

ETHNIC MAPS AS INSTRUMENTS OF NATION –BUILDING
ON THE BALKANS (1900-1914).
THE AUSTRO-HUNGARIAN EXPERIENCE *

Abstract

The following study focuses on the problems of data selection and visualisation techniques of ethnic mapping on the example of some maps and raw data found at Haus- Hof- und Staatsarchiv in Vienna, which were used by decision-makers during the Mürzsteg convention (1903) and the Macedonian reform movement. Our idea to make maps – that were originally based on different data sources and created by different techniques (patch-maps and pie-chart maps) - comparable required the selection of a reliable basemap (as basis of comparison) and the redrawing-rescaling of existing maps using GIS-aided techniques. In this way a series of maps were created either to illustrate the ethnic heterogeneity in the region and the temporal-spatial changes over the decades or to illustrate the problems of data-interpretation that different sources can cause. Using the data of the Austro-Hungarian consul Kral, brand new maps were created based on the Austrian concept on ethnic identity (using a classification that can be traced back to Sax, 1877) with pie-chart technique.

Key words: ethnic mapping, Macedonia, Mürzsteg, 1903, GIS-aided database, cartographic methods, Austria-Hungary

Introduction

One of the best instrument for the visualisation of the unified *geographical space*, the *political niche* and the different *spheres of identity* is ethnic mapping. Ethnic maps are special manifestations of the space, and represent the way of thinking of a group about itself and the surrounding communities. Nevertheless, ethnic mapping raises many methodological questions, like (I) *the interpretation or reliability of raw data* and (II) *the methods of visualisation*. An improper selection of data and visualization methods may easily distort results, as it is described and explained on the following pages. Although ethnic mapping can contribute to the strengthening of a nation's self-consciousness, thus to the realisation of national realms, it is usually not impartial, and *often carries political message or exerted to political pressure* (III).

(I) Data and their interpretation

When creating an ethnic map one should be aware of the fact, that (1) data on the Balkans are contradictory, (2) identity is a complex phenomenon, (3) the numerous changes throughout the 19th century (as a result of wars and forced

migration) made the comparison of data and maps difficult (even the selection of a reliable source serving as a basis for comparison is disputable), (4) identity of individuals is unconsolidated in the case of young nations.

(1) *Reliability of raw data.* Beyond technical obstacles (like the changing borders of territorial units, that make comparative approach difficult) the lack of data can be another problem for the reconstruction of the ethnic pattern of a region. Turkish population censuses are not reliable prior to 1906, since these focus on religion regardless of language, nationality, etc. as their main purpose was to estimate the taxable population. Even in 1910 during the last attempt of the Ottoman government to secure peace in Macedonia by implementing a religious reform and a redistribution of ecclesiastic property between exarchists and patriarchists to decrease tensions, the population was conscribed in households and based on religion (millet) (*table 1*).

Table 1. Religious (ethnic) distribution in the Kostursko kaza among settlements seceded from the Patriarchate after 1903, prior to the redistribution of Christian ecclesiastic property in 1910

15. 05. 1910.	Exarchist households	Patriarchist households	Moslem households	total population	year of secession	church	school
Gorjanci	161	170	175	2645	1909	2	2
Kumaničevo	86	24	42	755	1908	3	1
Sničani	58	23	0	420	1903	2	1
Želevo	110	110	?	1406		2, one Bulgarian ¹	2

Centralen Därzhaven Arhiv, Sofia (hereinafter ЦДИА), ф. 331. оп. 1. а.е. 309. л. 74-75 and 35-38.

Table 2. Proportion of Moslems in Rumelia around 1870 according to 2 estimations at vilayet level

Population in thousands	Istanbul	Edirne	Tuna	Sofia	Selanik	Yanya	Manastir	Iskodra	Bosnia	Islands
„Turks“	342	597	945	154	265	430	860	141	520	80
Karpat %	57	39	45	23	49	36	56	47	40	50
Totev %	-	37	38	-	40	-	33	-	-	-

Kemal Karpat, *Ottoman Population 1830-1914. Demographic and Social Characteristics*, The University of Wisconsin Press 1985, 56; Atanas Totev, "Cenen dokument za istoricheskata etnicheska demografija na Balkanskija poluoströv." *Istoricheski Pregled*, 1982/5, 105-113.

¹ We always use the term given in the original sources referring to nationality. Thus, the Slavic population of Macedonia is labelled either 'Macedonian', or 'Bulgarian', 'Exarchist' in this study.

The comparison of Ottoman (census, 1908/09), Bulgarian (conscription of households) and Austrian statistics (census of occupied lands, 1916) enlightens, that the interpretation of data (and thus the confines of the Albanian nation) are completely different (see Appendix). Ottomans and Moslems were counted as Albanians based on the Ottoman census in the book of Kruja,² and the displacement and expulsion of the population within 8 years also contributed to the changing ethnic pattern (see Austrian census), not to mention the Bulgarian conscription that found Bulgarian majority in many places where Austrians did not.

Conscriptions from the late 19th century are also contradictory (*table 3*). There are certain correspondences between the more than 20 estimations cited here, and many of these have common roots. Greece considered the subjects of the patriarchate Greeks regardless of their Slavic or Albanian language. Turkish censuses made difference between patriarchists and exarchists, but these are not always equivalent for Serbian and Bulgarian nation, since hundreds of thousand bulgarophil patriarchists did exist in Macedonia, not to mention the question of Macedonian nation. Moslem Albanians, Circassians and Turks were not discerned. Exarchists were often considered as Bulgarians. The usage of these conscriptions and estimates can lead to contradictory results as it is shown by the tables below.

Table 3. Contradictorius estimations and censuses on the population of Ottoman Rumelia by (end of 19th c.)

Population (in 1000)	'Turkish'	'Bulgarian'	'Greek'	Albanian	Vlach	Jew	Gipsy	'Serbs'	Altogether
Prince Cherkassky, 1877	516*	872	124						1771
Turkish census in Plovdiv sanjak, 1881	185*	500							774
Rittich, 1885, St. Petersburg		1121	59						
Gaston Routier, 1903		1136	322						
Verković, Croatian, 1889	240	1317	222	79					1949
G. Weigand - Die Nationalen Bestrebungen der Balkansvölker. 1898	695*	1200	220						2275
C. von der Goltz Balkanwirren und ihre grunde, 1904	730*	266	580						?

² Mustafa Kruja, *Ne historine Shqiptare*, OMSCA-1, Tirana, 2012, 327-331.

