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Alternatives for visualisation of frontiers: fluid regionalisation

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Abstract:

The aim of regionalisation, a fundamental process and outcome in geography, is to delineate regions based on criteria emphasising homogeneity and enclosure. Traditionally, this has involved a range of (quantitative) methods, including statistical correlations and gravity models, resulting in the formation of individual or typological regions with fixed borders. However, the complexity of regions often exceeds the limitations of linear representations of borders.

Adopting a more fluid approach (Mol & Law, 1994), based on contemporary theories of regional geography such as Paasi's (1986) theory of the institutionalisation of regions, facilitates a deeper understanding of regions as spatial structures (Giddens, 1984) and social constructs (Berger & Luckmann, 1971) with dynamics (Pred, 1984). In this accepted understanding of the region (Marek, 2020), the visualisation of regionalisation, or the visualisation of regional boundaries, must employ adequate graphical variables (Bertin, 1983) such as colours and colour schemes (Bláha & Štěrba, 2014) or appropriate methods (Slocum et al., 2009) to express indeterminacy and fuzziness of space among regions. This fluid approach to regionalisation operates with frontiers embedded in the theoretical frameworks of the new regional geography, thus avoiding the limitations of traditional regionalisation, including the closedness of regions and the subjectivity of the observer.

The aim of this paper is to present several visualisation alternatives for the creation of a fluid regionalisation in the borderland of Czechia, Germany and Poland (see Figure 1c). The methods of cartographic representation have been chosen with a perspective that encompasses all shapes of regions according to Paasi (1986), including territorial shape, symbolic shape, institutional shape, and the anchoring of the region as part of the regional system and regional awareness of the inhabitants. Consequently, the visualisation alternatives, which take the form of maps, enable the following to be observed and compared: firstly, the institutions' understanding of the regional organisation, which can be identified by the name of the institutions and the territory defined by them; and secondly, the actual perception of the regions by the inhabitants of the area of interest.

The initial analysis examines the regional borders and names in the documents and maps of the institutions (e.g. rural, tourist, administrative regions, etc.) that reproduce the regions. Subsequently, the database of institutionalised regions is grouped into semantic regions by linguistic analysis (see Figure 1a). This is done in order to create a fluid regionalisation with core and peripheral areas of the analysed regions, which takes into account the overlapping boundaries and similarity of region names. This is achieved using GIS methods and appropriate methods of cartographic representation.

The second aspect concerns the transfer of the results of a questionnaire survey (mental map), in which respondents in the area of interest recorded their subjective idea of region delimitation on the map. Subsequent geostatistical analyses based on perceived region names (see Figure 1b) and their boundaries represent a fluid regionalisation of the perceptual regions of the inhabitants living in the area of interest.

The resulting map, in the form of overlapping borders and regional names, compares the identity of regions reproduced through institutions with the regional identity of people. In addition, the paper will also discuss the advantages and disadvantages of the chosen methods, providing insight for selecting the most appropriate method from the point of view of cartography and its applicability in regional identity planning documents.

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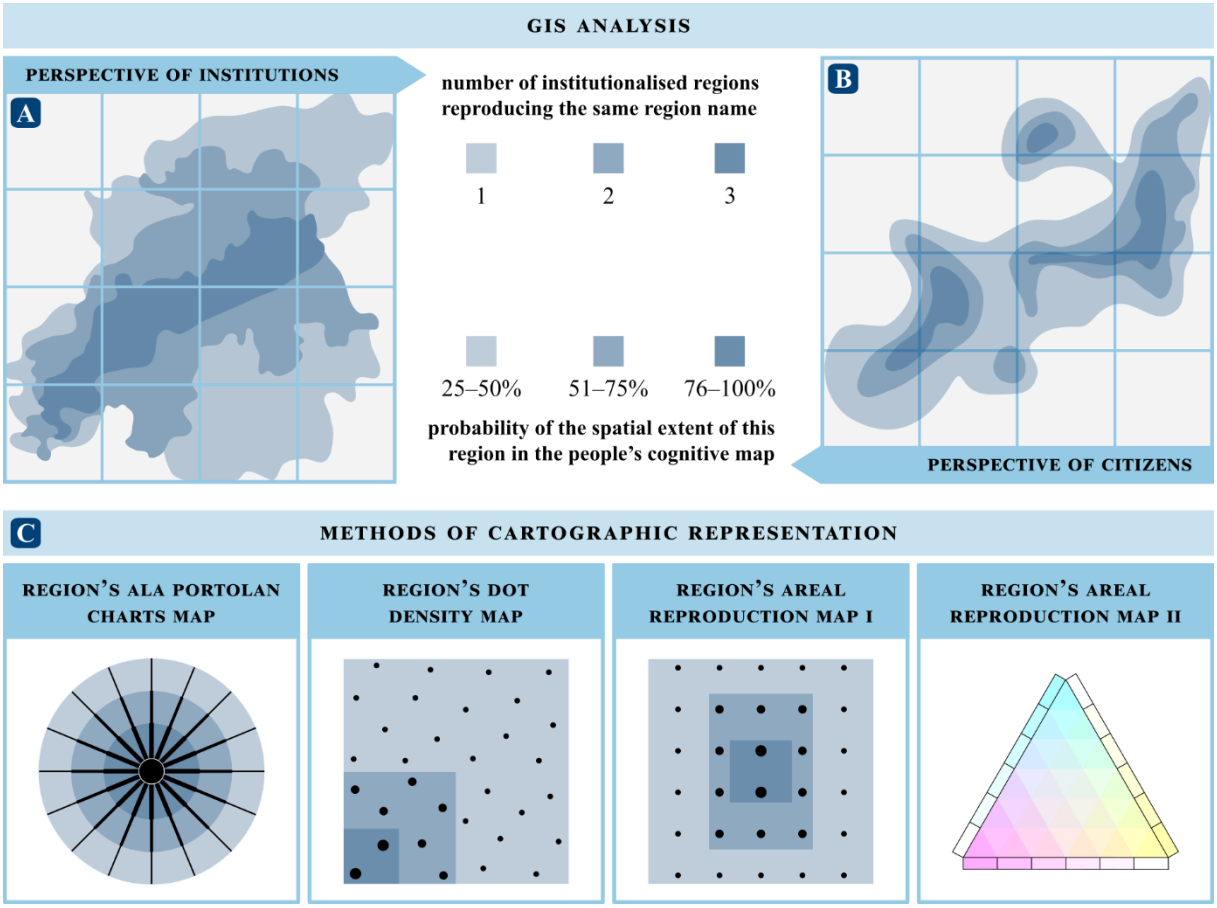

Figure 1. The process of creating a fluid regionalisation based on GIS analysis of (a) institutionalised and (b) perceptual regions, followed by (c) a methods of cartographic representation for the reproduction rate of regions.

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