NEW LANDSCAPE, NEW LANGUAGE? POST-COMMUNIST CARTOGRAPHIES OF INDEPENDENCE

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Abstract

Do significant changes in the national condition, such as political independence of the nation-state, affect the state expression of landscape through topographic maps? With the fall of communism, we might expect to see a new language of state cartography emerge in post-communist countries as they redefine their national landscape. This paper reflects upon the role of state topographic cartography as a language for defining and expressing the post-communist national landscape. It compares recent mapping initiatives in Latvia and Slovenia and explains how censorship within communism has affected the perception of maps as vehicles for (re)constructing national identity and suggests that different cultures of map use influence the way in which post-independence landscapes are reconstructed though state cartographic language.

Introduction

If topographic maps reflect societal values, then a fundamental change in the ruling political ideology should be expressed in some way through their symbology. In his comparison of small-scale country maps from various post-communist countries in Europe, Zeigler (2002: 685) makes the following set of observations:

> With independence, post-Communist countries seized the opportunity to formulate their own conceptions of a new European order in which they would enjoy greater centrality and higher status. Their newly issued maps seemed designed to inspire their own populations and to serve as iconographic nation-building tools. […] For the cultures that produced them, they are important in building a new sense of the future.

Although these comments are based on interpretations of state-approved thematic maps, it would be plausible to question whether they are also valid for the design and production of official topographic maps.

This paper explores how the achievement of political independence is subsequently expressed in state cartography and in particular, the post-independence topographical mapping initiatives in two post-communist countries: Latvia and Slovenia. The investigation incorporates the analysis of interviews conducted with those involved in the design of state 1:50 000 topographic maps to identify the principal motivations behind the creation of post-independence symbologies. In addition, they will help to explore the extent to which it aims to provide a new cartographic representation of the national landscape.

Investigating the Cartography of Independence

If, as Rogoff (2000: 74) claims, 'Mapping as a cultural, political and epistemological activity is deeply imbricated [*sic*] in nations' narratives of their own formation', it would seem feasible that the introduction of a new topographic map series following independence would therefore offer a significant opportunity for national self-determination and self-expression and therefore support the nation-building canon, particularly as a means of (re)classifying and (re)defining the landscape in the (re)construction of national identity. If official topographic maps are about asserting state control over the landscape, one would expect that a sufficient change in the control of the state, for example as a consequence of political independence, might find some expression in the style of a new national series.

As argued by Kent (2008), the subject of topographic maps is not the environment but a *landscape* that is socially constructed. Such landscapes represent 'good views' which support the interests of the state. It therefore seems plausible, particularly in the context of post-communist countries, to suggest that the values – and hence the 'good view' – exhibited through topographic maps under the previous regime are not compatible with the new order. As part of a post-independence nation-building project, national mapping organizations may therefore create a new vocabulary (symbology) in order to define, describe, and express the national landscape – and thus a 'good view' – in a way that is more culturally authentic and in keeping with current national identity.

Latvia and Slovenia both have native national mapping organizations that design and produce their own topographic maps. Both countries achieved political independence from communist regimes where the ruling ethnic group was foreign, and were admitted to the European Union and NATO in 2004. But apart from these similarities, they exhibit some fundamental differences. They were at opposite ends of the political spectrum within communism – one was completely absorbed by the Soviet empire and the other was a republic within Yugoslavia; they have contrasting terrain and climate (Latvia has littoral plains and a Baltic, maritime climate, while Slovenia is mountainous and diverse with Alpine and Mediterranean climates); they look towards different geographical and economic zones of influence (Scandinavia and Central Europe); and Latvia has a large Russian minority whereas Slovenia is ethnically homogenous.

Given that the production of most state topographic map series in Europe follows a long tradition of national map-making, the study of new national topographic map initiatives, each the product of two relatively new national mapping organizations, presents an exceptional opportunity to gain an insight into the motivations and influences affecting their design. It is therefore likely that the findings will also offer some the issues surrounding the design of state topographic maps in general.

