Boundary Stones and Their "Hidden" Legacy in Slovenia

Matija Zorn and Peter Mikša

Abstract A boundary stone, boundary marker, border marker or border stone is a robust physical marker that identifies a land boundary, especially a change in the direction of a boundary. Usually, it is a stone. Natural stone was used for boundary stones, which were later made of concrete or other materials. They were usually placed in a particularly visible spot. Many boundary stones feature information, such as an abbreviation identifying the holder of the border and a date. Boundary stones separating countries usually include abbreviations of countries they are separating, as well as the date when the border was delineated. We focused on boundary stones in the territory of modern-day Slovenia, which in the Habsburg Monarchy, before World War I, divided the Duchy of Styria and the Kingdom of Hungary and, in the interwar period, the Kingdom of Italy and the Kingdom of Yugoslavia. These boundary stones no longer serve their original purpose; however, as markers of the past, they are historical witnesses. They represent an administrative legacy that is today mostly hidden in the cognitive perception of these boundaries.

Keywords Historical geography · Political geography · Border studies · Boundary stone · Cultural heritage

1 Introduction

The border "*represents a relatively static model of territorial demarcation that can be expressed physically—whether through human-constructed border stones, walls, or fences—or through natural features such as rivers, mountain ranges, and even trees that became endowed with human-constructed meaning as border markers …*" (Lee and North 2016: 2). Borders and boundary markers are a basis for administrative

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M. Krevs (ed.), *Hidden Geographies*, Key Challenges in Geography,
https://doi.org/10.1007/978-3-030-74590-5_11

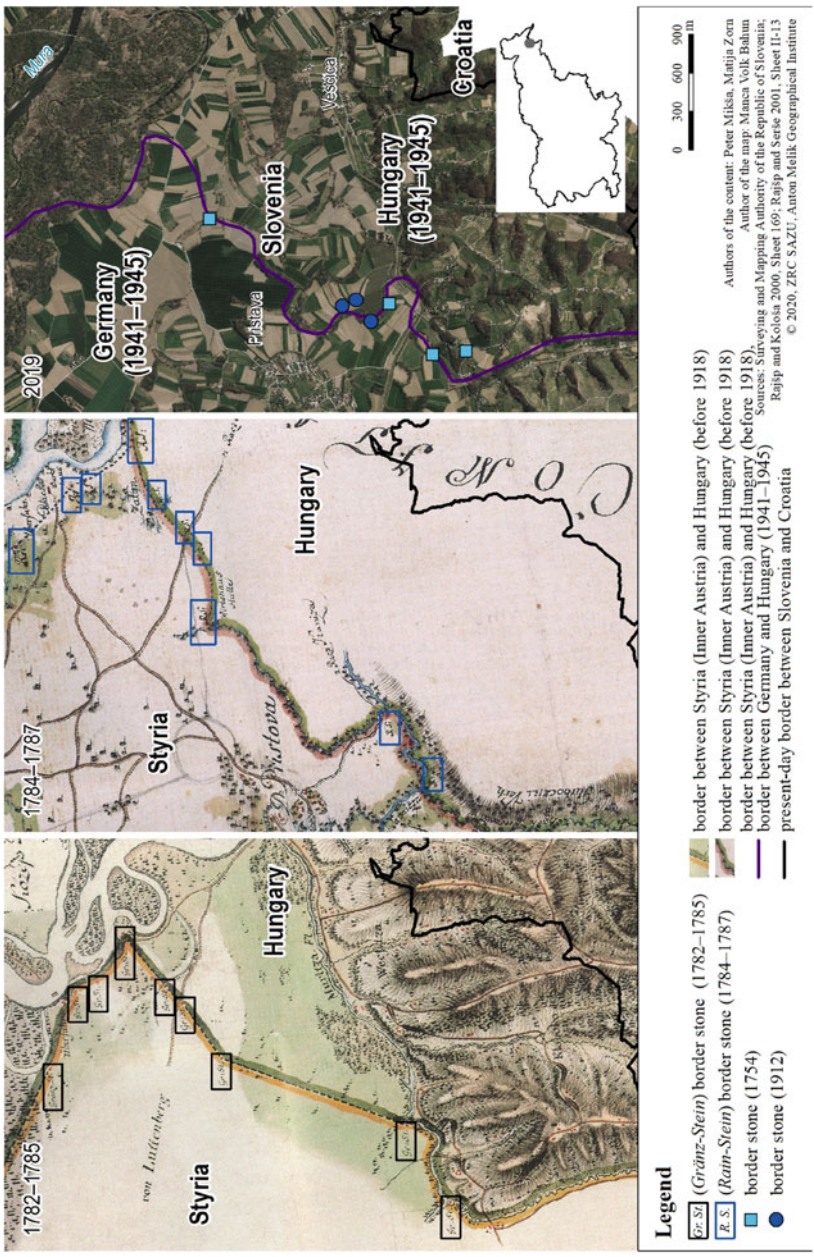
divisions or divisions of land, either between states or within them (Waldhäusl et al. 2013). On plans and maps, the border is represented by a drawn line, while on location different markers are used to mark out the demarcation line (Slak et al. 2019). Nowadays, these boundary markers are part of cultural heritage because they have a functional and aesthetic value. Additionally, they serve as a witness to the date of placement and the function of delimitation. Concurrently, they are the sole witness to land survey conducted on site (Kozorog 2008). In the case of changed boundaries, they represent a hidden legacy of past borderscapes.

Boundary markers were often placed in prominent spots, i.e. next to roads, gorges and watercourses; consequently, many boundary markers are not preserved due to the expansion of infrastructure or due to natural processes. The bulk of old boundary markers can thus be found in forests (Kozorog 2008).

Before the introduction of boundary markers, borders were approximate and ran along natural boundaries, such as gorges, forests, ridges, prominent trees or boulders. These were more or less border areas or strips than exact demarcation lines. Boundaries between seigneuries were recorded in urbaria. Borders were not defined in detail, which resulted in many border-related disputes. Somewhat more permanent boundary markers were introduced with geodetic land surveys and their depictions on maps. The area of modern-day Slovenia saw the first exact geodetic measurements taken in the early nineteenth century when a land survey (the so-called Franciscan cadastre) was produced in a scale of 1:2,880 (Kozorog 2008). The administrative division of the Slovene territory was first depicted in more detail on maps of the First Military Survey of the Habsburg Monarchy from the second half of the eighteenth century, in a scale of 1:28,800 (Zorn 2007). Exact boundaries are drawn in the Franciscan cadastre, which is not the case with boundary stones; in the First Military Survey of the Habsburg Monarchy, detailed geodetic measurements were yet to be taken, but boundary markers (such as boundary stones (Figs. 1 and 2) or boundary ditches (Rajšp and Kološa 2000)) are marked in some places.

This chapter deals with boundary stones, disregarding other types of boundary markers. A boundary stone (border stone) "… *is a physical marker that identifies the start of a land boundary or the change in a boundary, especially a change in direction …* [and] *have often been used to mark critical points on boundaries between countries, states or local administrations …*", as well as private land-holdings. Traditionally, they were often made of stone, but later also of concrete or a mixture of materials. "*They are typically placed at a notable or especially visible point. Many are inscribed with relevant information, such as abbreviation of the boundary holder and often a date.*" (Guo 2018: 56).

We focused on boundary stones in the territory of modern-day Slovenia, which in the Habsburg Monarchy, before World War I, divided the Duchy of Styria and the Kingdom of Hungary and, in the interwar period, the Kingdom of Italy and the Kingdom of Yugoslavia. Not only individual boundary stones are preserved but also in certain sections entire series of boundary stones are extant (Figs. 6 and 7). These boundary stones no longer serve their original purpose; in their respective locations, they act as historical witnesses, as markers of the past.