Journal "Le Temps" Paris 1905	410	1200	270	600					2782 with Kosova and Novi Pazar
<i>R. von Mach - Der Machtbereich des bulgarischen Exarchats in der Türkei. 1906</i>	-	1166	95	6					1334 only Christians
Amadore Virgilli "La questiona roma rumeliota" 1907	646	341	642						Saloniki and Monastir vilaets
<i>R. Pelletier, La verite sur la Bulgarie. Paris 1913 és Leon Dominian, New York, 1917</i>		1172	190	3					1437 only Christians
Encyclopaedia Britannica, 1911	500	1000+150 pomak	250	120	90	75	50		2200
Bulgarian estimation (1900)	500	1033	228	128	80	68	54,5	500?	2258
Serbian estimation (1889)	231	58	201	165	70	66	29	2048	2870
Greek estimation Deligiannis- government, (based on religion)	634	332	654	-	25	53	9	-	1725
Turkish (1906, Hilmi pasha)	423	178	259					13	950
Turkish (1906)	1145*	626+Pomaks	633	n.a.	n.a.	n.a.	n.a.	0	2300
Serbian (Spiridon Gopčević)	225	50	222	80	0	?	?	1600- 2000	2200 Macedonia and Kosova
Bulgarian government	132	1038	429	0	0	80	?	0	2871?
Bulgarian (Vasil Kančov)	495	1178	211	115	0	0	?	0	2000
Greek (Kleanthes Nikolaides)	620*	200	650	0	50	80		250	1820
French (Gersin)	500	1182 Slavs	228	28	80	67	?	1182 Slavs	2085*
Laveleye-Ritter, 1868	500	1300+200 Pomaks	200	100	76	90	28	-	2500
Russian (1899)	800	1200	220	?	?	?	?	?	2220
Brankov, Bulgarian, 1905		900+270 Patriarchists +100 Pomaks	190+270						
HHStA, Nachlass Kral, cca. 1900	480	600+155 Patriarchists	500	1380				210	3300 without Thrace, but with Albania

*Moslems altogether (including Albanians)

Even data of estimations and conscriptions relatively close to each other and driven back to kaza level are completely different (*table 4*). Those, who refer to Brankov's data, suppress the number of Moslems in their statistics and use his data simply to prove that 'Bulgarians' are outnumbering Greeks, instead of giving correct percentage data.³ The Ottomans mixed ethnic and religious categories (using the term Moslem they incorporated Moslem Albanians, Ottomans and Slavs into one group, thus weakening other groups). The Austrian consul, Kral uses the term Exarchists and Patriarchists, which is not equivalent of Bulgarians, Serbs and Greeks respectively, but it is one of the reliable statistics, as he makes distinction between Bulgarian, Serb and Greek patriarchists at least at kaza level (*table 5*).

Table 4. Differences of contemporary estimations at kaza-level

kaza	Ottoman, 1902			Kral cca 1900			Brancoff (Misheff), 1905		Ottoman, 1908			
	'Bulgarian'	Moslem	Greek and vlach	'Bulgarian'	Moslem*	Greek and vlach	Bulgarian	Greek and vlach	Albanian	Serbs	'Bulgarian'	Aromun
Prilep	35890	14200	1000	46000	12000 +3500				18308	6504	38790	212
Ohrid	17500	8100	750	24000	22000		44000	3100	20369	1564	34060	345
Monastir	30800	24700	30000	71000	32000 +12000	23000			30999	489	47521	41158
Florina				33000	18000	4000	43500	100				
Seres				25000	36000	35000	47500	28500				
Drama				4000 +11000	33000	8000	11000	3890				
Demirhisar	11100	630		15000	15000	8000						
Kichevo	20000	13500		22000	18000							

* Albanians+Ottomans; Turkish data from Mustafa Kruja, *Ne historine Shqiptare*, OMSCA-1, Tirana, 2012. 327-331.

³ The Bulgarian point of view on Macedonia is presented by Tsanov based on Branchoff's statistics: Brancoff, (Dimitar Misheff), *La Macedoine et la population chretienne*, Paris, Librairie Plon et Co. 1905, and Radoslav Andrea Tsanoff, "Bulgaria's case". *The Journal of Race Development*, 8/1918; Dimitar Misheff, *The truth about Macedonia*. Berne 1917. A series of maps on the ethnic pattern of Macedonia (*Die Bulgaren in ihren historischen, ethnographischen und politischen Grenzen* edited by Ishirkoff & Zlatarski, preface by Dimitar Rizoff) was published to support Bulgarian claims on Macedonia at the Versailles Peace Treaty, 1918-1919.

Table 5. Parts from the statistics found in Nachlass Kral, Haus- Hof- und Staatsarchiv, Wien (Monastir sanjak)

	Albanians		Slavs			Greeks		Vlahs	Turks	Gypsy	Jew	Total
	Moslem	Orthodox	Exarchists	Patriarchists*	Moslem	Patriarchist	Moslem					
Monastir	32000	2200	47000	24000		100		23000	12000	2500	5000	148000
Prilep	12000		39000	7000	1800			500	3500	800		64600
Ohrid	22000	300	27500	2500		20		2500	80	500		55400
Krchova	11500		16000	6500	6500			60		80		40640
Florina	6500	2600	17000	16000				4000	12000	2000	20	60120

*16 thousand Patriarchists are Serbs, the others are 'Bulgarians' according to Kral

(2) *Complexity of the identity.* As it can be seen on the above mentioned examples identity is a complex, multi-layered phenomenon – a simple map focusing on only one feature, like religion or language is not suitable for the Balkan conditions (see differences between maps published in the Appendix). It is better to use maps, that take more than one dimension of the ethnicity into consideration, like Austrian cartographers did so at the end of the 19th century following the first attempt of Sax, who took both language and religion into consideration in 1877. The map on Macedonia published in the Geographische Rundschau in 1892 also referred both to ethnicity and religion and did not mix the two categories.

Nevertheless, a map showing 'Bulgarians' differs from that of showing orthodox Bulgarians, while a patch map showing Moslems is much more 'convincing' than a map showing Turks, Albanians and Pomaks separately (Appendix). These differences and argumentations were exploited in the political struggles by the different parties

(3) *The instability of identity.* Beyond its multi-layered complexity identity cannot be considered stable in case of awakening nations. A good example for this is the case of Silistria, which showed Romanian-Turkish majority in 1878, but by 1905 it turned to be Bulgarian (*table 6*). Such a process can be the result of natural change in minds, can be forced, or can be the result of continuous migration or ethnic replacement. Certain political tendencies appeared to distort and manipulate the identity appearing in statistics (if these efforts were fruitless on the level of individuals themselves), like the Greeks did in 1913, when they claimed, that large masses of Albanians are Grecophiles (Albanophone Greeks), thus creating a majority over 50% in several district of Southern Albania in 1913 (*table 7*). Fake statistics are definitely cheaper, than creating schools and modifying minds, or replacing the population. However, this phenomenon is not unique: this 'ethnic' group also appear on the map of Sax from 1877 and Greco-Albanians occur in the Austrian map created for the Mürzsteg convention (Appendix), referring to the complexity of identity on the Balkans.