Stylistic Currents in the Topographic Maps of Post-Independence Latvia

The Republic of Latvia is situated in northern Europe, on the coast of the Baltic Sea and shares borders with Estonia to the north, Russia to the east, Belarus to the south-east, and Lithuania to the south. Latvia covers an area of 64,589 sq. km (24,938 sq. miles) and according to official estimates, the total population numbered 2,319,203 at the beginning of 2004, giving an average population density of 35.9 persons per sq. km (Gladman, 2005: 361). The terrain is mostly flat, ranging from the low-lying littoral of the Baltic Sea and Gulf of Rīga to the more varied relief of

the Vizdeme Upland, which contains the highest point in Latvia, Gaiziņkalns, which rises to 311 metres (1020 ft). Latvia is not ethnically homogenous. According to the 2000 census, 57.7% of the population were ethnic Latvians, 29.6% Russians, 4.1% Belarusians, 2.7% Ukrainians and 2.5% Poles; the capital Rīga is a significant port of the Baltic States and at the beginning of 2004, had a estimated population of 735,241 (*ibid*.).

Along with the neighbouring Baltic countries of Estonia and Lithuania, Latvia was a constituent of the Union of Soviet Socialist Republics (USSR), where, according to Martinsons (1995: 41), 'Five decades of occupation have left the Baltic republics with decimated economies, polluted environments as well as endangered languages and cultures'. After independence was proclaimed in 1991, a new trajectory signified a 'return to Europe' – a path culminating in its accession to the European Union with nine other countries in 2004.

The history of Latvia is largely a story of contention between dominant powers (recently including Germany and Russia), and this has been reflected in the mapping of Latvian territory. Following independence, Latvia removed the restrictions on the dissemination of the former Soviet mapping of its territory (Collier *et al.*, 1998: 167) and detailed maps became available for the first time. In 1993, the Latvian State Land Service was formed, with responsibility for cadastral, geodetic, and topographic surveying and mapping and property valuation, with a priority to establish new 1:50 000 and 1:10 000 scale photogrammetric mapping based on the Universal Transverse Mercator (UTM) projection (Parry and Perkins, 2000: 797).

Without the availability of up-to-date aerial photography, the first national 1:50 000 mapping initiative since independence utilized satellite imagery as source material (Bērziņš, *pers. comm.*). An agreement was reached in 1993 with Satellitbild (the Swedish Space Corporation) to create a 132-sheet 1:50 000 scale topographic series using SPOT imagery, resulting in full-colour published mapping of the country as well as a digital cartographic and toponymic database by the end of 1996 (Parry and Perkins, 2000: 797). A similar programme was launched in Estonia (Jägomagi and Mardiste, 1994: 90). As Bērziņš (*ibid.*) was keen to point out, however, these are essentially image maps and do not contain contours for the depiction of relief – their principal function was the establishment of a digital database suitable for GIS operations.

With the achievement of independence, Latvians gained unprecedented access to detailed topographic information. A comparison of a 'tourist' map of Rīga from the Soviet era with a 1:10 000 map of the city published since independence dramatically illustrates the disparity in the availability of detailed, state-produced mapping (Fig.1 below). The lack of information on the Soviet map compared to the modern example (itself being partly derived from Soviet mapping that had previously been classified as 'secret') is particularly striking given that the public (and the West) were generally unaware that an extensive Soviet mapping programme was in operation.

According to Collier *et al.* (1998: 168), transformation in the Baltic States since independence is clear in their recent topographical mapping initiatives: 'In the Baltic States there has been a desire to make a clean break with the Soviet past. This has led to the decision to adopt a new geodetic framework and to produce new mapping, usually with the help of their Scandinavian neighbours'. The involvement of various countries, such as Sweden for the provision of satellite imagery, Denmark for support with cadastral mapping, and, more recently, the United States with technical assistance in the provision of the new 1:50 000 topographic series, would indeed seem to indicate a re-alignment to the West.

In order to substantiate such observations and address whether topographic maps consciously reflect the achievement of independence, it became necessary to enter into dialogue with a contributor to the design of the new symbology. It was clearly appropriate to select someone who was involved at the decision-making level and Valdis Bērziņš, Head of the Cartography Division at the Latvijas Ģeotelpiskās Informācijas Aģentūra (LGIA) was contacted.

