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CROSSING THE GRAND ROUTES: HIGHWAYMEN ON THE ROADS OF THE ROMANIAN PRINCIPALITIES IN THE LONG NINETEENTH CENTURY

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Abstract

This paper draws on a larger research project whose aims are to extract spatial data from the Romanian hajduk genre fiction of the long nineteenth century (*HaiRo Corpus*), to set ground for an interdisciplinary database that provides a *documentary framework* for Hajduk criminality, and to contextualize territorial and topographical data-layers with geographically referenced information (GIS). The ca. 6,300 data-points that form the documentary frame of hajduk fiction are used in various vizualizations produced with QGIS in order to show the spread of criminality along the main routes and roads of the two Romanian Principalities. Certain spatial markers have been considered as typical for hajduk life, thus as *proxies* of such criminal phenomena: Post stations and inns from Austrian and Russian maps of the early nineteenth century; Monetary finds/ hoards; Geographic descriptions of places related to criminal activity; Late-eighteenth- and early-nineteenth-century Criminal Court Documents; Forest Toponyms/Phytonyms; Travel accounts. Criminality along the main routes and roads has been analyzed with both qualitative and quantitative methods that brought to the fore the complexity of the phenomenon under discussion. The conclusions indicate that the historicity of the roads, with segments that are either abandoned or created according to political or commercial opportunities, is relevant in explaining data density in certain areas.

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INTRODUCTION: MAPPING HAJDUK GENRE FICTION

The present paper draws on a larger research project whose aims are to extract spatial data from the Romanian hajduk genre fiction of the long nineteenth century (*HaiRo Corpus*), to set ground for an interdisciplinary database that provides a documentary framework for Hajduk criminality, and to contextualize territorial and topographical data-layers with geographically referenced information (GIS). A critical view on the hajduk novels' distinct spatiality was also one of the takeaways of the Hai-Ro Project (PN-III-P3-3.1-PM-RO-FR-2019-0063/ 13 BM / 2019), a French-Romanian bilateral cooperation that addressed, with both quantitative and qualitative methods, the why-s and the how-s of the *hajduk fiction* as one of the most productive subgenres of the Romanian novel before 1920 (*proiectulbrancusihairo.wordpress.com*). Currently, our interest turns towards "factuality" as conceivably one of the core concepts of *literary geography*, a field that has gained traction once with the so-called "spatial turn" in humanities and that has been defined as "the manifold interactions between real and imaginary geographies in various literary genres" (Piatti et al. 180). For the specific purposes of this paper—that is, to visualize and comment the distribution of literary and factual data nearby the main routes of the nineteenth-century Romanian Principalities—we will rely on a simplified definition that combines humanist and engineering approaches to *factuality*: factuality can be "profiled" as a computationally-tractable concept, thus is measurable by degrees (Sauri 68-152); factuality plays a crucial role in triggering readers' responses because it is related to "the pleasure of recognition" and to practical memory as "the reader is ready to sacrifice the pathic dimension of narrative tension, inherent in the introduction of plots in cinematographic or novelistic works of fiction, in order *to taste the fruits of factuality* [emphasis added]" (Lavocat 589). A theoretical discussion on factuality, its conceptual kinds and on factuality in geo-criticism will be the object of a work-in-progress paper that will be submitted any time soon.

The processing of our data can be briefly described as follows: 20,000 scanned and data-mined pages; 47 hajduk novel-samples counting 1,682,654 total words; 6755 data-points distributed across the historical regions of Romania (Moldavia, Bessarabia, Walachia, Transylvania, and Dobruja) and manually referenced with GIS coordinates, latitude and longitude, respectively. The non-literary data was designed to function as an analytical framework, or as "a documentary framework [*cadrage documentaire*]" (Caïra 136), for the factual mapping of *hajduk* fiction. Richly sampled in the *HaiRo Corpus* (Patras et al.), this kind of genre fiction is marked out by several topographically-related attributes: it began to be published in the second half of the nineteenth century, a period when national consciousness was reinforced by several historical events considered beneficial for the Romanians (The Union of the Romanian Principalities in 1859, the War of Independence in 1877, the Proclamation of the Kingdom of Romania in 1881) and which fueled their aspiration to reunite all Romanian historical provinces (Moldavia, Bessarabia, Wallachia, Dobruja, Bukovina, Transylvania); except for a few anonymous texts, all hajduk books and feuilletons were published in Wallachia.