Table 6. Ethnic composition of town Silistra in 1878 and 1905

nationality	1878	1905
Bulgarian	1500	6100
Romanian	2500	300
Turk, Tatar	7000	4300
Jew, Armenian, Gipsy		1000
altogether	11000	12000

Documents diplomatiques français, 1871-1914. 3. série. (Ed: Costes, A.) Paris, Imprimerie Nationale, L'Europe Nouvelle, 1933-, Nr. 84. 18.02. 1913. p. 62.

Table 7. Greek statistics on Northern Epiros

sanjak and kaza	Greeks (in 1000)			Moslems (1000)	Altogether (1000)	Greek %	Moslem %
	Hellenes	Albanophones	Vlachophones				
Janina s.	102	4	11,2	10,7	128	88	12
Preveza s.	32,7	1,1	0	2,7	36	92	8
Goumenitza s.	28,6	11,6	0,1	34,4	74,8	56	44
Argirocastro k.	13,1	7,9	0	21	42,1	50	50
Delvino k.	12,2	4,1	0	5,3	21,8	75	25
Himara k.	3,8	3,3	0	4,7	11,9	60	40
Vostino k.	18,6	0	2,3	0,8	21,8	96	4
Tepeleni k.	0	4,3	0	5,8	10,2	44	56
Premeti k.	0	7,1	1,6	9,6	18	48	52
Altogether	211,5	43,7	15,3	95	385	74	26
Korica k.	0	34	1,5	34	69	51	49

Österreichische Staatsarchiv, Haus- Hof- und Staatsarchiv (hereinafter HHStA), PA XII. Türkei Liasse XLV/4. 07.01. 1913. zweite Beilage, fol. 64.

Another example on the reclassification of people was applied also by the Greeks in 1913 after they had incorporated Southern Macedonia. The map of the Bulgarian Ivanov in 1913 based on the statistics of the Exarchy enumerated 330 thousand 'Bulgarians', while the Greek statistics only 170 thousand. The Pomaks and Albanians were incorporated into the category of Moslems in the Greek statistics, while patriarchist Bulgarians were counted as Greeks, putting the number of the latter from 236 thousand to 500 thousand (though still only a relative majority, *table 8*). Even the Serbian press put the number of Slavs to 260 thousand in Greece.⁴

Table 8. Ethnic distribution of Southern (Greek) Macedonia according to different calculations

population in 1000	Ivanov, 1913		Amadori Virgili
Bulgarian	329	Exarchist Bulgarian	170
Turk	314	Moslem	516
Greek	236	Orthodox Greek	497
Vlach	44	Vlach	6
altogether	1042	altogether	1236

⁴ (Carnegie) *Report of the International Commission to Inquire into the Causes and Conduct of the Balkan Wars.* p. 195. See also: Bellay, Ch., *L'irrégentisme hellénique*, Perrin, 1913, who cites Amadori Virgili.

(4) *Population movements and ethnic mapping*: Migration makes comparison of the content of ethnic maps difficult as sometimes even minor changes (expressed in numbers) may occur on patch maps, while larger changes may remain untraceable. Population movements influenced the ethnic pattern of Bulgaria decisively between 1853-1912, not to mention the period after the Balkan Wars until 1923. More than 300 thousand Moslems left Bulgaria soon after 1878 (table 9), while many have arrived from Bosnia and settled down in Macedonia. Nevertheless, the relevance of these estimations can be questioned as the statistics serving as a basis for comparison are not reliable. (See point 1).

Table 9. The population of Eastern Rumelia in 1875 and 1878

folk	prior to 1876-78	after the war	proportion in 1878 measured to 1875 %	proportion in 1875, %	proportion in 1878, %
Turk	220000	90000	41	29	15,5
Pomak	25000	25000	100	3,3	4,3
Bulgars	400000	380000	95	52,6	65,5
Grecophile Bulgars	35000	30000	86	4,6	5,1
Greek	35000	30000	86	4,6	5,1
Altogether	760000	580000	76	100	100

Based on Foreign Office, 424/75 (Drummons-Wolff to Salisbury, 26.09.1878.)

(II) Visualization techniques

Beyond manipulation of raw data, visualization methods can also distort real ethnic proportions. *Patch maps* tell us nothing about the population number, density and proportions. Thus a certain population group can easily and misleadingly be considered majority on a territorial unit, while urban dwellers of different origin may exceed them in numbers, but appear on a smaller patch. Furthermore, scarcely populated areas, like mountains with colour fill may also distort ethnic proportions. The main advantage of patch maps is the possibility for the proper delimitation of ethnic boundaries. But patches can bind spaces together without real connections (roads). A correct patch map has to indicate *routes*, main directions of communication, like in the case of Istria by the Austrian Czoernig.⁵

Contrary to the above mentioned type, maps using *pie charts* may represent ethnic proportions properly on a territorial unit, but the delimitation of distinct, homogeneous patches is difficult, and this map-type does not differentiate between sparsely and densely populated areas either. Resolution can cause another problem: larger territorial units (vilaets, sanjaks) are useless, if the goal is to justify partition or to separate communities from each other.

Both types appear on investigated maps serving political aims. Colours

⁵ Karl, Czoernig, *Ethnographie der österreichischen Monarchie*, 3 Bände, Wien, K. K. Hof- und Staatsdruckerei, 1855-57.

may also be indicative. Ethnic maps on the Balkans did not tend to decrease the territory inhabited by different nations by using *illustrative colours* to overemphasize the significance of a certain nation (this technique spread later in geography, after the albanologist Ferenc Nopcsa advised it to Count Pál Teleki, creator of the famous *carte rouge*). *Transient colours* (French map of 1918) and *cross-hatching* (map of Sax, 1877) were often used instead of patches with explicit borders, veiling the uncertainty of statistics and interpretation of identities in the Balkans.

(III) Maps serving political interests

As we have already seen there are many possibilities to manipulate data in order to exaggerate or veil certain tendencies. These are (1) the critiqueless application or partial selection of data, (2) the arbitrary reclassification of raw data, (3) mixing ethnic and religious categories, (4) using colours to overemphasize phenomena, (5) choosing the technique of visualisation fitting best to the purposes, (6) neglecting roads and physical geographical circumstances, thus creating enhanced connectivity of patches.