1782–1785
Styria
Hungary
1784–1787
Styria
Hungary
2019
Germany
(1941–1945)
Slovenia
Hungary
(1941–1945)
Croatia
Mura
Ptujska
Vesenica
Legend
(Gränz-Stein) border stone (1782–1785)
(Rain-Stein) border stone (1784–1787)
border stone (1754)
border stone (1912)
border between Styria (Inner Austria) and Hungary (before 1918)
border between Styria (Inner Austria) and Hungary (before 1918)
border between Styria (Inner Austria) and Hungary (before 1918)
border between Germany and Hungary (1941–1945)
present-day border between Slovenia and Croatia
0 300 600 900 m
Authors of the content: Peter Mlikša, Matija Zorn
Author of the map: Manca Volk Bahun
Sources: Surveying and Mapping Authority of the Republic of Slovenia;
Rajsp and Kolosa 2000, Sheet 169; Rajsp and Serše 2001, Sheet II-13
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◀**Fig. 1** Boundary stones between the Duchy of Styria and the Kingdom of Hungary are recorded on maps of the First Military Survey of the Habsburg Monarchy in the second half of the eighteenth century. The map on the left-hand side was produced during the survey of the Kingdom of Hungary between the years 1782 and 1785 (Rajšp and Serše 2001), and the map in the centre was produced during the survey of Inner Austrian provinces between 1784 and 1787 (Rajšp and Kološa 2000). The orthophotograph on the right-hand side shows the border between Germany and Hungary during World War II, which was based on the demarcation of the Duchy of Styria and the Kingdom of Hungary before World War I, as well as preserved boundary stones. Modern-day border between Slovenia and Croatia is outlined on all three maps

As still standing boundary markers of the past, they are a visual representation of contemporary "phantom borders" (cf. Kolosov 2020) within modern-day Slovenia, i.e. "*political borders that once were, are no more, but–nevertheless–somehow still are*" (Zajc 2019: 298) or with other words "*political borders, which politically or legally do not exist anymore, but seem to appear in different forms and modes of social action and practices today*" (von Löwis 2015: 99). They can be regarded as "*scars of history,*" i.e. the boundaries that do not exist anymore but still have an impact on society (Kolosov 2020: 1). These boundaries and with them boundary stones represent an administrative legacy that is, in this study, mostly hidden in the cognitive perception of presented boundaries.

The concept that former boundaries still hold legacy in the landscape is not new to geography (e.g. von Löwis 2015, 2017; Kolosov 2020), as we can within geography itself find statements that the boundaries are "*history imprinted in space*", and that historical boundaries are important "*in strengthening or building territorial identity, contemporary cultural and political territorial patterns …*" (Kolosov 2020: 2). Former boundaries and their remains are for geography also important as they "*determine the cultural landscape of the borderlands,*" and they also hold significance as cultural heritage (Kolosov 2020: 4). As such they may be attractive to tourism and thus have development potential. There are many examples of monuments, museums, historical paths, etc. along former boundaries as they may have a high symbolic significance (Kolosov 2020; Kumer et al. 2020).

Regarding material remains along boundaries, it is important to note that "*geography at its most basic level promotes awareness of what's around you*" (O'Reilly 2020: 54), and around us are many archaeological/historical remnants that are embedded in borderscapes and hold value especially for cultural geography (cf. Hill 2015). "*Geographical literacy interpreting places in the present, must be cognizant of changes due to long and short time scales. This includes heritage–the cumulus of human inheritances both material and non-material …*" (O'Reilly 2020: 68). In this study, we focus on material heritage, i.e. boundary stones that may seem marginal but may still help us understand some hidden legacies of Slovenian landscapes.

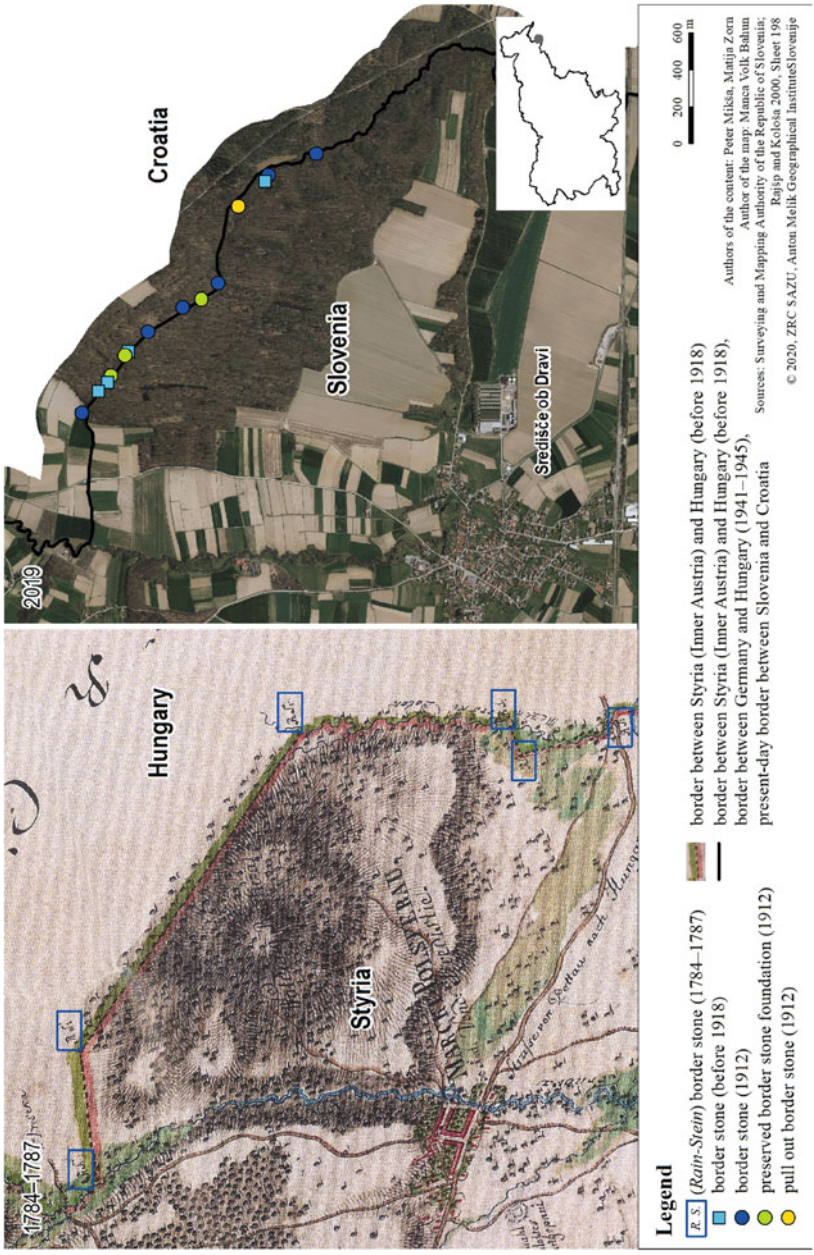

Fig. 2 Boundary stones between the Duchy of Styria and the Kingdom of Hungary near Središče ob Dravi. Left: The map with locations of boundary stones, which was produced during the survey of Inner Austrian provinces between the years 1784 and 1787 (Rajšp and Serše 2001). Right: An orthophotograph with locations of preserved boundary stones. Modern-day border between Slovenia and Croatia follows the course of the former border of the Duchy of Styria and the Kingdom of Hungary in this section

2 Boundary Stones Between the Duchy of Styria and the Kingdom of Hungary

In the Habsburg Monarchy, whose part was the territory of modern-day Slovenia up to the end of World War I, one can locate many boundary stones that identified boundaries of seigneuries, dominical or ecclesiastical estates, as well as administrative and provincial boundaries (Lisec et al. 2020). The border between the Inner Austrian province Styria (Duchy of Styria) and the Kingdom of Hungary, whose south-western part ran in the territory of modern-day Slovenia, is an example of such a boundary. The border was more than 70 km long (Table 1); its northern part ran roughly along the watercourse Kučnica/Kutschnitza, which is nowadays border between Slovenia and Austria. Its central part ran on the river Mura, which is today entirely located in Slovenia, while the border's southern part ran across the low hills of Slovenske Gorice, in the location of the modern-day border between Slovenia and Croatia.