The distribution of authors' birthplaces by region is relatively even for Moldavia and Wallachia, with greater productivity of Wallachian novelists (N.D. Popescu, for instance). However, one-quarter of the authors included in the Hai-Ro Corpus are anonymous or have no entries in literary dictionaries and encyclopedias (e.g., Alexandru Munte Stânceanu, Panait Popescu, Lazăr, Ștefan Stoenescu, Simeon Bălănescu, Anton Marcu), so belonging to one historical province or another is a piece of information that should be carefully considered.

METHODOLOGY: DATA EXTRACTION, FORMATS, PROCESSING, AND VISUALIZATION

The choice of geographically-relevant rather than genre-relevant attributes for the present attempt at corpus profiling is motivated by our interest in spatial factuality, which has led to a reduction of the fictional material to a list of 525 toponyms located exclusively within the boundaries of the historical provinces of Romania mentioned above (Galleron et al. 2021). Contrary to expectations regarding nineteenth-century nationalist ideology, the Romanian hajduk genre fiction is not blindfoldedly committed to the "national" territories. Places from 4

continents, albeit vaguely indicated as "zones", are also mentioned across the Hai-Ro Corpus: Belgium, Sweden, Denmark, Africa, Egypt, St. Petersburg, Pisa, Messina, Bagdad, USA, and many others, which, for their supposed exoticism within a context marked by the national awakening, are still waiting for a separate discussion that will be carried out in the near future. The *documentary framework* we built for this list of "hajduk" toponyms is composed of seven data-layers that were considered *proxies* for *hajduk* life and that were extracted from both textual and visual sources, such as Russian, Austrian, and Romanian maps that were bidden in the first decades of the nineteenth century or maps from the illustrative appendices of reference works. These seven layers have been fed in either individual visualizations or added-up visualizations that concatenated several spread sheets (e.g. "stopovers" are a sum of "pubs", "inns", and "post stations"): Crime records (*Criminal Department of Moldova*); Movement along roads (Post Stations from *Russian Map 1820*); Hiding places (Forests from *Toponymical Thesauri*); Treasure hiding (Monetary Finds from adjacent Maps); Socializing and stopovers (Pubs and Inns from available Maps); Contemporary accounts (eyewitness reports from *Foreign Travelers in Romania*); and Long-term societal memory (entries in *Great Romanian Geographic Dictionary*).

Before proceeding to the topic of data distribution around the historical routes of the Romanian Principalities (in focus: Moldavia and Wallachia), we will sketch an outline of the data-mining methodology. The first step towards the creation of a relational database is to derive tabular datasets (Han et al. 9-10; Dietrich et al. 6) from non-structured data. We have opted for the CSV format (*comma separated values*), which is often recommended in the literature for the advantages it offers: simplicity and interoperability, reliability in data processing, compatibility with numerous analysis tools (QGIS included), ease of applying statistical methods, efficient visualization and, finally, advantages in terms of data consistency and reusability (Kazil and Jarmul 194-195; Molin 52-114; Blum et al. 208-239; Healy 1-31). Our working documents have been organized according to a standard structure that generally contained a minimum of 4 columns: 1. In the column titled 'Names' we extracted place-names from raw resources; 2. In the column titled 'Address' we extracted data (from both raw resources and google maps) about the current location associated with the toponym; 3. In the column titled 'Longitude' we provided longitude reference

from Google Maps; 4. In the column titled 'Latitude' we provided latitude reference from Google Maps. Depending on the type of data collected, the documents were given additional columns, including remarks and observations. The identification of toponyms was performed by both manual and semi-automated keyword-based search methods.

