Ulrich Schmid

Mapping Ukrainian Regionalism: Opportunities and Challenges of Cartographic Representations

Undoubtedly, regionalism is one of the key features of Ukrainian political and societal culture. Discussions about whether there are two or twenty-two Ukrainian regions have been heated, as were debates about a divided country with deep cleavages. From 2011 to 2015, a team from the University of St. Gallen conducted a research project with the title «Region, Nation, and Beyond». The aim of the project was to take a closer look at regional identities, how they interact with other sources of identification and how they form regional patterns. To this end, three surveys were conducted in 2013, 2015 and 2017. The surveys collected voices from the Ukrainian population aged 18 and older. The sample (N=6000) was representative regarding age, education and the size of the population concentration (from villages to cities over one million). Due to the current military conflict, the 2015 and 2017 surveys were not conducted in the Autonomous Republic of Crimea and the regions of Donetsk and Luhansk oblast. A team of researchers conducted structured «face-to-face» interviews that were based on standardized questionnaires in Ukrainian and Russian. The surveys focused on identities, attitudes toward Ukrainian foreign policy, reading preferences concerning historical memory, attitudes to language policies, and the level of religious practices, civil activism, democratic values, as well as attitudes toward corruption.

The collected data led to a differentiated picture of Ukrainian regionalism. Tantamount was the visualization of the obtained data. The website of the research project features a dynamic structure that aggregates the survey data either according to various levels of current administrative districts or historical territories. Generally, the data was visualized in the form of choropleth maps. Choropleth maps use color scales for the representation of geo-referentiated data: For every category of results a certain area of the map is colored in the same way. The research team collaborates closely with the MAPA project at the Harvard Ukraine Research Institute. The MAPA project provides interactive maps with different semantic layers. Historical and sociological topics may be combined and produce customized visualizations of geo-referentiated data.

However, there are serious drawbacks to the traditional visualization of sociological results in a choropleth map. First, it is only possible to present one variable in relation to a certain territory. The spatial visualization of how different variables co-occur is only possible if several maps are produced and compared. Second, the coloured surfaces suggest a homogeneity of social reality that does not exist as such on the ground. For the sake of readability, relatively large sections in a choropleth map have to be given the same colour. Third, choropleth maps suggest the existence of small «kingdoms» with clear borders. Very often, the transition from one category to another is blurred, and not as clear-cut as suggested by these maps. Another categorization of the data with another attribution of colours to a different scale may produce a different picture altogether. Fourth, the choice of the colour scale may distort the general picture. Depending on the setting of the origin and the end of the colour scale, a sociological item may appear in completely different perspectives.

Nevertheless, choropleth maps allow for a quick orientation. To be sure, some of the drawbacks mentioned may hold true for every map that visualizes sociological data. The production of a specific visualization always implies a number of methodological choices that influence the reading of the map. In geography, in the late 1980s an epistemological school with the programmatic name «critical cartography» emerged. Following thinkers like Horkheimer and Adorno from the Frankfurt School, or Foucault with his discursive analysis of power, the «critical cartographers» discuss the political implications of mapping compared to social realities. Geographers such as John

2 All the data and visualizations are available at uaregio.org

Crimea does not completely stand out in the 2013 survey. The comparison of the three choropleth maps suggests a »Ukrainian« identification had reached considerable strength in most of the country by 2013 – the southern and eastern regions are not complete outliers, but display a somewhat lesser degree of adherence to a »Ukrainian« identity. There is, however, a multilayered set of identities with different intensities that remain invisible even to a compared analysis of the »Ukrainian«, »Russian«, and »European« identifications in choropleth maps.

One of the major drawbacks of a choropleth visualization is the fact that it is blind to the relative strength of the shown category. Respondents were given a choice of identity markers: city, region, nationality, gender, family, profession, generation, religion, and social class. Again, they could mark the intensity of their identification on a scale ranging from 1 to 5.

A visual representation of »strong« vs. »weak« identities displays a very different pattern when compared to previous maps. Especially interesting is the situation in the Donbas, because identity structures differ considerably to those in Crimea. This is an important aspect that must be taken into account when looking at choropleth maps that represent »Ukrainian« or »Russian« identities.

