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Is Map Generalisation a Computational Cartography Problem?

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Map generalisation is one of the processes of map design, when the spatial data used to make the map is too detailed for the scale of the map. Map generalisation seeks to abstract and simplify this detailed spatial information to represent it on the map with a good legibility. Map generalisation involves different types of transformations: selection, simplification, displacement, aggregation, collapse, etc. Historically, computational geometry researchers greatly contributed to the automation of map generalisation by proposing algorithms to achieve some of these atomic transformations. But the research questions addressed by researchers on map generalisation have changed over the years, with the progress on the automation, and the changes in the way people use maps (apparition of multi-scale zoomable web maps). Is map generalisation still a computational cartography problem?

To discuss this rhetorical question, this presentation illustrates the current issues of map generalisation, with past contribution of computational cartography and possible computational cartography problems. For instance, there are still needs for new specific algorithms, either because maps are much more diverse, or because the larger scale range calls for new transformations. As maps tend to mix elements of topographic maps and elements of schematized maps, computational cartography is also relevant to solve this task.

Finally, as the current trend in map generalisation is the use of deep learning models, the presentation discusses the relevance of computational cartography techniques in this context.

The slides of the talk are available online:

<https://fr.slideshare.net/MapMuxing/invitedtalkcompcartotouyapdf>