Fig.1 Extracts from two maps of Rīga published during (*left*) and after (*right*) the Soviet era (GUGK, 1980; Latvijas Republikas Valsts Zemes Dienesta Kartogrāfijas Pārvalde, n.d.; both transformed to represent a similar scale)

The intended format was that of an open-structured interview, allowing the interviewee to present the story of the development of the post-independence national mapping initiatives in their own words. In this particular case, the interview was performed during a guided tour of the LGIA and, due to time constraints, was followed by direct correspondence via e-mail in order to clarify some details. The following summary presents the main findings of the dialogue with Valdis Bērziņš of the Latvian national mapping organization. Firstly, regarding recent 1:50 000 mapping initiatives, the following points were made:

Production of the first edition of the 1:50 000 map started in 1993 and was completed in 1998, with a second edition completed in 2001. Both editions use 1993 SPOT imagery as the background. The main task of this first 1:50 000 mapping initiative was the creation of a GIS database and this was the first map to cover the whole territory of Latvia since independence. Production of the first edition of the 1:50 000 topographic map began in 1998, was completed in 2006, and a second edition begun in 2005. The topographic map is utilizes a UTM grid, based on a WGS84 ellipsoid, and is available in two versions: civilian and military (NATO compatible). The military version includes detailed information (such as bridge dimensions and composition), while the civilian version excludes this information and is based upon a Latvian grid system.

Regarding the design of the topographic map symbols and possible influences for their design since independence, the following points were made:

The symbols are mainly derived from Soviet symbology (about 90% for the satellite map series and 70% for the topographic map series) and were created as the result of

teamwork. The Soviet designs were chosen because of the user's familiarity with this symbology and so the new symbols are therefore not exotic. Changes in the design of the second series symbology are related to the need to unify map symbols and map features among NATO countries.

As for the perceived user base of the current maps, the following point was made:

The main users are government organizations and non-governmental organizations. Map symbols were designed with military users in mind.

Concerning the legend language of the 1:50 000 maps (and why does Russian not appear given that almost one third of the population speak Russian as their mother tongue), the following point was made:

The Latvian language is the official state language.

It is clear that one significant outcome of the achievement of independence was the opportunity to create a new database – an inventory of the state held within a GIS, somewhat resembling a modern Domesday Book. Moreover, map sheet designations follow a new arrangement, unlike the maps of Poland, which use the *International Map of the World* system adopted by the former Soviet topographical mapping programme.

It is, however, surprising that Soviet symbology still dominates the style of Latvian topographic maps, given the strength of anti-Soviet feeling since independence (and its subsequent expression in legislation and state-supported thematic cartography). Map production in the Soviet system relied upon central regulation from military and civilian agencies in Moscow and Leningrad, but production was decentralized and carried out in many different areogeodetic enterprises and 'cartographic factories' distributed across the former Soviet Union (Parry and Perkins, 2000: 846). The current headquarters of the LGIA are located in the former Soviet Map Publishing Plant No.5 Krišjānis (*pers. comm.*). According to Jägomagi and Mardiste (1994: 89) most materials and staff were brought in after independence, although Krišjānis (*ibid.*) maintains that most of the staff originate from the Soviet era, often having received their education in geodesy from Moscow University. This clearly implies a continuing Russian influence on the design philosophy behind the creation of topographic maps.

If the cartographic symbols on post-independence maps have been designed with military users in mind, it is highly likely that these would involve a similar set of design considerations as those created for the former Soviet topographic maps, which were not available to the public. Their functionality would not seem to hinder their utilization by perceived users such as local government (although it might have implications for other potential users, such as foreign or domestic tourists).

One of the most curious qualities of the new topographic maps concerns the sole use of Latvian in the legend explanations, despite the high proportion of the population having Russian as their mother tongue. This would seem to indicate not so much a re-orientation towards the West (which might, for example, involve the use of English or German in the legend explanations) as a rejection of the Russian language and its associations with the Soviet past. Although some countries maintain the use of a single language on their official topographic maps (e.g., France), given the relative absence of ethnic homogeneity in Latvia (especially when compared to those

countries including the language of a minority, such as Finland), the sole use of Latvian on these official post-independence maps echoes the obscuring of Cyrillic letters on street signs in Rīga.

