

# SIGNIFICANCE OF MAP CRITERIA IN THE TIME OF PARADIGM CHANGE

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## A TÉRKÉPISMÉRVEK JELENTŐSÉGE PARADIGMAVÁLTÁS IDEJÉN

### Összefoglalás

A térképészetben – sok más tudományággal együtt – paradigmaváltásnak lehetünk tanúi. Az analitikus térképészetből a digitálisra való áttérés a térképtudományt is forradalmasítja. A számítógépes lehetőségek kiszélesítették a térképkészítők körét, de sajnos nem minden digitális térkép felel meg a térkép műszaki feltételeinek. A számítógéppel segített térképkészítés és a GIS nagy eredménye többek között, hogy lehetővé tette a digitális térképek széles körű használatát, elterjedését. Mivel a digitális adatok többnyire grafikus formában, és ugyan kevésbé méretarányhoz kötötten jutnak el a térképfelhasználókhoz, ezért a megjelent térképeknek meg kell őrizniük a térképekre vonatkozó legfontosabb klasszikus ismérveket.

Munkám célja egyetlen mondatban foglalható össze: figyelemfelhívás a környezetgazdálkodásban megjelenő tematikus térképek formajegyeinek betartására. Ezért bizonyításként néhány 2002-ben megjelent – erre jellemzőnek tekinthető – térképsorozatot választottam ki. Mint ahogy a számítógépes korszak első mámorában halottnak hitt könyv is megtartotta helyét a képernyőn és a számítógépes listákon megjelenő szövegekkel, képekkel szemben, sőt még javított is valamelyest a helyzetét, ugyanígy az analóg térkép is meg fogja tartani a helyét, és ha mindemellett megmarad az igényes és esztétikus térképi grafika színvonalára is, akkor talán a térképfelhasználók köre is növekedni fog (KLINGHAMMER, 1991).

### Summary

In the field of cartography – just like in other disciplines – we can observe a paradigm change. The transition from analytical mapping to digital one revolutionizes cartography as well. Computer opportunities have widened the range of mapmakers. However, unfortunately, not all digital maps meet the technical requirements of mapping. Computer-supported mapping and GIS are just techniques and one of their great results is that they have allowed the wide use and distribution of digital maps. As digital data get to map users mostly in graphic form and less bound to scale, the maps published should maintain their classic criteria relating to maps.

The purpose of my work can be summarized in just one sentence: to call the attention to keep the marks of thematic maps published in environmental management. Therefore, as a proof I have chosen a few map series published in 2002, which can be regarded as typical of these maps. Just like the book, which was deemed dead in the first wave of dizziness of the computer age, has kept its place against texts and pictures appearing on screens and computer lists, and even improved somewhat its situation, likewise the analogous map will keep its place, and if the high standard of aesthetic mapping graphic remains, perhaps the range of map users will extend, too (KLINGHAMMER, 1991).

In the age of digital mapping, new questions arise related to the concept of scale (BÁCSATYAI, 2002). It is a common opinion that digital maps are independent of scale. Perhaps the spreading of this view is the reason why scale markings are mostly missing from recent maps. *The independence of scale does not regard the represented end-product but is only an attribute of the digital graphic data base.*

The statistics communicated below are the data base of some hydrological forums (the 2002 issues of Hydrological Journal: I-VI., a XLIII<sup>th</sup> Hydrobiologist Days, Tihany, October 3-5, 2001, 20<sup>th</sup> national itinerary congress of the Hungarian Hydrological Society, Mosonmagyaróvár, July 3-4, 2002, conference publications), through which I will present the trend that can be seen as general (1-3). It can be observed that the criteria of maps appear incompletely on the maps represented (HARKÁNYINÉ, 2003).

Independence of scale is simply misinterpreted. An *indicated scale* can be found in about 4% of the maps published (see Figure 1), although *original source indication would be vital on environmental management maps as well.* Let us think, for example, of ground basic data bases! It does matter whether the base map was of a scale of 1 : 10 000 or 1 : 100 000. Even for the representation of territories presumably known by everyone (e.g. Hungary, Europe) the scale indication is absolutely necessary, partly for the sake of completeness, and it would be advisable in each case.

