

## THE APPLICATION OF THE VISUAL VARIABLE "COLOR" ON THEMATIC MAPS' REPRESENTATION

*QUEIROZ D.*

*UNIVERSIDADE ESTADUAL DE MARINGÁ, MARINGÁ, BRAZIL*

Graphical representation is one of many means of communication developed by mankind and it has always been present in human life. A map is a way of representing a given information so that there's a connection between the idea and the image. Therefore, it is important, while elaborating a map, to use adequate signs in to act as graphic messages carriers, transmitting the geographic reality truthfully. The choice for the most adequate signs is a highly significant factor regarding the apprehension of information. Thus, the cartographer should be aware of both the mental and perceptive reactions caused by the adopted symbology, in order for an information to be transmitted properly avoiding to produce ineffective maps. That being so, knowing the basic principles of a good representation, which means to know the "graphical representation grammar", is essential to provide a fast and effective transmission of a certain information. In view of the growth of the application of visual variable "color" on the representation of graphic products, this study pursued to investigate and analyze cartographic representations that presented standardized legends utilizing this variable by means of verifying its suitability to the precepts that rule cartographic language. In order for this to happen, theoretical and methodological background to this work were based mainly on graphic semiology and cognition, and their intrinsic relations, once that the first one moves towards the characterization of a specific cartographic language and the second one regards to cognitive development of the individual, its abilities and perceptions. Among the topics investigated, thematic maps of rainfall, temperature and hypsometric are noteworthy, since they provide certain conventions in their representations that do not follow the precepts ruled by mapping language. According to Graphic Semiology, when a theme is ordered, the order of appearance of the elements must be transcribed by a visual order or by a positional order. However, the order observed on the legend convention of these maps is not the order that should be seen between the elements, i.e. the graphical representation does not transcribe the relationship between the data by means of visual relationships of a same nature. Thus, an investigation concerning the adequate use of color on the maps previously mentioned was sought empirically, based on the users' perceptions. Therefore, it was possible to see, among other aspects, the existence of a natural perception of the visual sequence of colors on the representation of these theme maps, the correspondence between blue colors and rainfall, the perception and characterization of two visually opposite sequences for different indexes, as well as inadequate use of the color green in hypsometric sequence. Accordingly, there was a need to meet the natural perception of the individual, which can be obtained by the final implementation of graphic semiology, seen that there are interactions between this concept and cognitive aspects. In other words, the colors established for these thematic maps do not follow the visual order demanded by the phenomenon, making them difficult to read, making maps for "reading", not "seeing". Therefore, it is clear that standardizing legends' representation should be widely accepted, but only if it obeyed the fundamental law of graphical representation, which is to avoid the destruction of the relationship between the represented elements.