

Developing cartographic literacy: lessons learned from 20th century Hungarian school atlases

Veronika Flóra KISS ^{a,b*}, Zsolt Győző TÖRÖK ^{b*}

^a ELTE Eötvös Loránd University, Faculty of Science – kissvera@map.elte.hu

^b ELTE Eötvös Loránd University, Institute of Cartography and Geoinformatics – zoltorok@map.elte.hu

* Corresponding author

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Abstract:

Map literacy is perhaps more relevant today than in the past centuries because the future of cartography may depend on how well we can develop the cognitive abilities of the users of dynamically changing visualisation techniques. In the information society of the 21st century, maps have become part of our everyday lives not only in the real but also in the virtual world. Never before have so many and so diverse maps been made and used. But despite the popularity of maps as cognitive tools that has become fundamental to human cognition, orientation and map-reading skills are on the downward trend across the world. Cartography became a discipline in Central Europe by the beginning of the 20th century. Our study on atlases used in primary education is part of a long-term research project to assess the map-reading skills of pre- and primary school children, and to develop their spatial skills using new cartographic tools.

Regular education in the use of maps has meant the realization of the educational ideals of the Enlightenment for broad sections of society. In Hungarian schools, Empress Maria Theresa's decree Ratio Educationis (1777) pioneered the use of maps and globes in public schools. However, as these were not available it was not until almost a century later, in 1870, that the law on folk schools made the use of maps and other geographical teaching aids compulsory. School atlases explaining the basics of map reading did not appear until the following century.

How much has the teaching of map reading changed in Hungary since the beginning of the 20th century?

This is the question we would like to answer in this paper when we review the thematic pages presenting basic orientation and map reading knowledge from the first Hungarian school atlases to the most recent ones. In the second half of the 19th century, Pál Gönczy, the Secretary of State, ordered a Hungarian version of the maps of the cartographic company in Gotha, so in 1874 Stieler's school atlas was published. To construct the school atlases, Gönczy needed a specialist in Hungary. He found the person, Emanuel Kogutowicz, an Austrian military officer who moved to Hungary for love. In Budapest, with the Vienna publisher Hölzel, he set up a map publishing enterprise, and even their first globe (1897) was a joint project. Later the Hungarian Geographical Institute, in collaboration with Hungarian geographers and historians, produced school maps and atlases in the typical Central European graphic style created by the founder. An atlas sheet illustrating basic map-reading skills and basic geographical concepts was first published in the 'Small Pictorial Atlas' published by Gyula Kozma in 1906. Shortly after Károly Kogutowicz illustrated basic cartographic concepts, in fact supporting teaching. The series of images illustrating the orientation and representation of maps at different scales can still be found in almost all atlases for children or schoolchildren.

School atlases still play an essential role in where and how a child first encounters a printed map. But today map use does not start with printed maps in the classroom. By the time children encounter traditional map reading in their schools at the age of 10, due to the general exposure to maps, most are familiar with the way how modern map services are used. The digital visualization tools are likely to take us further and further away from the use of traditional-type maps, while the expansion and application of virtual environments require appropriate spatial skills. Just think of interactive digital maps that appear on the internet every day and how different they are from traditional analogue maps.

Why do we think that traditional atlases play a major role in developing children's map literacy? Because school atlases were the primary source of basic navigation and map-reading skills. Maps and atlases are the most common graphic aids and sources for teaching geography and history. Therefore, investigating the effectiveness of maps and atlases is a primary and urgent task in cartographic and pedagogical research.

Although school atlases were used to support teachers' work early in education, the way they are represented, and their content has not changed considerably. Since the existence of school atlases, the representation of maps has changed constantly, as have the methods of representation. However, this change was not followed by the teaching of the basics

of map reading. Due to the influence of Piaget's theory of developmental psychology from the 1950s, pupils not only encounter maps late but, with a few exceptions, map reading lessons try to explain the only type of maps, the topographic maps. The Hungarian school atlases today still introduce basic concepts with historical importance but no practical relevance (e.g. orientation with a magnetic needle), while failing to emphasize the critical interpretation of new types of geovisualisations that are well known from films, games and social media.