A large portion of the border ran on watercourses. "*Rivers are natural geographical dividers whose shifting courses hamper permanent administrative demarcation, especially in flat areas exposed to frequent flooding and meandering. Thus, rivers as borders may cause problems because they are not static. Moreover, they are very dynamic and tend to change their courses; for example, one country may claim that the 'old' course is the border and the other that the 'new' course is the border*" (Perko et al. 2019: 213). This holds true for the river Mura as well, where the border was fixed in the first half of the thirteenth century (Kos 1969) and on account of which disputes and lawsuits occurred as early as in the first half of the sixteenth century. In the early sixteenth century, a Hungarian nobleman changed Mura's river course; consequently, the river began to erode the Styrian side, wearing away fields and even posing a threat to houses. As a result, three villages disappeared on the Styrian side. The dispute escalated to the extent that both sides positioned armed forces on their riverbank (Zelko 1984, 1996). In an effort to establish peace, the king had to intervene and sent his army to the area. River-related disputes, in some of which blood was spilled, continued later as well. In the seventeenth and eighteenth centuries, Styrians complained repeatedly that Hungarians changed the border arbitrarily (Kovačić 1926; Zelko 1984, 1996; Hozjan 2013). Mura's riverbed changed continuously to the detriment of one or the other side also due to frequent floods. As a result, either the Styrian or the Hungarian side grew in size. In such instances, the land ended up at the hands of a landowner on the opposite bank. This altered border should have brought about a change in land tax as well; however, this was not the case, and Styrian peasants were still obliged to pay tax for land that was due to the changed riverbed situated on the opposite bank (Čuček 2016). As a consequence of Mura's newly formed riverbed during the great flood of 1676, Hungary obtained about 1,500 ha of land at the expense of Styria (Radovanovič 2007).

The border was finally defined between 20 May and 1 December 1755. To mark the border, serfs of seigneuries situated along the river Mura built embankments, and large boundary stones were placed in some places (Kovačić 1926). The oldest

Table 1 Boundary stones between the Duchy of Styria and the Kingdom of Hungary recorded on maps of the First Military Survey of the Habsburg Monarchy from the second half of the eighteenth century (Rajšp and Kološa 2000; Rajšp and Serše 2001) in the area of modern-day Slovenia (*entire border on the river Mura; **excluding the section on the river Mura; – no data). Two maps, the original and the copy, were produced for each section

The approximate area (from the north to the south)	Length (km)	Survey Inner Austria (1784–1787)			Survey Hungary (1782–1785)		
		Section number	Original (number of boundary stones)	Copy (number of boundary stones)	Section number	Original (number of boundary stones)	Copy (number of boundary stones)
The border running predominately on the watercourse Kučnica; modern-day border between Slovenia and Austria	26	143	7	7	I-6	0	0
The border running predominately on the watercourse Kučnica; modern-day border between Slovenia and Austria		144	11	7	I-7	1	0
The border on the river Mura; nowadays in Slovenia	30*	167	6	5	I-8	6	6

(continued)

Table 1 (continued)

The approximate area (from the north to the south)	Length (km)	Survey Inner Austria (1784–1787)			Survey Hungary (1782–1785)		
		Section number	Original (number of boundary stones)	Copy (number of boundary stones)	Section number	Original (number of boundary stones)	Copy (number of boundary stones)
The border on the river Mura; nowadays in Slovenia		168	5	5	II-12	1	1
The northern part: the border on the river Mura; nowadays in Slovenia The central and southern part; the low hills of Slovenske Gorice; modern-day border between Slovenia and Croatia	17.5**	169	12	9	II-13	11	10

(continued)

Table 1 (continued)

The approximate area (from the north to the south)	Length (km)	Survey Inner Austria (1784–1787)			Survey Hungary (1782–1785)		
		Section number	Original (number of boundary stones)	Copy (number of boundary stones)	Section number	Original (number of boundary stones)	Copy (number of boundary stones)
The low hills of Slovenske Gorice; modern-day border between Slovenia and Croatia		198	7	7	II-14	–	7
Total number of boundary stones			48	40		19	24

material proof associated with delineating the border is a boundary stone near the village of Veščica ("*pri Kregarju*", i.e. at Kregar's; Fig. 3a) that was placed during

Fig. 3 Preserved boundary stones between the Duchy of Styria and the Kingdom of Hungary in the proximity of Veščica (**a** and **b**; Fig. 1) and Središče ob Dravi (**c** and **d**; Fig. 2). **a** A boundary stone from 1674; **b** a boundary stone from 1754; **c** a boundary stone from 1912; **d** a boundary stone from 1912 and modern panel fencing (photography by Matija Zorn in January 2020) on the border between the Republic of Slovenia and the Republic of Croatia

the rule of Leopold I of Habsburg. The bulk of preserved boundary stones are from the mid-eighteenth century, from the period of rule of his granddaughter, Maria Theresa (Damjanovič et al. 2016). These boundary stones bear the date 1754 (Fig. 3b). Boundary stones were numbered and placed in a manner that made them optically connected (Pavličič 1995; Krnc 2013; Damjanovič et al. 2016). They were recorded on maps of the First Military Survey of the Habsburg Monarchy in the 1780s (Figs. 1 and 2, Table 1). The bulk of these boundary stones was washed away by the river Mura and its changing riverbed, a few of them were demolished due to tillage (Kovačić 1926), and some of them can be seen on site to this day (Pavličič 1995; Ratiznojnik 2013). When outlining the border, a few kilometres of the riverbed were canalized, which marks the beginning of the first large-scale regulation of the river Mura (Hozjan 2013).

As mentioned above, boundary stones were recorded on maps of the First Military Survey of the Habsburg Monarchy. The border between the Duchy of Styria and the Kingdom of Hungary was mapped twice in the scope of this survey, namely in the military survey of the Kingdom of Hungary between 1782 and 1785, as well as in the scope of the military survey of Inner Austrian provinces between 1784 and 1787. The mapped area was divided into sections. Two maps were produced for each section in both military surveys, the original and the copy (Rajšp and Kološa 2000; Rajšp and Serše 2001) which somewhat differed in details. Consequently, there are four maps available for each part of the border. The part of the border in question was divided into six sections in both surveys (Table 1).

Table 1 shows that there were approximately twice as many boundary stones recorded in maps produced in the scope of the survey in Inner Austrian provinces than in that of the Kingdom of Hungary and that there are differences between originals and copies. In the scope of a survey of Inner Austrian provinces, a boundary stone was recorded approximately every 1.5 km (on the original and just shy of 2 km on the copy) and in the case of that of the Kingdom of Hungary approximately every 3 km (on the copy).

The course of the riverbed differs on maps produced within both surveys as well; it is more exact and detailed on maps produced in the scope of survey of Inner Austrian provinces (Hozjan 2005, 2007). The demarcation line is also outlined differently. Figure 1 shows that the border is drawn quite rectilinearly in the survey of the Kingdom of Hungary, while in the case of that of Inner Austrian provinces, it follows relief features of the stream that represented the border. A few boundary stones bearing the date 1754 (Fig. 3b) are preserved next to the stream. The date indicates the period when the border was marked out meticulously for the first time. A few boundary stones are also marked with the date 1912, signifying the period when the border was also surveyed (Fig. 1).

On the maps of the First Military Survey of the Habsburg Monarchy, boundary stones are marked either on the demarcation line itself (Figs. 1 and 2) or somewhat away from it, particularly in places where the border followed the river Mura. Boundary stones are recorded on the map of Section 167 of the survey of Inner Austrian provinces on both banks of the river, as well as on river islets (Hozjan 2005), while on the map of Section 168, the border is outlined on the left (Hungarian)

bank, and the bulk of boundary stones is marked on the right (Styrian) bank (Hozjan 2007). On the complementary map of Section II-12 of the survey of the Kingdom of Hungary, the border is delineated in the centre of Mura's riverbed (Hozjan 2007), and there are considerably fewer boundary stones recorded. Along with boundary stones, there is also a dry border ditch recorded on the map of Section 144 of the survey of Inner Austrian provinces (Rajšp and Kološa 2000; Hozjan 2005).