Beside lack of reliable data, population movements and unstable identities, political pressure – that was abundant from the 1860s, first plans on the Balkan League – also makes data interpretation and ethnic mapping (and its evaluation) difficult. The first explorers, travellers of the Balkans in the 1840s were less influenced by nationalistic movements, but did not have tools and broad knowledge (ethnographic, linguistic, cartographic) to create reliable maps. Therefore these maps are neither precise, nor influenced by the ideas of procurers: the maps reflect the own thoughts of their creators. Being mainly foreigners, they were able to use both censuses (which were unreliable regarding the numbers) and data acquired from the local people. As a result of this, patch maps became dominant partly due to the lack of proper data and partly owing to the field experience. By the time professional mapping methods have evolved, ethnic geography also became an instrument of foreign policy of Powers or Small States, therefore the reliability of newer maps did not improve, although at first sight these seemed to be more scientific, thus convincing. Shortly, as the knowledge grew (that could have made ethnic mapping more impartial) so did the number of observable phenomena determining identity, and the dependence of geography from policy-makers. Many of the professional geographers or cartographers were unable to check the data used, and many did not wish to correct them at all, because considered it as an instrument for the realisation of nationalistic ideas. Many were merely opportunists, like the Croatian geographer, Spiridon Gopčević, who published pro-Serbian, pro-Greek and pro-Albanian writings as well using the same data and method, or Cvijić, who published 2 completely different patch maps on the Balkans (even the names of the nations did not coincide) within 5 months in order to support growing Serbian aspirations on Macedonia.

The Mürzsteg reform programme after the failure of the Ilinden uprising proposed and initiated a series of reforms in Macedonia in 1903 under the auspice of Powers. Since Austria-Hungary was also involved in this process, our primary goal was to collect some aide-material - like ethnic maps on Ottoman Macedonia - that could support diplomatic activities of that period.

The contribution of Austro-Hungarian scientists to ethnic mapping was not negligible by that time. Ethnic maps on the Balkan peninsula in the 1870s used the material of Felix Kanitz beside the data collected by Boué, Reclus, Kiepert, Erben, Lejean, Mackenzie-Irby, etc. The map of Sax used an excellent method of combining (and not substituting!) religious and ethnic data in 1877⁶ in order to illustrate the complexity of local identities, which was unique compared even to the above mentioned maps. The method of cross-hatching - adopted after Kiepert - was able to emphasize the obscure situation on the ethnically mixed territories. The tradition of this method prevailed: the Austrian map of 1892 on Macedonia repeated its methodology regarding the complexity of identity.⁷

Some Austrian maps recognised the existence of the Macedonian nation, some did not (this phenomenon can be traced even among those maps reproduced by us provided here in the Appendix) owing to mainly foreign political reasons. Prior to 1878 Austria-Hungary considered Macedonian Slavs as 'Bulgarians', but the threat of the creation of Greater Bulgaria that might cut Austria from the Aegean forced politicians to change their mind. While prior to 1878 Serbian national aspirations were targeted toward Bosnia, after the occupation of the latter Austria-Hungary accepted the penetration of Serbian propaganda into Macedonia to compensate his that time ally. This fit into her plans targeting to control the Vardar-Morava axis down to Saloniki. After the deterioration of Austrian-Bulgarian relations owing to the fall of the Stambolov-government in the mid-1890s, and the secret Serb-Bulgarian agreement on Macedonia in 1897, Austria-Hungary once again tried to decrease the Bulgarian influence over Macedonia by denying its Bulgarian character, in order to secure its way to the Aegean. This implicitly meant that Austria-Hungary refused to consider Slavs of Macedonia as 'Bulgarians' on some of the ethnic maps. Since Serbia also became untrustworthy by that period, military circles wanted to reach Saloniki through the Sanjak of Novi Pazar, and the concept of the autonomous Macedonia of Count Andrassy (1876-1877) reappeared in 1896-1897. This Macedonia would have been an Austrian satellite-state, as indicated on the map of Calice, ambassador at Constantinople, or Beck, then chief of staff.

⁶ See: *Die Bulgaren in ihren historischen, ethnographischen und politischen Grenzen*. by Ishirkoff & Zlatarski. Preface by D. Rizoff. Berlin, Königliche Hoflithographie, Hof-Buch- und -Steindruckerei Wilhelm Greve, 1917. http://www.promacedonia.org/en/dr/index_en.html, retrieved on 18.09.2013

⁷ Published in *Geographische Rudschau* XXI.

That's the reason why ethnic maps created to support the Mürzsteg process⁸ indicated Macedonian Slavs beyond Struma river. Cvijić could also rely on the tradition of Austrian ethnic mapping, when he came out with his maps regarding Macedonia.



The plan of Calice from 1896

The above mentioned method of Sax to illustrate both religion and spoken language was also applied on the maps found in ÖStA HHStA⁹ dated back to the turn of the 19-20th centuries. Since the map of Sax in 1877 was elaborated on similar basis, it could serve as a basis for comparison regarding ethnic changes (including the Austrian map of Macedonia from 1892 composed for a smaller territory) together with maps found at Nachlass Szapáry¹⁰ and other detailed (kaza-level) numeric data found in Nachlass Kral.¹¹ Adding up lines in the latter suggested that these kaza-level data need recalculation. Using the corrected data two new maps showing the percentage values of different nationalities and religions at kaza-level were created using pie chart-technique (where pie-charts are proportional with the population number). The two map-

⁸ The Russian-Bulgarian military agreement in 1902 (targeted mainly against Romania, that time the ally of Austria-Hungary), further exacerbated the anti-Bulgarian sentiments.

⁹ ÖStA HHStA, AB XIX, Nachlass Szapáry, Kt. 3 b.

¹⁰ Some of the maps were published by Teodora Toleva in her book in 2012 (*Vlijanieto na Avstro-Ungarija za saznavaneto na Albanskata nacija, 1896-1908*, Sofija, Ciela 540-544), but in such a bad resolution, that neither the legend, nor settlement names can be read, thus cannot be compared to other maps. Later it was recognised that these maps were moved from their original place. Fortunately, in the Kartensammlung aus dem Min. des Äusseren, ÖStA, HHStA copies of the maps did exist. Unfortunately, we hardly know anything about the origin and metadata of these maps, as the documentation (author, data sources, purpose) is missing in the Kartensammlung (only the maps were preserved).

¹¹ ÖStA, HHStA, AB XIX/84. Nachlass Kral, K2.