As open 'texts', maps allow the possibility of multiple interpretations and can serve to reinforce national identity through their (re)presentation of landscape. However, Bunkše (1999: 133) also claims that there is a primacy of commercial interests, and Western mass or popular culture entertainments are favoured over folkloristic themes. But more importantly, according to (Jägomagi and Mardiste, 1994: 87, 89), the Soviet restrictions had a severe impact on the 'highly developed pre-war mapping culture of the Baltic States' and in Estonia, the spatial perception of the environment suffered and interest in cartography was lost. The use of topographic maps for the exploration of a national Latvian landscape (using experience, imagination, and memory) is therefore less likely to occur since maps and mapping have been downgraded within Latvian society.

Although topographic map symbology is typically slow to develop, in Latvia it appears to be gradually moving away from its Soviet legacy. But if, as Martinsons (1995: 42) points out, the ideological indoctrination and massive Russification programmes that endangered the Baltic languages and cultures will have a residual impact for decades, it may be a while before topographic map symbology in Latvia is used in the construction of national identity or even becomes a more authentic expression of the values and needs of the Latvian population.

Stylistic Currents in the Topographic Maps of Post-Independence Slovenia

The Republic of Slovenia is situated in central Europe, crossed by the south-eastern ranges of the Alps and possesses a small strip of coastline along the northern Adriatic Sea. It shares borders with Austria, Hungary, Croatia, and Italy. Slovenia covers an area of 20,273 sq. km (7,827 sq. miles) and according to official estimates, the total population was 1,997,590 at the end of 2004, giving an average population density of 98.5 persons per sq. km (Gladman, 2005: 638). The terrain is mostly mountainous and covered with forest (the highest peak of Triglav rises to 2,864 m or 9394 ft and is located in the Julian Alps). According to the 2002 census, 83.1% of the population were ethnic Slovenes, 2.0% Serbs, 1.8% Croats, with the remainder comprising other ethnic minorities, including Bosnian Muslims and Hungarians. The capital city, Ljubljana, has a population of 265,881 (Gladman, 2005: 638).

While the recent history of Slovenia is similar to that of Latvia in that it broke away from a union of communist republics, Slovenia became an independent nation-state for the first time in 1991, after seceding from the Socialist Federal Republic of Yugoslavia (SFRY). It managed to escape the intense conflict that engulfed other states following the collapse of the Yugoslav federation and in the early 1990s, Slovenia's 'return to Europe' was characterized by its re-orientation away from the former Yugoslavia with its Balkan associations, transmitting the notion that it was 'a pleasant land' linked through the Alpine region with Switzerland, France, Germany and Austria and belonged in their company (Gow and Carmichael, 2000: 3). In 2004, Slovenia was the richest (and one of the most ethnically cohesive) of the central and south-eastern European countries to accede to the European Union – the only former Yugoslav republic to do so – and in 2007, became the first post-communist country to adopt the euro.

After independence was declared in 1991, the programme for Slovenia's 'return to Europe' was focussed upon its geographical location, level of industrial and economic development, and the

close association with its neighbouring 'Western' European countries. Slovenia's ethnic homogeneity and its high level of economic and industrial development also ensured that its progression towards EU and NATO membership in 2004 was generally smoother than in the case of other post-communist states with aspirations to join the European Union. The trajectory of the Slovenia's 'return to Europe' incorporated a re-orientation away from the Balkans and other countries of the former Yugoslav federation, which were experiencing a considerably more violent struggle in the political and ethnic fragmentation that followed the fall of Yugoslavia.

In their survey of map production and publication concerning the 'former satellite countries of Eastern Europe', Collier *et al.* (1996: 138) reported that: 'Of all countries of the former Yugoslavia, only Slovenia has little or no restriction on the availability of topographic maps. […] As Yugoslavia was the most liberal of the former communist countries, there has been little change in map content since independence'. However, until 1993, official civilian and military topographic maps were unavailable to the public (Petrovič, 2001: 28) and since the above observations were made, new national topographic map series have been published.