After World War I, boundary stones between the Duchy of Styria and the Kingdom of Hungary lost their purpose. They were replaced by new boundary stones between the newly established Republic of Austria and the Kingdom of Serbs, Croats and Slovenes (subsequently Kingdom of Yugoslavia) in the northern part, i.e. in the area of the river Kučnica as far as its confluence with the river Mura. At present, these boundary stones identify the border between the Republic of Austria and the Republic of Slovenia.

In the area of the river Mura, boundary stones were no longer needed because both banks became part of the Kingdom of Serbs, Croats and Slovenes (subsequently Kingdom of Yugoslavia) or its administrative unit, the Drava Banovina (Drava Banate; Slovene: *Dravska Banovina*). Although the boundary was gone, the river Mura remained until today an important regional identity divide between *Prekmurci* (literary 'people on the other side of the river Mura') on the left bank of the river, who were part of the former Kingdom of Hungary and *Štajerci* (Styrians) on the right bank of the river, who were part of the Duchy of Styria (Geršič 2020).

In the southern part, i.e. in the area where the border runs across the low hills of Slovenske Gorice, which also became part of the Kingdom of Serbs, Croats and Slovenes (subsequently Kingdom of Yugoslavia), the border was transformed into an administrative border between the Drava Banovina and the Sava Banovina (subsequently Banovina of Croatia), where no boundary stones were placed. Nor were new boundary stones placed in this section during World War II, when this line became the border between Germany and Hungary. After World War II, this line became the border between the Socialist Republic of Slovenia and the Socialist Republic of Croatia within the Federal People's Republic of Yugoslavia (subsequently Socialist Federal Republic of Yugoslavia), which were not delineated by boundary stones. Nowadays, the demarcation line in this section is the state border between the Republic of Slovenia and the Republic of Croatia and is yet to be marked with boundary stones because the border between these two states is yet to be determined (Zadeva … 2019). This section thus only featured boundary stones that delineated the Duchy of Styria and the Kingdom of Hungary and were until recently the only border markers between these two states (Figs. 2 and 3c). On account of the migrant (refugee) crisis (from the second half of 2015 onwards; Klemenčič and Verbič Koprivšek 2017), Slovenia installed barbed wire fences and subsequently, panel fencing (Fig. 3d) along the border, which along with old boundary stones serves as (an unofficial) border marker.

3 Boundary Stones Between the Kingdom of Italy and the Kingdom of Yugoslavia

The border between the Kingdom of Italy and the Kingdom of Serbs, Croats and Slovenes (subsequently Kingdom of Yugoslavia) in the territory of modern-day western Slovenia was established after World War I, after the decline of the Habsburg Monarchy, whose part it had been prior to that. The border was a result of a treaty signed by these two states in 1920 and was to a great extent in line with Italian aspirations for its eastern border that had been stated in the secret Treaty of London, signed by Italy and the Entente in April 1915. The treaty between both countries was signed in the Italian town of Santa Margherita Ligure near Rapallo, wherefore the border is also known as "the Rapallo border" (Cattaruzza 2011, 2017; Mikša and Zorn 2018; Zorn and Mikša 2018).

The new border ran approximately along the watershed of the Black Sea and of the Adriatic. Looking further back, we see that the watershed constituted the border between provinces in the period of the Roman Empire and that here ran the border between the Italian and the remaining part of the empire after the fall of *limes*. It was here that in Late antiquity defence structures were built to hinder other peoples to penetrate northern Italy from the east. The area served as a dividing line also later in history. In the Habsburg Monarchy, it represented the border between Inner Austrian provinces of Carniola and Gorizia (future Austrian Littoral) (Mikša and Zorn 2018; Zorn and Mikša 2018).

By signing the treaty, both kingdoms bound themselves to form a mixed delimitation committee that would outline the demarcation line, survey it and see to it that boundary stones would be placed. The committee commenced work in February 1921, finishing it in late 1926. According to the committee, in the territory of modern-day Slovenia and as far as Rijeka (modern-day Croatia), the demarcation line measured 244.5 km in length; following the Free State of Rijeka's integration into Italy, the border grew in length, totalling almost 264 km (Žorž 2016).

In the years 1920–1925, a mapping survey was produced for demarcation purposes by members of the Italian Military Geographic Institute (Italian: *Istituto Geografico Militare*) in Florence. There were 84 maps in a scale of 1:5,000 produced for the area extending from the Austrian-Italian-Yugoslav tripoint (Slovene: *Tromeja* or *Peč*; German: *Dreiländereck* or *Ofen*; Italian: *Monte Forno*) to Rijeka (Žorž 2016). Along with the demarcation line itself, these maps also include all boundary stones (Fig. 4). In a separate table, each boundary stone's altitude was stated, along with its distance from consecutive boundary stones, and the cumulative distance to the boundary stone located at the tripoint.

The delineation on paper was followed by outlining the border with boundary stones on location. Texts published in Slovene periodicals from the period when the border was marked out are interesting to read. For instance, the Slovene Mountaineering Society warned hikers not to remove boundary markers that were placed by the delimitation committee (Turistom 1922).

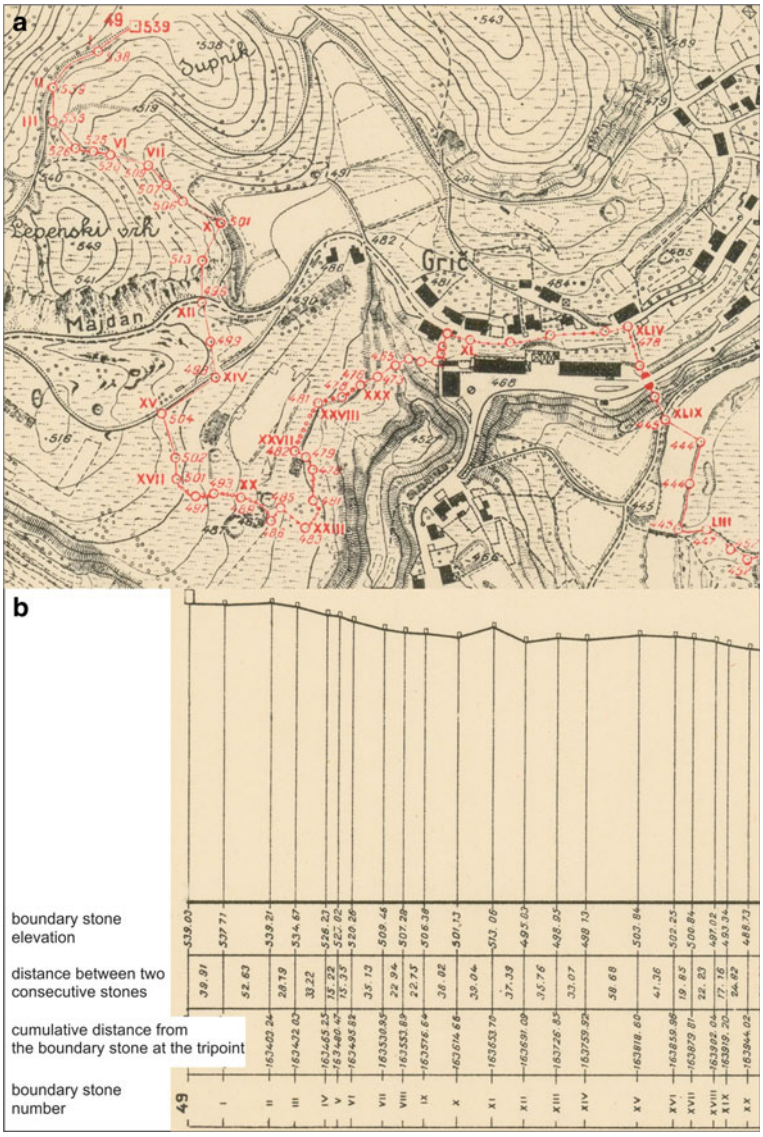

Fig. 4 **a** A detail of the map in a scale of 1:5,000, showing the course of the Rapallo border in the settlement of Planina (map no. 56). The red line indicates the course of the border (the Kingdom of Italy lies to the left (west) of the line, the Kingdom of Serbs, Croats and Slovenes (subsequently Kingdom of Yugoslavia) to the right (east) of it). Boundary stone no. 49, the main boundary stone, is marked with a square with red lines (top left on the map). Located at the international border crossing Planina, on the road from Logatec to Postojna, two special boundary stones are indicated by two solid red circles. Circles bounded with a red curve stand for secondary (intermediate) boundary stones inscribed with Roman numerals. The boundary stones' altitude is written in red Arabic numerals. **b** Data on the boundary stones' locations are an integral part of each map: their altitude, the distance between two consecutive boundary stones and the cumulative distance to the first boundary stone at the tripoint (ZRC SAZU Anton Melik Geographical Institute Archive)