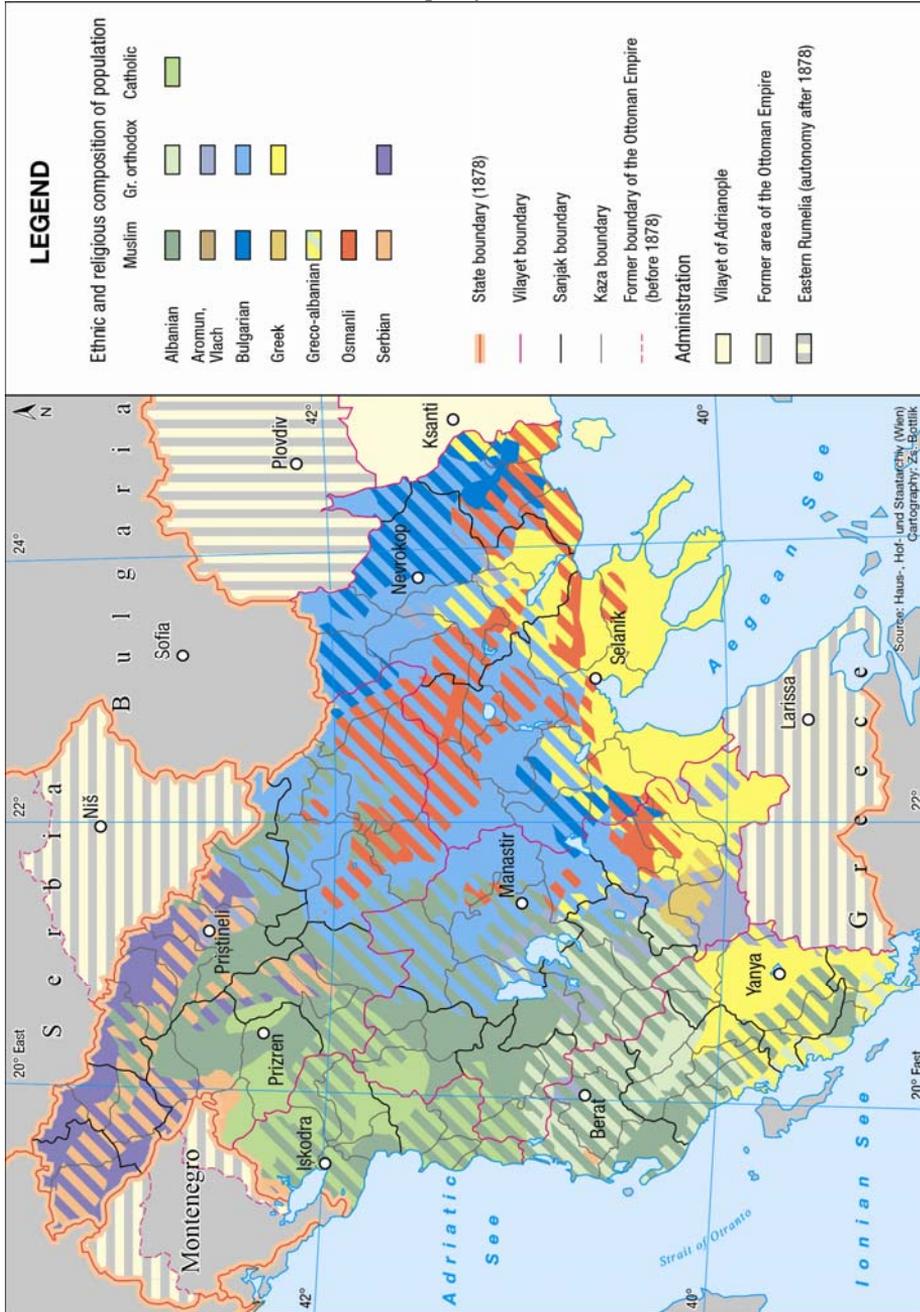
types – the patch maps found in Nachlass Szapáry¹² and pie chart map created from the data in Nachlass Kral produced different results regarding the ethnic pattern. Even the names of nationalities were different: the patch map made distinction between Macedonians and Bulgarians owing to the above mentioned foreign political reasons, while Kral used the term Exarchist equal with Bulgarians, mentioning the proper number of patriarchist Bulgarians as well.

In order to make maps comparable (1) with older maps, (2) with maps of other nations, and (3) to measure correlation between the number of schools established and ethnic proportions, a GIS-aided database was created. This included the georeferencing of data (fitting map-parts together, eliminating distortion, creating a common projection system, legend and reference unit /kazas/ for the maps) in order to obtain good resolution. This was followed by digitising (redrawing entities in Arc View 8.0) and database building (assigning qualitative and quantitative data to patches/kazas as entities), enabling us to overlay maps and thus to carry out an analysis of the map-series from 1877-1903 regarding ethnic changes. Although the database is still under construction and evaluation, the new maps incorporated to GIS are published here as a preliminary study together with a short general criticism of the ethnic mapping in the 19th century.