With the achievement of independence, Slovenia won the opportunity to produce detailed topographical mapping without specifications being dictated from Belgrade, and, more significantly, it was now able to make this information available to the general public for the first time. The availability of information has also increased, with the provision of state topographic data via the Internet, for example. Moreover, as stated by Kent and Vujakovic (2009), the current Slovenian state 1:50 000 topographic map series is somewhat unique in that a far greater number of discrete symbols are employed in describing the landscape than in any other country. The utilization of so many symbols with which to describe the landscape so articulately may in itself provide an alternative to imagery as an approach to the reduction of 'white' space, thereby imbuing the national landscape with new meaning and, hence, value.

After Slovenia's declaration of independence in 1991, the geodetic service allocated considerable funds to the setting up and development of different spatial databases, including topographic maps (Petrovič, 2006b: 426). The first goal was the creation of a new national topographic map series at 1:25 000 scale. The 1:25 000 maps were remodelled and revised, utilized the Gauss-Krüger projection and Bessel ellipsoid, and, when the series was completed in 1998, this became the principal topographic series in Slovenia (Parry and Perkins, 2000: 862). But according to Petrovič (2006b: 427), while the production of sheets of the National Topographic Map at a scale of 1:25 000 (NTM 25, 1995–1999) was intensively underway, 'it was clear that it would fail to meet all the needs of users', including the Slovenian Army.

In 1991, existing detailed 1:50 000 topographic maps consisted of those produced by the VGI in Belgrade, which had not been updated for ten years and were practically useless (Petek and Podobnikar, 1997: 2181). A project funded by the Surveying and Mapping Authority and the Ministry of Defence began in 1996 for the production of a National Topographic Map at 1:50 000 (NTM 50). The 1:50 000 topographic maps subsequently appear in two versions: a national topographic map (NTM) and a military topographic map (MTM). The MTM 50 completely complies with the binding provisions of NATO, while the NTM 50 is adapted to the needs of Slovenian users; the versions differ in the colour indication of roads, co-ordinate grids, and in marginal content, and, there is also an additional NTM version which uses hill shading to portray relief (Petrovič, 2006b: 428). According to Petrovič (*ibid*.: 427), the NTM 50 is the most significant achievement of Slovenian cartography since independence.

In order to explore the motivations behind the design and production of the new 1:50 000 topographic maps in more detail and to explore the possible influences on their creation, an interview was arranged with Dušan Petrovič, who played a role in the creation of the new national 1:50 000 map series and was involved in its design. The following summarizes the main findings. Firstly, regarding the recent 1:50 000 topographic map initiatives, the following points were made:

During the Yugoslav era, about 70% of the country had been mapped at 1:5000 and 30% at 1:10 000 (comprising more than 2,500 sheets). As Slovenia developed, the demand for maps increased. Slovenia is a mapmaking nation. Although 1:50 000 topographic maps had been available since the 1980s, their content was inhibited and they were intended for less-skilled users. Karst depressions were omitted for strategic reasons (hiding places for tanks), as were grids and individual buildings.

Before 1991, detailed 1:25 000 topographic maps were not available to the public; they could be obtained for uses such as orienteering and planning, but had to be safeguarded against unauthorized use by foreigners, etc. In 1993, the Slovenian Government declared that all cartographic material is public and therefore no longer secret.

The first topographic maps produced after independence at 1:25 000 simply excluded the Yugoslav language (Serbo-Croat) and adopted Slovene marginalia, used new colours for the road classification, and country insignia. There was a political motive to cover the whole country quickly, in the cheapest way and so limited updating was undertaken. Image was very important and a country map was placed on the reverse of each sheet showing the sheet index.

For the new 1:25 000 map series, the topographic maps of Austria, Switzerland and Italy were examined for ideas. Hill shading was derived from the DTM [Digital Terrain Model] created from the contours at 1:25 000. This picks up the depressions from the karst landscape that were missing before. These are part of Slovenia's natural landscape.

Regarding the design of the 1:50 000 topographic map symbols and possible influences for their design since independence, the following points were made:

After independence, possible source material included out-of-date 1:5000 (and 1:10 000) maps, 1:25 000 civilian maps (complete with reprographic films), 1:50 000 (and 1:75 000) tourist maps, together with a set of 1:25 000, 1:50 000, 1:100 000 military maps as paper sheets. The majority of symbols came from the Yugoslav 1:50 000 maps as they cause no problems of generalization, especially for representing relief.