My research has also extended to the occurrence distribution of the map's title and the *proportion measure* or in other words, the line scale (see Figure 2). Line scale is made in the original scale of the map. With its use the natural length of a mapping length – taken into a span of compasses – can be determined. Line scale is preferred to scale, although it only gives information on the measure of reduction, and *does not answer original data density.*

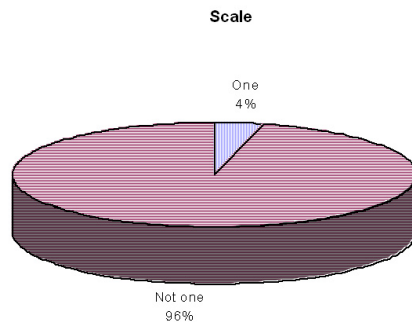


Figure 1. Occurrence of scale as the most important mapping criteria in the maps examined

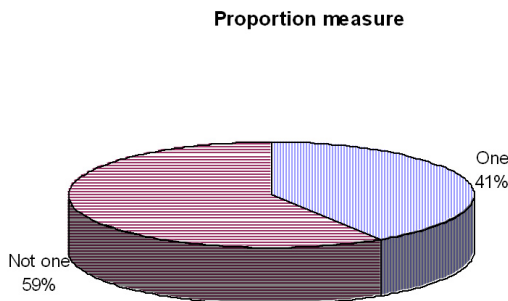


Figure 2. Occurrence of the proportion measure in the maps examined

**Legend**

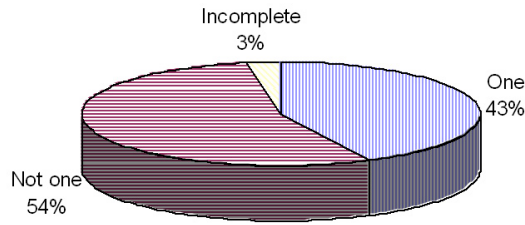


Figure 3. Occurrence of the legend in the maps examined (there is not one, there is one, incomplete)

A common phenomenon is omitting the title of the map. Often it is necessary to dig out the content of the map and the topic represented from the context. The same applies to the legend.

**North sign**

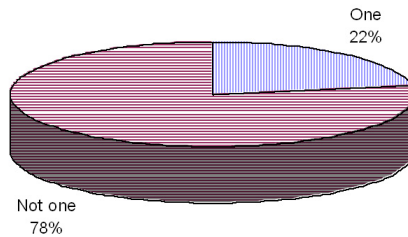


Figure 4. Occurrence of the north sign in the maps examined

Although the north sign is not a classic criterion of a map, it greatly facilitates orientation, and its application would be justified especially for maps at a large scale; for territories presumably known by everyone it can be omitted.

**Distribution of the thematic mapping representation methods in the maps examined**

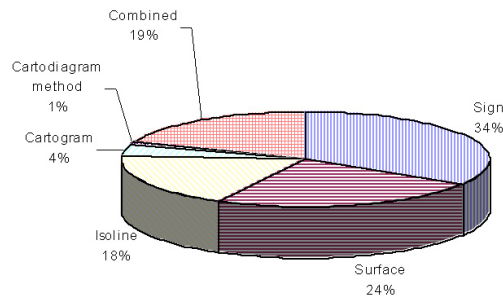


Figure 5. Statistics of the application of thematic mapping representation manners

Distribution of thematic mapping representation methods in the maps examined: surface, isoline, sign, combined, cartogram and cartodiagram methods. In *Figure 5* it can be seen that the most widespread thematic mapping representation methods are the sign and surface methods. In the combined method, the variants of these are the most frequent. The isoline method owes its distinguished 4<sup>th</sup> place to meteorological themes. The cartogram and cartodiagram methods also occur. I found the method of movement lines in the combined category. I have not at all encountered the point method, representing geographical distribution and scattering. This method is not supported by the majority of software: the appropriate representation requires a very large quantity of data (HARKÁNYINÉ, 2003).

A map is a tool for interpreting between the viewer and its environment. Being versed in reading a map shall not guarantee the successful interpretation (KARSAY, 2003). Criteria of the maps should always facilitate interpreting (ZENTAI, 1991). Their existence is of principal importance on the map printouts. The title of the map shortly summarizes the topic and the site, the legend explains the applied presentment, and the scale gives information on the original data density.

Even during the time of paradigm change, even when the range of mappers and map users otherwise see a welcome extension.

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