The two delegations decided to use concrete border markers to mark out the demarcation line; they were prism-shaped, made of reinforced concrete and affixed to a rocky foundation (Žorž 2016). They agreed to use four types of boundary stones, whose shape would be suited for their intended use (Fig. 5; Žorž 2016):

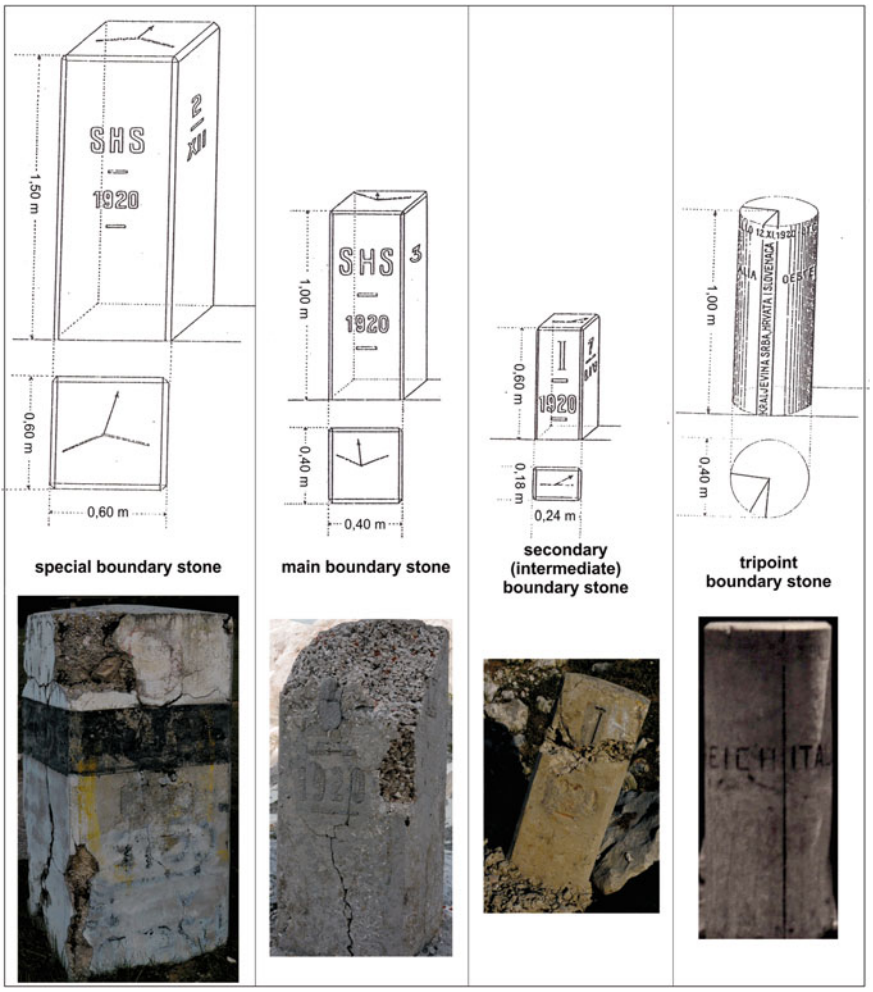

Fig. 5 Boundary stones' dimensions, inscriptions, and markings (top). The front and the rear side featured a code signifying the names of countries and the year when the Treaty of Rapallo was signed. An Arabic numeral denoting the number of the sector was featured on sides, and a Roman numeral indicated its sequence within a sector. Two lines on its top face pointed towards consecutive boundary stones, the arrow towards the north. Three types of preserved boundary stones can be seen on photographs (left to right; photography by Matija Zorn). The original tripoint boundary stone, which is depicted on the extreme right, is not preserved (the photograph dates back to 1939; Nani Poljanec Archive)

- Main boundary stones (Italian: *termini principali* or *cippo principale*) were placed on important, prominent, high-lying spots. Measuring one metre and marked with a consecutive number written in Arabic numerals, these boundary stones were the first border marker in each sector.
- Secondary (Italian: *termini secondari*) or intermediate boundary stones were placed between main boundary stones; their function was to outline the exact course of the demarcation line. They were 60 cm tall and featured the sector's consecutive number and a consecutive Roman numeral within the sector.
- Special boundary stones (Italian: *termini speciali*) were placed in spots where the demarcation line traversed important (road) communications or border crossings. Their markings corresponded to secondary boundary stones; however, they were taller, measuring 1.5 m in height.
- The tripoint boundary stone (Italian: *termine triconfinale*) stood on the summit of Mount Peč (Tromeja); it signifies the tri-border point of the Republic of Austria, the Kingdom of Italy, and the Kingdom of Serbs, Croats and Slovenes (subsequently Kingdom of Yugoslavia).

The border was divided into seventy sectors that were separated by main boundary stones featuring numbers 1–70 written in Arabic numerals (boundary stone no. 70 stood on the contact point with the Free State of Rijeka; there were 4,508 secondary boundary stones standing between main boundary stones) and the date 1920, as well as the letter "I" on the Italian and the abbreviation "SHS" (from 1929 onwards the letter "J") on the Yugoslav side. Additionally, a Roman numeral was added beneath the sector number. Their top face featured a line pointing towards the previous and the next boundary stone, along with a marking pointing northwards. Following the Free State of Rijeka's integration into Italy (1924), the number of main boundary stones increased to 79 and that of secondary boundary stones to 5,098; additionally, 38 special boundary stones were standing (totalling 5,215) (Žorž 2016). Nowadays, the share of preserved boundary stones in respective sectors varies between less than one-tenth and a half (Pečelin 2003). Figure 6 shows the state of preservation of boundary stones located in the Julian Alps, in Sectors 15 and 16, at about 1,800 and 2000 m above sea level. About three-fifths of locations of boundary stones were recorded, with about one-seventh of boundary stones still standing. Figure 7 shows the condition of boundary stones in the Prealps (Cerkno Hills), in Sectors 31 and 32, at an elevation of approximately 1,000 m. About one-eighth of boundary stones' locations were recorded, with less than one-tenth of boundary stones still standing. Their state of (non)preservation is partly associated with their planned and unplanned removal (due to tillage or expansion of traffic routes) after the "fall" of the border, as well as with weathering and other natural processes (Fig. 8; Mikša and Zorn 2018).