The methodology of cluster analysis allows for the identification of groups of qualitatively different profiles. Consecutive cluster analyses (two, three, four, six, and ten clusters) yielded altogether a set of twenty-five identity profiles. Since these are standardized data, scores above zero indicate identities stronger than the average of the whole sample, while scores below zero indicate identities that are below the sample average; the higher the score, the stronger this specific identification relative to the sample mean. In order to render the complexity of identity structures in Ukrainian regions, the data was clustered hierarchically. Several identity items were combined into two clusters of differing strength. »Strong« and »weak« identities occur in Ukrainian regions in different proportions. The specific strength of regional identification was calculated against the average score of the whole country. 0 equals the average value in the country, a positive value indicates a »stronger« identification, a negative value a »weaker« identification. The relative strength of 14 identity markers including location, gender, generation, religion, and class is displayed in the small chart below. It features two curves that represent two clusters of »weak« (yellow) and »strong« (dark blue) identity profiles. Such an effect cannot be visualized in choropleth maps. This is the reason why a thematic map with pie charts was chosen (Abb. 11). The interpreta-

Harley, Denis Wood and John Pickles5 were instrumental in setting the agenda for »critical cartography«. Ever since, the analytic reflection of problems tied to the visualization of sociological research has reached the core of the discipline.6

It makes sense to discuss the issues of critical cartography in specific examples. The surveys addressed one of the most debated issue in Ukrainian regionalism: respondents (N=6000) were asked about their self-identification, including »Russian«, »Ukrainian«, and/or »European«. For the illustration of the following choropleth map (see Abb. 8), an identical scale of values was chosen.7 On a scale from 1 to 5, the answers range from 3.7 to 4.7 (mean value). The color scale of the map takes most of the answers expressed into account, and illustrates a high degree of »Ukrainian« identification, even in Crimea and the Donbas. A different picture is obtained when respondents answered the question about their »Russian« identification (see Abb. 9). »Russian« identifications range from 1.2 to 3.8. Generally, »Russian« identifications are weaker than »Ukrainian« ones. There is no clear East West divide when comparing both maps to each other. In both cases, the »Russian« and the »Ukrainian« identification, there is a relatively homogenous space reaching from Galicia to central Ukraine with a relatively strong »Ukrainian« identification that decreases towards the east, and a relatively weak »Russian« identification that increases towards the east. Both maps, however, develop their explanatory potential only in such a comparison.

Finally, the respondents were asked about their »European« identification (see Abb. 10). The result is less clear compared to the »Ukrainian« or »Russian« identification. The visualization produces a map that resembles a patchwork. There is no distinct pattern – a »European« identity seems to be an item that most respondents may agree with, but also one that is not a very prominent element of self-definition.

A comparison of all three maps leads to the conclusion that customary talk of a »split« Ukraine must be revised. Of course, Crimea is – as always in Ukrainian studies – a special case. But at the same time,
tion of this map gives again a different picture than the comparison of the three preceding choropleth maps. It turns out that Galicia, the capital region around Kyiv, and Crimea are similar to each other in terms of relative strength of their identity profiles. The notorious east west divide is not very clearly articulated in this map that uses data from 2013, i.e. immediately before the Euromaidan and its aftermath.8

One additional precaution has to be made. The choropleth maps and the thematic map are not able to show mixed identities. The data from our survey suggests that, more often than not, «Ukrainian» and «Russian» identities coexist without conflicting with each other. This phenomenon is most clearly illustrated with charts that display the combination of both identifications (see Abb. 12).

The asymmetrical pattern of «Ukrainian», «Russian», and «European» identification in Ukrainian regions may best be seen when the data is not put on a map, but on a chart instead.9 There is a clear tendency towards mixed identities in the East and South with a culmination point in Crimea where the Russian identification outscores the Ukrainian one. The regional simultaneity of parallel importance of «Ukrainian», «Russian», and «European» identification may well be visualized in a chart. However, the geographical distribution of the identifications becomes blurry lest the data is not referenced to a clear spot on the map but to an abstract name of a macro region.