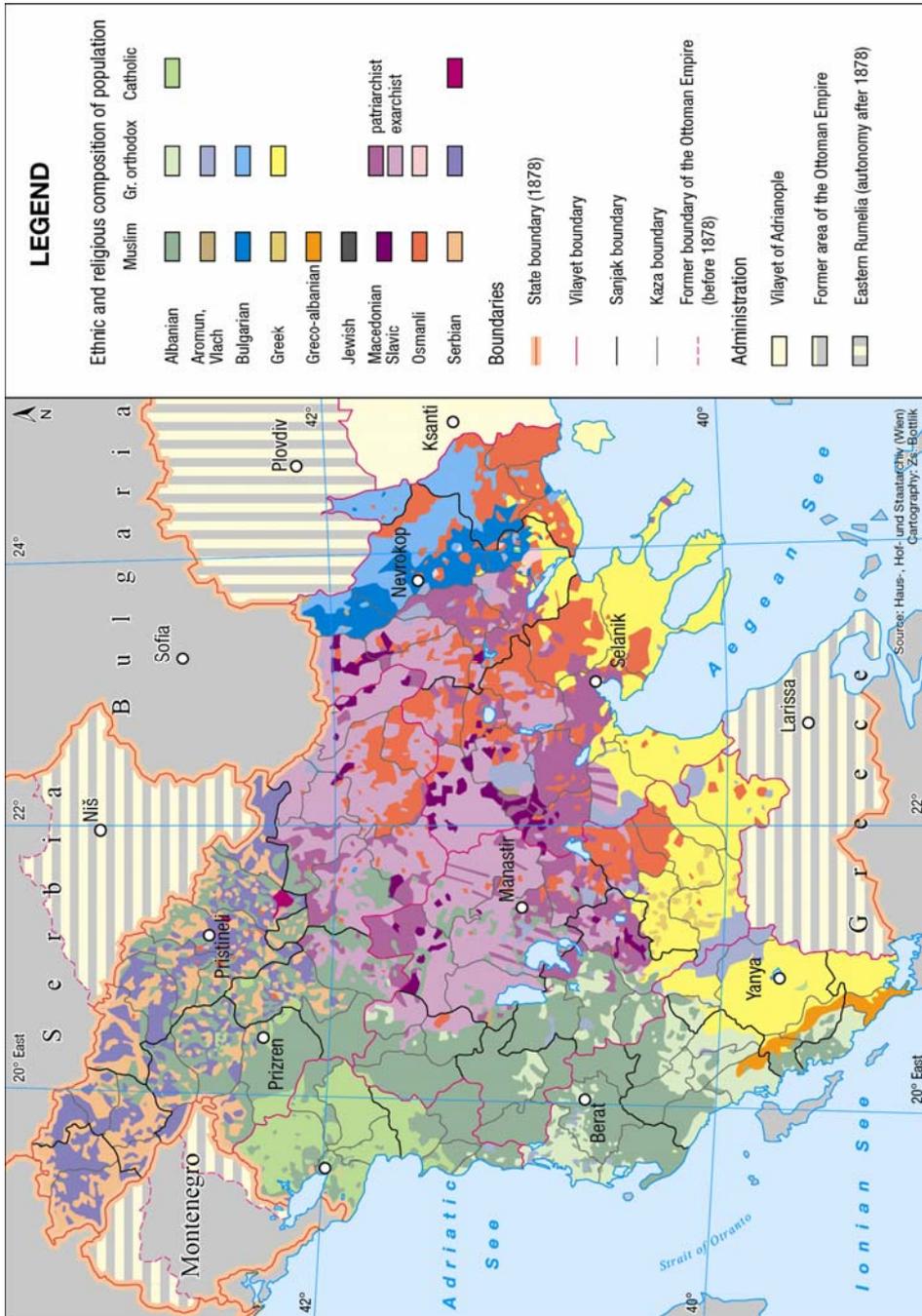
¹² (1) *Nationalitätenkarte der Europäischen Türkei cca. 1900.* (2) *Religionskarte: Kosovo, Saloniki, Scutari, Janina, Monastir vilajeten. 1877 (???)* (3) *Christliche Schulen in Makedonien um 1900* - not identical with that of published in Toleva's book.

APPENDIX

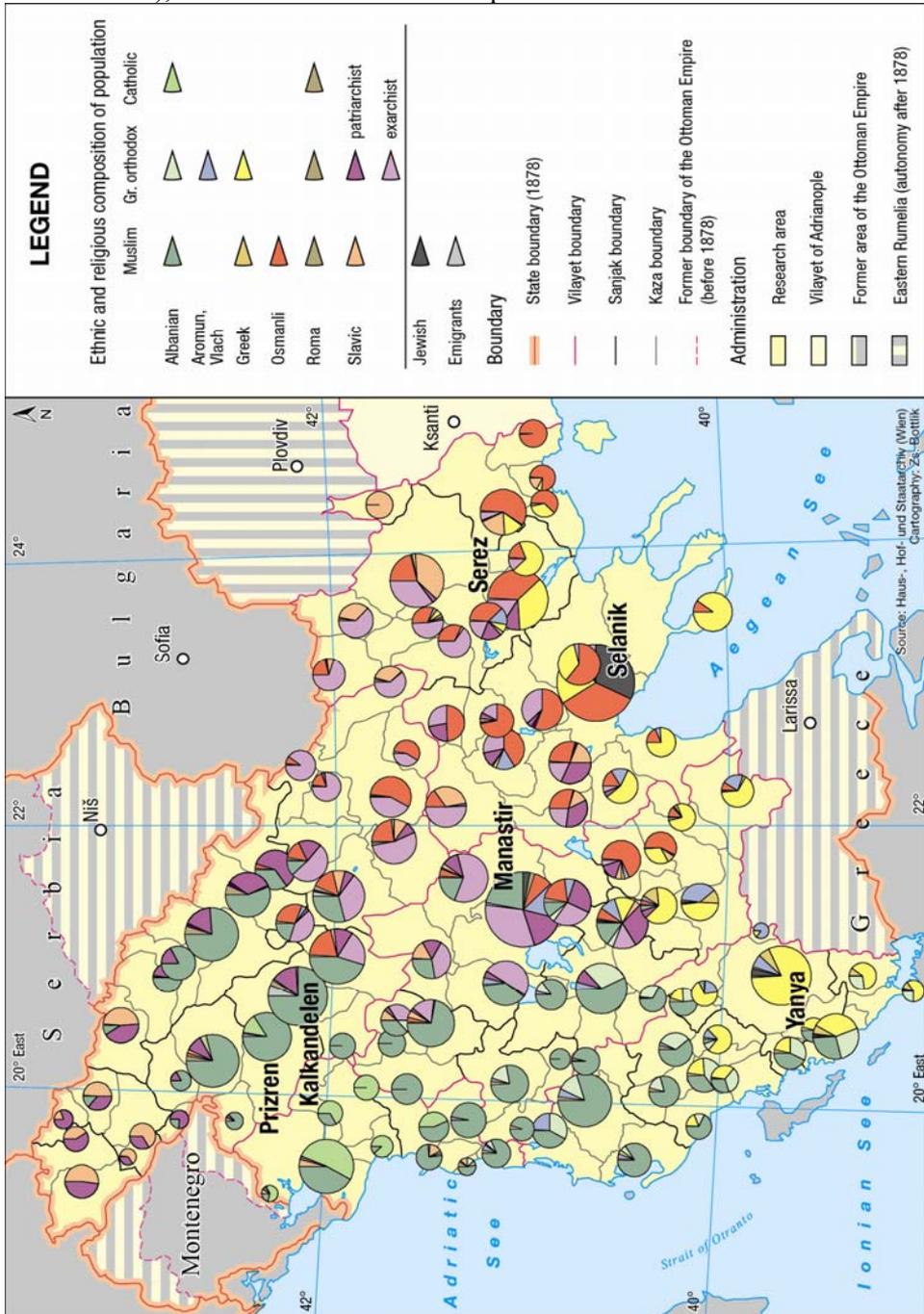
(1) The ethnographic patch-map of Macedonia and Albania by Sax (1877), redrawn and fit to other maps by Zsolt Bottlik



