Cartographic storytelling: 150 years of Swiss official statistics

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Abstract:

The Swiss Federal Statistical Office (FSO) was founded in 1850 with the first exhaustive Population Census, which from then on was conducted on a ten-year cycle until 2000, and which was replaced after that by the annual "structural surveys" based on a population sample and the use of data from administrative registers. In 2018, the FSO started a project aiming to emphasize the full value of historical data from these previous Population Censuses records in order to publish some significant historical results and present on that basis some of the major developments that have occurred in Switzerland in the last 150 years. In this context, analog data have been digitized, and with this raw material, stories on important themes concerning the development of modern Switzerland have been written. These stories consist of a narrative approach that focuses on visual communication by mixing cartographic visualizations, charts and historical photographs, which support the written text and significantly contribute to the narrative.

Four stories were drafted under this project, and their choice is based on both the availability of data over time, as well as the importance of these topics for the Swiss population and society. These topics are addressed in their temporal and spatial dimension, and cover a period of more than 150 years.

This narrative approach – unique in the context of the FSO's statistical dissemination – requires important work in the field of data visualization in particular with regard to thematic maps. Indeed, the spatial resolution of the digitized data – the smallest institutional spatial division; the Swiss municipalities – has required the production of new historicized geometries for every single Population Census since 1850. The fusions and dissociations of spatial units that have occurred during the past 150 years have profoundly marked the institutional structure of Switzerland. This dynamic is a challenge in the ongoing work of data management and cartographic production, and the FSO is proud to now have basemaps that precisely describe the state of the geometry for every census. This enables the production of numerous series of thematic maps at municipality level, and provides map readers the opportunity to observe changes in Swiss society and its structures with unprecedented resolution over a very long time.

The dissemination of these stories is ensured through a website created ad hoc for the occasion. The production work is carried out in close collaboration with a web developer, a graphic designer and the FSO's cartography competence center. The aim is to produce a new, original web publication intended for a broad audience, that is both relevant and attractive, and has a layout optimized to invite the user onto a visual journey in time along the history of the Federal Population Census.

With regard to cartographic visualizations, the produced maps have been the subject of a rehabilitated layout for maximum readability and efficiency and a high aesthetic quality. The addition of comments and the focus on specific observations facilitates reading and interpreting maps and supports the narrative. To provide maximum flexibility with respect to the graphics and enable quick loading of visualizations, these are integrated into HTML pages as SVG and PNG. In a concurrent and complementary way, the produced maps are also made available on an ad hoc interactive atlas. This allows for the interactive exploration of maps, the visualization of animated time series, and data dissemination in the form of downloadable Excel files directly from the application.

This attempt at (carto)graphic narration is an opportunity to question narrative approaches in the field of graphic visualization in a very concrete framework of historical data valorization. Since storytelling and its cartographic variants in the form of story maps are an important trend today, this project provides an example and a contribution to this approach.