Although automatic disambiguation solutions based on Artificial Intelligence have been tested (various prompts in Notebook LM and Google Studio), in this early project stage we adopted the classical method of contextual analysis, which involved manual checking of information and devising solutions for data disambiguation, the latter concerning not only homonymous toponyms, but also "the hunting" for clues on what Barbara Piatti et al. call "imprecise geography", that is, *settings*, *zones of action*, *projected spaces*, *markers*, and—what is the main research object of the present paper—*routes* (185). Also assisted by AI (Chat GPT 3), small in-house Python scripts were compiled so as to speed up some processes (e.g. inserting data into csv tables; assigning GIS to places that are non-ambiguously trackable on Google Maps). The key-terms in the manual search were determined, in some cases, by consulting appendices and other types of academic paratext our resources availed of; for instance, the table of abbreviations and indexes of the toponymical and criminal resources were of utmost importance for a previous filtering of relevant data. In order to properly record the longitude and latitude of toponyms extracted from original texts and from the cartographic repository, we used the geographic coordinate system in decimal degrees (DD), implemented in the most popular GPS application, Google Maps.

For the visualization of data distribution around the roads, we applied two kinds of approaches: a. general mapping and data overview; b. buffering. Buffering zones—that is, drawing several circular areas of 10 to 25 km around a point of interest—were selected according to the following criteria: 1. The most widely distributed and frequent toponyms in the HaiRo corpus; 2. The locations that are attested as crossroads or key-points on the grand routes of the Romanian Principalities. Taking into consideration the measure of "postes" (ca. 20 km), more buffers will be created in order to visualize the distribution of our data on various segments of grand routes (e.g. Calafat-Craiova-Bucharest) or nearby "the fluctuating roads" such as the frequently mentioned "robbers' ways".

All in all, the project passed through 3 stages that, after producing over 50 maps in QGIS and compiling over 23 datasets—among which 7 reflect unique entities such as forest locations or monetary-finds locations, and 16 reflect various combinations of these unique entities—led to a judicious targeting of the research scope, limits and possibly data-bias.

GRAND ROADS AND FLUCTUATING ROADS: A HISTORY *EN BREF*

Since a representation of data distribution nearby main roads should take into account the history of routes in the Romanian principalities, we will provide a sneak-peak view on a research that, combining QGIS visualizations and archival information, promises to shed light on a socio-economical and toponymical phenomenon that has not been researched so far: the highwaymen routes and the robbers' ways ("drumul hoților"), the latter being mentioned to present day in the oral histories of cities like Iași, Vaslui, Brăila, Constanța, Sibiu, Suceava, Botoșani, and others. Indeed, the Romanian road and route research has been considered a dry subject, a sort of leverage tool for the approach of main themes such as economics, politics and military organization in the larger context of state settlement and formation (Panaitescu 1994, 99-110). Scholars such as R. Vulcănescu and P. Simionescu grouped roads into two categories: the grand country roads, which were known to everyone (travelers, merchants and diplomats), and the *changing* or *'fluctuating' roads* (Vulcănescu and Simionescu 55), which were probably segments of obsolete routes or temporary shortcuts, like the aforementioned "robber's ways". Even recent contributions reinforce the fluctuating and changing reality of secondary roads, the Eastern-Moldavia network being described for instance with the metaphor of "the spider's web" [păienjeniș] (Chelcu 2006, 151).