Officially (*de iure*), the Rapallo border (and boundary stones with it) existed up to 1947, when the border between Italy and Yugoslavia shifted somewhat westwards after World War II and after the Treaty of Peace with Italy was signed. However, the border's status changed already during World War II. Following the German occupation of parts of Slovenia, its northern part became the state border between Italy and Germany in 1941 (the letter "J" signifying Yugoslavia was replaced by

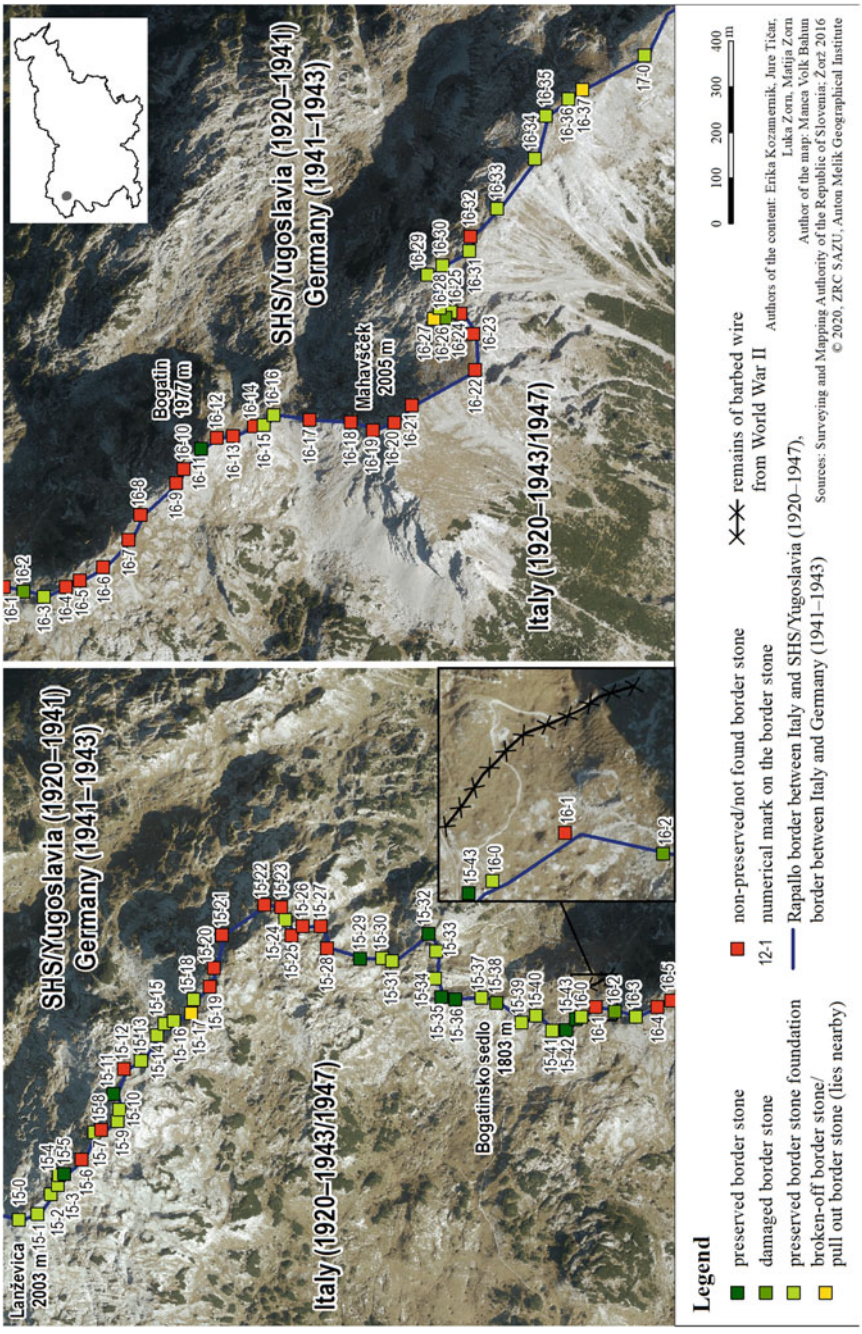

Fig. 6 Preserved boundary stones between the Kingdom of Italy and the Kingdom of Yugoslavia in Sectors 15 and 16 of the Julian Alps. In this area, boundary stones of the Rapallo border served as border markers between Italy and Germany during World War II

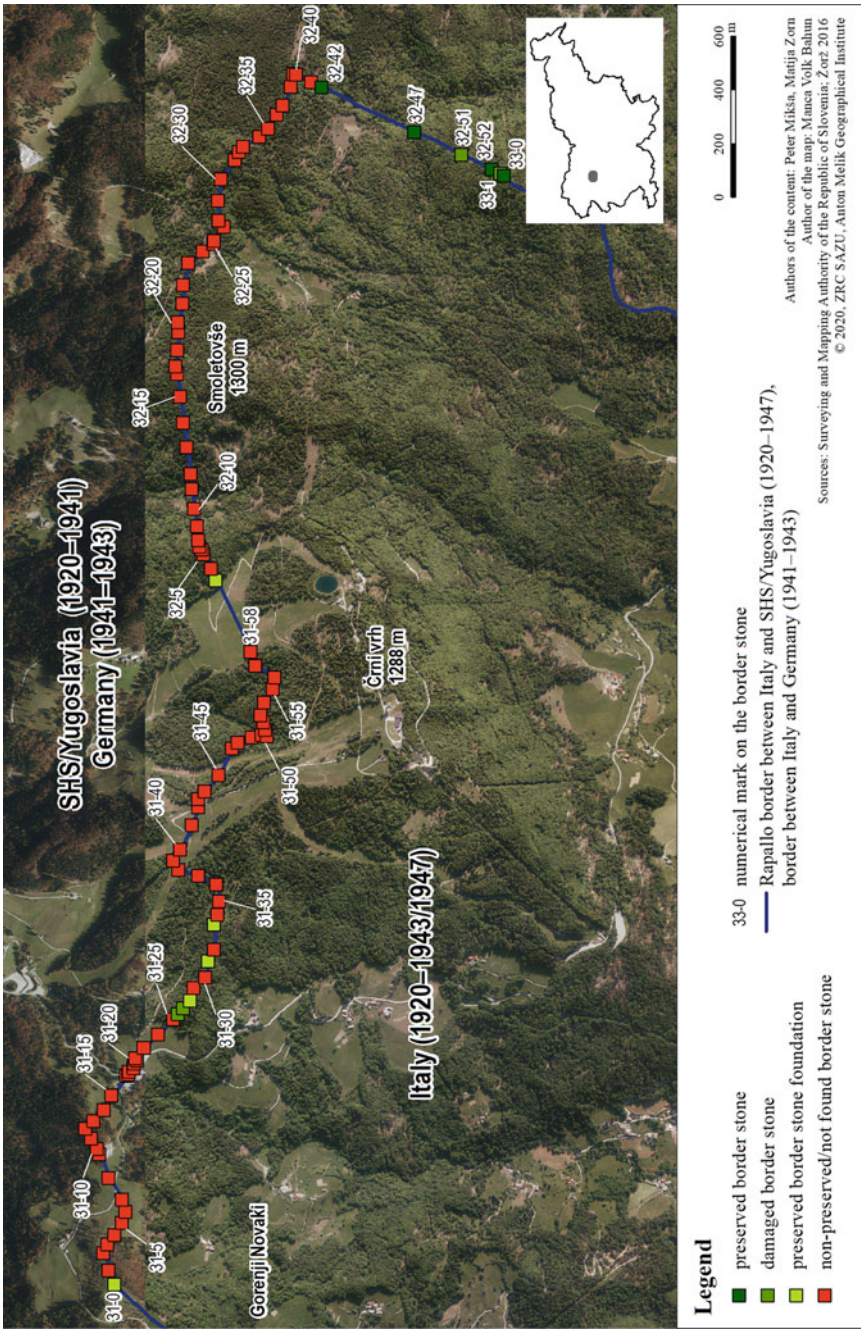

Fig. 7 Preserved boundary stones between the Kingdom of Italy and the Kingdom of Yugoslavia in Sectors 31 and 32 of the Prealps (Cerkno Hills). Boundary stones of the Rapallo border served as border markers between Italy and Germany during World War II in this area as well

Fig. 8 The condition of boundary stones of the Rapallo border, the border between the Kingdom of Italy and the Kingdom of Yugoslavia in Sectors 15 and 16 of the Julian Alps. A few boundary stones were broken; identifiable are solely their foundations (boundary stone no. 15–40), while others were knocked down and lie near their former location (15–17). Impacted by man, the alpine environment, and, first and foremost, intensive weathering, boundary stones fell into ruin (15–34, 15–37, 15–38, 16–01). However, a few boundary stones (15–36) are very well preserved (photography by Matija Zorn)

"D" for Germany; Fig. 8, boundary stone no. 15–36) and its southern part Italy's internal, provincial border. Officially, this situation remained unchanged even after Italy's capitulation in 1943, and the Italian part of modern-day Slovene territory came under German administration (the so-called Operational Zone of the Adriatic Littoral). After the end of World War II in 1945 and up to 1947, the territory to the west of the Rapallo border was under the Yugoslav military administration (Troha 2005; Mikša and Zorn 2018; Zorn and Mikša 2018).