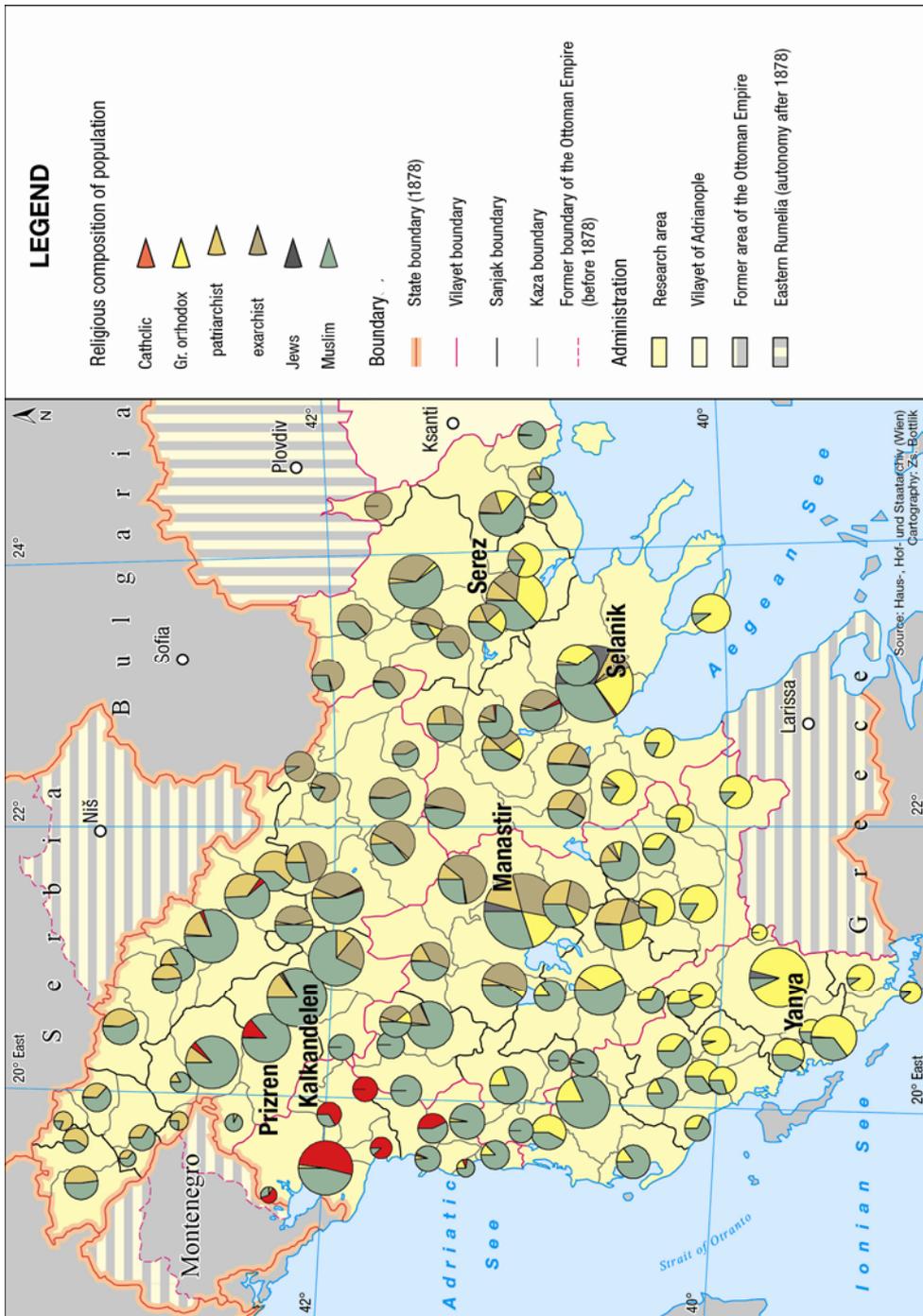
(2) The ethnographic patch-map of Macedonia and Albania in the HHStA Kartensammlung (Vienna), redrawn and fit to other maps (cca. 1900) by Zsolt Bottlik



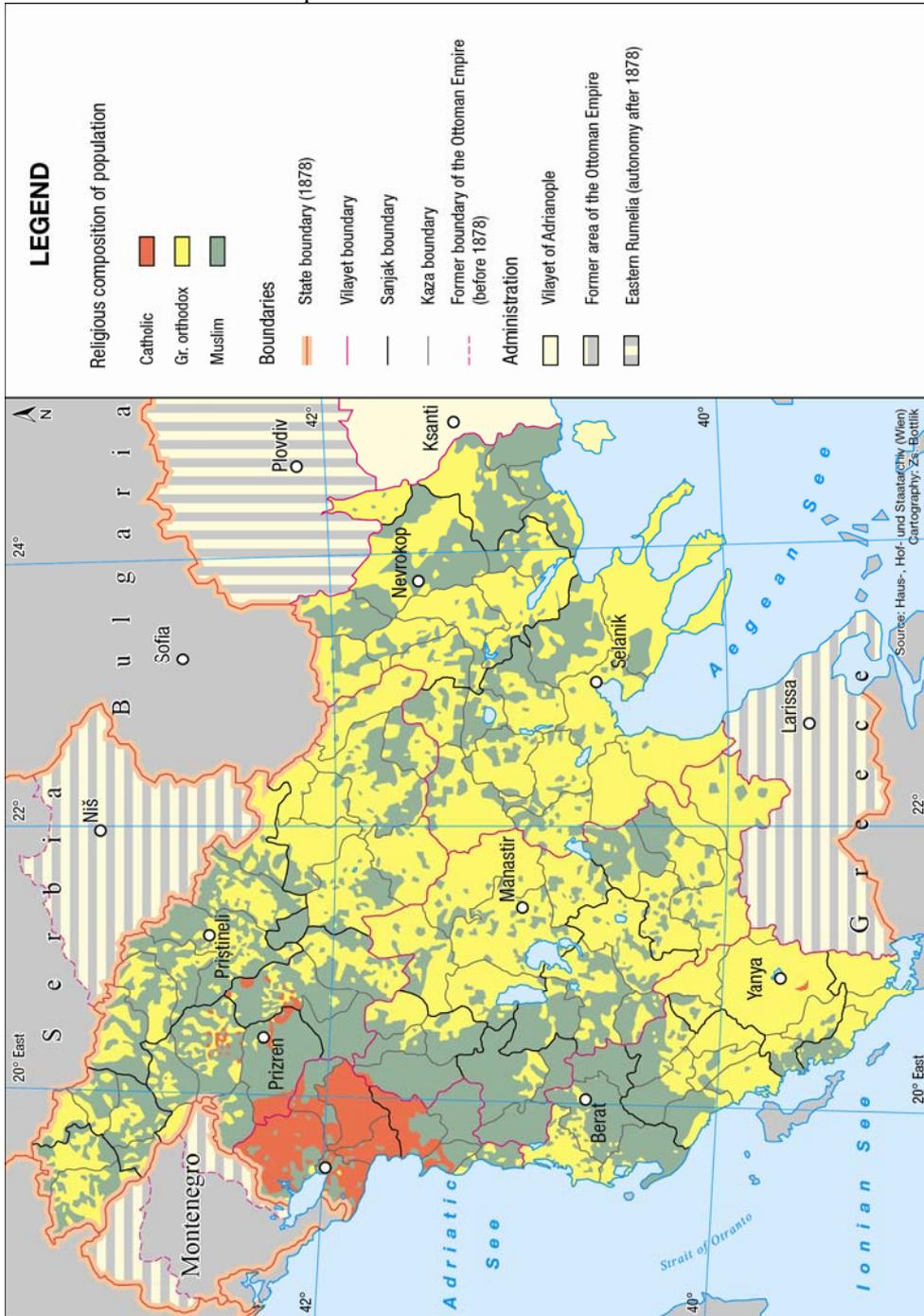
(3) The ethnographic pie-chart map of Macedonia and Albania with diagrams at kaza level based on the data found in Nachlass Kral (cca. 1900), redrawn and fit to other maps