In all historical ages, travel means and routes reflect the status of government and territorial control. Therefore, a spidery network of "fluctuating roads" shows a weak state control. It is not the case of the Romans, who created a system that linked the farthest corners of the empire to the capital, facilitating not only the movement of armies, but also the transport of goods, the movement of officials, trade and communication. The most important map that preserves information about European routes is thus *Tabula Peutingeriana*, a *pictorial*

itinerarium that provides information about main roads, distances, *mansiones* (post stops) and *mutationes* (inns for changing horses) (Talbert 124). This map's *Segment VII* is particularly relevant for cartographic research of Dacia and Moesia Inferior (Florescu 60; Panaite 147). Unsurprisingly, the Roman Imperial Road was the most important route because it linked, South to North, the Danube (Drobeta) to Ulpia Traiana Sarmizegetusa and Porolissum (Fodorean 17-29). Another important strategic road was called *Via Alutana* and it connected the Danube (Islaz) to the inner Carpathian arc (probably to Râșnov), through the entire Olt valley (Daicoviciu 280-285). There were also secondary roads connecting the gold and silver mining centers in the Apuseni Mountains (Zlatna and Roșia Montana) to the imperial road or linking Dacia with neighboring provinces, such as Moesia Inferior. Although many of the old roads have disappeared as a physical structure (*via strata*), their routes have been preserved and usually overlap modern roads. Continuity is largely due to geographical determinism: the Romans chose the most efficient natural corridors (river valleys, mountain passes, basins) and their choices remain relevant to the present day.

But Roman maps are also relevant for information that is not displayed directly, particularly concerning the road network in the East areas of the Carpathians. Indeed, with a few exceptions that are determined by relief conditions (Lăzărescu 283; Gostar 63), some road segments date back only to Middle Ages. The topography, distance from forests, from water and from low-lying areas play a decisive role in determining the routes (Mamot 125). While the existence of these roads was quite uncertain until the eighteenth century, when more detailed cartographic documents make it possible to research parts of them (see, for instance, Dimitrie Cantemir's or Constantin Cantacuzino's maps) (Ion 61-75; Giurescu 1943, 1-28), it is attested that towards the end of the same century, roads were already equipped with stopovers such as inns and *metocks*, the latter naming a building that belonged to a monastery and served as a place of temporary lodging. The symbols found on these maps, whether Austrian (Büschel, Otzellowitz, von Mieg, etc.) or Russian, correspond to those used today, with the advantage of being to scale in many cases, giving details of bridges (including floating ones with variable position), post stations, inns, distances (measured in *posts* [poște]), and so forth (Băican 135-142). As a rule, post roads tend to find the shortest distance between two points (post stops), whereas trade

roads tend to cover a larger distance and a greater number of human settlements in order to fulfill their trading mission (Florea 57-64; Rădvan 2004, 160-169; Rădvan 2007, 67-114; Alinescu and Pașa 3-43; Diaconescu 3-99; Boicu 1967, 81-116; Boicu 1968, 121-144; Chelcu 2006, 145-170).

For the research of hajduk criminality in the two Romanian Principalities, a phenomenon largely depicted by the hajduk genre fiction published across the long nineteenth century, it is crucial to understand where the main trade routes were located, what cities stand at the crossroads and which alternative routes might had been used or even temporarily created for robbery purposes. From Middle Ages to the first part of the nineteenth century, two major roads crossed the two countries. Wallachia was crossed by *via Braylan*, a segment of a grand route that connected Central Europe (city of Buda) to Constantinopole. The cities Oradea and Brașov were on the way, then the route passed the Carpathians via Câmpulung and Târgoviște, stopping at Brăila. Moldova was crossed, North to South, by a road coming from Poland and passing through Lvov; initially this road ran parallel to the course of the Dniester and formed *via Tartarica*, but after the Moldavian Princes gained authority in this part of Europe, the road swerved course and passed through royal residences such as Suceava and Iași (Rădvan 2007, 68-69). The roads' modernization was carried out starting with the Regulatory period of 1831-1832 when, under the impact of the Treaty of Adrianopol, the Turkish monopoly on the Romanians' trade was abolished (Boicu 1967, 81) and the importance of Brăila, as an ending point of *via Braylan*, diminishes.