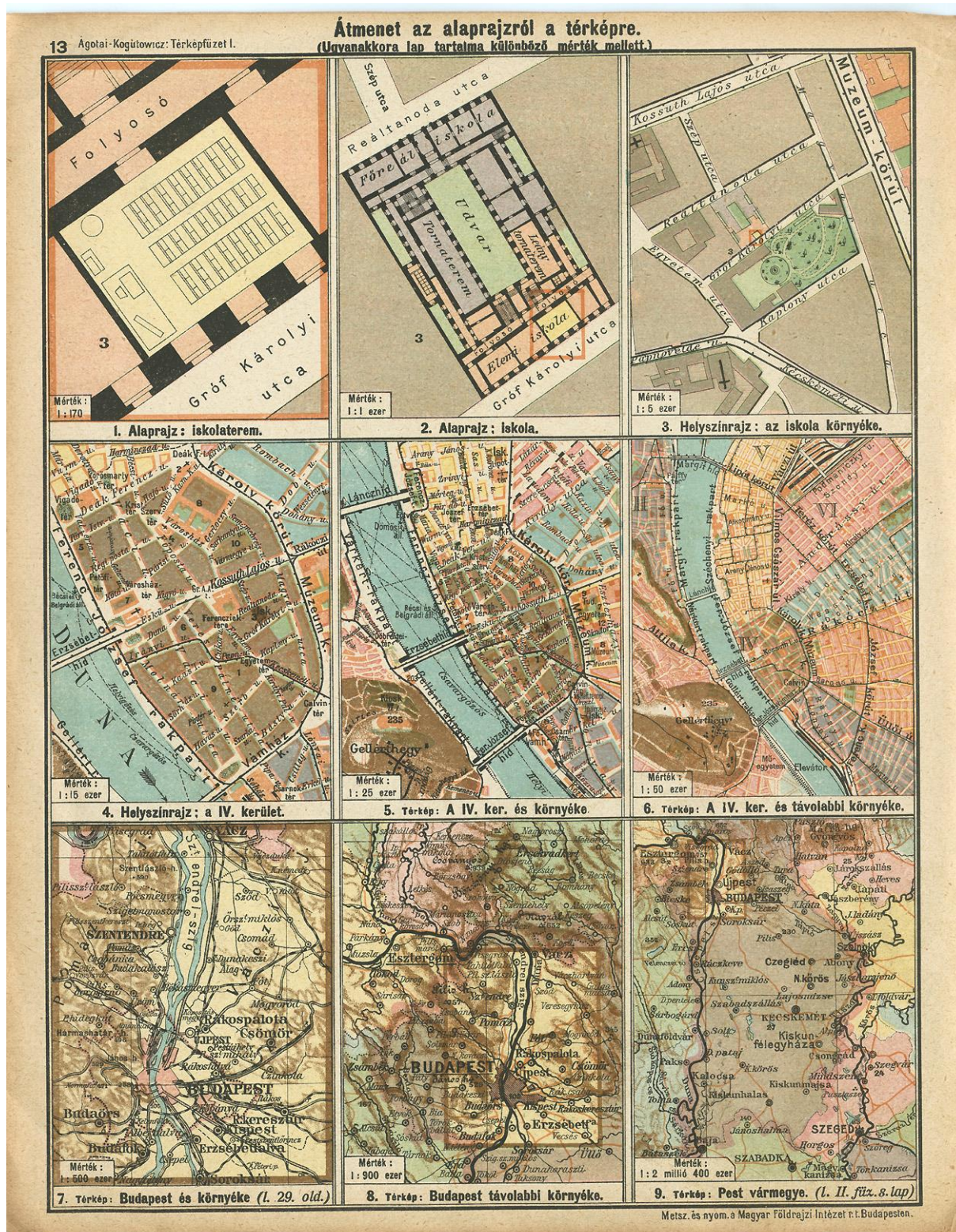


Figure 1. An atlas sheet illustrating the concepts of scale and map type (1909)