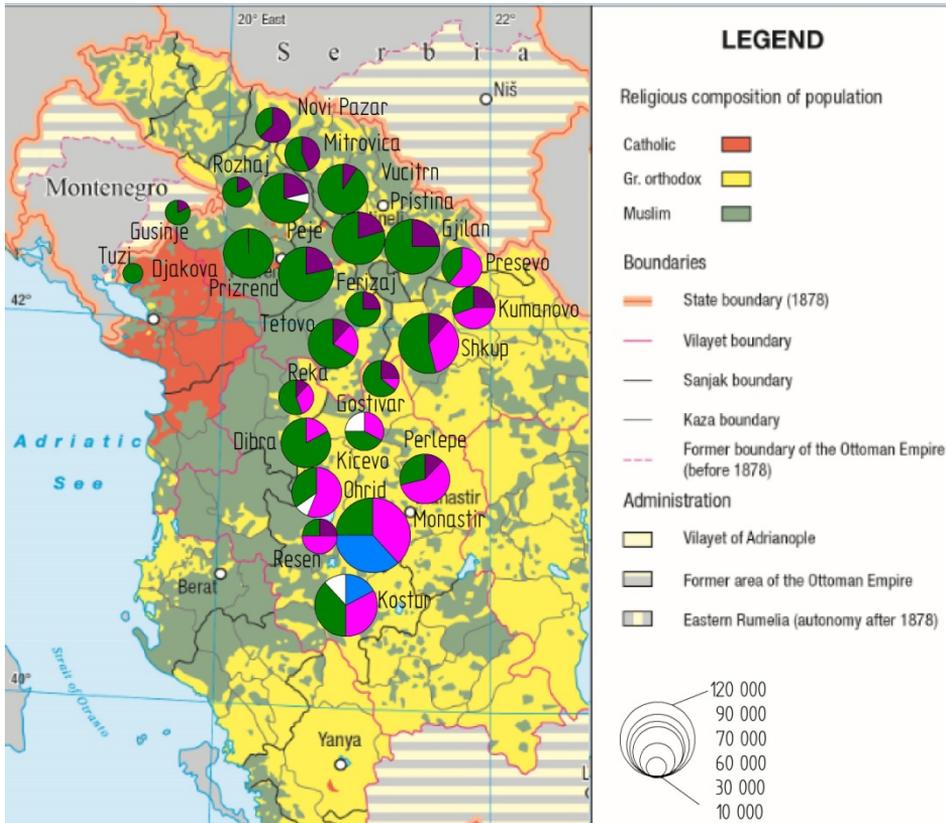
(4) The religious pie-chart map of Macedonia and Albania based on the data found in Nachlass Kral, redrawn and fit to other maps (cca. 1900)



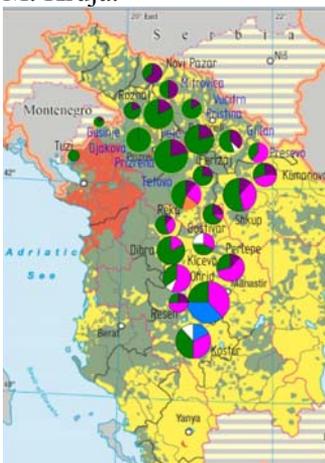
(5) The religious patch map of Macedonia and Albania (1877?), redrawn and fit to other maps

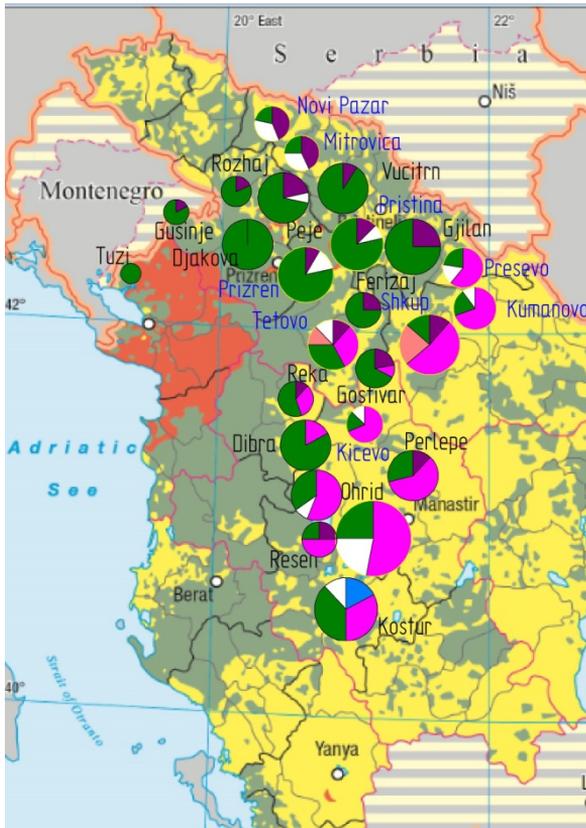


(6) The boundaries of Albanian nation according to the Ottoman census (1908), the Austro-Hungarian census in 1916, and the Bulgarian conscription of households (for the colours, see map 3)



Moslems and Turks are incorporated into the Albanians according to the book of M. Kruja.





Austrian version (see the depopulation and ethnic change in Kosova).
 Bulgarian: counted from households