The map we chose as support for our datasets is "КАРТА БЕССАРАБІИ, МОЛДАВІИ И ВАЛАХІИ" [Map of Bessarabia, Moldavia and Wallachia]. Made by the Russians in 1820, thus a little bit before the Ruso-Turkish War of 1828-1829, it is a valuable resource because it depicts the grand routes before the waves of modernization brought about by the Treaty of Adrianopol (1829). Excepting "fluctuating roads" that might not be mapped properly, it provides us with a snapshot of circulation from the second half of the eighteenth century to the beginning of the nineteenth century, a period also associated with the Phanariot rulings and with the Hajduk rebellions and robbery. On this map, the grand roads of the two Principalities are punctuated by post stops that form a denser line-up on the way Drobeta-Craiova-Bucharest than on the alternative route

Câmpulung-Târgoviște-Bucharest (in Walachia); the impression of density is maintained when the aforementioned segment is compared with the several routes that cross the Principality of Moldavia from South (Galați [*Galatz*]) to North (Botoșani, Cernăuți). The cartographic representation reflects the direction North-West to South-East that is highly influenced by the main rivers' fords (Rădvan 2007, 74) and the importance of Bucharest as capital of the Principality (settled in the 17th century), thus a geopolitical situation that, as in the case of Moldavia's *Via Tartarica*, determined *Via Braylan* to take a detour towards the South and leave to obsolescence the old passing-points: Câmpulung as a customs city that used to be connected to either Târgoviște or Curtea de Argeș (the old capitals of Wallachia); Târgșor-Gherghița-Buzău as key route-points towards Brăila and Pitești-Slatina-Turnu as key route-points towards Nicopole (Rădvan 2011, 223). It is not only the change of capitals that determine the change of the road network: foreign travelers complain that the way from Brașov to Câmpulung is extremely difficult to travel along due to natural obstacles (*Călători străini* 1971, 20).

The route to The Principality of Moldavia went through Buzău; it was called "Bogdan's Way" [*Drumul Bogdanului*]. Like Câmpulung, Râmnic functioned as customs from which two old roads forked and directed toward the towns of Putna and Soci. From the second half of the sixteenth century, the route to Moldavia changed because the two towns, that functioned as fairs, lost importance and because the border between the two principalities had been relocated on a branch of the Milcov, which led to the rise of a new city, Focșani. At the end of the eighteenth century, the road connecting the Principality of Moldavia to Bucharest changed route, bypassing the gradually decaying town of Gherghița and enhancing the importance of Urziceni, where a post station was set up (Rădvan 2007, 79-88).