Throughout the process, the intention was to reach a good cartographic solution and there was never the intention of simply retaining the existing style. Maps of other countries were examined and the colours of the Italian maps, the fonts of the Norwegian maps, and the general design of the Austrian and Swiss maps were thought most appealing. The style of the new 1:50 000 maps generally fits in with that of other countries, but much has been retained from the previous Yugoslav maps. Some new symbols have been added, such as those for 'large boulder', chimney, mineral spring, and fountain, but older symbols have been incorporated too, such as the cave symbols from the earlier Yugoslav maps.

NATO requires grids to be standardized, but symbology is only 'recommended'. We thought that NATO symbology resembled the US style of cartography, which we considered poor in design quality and so this was rejected on that basis. It would also have been more expensive to adopt the NATO recommended symbology. A user survey was undertaken and a second prototype was developed in which the content, symbology, typography and road colours were all changed.

In responding to the question why so few 'tourist' symbols have been incorporated, the following point was made:

Tourists are generally not skilled users of topographic maps.

As was the case in Latvia, the creation of a new topographic map series in Slovenia seems to have been strongly motivated by the achievement of independence and the associated need to provide users with new, up-to-date information. Once more, the cartographic legacy of the former ruling power (hitherto not generally available to the public) served as useful source material, even though these maps were described as 'practically useless' by Petek and Podobnikar (1997: 2181).

It is clear from the above responses that there was a conscious need to create a design that is both aesthetically pleasing and authentically Slovenian. That several days were devoted to discussing the aesthetic appeal of a new series suggests a strong awareness of its value in state topographical mapping and the inclusion of characteristic depressions in the karst landscape (as well as hayracks and mineral springs) seems to indicate an attempt to (re)present and (re)define the landscape in a way that is authentic at the cultural level. The incorporation of elements from the designs of topographic maps issued by the former Yugoslavia and western European NMOs does not seem to have been regarded as contrary to these requirements. Moreover, in meeting the prevailing, ultimate aim to reach a solution that exhibits good cartographic design, the fact that certain international elements were felt appropriate offers some conformity to a wider 'European' design, while also providing grounds for the rejection of the 'US style of cartography' that was considered to permeate NATO symbology.

Conclusion

Of all the observations that could be made from the responses gathered from the two countries, it is the motivation – and particularly the method – of imbuing the national landscape with meaning that perhaps bears most significance in the post-independence topographical mapping initiatives. Although the first 1:50 000 mapping initiative essentially comprised of image maps in Latvia, this approach does not seem to have been a viable alternative in Slovenia, where an extensive cartographic symbology was adopted, even though the base of the Yugoslav National Army maps was retained and its geometric errors corrected. It would seem feasible to suppose that these post-independence mapping initiatives have sought to eliminate 'white' space in their desire to reclaim the national landscape and demonstrate its value (at least initially) through different methods of cartographic representation. As opposed to satellite imagery, symbols may appear to have more value as a form of cartographic expression and as such, can describe the national landscape more articulately and therefore more authentically.

Moreover, if maps had constantly been available (albeit much generalized versions) throughout the period when Slovenia was part of Yugoslavia, it is possible that cartographic symbols may have remained a naturalized form of expression for the Slovenians. As Petrovič (2001: 28) points out, 'In general, Slovenians like maps and use them regularly. Many are amateur collectors'. But as Peil (2006: 114) states, 'when maps are simply ignored, their role in society is diminished'. It is likely that with the severe restrictions in place, Latvia lost sight of the potential value of cartographic expression through symbols. In this respect, it is perhaps easier to accept how NATO membership would have a greater influence on the symbolization of the Latvian landscape – even if the Soviet legacy continues in the selection of features, the manner of their representation follows NATO guidelines. The publication of the 1:50 000 topographic map series might signal something of a renaissance of Latvian state cartography, however, that may continue in the production of the next edition. As these maps gain greater currency within different aspects of Latvian society, their symbology may well evolve in meeting the perceived needs of existing and new users.

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