

# Polarisation

The concept of polarisation covers two distinct acceptations in Geography:

A classical acceptation synonym of concentration of matter and energy. Polarisation is the attraction exerted by a place on a more or less extended and heterogeneous space that is in a situation of dependency with respect to this centre. Space is compared to a magnetic field in which a place, assimilated to a pole (generally a city or a region) exerts a magnetisation proportional to its population, to its activities or to its facilities. In the middle of the fifties, the economist A. Piatier carries out in this way a survey on the commercial attraction of French cities.

A second acceptation adds to attraction the driving effect of the pole on the development of a regional whole. This second approach is due to the works of two economists F. Perroux and J.R. Boudeville. The first one has proposed in 1955, a non-spatialised concept of growth pole. This concept at odds with theories of neo-classical equilibrium, shows that selective sectoral investments are able to create growth-multiplying mechanisms. Spatial implementation of this type of theories has been developed at regional level through the inter-industrial exchanges by J.R. Boudeville (1972).

With the theses of M. Rochefort, of R. Dugrand and J. Labasse then with the works about the urban grid by Hautreux and Rochefort (1963), geography has indiscriminately used both traditions. It has notably carried on in that way, in regional geography, where credit is owed to E. Juillard for the concept of polarised region (1962) and to P. George (1967) for a presentation of the hexagon opposing "polarised spaces" to "inorganic".

Today the term is frequently used by other human sciences such as sociology, which use it in order to give account of an aggravation of social contrasts inside an entity. S. Sassen talks for example about "social polarisation" in order to qualify social dynamics in the "global city" (1996).

Relations between the pole and the space lying around it may be thought about in terms of gravity. The model of William J. Reilly (1931), first applied to retail trade, has been conceived by analogy with Newton's theory of gravitation. According to this model the intensity of attraction and thus of geographical interactions decreases in function of distance, very often under the form of a [gradient](#). The formula of this model is the following one:

where  $I_{ij}$  corresponds to probable interaction between the two centres  $i$  and  $j$ ,  $P_i$  and  $P_j$  to the population of these two centres and  $D_{ij}$  to the distance between  $i$  and  $j$ .

The respective reach of those interactions corresponds to the polarisation exerted by an agglomeration on its area of influence and is limited by the maximum extension of the influence of another agglomeration.

-see also: gravity model, theories of spatial analysis

## Bibliographie