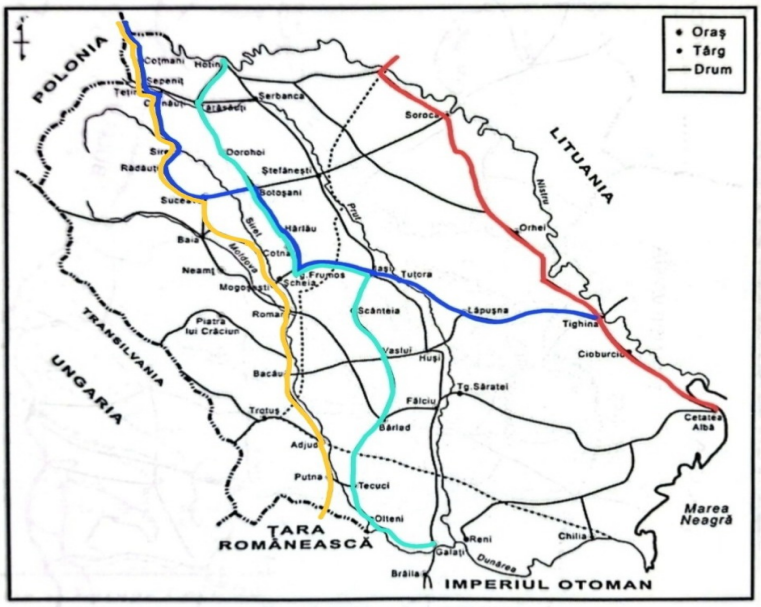

Figure 1. Map of Moldavian roads and routes in 14th to 16th centuries (from Rădvan 2011, 656): "Via Tartatica" (red line); "Via Walachiensis" (blue line); "Siret's way" (yellow line); "Constantinopole's way" (green line)

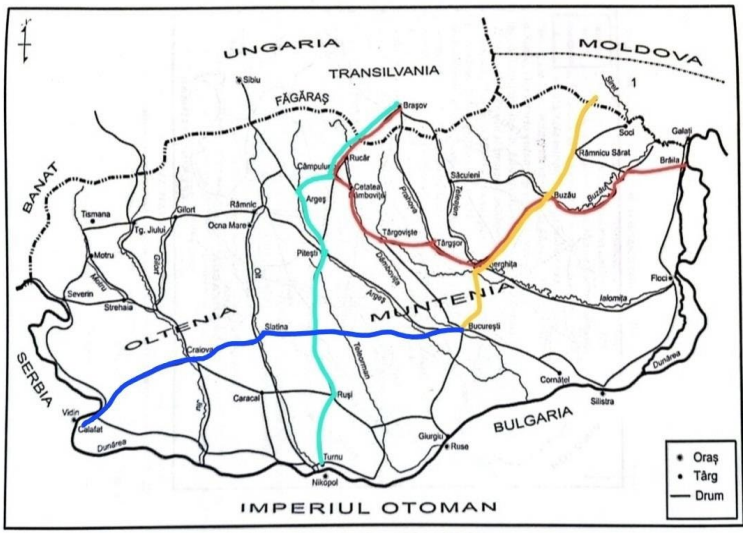

Figure 2. Map of Wallachian roads and routes in 14th to 16th centuries (from Rădvan 2011, 655): "Via Braylan" (red line); "Bucharest's way" (blue line); "Bogdan's way" (yellow line); "Nicopole's way" (green line)

A quick look at the Wallachian road maps of the eighteenth century shows that routes converged at Bucharest and Craiova, both of them residences of local rulers. In addition to these two main crossroads, there were also secondary road hubs, such as Buzău, Ploiești, Pitești, Râmnicu Vâlcea or Târgu Jiu, many of them located in the sub-mountainous area, where the routes crossing the mountains joined with those crossing the Great Plain of Bărăgan. The towns on the Danube were generally the end points of these roads, the river being the destination or just a stopping place to one's way toward the Ottoman Empire (Rădvan 2007, 89).

As previously mentioned, the layout of Moldavian roads was also influenced by geographical conditions. First of all, we have to take into account that, differing from Wallachian grand routes which had to cross great rivers such as Olt, Jiu, Argeș, Dâmbovița, Ialomița and Buzău, the Moldavian grand routes ran along the valleys of rivers Prut and Siret. Going East toward the Bessarabian plateau, on the left bank of the Siret River, the road network turns into a spider's web (Chelcu 2006, 151). The impression is persistent even if the main directions are given by the course of the major rivers, such as Prut, Dniester and affluents (Alinescu and Pașa 3). This is probably due to the various developments of *Via Tartarica* and *Via Walachiensis*, the Tartar route and the Moldavian route (Hromov 2019, Alinescu and Pașa 342-344), that occur once with the Polish merchants' realization that traveling through the Principality of Moldavia to Kaffa (currently Feodosiia in The Crimea Peninsula) is safer than going through the Mongol customs. The route's center of gravity was thus moved to the Siret valley (Panaitescu 1994, 83), especially on its right side, with key road-points in the cities of Chernivtsi, Siret, Suceava, Roman, Bacău, Adjud, and Focșani that connected Poland to Wallachia (Gonța 33). The northern segment, also called "Suceava's way", along with the towns of Baia, Siret and Suceava lost their importance towards the end of the seventeenth century due to the Ottoman expeditions to Poland. There are numerous complaints to the vicars of Câmpulung Moldovenesc about the crimes committed by robbers (Chelcu 2006, 167; *Documente Hurmuzaki* 1403-1412). Once with the establishment of Iași as the