Following the official discontinuation of the border, boundary markers were removed in more prominent spots (e.g. former border crossings); in places, this happened even sooner, when the territory to the west of the Rapallo border ended up under the Yugoslav military administration (Žorž 2016; slika 9a). There were even organized special events to remove boundary stones (Naglič 2005). Some boundary stones were removed already during World War II. Partisans removed the boundary stone on Mt. Triglav, Slovenia's highest mountain and symbol of Sloveneness (Strojin 1980), in the summer of 1944 (Svetek 1985; Fig. 9b, c).

Three aspects can be highlighted in terms of the legacy of the Rapallo border: (1) the Rapallo border's potential for tourism, (2) the Rapallo border as a creator of regional identity, and (3) its reflection in various administrative divisions. The first point includes numerous preserved boundary stones and other border structures constructed in the interwar period (mostly fortifications created by both sides for defence purposes). Several municipalities situated along the former border boast of thematic trails that raise their visitors' awareness of the border's existence; hikes along the Rapallo border are organized. IT technology plays an important role in "legacy tourism" of the Rapallo border (Mikša and Zorn 2018; Kumer et al. 2020); it allows for a meticulous visualization of the Rapallo border, which is freely available online. Based on the digitalization of delimitation maps of the course of the border in a scale of 1:5,000 (Fig. 4), a point and line vector data layer were produced that enable a detailed insight into the course of the Rapallo border in modern-day landscape via the Internet portal "Rapalska meja" (Fig. 10; Zgodovinsko … 2020).

The second aspect of the Rapallo border's legacy is regional identity. Slovenes tend to define their regional identity based on Inner Austrian provinces from before World War I or, in the case of Carniola, based on its internal division into Upper (Slovene: *Gorenjska*), Lower (Slovene: *Dolenjska*) or Inner Carniola (Slovene: *Notranjska*). Thus, for instance, the Rapallo Border in Inner Carniola turned the former Inner Carniolans in the Idrija region, the Vipava Valley, as well as the Ilirska Bistrica area into *Primorci* or "people from the Littoral". This implies that their identity originates in the former Italian-held territory (Mikša and Zorn 2018; Zorn and Mikša 2018; Geršič 2020).

The legacy of the Rapallo border is seen in various administrative divisions as well. Its northernmost part, located between the Upper Sava Valley (Slovene: *Zgornjesavska dolina*) and the Canale Valley (Italian: *Val Canale*), is still used as the border between Italy and Slovenia (Fig. 11). The border also continues to be used as the border between the Ljubljana and Koper dioceses (especially to the north of Žiri), as the border between the Northern Littoral (Slovene: *Severna Primorska*) and Upper Carniolan municipalities, and more to the south some of its sections continue to be

Fig. 9 Removal of boundary stones of the Rapallo border. **a** an extracted boundary stone at the Podlanišče border crossing in the summer of 1945 (Štefan Rutar Archive); **b** the boundary stone at the summit of Mt. Triglav removed by partisans in the summer of 1944 (Slovenian Alpine Museum Archive); **c** a memorial plaque was installed in the location of the former boundary stone in 2018 (bottom left) to commemorate the removal of the boundary stone in 1944 (photography by Matija Zorn)

used as the border between the municipalities of Logatec and Postojna, Cerknica and Postojna, Cerknica and Pivka, as well as Pivka and Loška Dolina. Additionally, between 1945 and 1947, the Rapallo border served as the demarcation line between Yugoslavia and Zone B of the Julian March (Italian: *Venezia Giulia*) and in the 1950s, as the border between the district of Nova Gorica and that of Kranj. It is still used as the border between the Gorizia (Slovene: *goriška statistična regija*) and Upper Carniolan (Slovene: *gorenjska statistična regija*) statistical regions, and in Slovenia's extreme south (to the southwest of Babno Polje), several kilometres are used as modern-day border between Slovenia and Croatia (Jarc 2002; Mikša and Zorn 2018; Zorn and Mikša 2018). In the area where the Rapallo border still serves as the border between Italy and Slovenia, boundary stones stand in the same locations

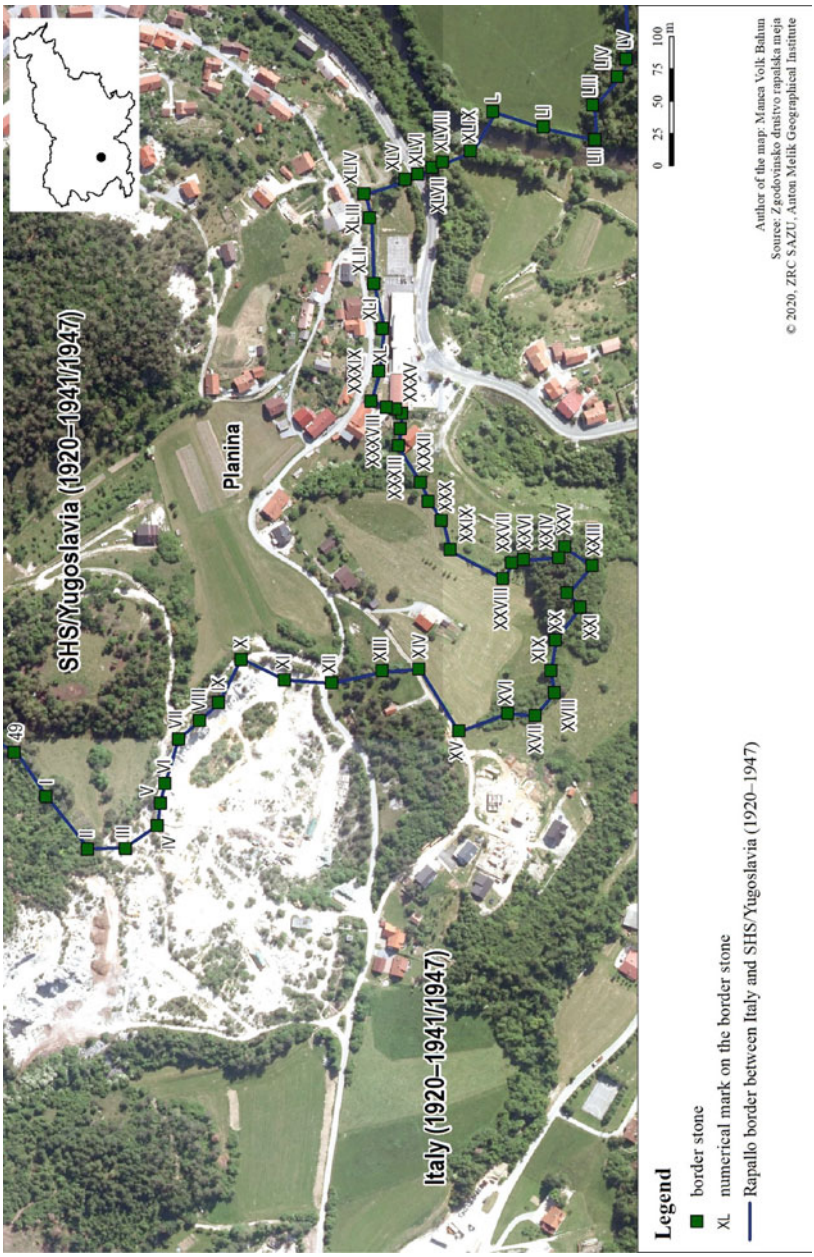

Fig. 10 The Rapallo border on the Internet portal "Rapalska meja" (Zgodovinsko … 2020). The figure shows the same detail of the border as Fig. 4. The figure is adapted—the blue line indicates the course of the border and dark green squares boundary stones featuring numbers written in Roman numerals, matching those on actual boundary stones. The number written in Arabic numerals marks the first boundary stone in Sector 49. By means of boundary stones' digitalized locations, one can look for them on site and see if they are still preserved

