

# Hierarchy

The notion of hierarchy is used with two distinct meanings.

It is a social, political or administrative organisation in levels where each element belonging to a level is strictly subordinated to an element of upper level. The higher it is gone in the order of power or domination, the fewer elements are comprised in each level: hierarchy implies a pyramidal organisation. The benefit of such form of organisation is to allow making information circulate or imposing decisions while reducing transmission delays, its disadvantage is some rigidity in adaptation to change. In this sense, hierarchical organisations of work in firms or in the way that groups function are sometimes opposed to "network" organisations (despite the fact that a hierarchy is a particular form of network), where connections are more numerous and which are more versatile. In this precise meaning, territories rarely show a hierarchical organisation, except for what concerns organisation of some administrative grids with their levels fitting inside each other.

By extension, is called hierarchy a system organised according to a tree-like relationship (i.e. which is represented by a tree as meant in graphs theory), which defines embedded sub-systems, which however are not necessarily subordinated (in an ascending hierarchical classification for example). Hierarchy also describes a form of organisation of a system into sub-systems in such a way that the number of sub-systems varies according to an inverse geometrical progression of the number of elements (size) of each sub-system. Statistical models of these hierarchies are distribution of Pareto, or the lognormal distribution (so-called of Galton-Gibrat). It is the most frequent form of organisation in nature. Some examples in geography are the size of firms in a sector of activity, the area of farms in a region, the dimension of territories in the world, the size of cities in a State... Urban hierarchy, as described through the rank-size rule, or the central places theory, is a particularly stable and universal form of organisation of settlement and activities in a territory.

See also: Network, Graph

## Bibliographie