Choropleth maps are a good solution for a first approach to a complex issue like measuring identities in a heterogenous country like Ukraine. However, the advantages are quickly pushed aside by the disadvantages if choropleth maps are not interpreted in context, but in isolation. One possible way to eschew the drawbacks of the choropleth map is the heat map (see Abb. 13). Heat maps do not suggest that an average intensity of an item is equally distributed over a given region. Instead, heat maps represent the social reality much closer than choropleth maps. Heat maps illustrate only social data that are present in a geo-referenitiated spot. It is essential to choose an adequate range of colours that represents the strength of the represented items. Unlike in previous example, here the data is mapped according to interview localities, therefore a scale of colors with more contrast has been chosen.

Another possibility is the so called chorologic map that indicates exact geographical points of geo-reference (mapped by localities where the interviews were conducted). This chorologic map (see Abb. 14), on the background of a heat map, combines the colouring of a region with indicators of the social data. The indicators use different shades of grey to represent the intensity of identification. Chorologic maps are rather for advanced readers of sociological data – in a way they give redundant data: The indicators flag out the exact location and the strength of the survey data;10 the heat spots already present an abstraction of that data. In the following example, the darkness of the indicators corresponds to the intensity of the «European» identification. The coloured background illustrates the combined average intensity of indicators. «Red», «yellow», and «blue» areas point to a high, medium or low occurrence of a strong «European» identification, respectively. In a way, chorologic maps combine concrete and abstract data into a general picture that conveys the heterogeneity of social reality better than a simple choropleth map. There is a drawback, however. The intensity of the colour depends not only on the concrete indicators, but also on the proximity of geographic locations from which the data is aggregated.

The complexity of visualizing social data is further problematized in the use of video maps. Videos are able to illustrate the simultaneity of different identifications. In our case, the heat maps for «Ukrainian», «Russian», and «European» identifications may cross-fade. With this technique, the fluidity of identifications becomes visible immediately. To begin with, the video does not create the false impression that a mapped social reality is stable – as for instance choropleth maps very much suggest. Moreover, the video gives the necessary context while the heat maps elapse in time.11

The video also provides the possibility to transform the consecutive information of the heat map video into a simultaneous presentation, which combines the «Ukrainian», «Russian», or «European» identification as bars with a choropleth background map. In this case, the

10 The data is mapped according to interviews localities (the number of respondents per locality depended of its size and varied from 10 to over 300).
11 GCE-IFSG: Ukrainian, Russian and European identities in Ukraine (2013), retrieved from: https://www.youtube.com/watch?v=vEtCqRyQX4A.
important to reflect these categories in their relative strength. Maria Lewicka and Bartłomiej Iwańczak have tried to optimize the explanatory power of single identity markers by clustering them in several different ways. The authors identified national, social, generational or occupational markers and measured their respective strength. In a second step, the authors clustered these markers into identity profiles. Such profiles were established for all 25 administrative districts, and singled out the two cities Kyiv and Sevastopol. This procedure made clear that regional identity profiles are not just a given entity, but depend on the conceptual categorization of the research design.

In analyzing Ukrainian regional culture, another problem that repeatedly occurs is asymmetry. The simultaneous visualization of sociological categories produces several layers that combine homogeneity with diversity. In these cases, 3D representations and swipes may help, but – as with every remedy – they have undesirable side effects. The 3D landscape that represents «Ukrainian» and «Russian» identity on a relief with «European» identity may offer valuable insights in the co-occurrence of varying identifications. However, the necessary amplification of differences on a scale may suggest that the effects are more significant than they are in the social reality.

Finally, there is the problem of simultaneous presence of similarity and dissimilarity in Ukrainian regions. We tried to visualize this double simultaneity by creating videos or by aggregating bars. Both approaches produce tangible results. However, the visual impression may not be overburdened with information.

In conclusion, it is fair to say that not all of the impressive possibilities offered by contemporary GIS software really live up to the complex social reality it purports to represent. However, visualization is necessary when several facets of a multi-dimensional problem such as Ukrainian regionalism should be integrated into a broader picture. The general dilemma between the accurate rendering of the data and the readability of the map cannot be circumvented altogether. However, drawbacks can be contextualized, and addressed methodologically when social data is being visualized.

Bibliography


University of St. Gallen, Center for Governance and Culture in Europe: Ukrainian, Russian and European identities in Ukraine, einsehbar unter: https://www.youtube.com/watch?v=VHzCqRyQX4A.