to locate the urban centre.

From this point of view, even if the historical centre is not linear it is specific to this model that the expansion from the centre and the organization of new growth will always be along this axis. The geometry of this model could be drawn by a criss-cross on which the series for parallel ones which cross the main axis will relate the different urban uses to each other, that is to say the centre with the outskirts, whereas the ones which are parallel to the axis will be of specialized use, giving support to residential and to specifically productive functions.

The radial model.

Among the towns in which the expansion of the urban stain does not take a specific direction, radial towns will be those in which the paths lead out of the old nucleus, from the gates like the spokes of a wheel, and will assume a role which allows the expansion of the urban centre itself (of its service activities) and give support and connect the new residential networks, whether it is suburban growth or a growth which is implanted on a mesh.

What is to be considered characteristic of this model is that empty ground will appear very close to the centre, like the negative of a star of occupation, speaking geometrically. As the urban parcels relate to each other strictly through the axis there are flares between them which have difficulty in connecting with each other along roads as the built up network interposes itself because it was planned along the axis and usually ignores the possibility of connecting with neighboring areas the plan.

The concentric model.

Although concentric cities, like the radial ones, do not have a specific direction of expansion of their outskirts they can be distinguished right away because the residential expansion force tends to demolish the old centre and to dissolve it or swallow it up within a new global urban network. The connection will generally be made through a ring road which will replace the old outer walls fusing the two parts, the old and the new, on the perimeter of the older by means of operations which will relate the new network with the interior of the walled circle.

Growth will be directed in relation to this centre with deliberate lack of preference, just as it will do so towards the old roads which connected it to the outskirts which, because of the early suburban growth, will have acquired a certain importance as urban areas.

In order to compare this model to the previous one, it is necessary to underline that this model of City, whether it is planned or the result of the juxtaposition of different operations of urban planning, will bear a new idea of urban morphology based on isotropy which will make the transformation of the old historical nucleus necessary. The new areas of growth will always place themselves around this centre and their structure, which will be evident from the street network, will be like several homogeneous parcels connected homogeneously to each other. The expansion both of residential and of central uses will shape concentric crowns upon the mesh, which may be deformed by a greater preponderance of one of the territorial substructure axis which the network takes in, but it will never produce voids in the ground near to the centre as in the case of the model we looked at previously.

The directional model.

Cities which we recognize as being of a directional model are those which, starting from an internal organization logic which is practically the same as the previous model, have grown on a two directional mesh placed to one side of the old historical centre. This result usually has a strictly geographical root like: on the one hand a direction imposed by a topographic accident (a hill or range of hills) and on the other hand the tension generated by a substructure one or a nearby nucleus or as usually happens a combination of both these causes.

As we understand it, the geometric characteristics of this model are very different to the lineal model because in this case there is not one axis around which all the expansional tensions turn, rather it is like a sector of a concentric city in which the direction of growth swallows up the centre and produces a network connected in all directions.

The direction may or may not reflect an element where all the central activities of the area of expansion are located, but this element, if it exists, will be duly connected to the historic centre and will develop the centre in this sense at the rate which the growth of the urban stain requires.

The dual model.

We shall finally consider that last model proposed, which we have called a dual model and which is that of those cities which result from the sum of two areas which are of a different internal morphology, but very close in space, so that their spatial relationship is established through the substructure element which in fact binds them to each other and to the other nuclei of the territory.

We say that they are dual cities and not two cities joined together only because both their proximity and their juridical condition might make us think we are trying to provide one with a zone of growth for the other, or conversely that this zone in fact contains the centre of the first. The result is that, in the long run, they would have to join together and create new spatial relations with each other, although topographic barriers might make it difficult.

We would place in this group the cities which have resulted from the union of two nuclei which had always been independent and which had lately overcome the topographic barrier which had kept them separate and also those towns in which the alternative growth has been presented as a new urban structure, independent of the first because it had a morphologically different spatial structure, although it was juridically dependent on the initial nucleus.

At the limit of this idea of a city there would be the city made up of parcels, the

city formed by the juxtaposition of served and central areas in each scale of unit of aggregation a city which at the structure level would be polycentric and specialized in the specialization of uses. Therefore if topography plays a definitory role in the birth of the cities we have called dual, although it makes the union of the parts possible and it strengthens their diverse characters, the final result will be that the great substructures, which bind the urban parcels to each other, will on the one hand have to become the bonds and on the other hand the barriers which make the connection between the different urban areas impossible.

Having set forth the nature of these five models, we have attempted to see in the examples in what way the characteristics which we have emphasized are to be found in Catalan cities which have readjusted their structure towards the function which the town has in the territory. It is, therefore, understood that if the urban structure establishes a relationship between the morphology of the pieces which integrate the city into its territorial role it will be possible to see in each moment of their growth the geometrical disposition of the primary road system as a way of making a city by applying a model of urban network, either residential or productive, in view of the geographical determinants of a place.

So, if it is a matter of deducing the law which will allow the identification of the key decisions in the design of each network we shall see that in both linear and radial cities the problems occur when the different textures which were designed without considering the border problems, the scale of aggregation which they establish or the internal hierarchy which they have and which are not always associated with the idea of the general model of the city, have to be connected.

In the various systems of directional and concentric cities, however, the problems occur when territorial guide lines have to be found which will permit the design of one or several networks which would be well connected to each other and, above all, which will not generate any conflict with the large substructure elements of the territory.

Finally, we must remember that in dual or polycentric cities problems of design occur in accordance to the size of the pieces, of the mosaic of scales of aggregation and in the skill in establishing elements of substructure which will ensure the integration of all the urban nucleus in their networks and their centers.

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