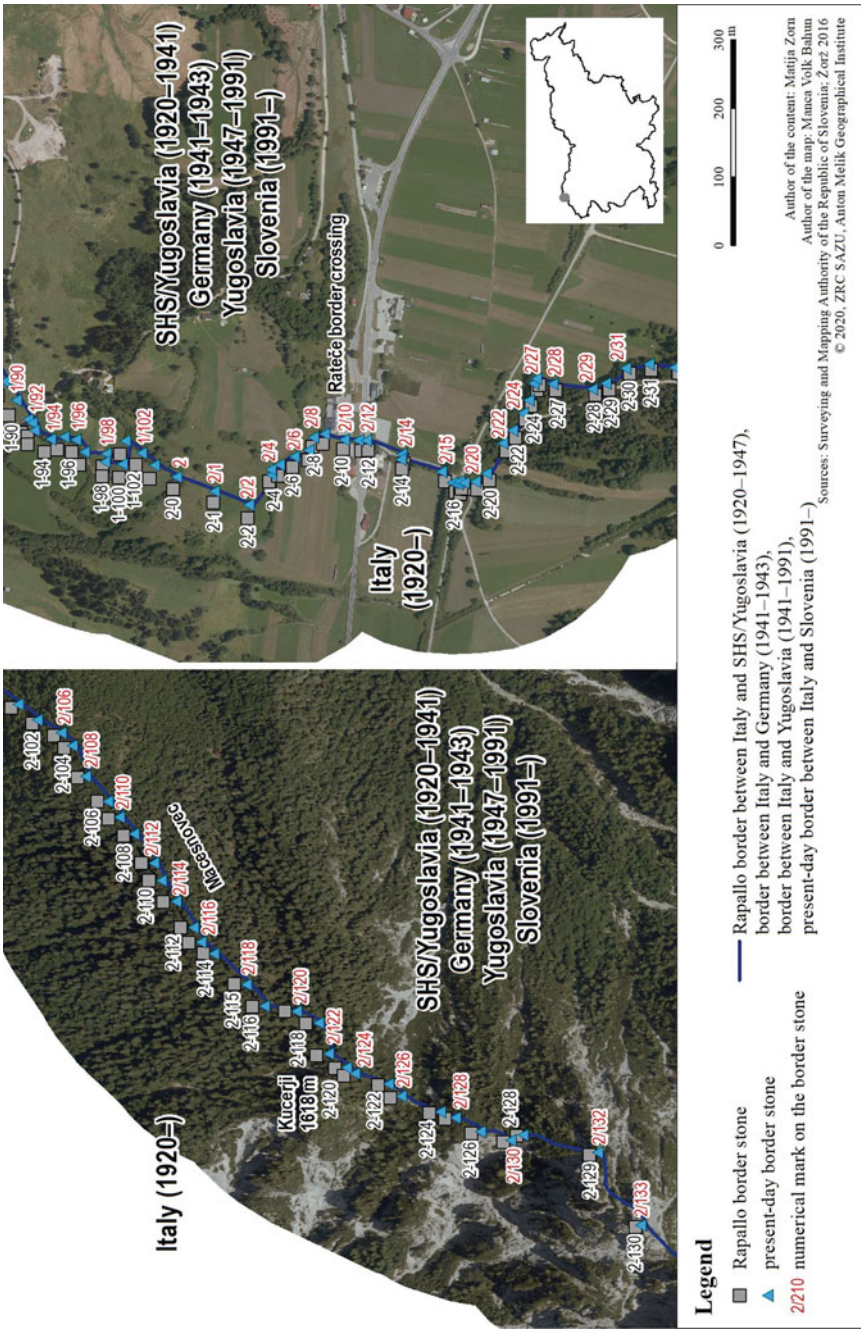

Fig. 11 Matching locations of boundary stones of the Rapallo border between the Kingdom of Italy and the Kingdom of Yugoslavia with those of contemporary boundary stones between Italy and Slovenia (near Rateče, in the proximity of the modern-day Italian–Slovene–Austrian tripoint)

as boundary stones of the Rapallo border (Fig. 11). However, these contemporary boundary stones bear a different date, i.e. 1947 or the date when the Treaty of Peace with Italy was signed after World War II, rather than the year 1920 that signifies the date when the Treaty of Rapallo was signed.

4 Conclusions

Borders transcend mere spatial delimitations; they are associated with legal, cultural, historical, social, economic and other entities (Waldhäusl et al. 2013). Boundary stones are generally considered to be of high proof value in international border disputes (Zadeva … 2019). A state's border must be clearly defined or measured in a manner that allows for its re-establishment at any given moment if boundary markers are either destroyed or moved. The position of boundary stones must be defined meticulously with coordinates in an agreed coordinate system (Mlakar 1993).

Old boundary markers that no longer serve their purpose are subject to natural processes (e.g. floods, weathering, hillslope processes, vegetation growth) and anthropogenic activities (intentional or unintentional removal) (Waldhäusl 2019). A mere 24 boundary stones are recorded in Slovenia's Register of Immovable Cultural Heritage, 3 of which are associated with the border between the Duchy of Styria and the Kingdom of Hungary (Fig. 3a, b) and none of which is associated with the Rapallo border (Register … 2020). Their non-protection contributes significantly to their difficult preservation. Despite their non-existing protection, a few local associations recognized the boundary stones' importance for the preservation of historical memory and its tourist potential; a few boundary stones were even granted the status of a cultural monument of local importance (Lisec et al. 2020). This is particularly the case with boundary stones on the Rapallo border, where many boundary stones were restored (Kozorog 2008; Slak et al. 2019; Škodič 2020).

The fact that, inter alia, boundary markers were nominated for inscription on the UNESCO World Heritage List speaks in favour of the growing awareness that boundary stones constitute important cultural heritage (Waldhäusl et al. 2014; Waldhäusl 2017; Lisec et al. 2020). As such they are interesting as intangible cultural heritage in terms of tradition of regulating rights in space and as tangible cultural heritage as archaeological remnants.

Boundary stones presented here no longer serve their original purpose; however, in their respective locations, they are historical witnesses as markers of the past. Today they act as a visual representation of "phantom borders" reflected in their cognitive perception. In both case studies, this is mostly reflected through regional identity—"*there is a dialectic interdependence between boundaries and identity*" (Kolosov 2020: 5). In the first case study, the river Mura still represents an important regional identity boundary between people on both sides of the river (Geršič 2020), although the boundary was gone more than a century ago. Similarly, the boundary presented in the second case study is today also strongly reflected in the regional identity (Geršič 2020), although the boundary was gone more than seven decades

ago. These "phantom borders" may also be regarded as "hidden geographies" in past borderscapes (Kumar Rajaram and Grundy-Warr 2007), with boundary stones being their physical remnants.

Acknowledgements The work was supported by the Slovenian Research Agency through research programs "The Slovene History" (P6-0235) and "The Geography of Slovenia" (P6-0101) and research projects "Make This Land German… Italian… Hungarian… Croatian! The Role of the Occupation Border in the Denationalization Policy and the Lives of the Slovene Population" (J6-8248) and "Creating, Maintaining, Reusing: Border Commissions as a Key to Understanding Contemporary Borders" (J6-2574).

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