capital of Moldavia (1564), the nearby cities (Hârlău, Târgu Frumos, Lăpușna, and Tighina) as well as the segment Iași-Galați (also called "Constantinopole's way" [*Drumul Ţarigradului*]), passing through Vaslui, became attractive for travelers (Rădvan 2011, 345; Chelcu 168-169). As in the case of Bucharest, whose entry roads were subjected to change because of various travel challenges, the extremely difficult route to and out of Iași via Bârnova was changed with a gentler route via Bucium (Boicu 1968, 132).

On the eve of the Organic Regulations, heavy land transportation was done by cart in both Romanian Principalities. Lacking bridges and keeping roads in a disastrous state meant that entire regions remained isolated and that transportation costs were very high. The poor state of trade routes explains why the transportation of certain categories of goods from England to Galați costed less than their transportation from Galați to Dorohoi or why the cereals from Northern Moldavia were turned into brandy rather than exported. However, the Russian protectorate came with the modernization of grand routes that were soon turned into cobble and wood highways. From the outset, the major nineteenth century routes of Moldavia were decided to be: Iași-Tecuci-Galați; Tecuci-Focșani; Iași-Târgul Frumos-Roman-Bacău; Bacău-Târgul Ocna; Roman-Cornul Luncii; Iași-Botoșani-Dorohoi-Herța-Mamornița; Botoșani-Târgul Nou (Mihăileni) (Boicu 1968, 121).

Although special measures for the safety of communications were provided for in the Organic Regulation, transportation was still hindered by highway robbery. C.A. Kuch, the consul of Prussia, advised the foreign travelers through the Romanian Principalities "to be always armed and ready to defend himself" (Boicu 1967, 82-83), noting that between 1835 and 1837 in Moldavia, several gangs of robbers made the roads unsafe and merchants were plundered on all sides and almost unable to leave the towns. On April 10, 1836, the Prussian diplomat was forced to announce that the brigandage was "causing a great offense to the commercial capital" (Boicu 1967, 82-83). In a report of the Galați County Hall, it was stated that the trade of the [Danube] port of *Galatz* went backwards because money from Iași had been robbed on the Constantinopole's way and did not reach to the port market. Consequently, money shipments to Galați were accompanied by armed officers, then the transportation of coins was transferred to the post office and put under the aegis of the State Treasury. But

the looting did not stop as in November 1848, a shipment to Iași was high-jacked near River Docolina (Podul Doamnei, the segment Vaslui-Bârlad). Under such pressure, the state had to take immediate action. In 1834, it was decided that no villager may travel anywhere without a permission (ticket), which was intended as a measure of both travel and criminal checking. In 1835, this legal measure was modified and the village communities took responsibility for catching and suppressing the highwaymen. Later on, the main roads were watched by guard posts: from Herța to Iași; from Focșani-Adjud-Bacău-Roman-Târgul Frumos-Podul Iloaiei to Iași; from Târgul Frumos to Fălticeni; from Fălticeni to Mihăileni via Botoșani; from Mihăileni to Dorohoi; from Fălticeni to Piatra via Târgul Neamț; from Bacău to Târgul Ocna and from Iași to Huși (Boicu 1967, 114-115).

By the mid-nineteenth century, the Romanian provinces were crossed by three types of roads: postal roads (tracts), commercial roads and country roads.

RESULTS AND DISCUSSION

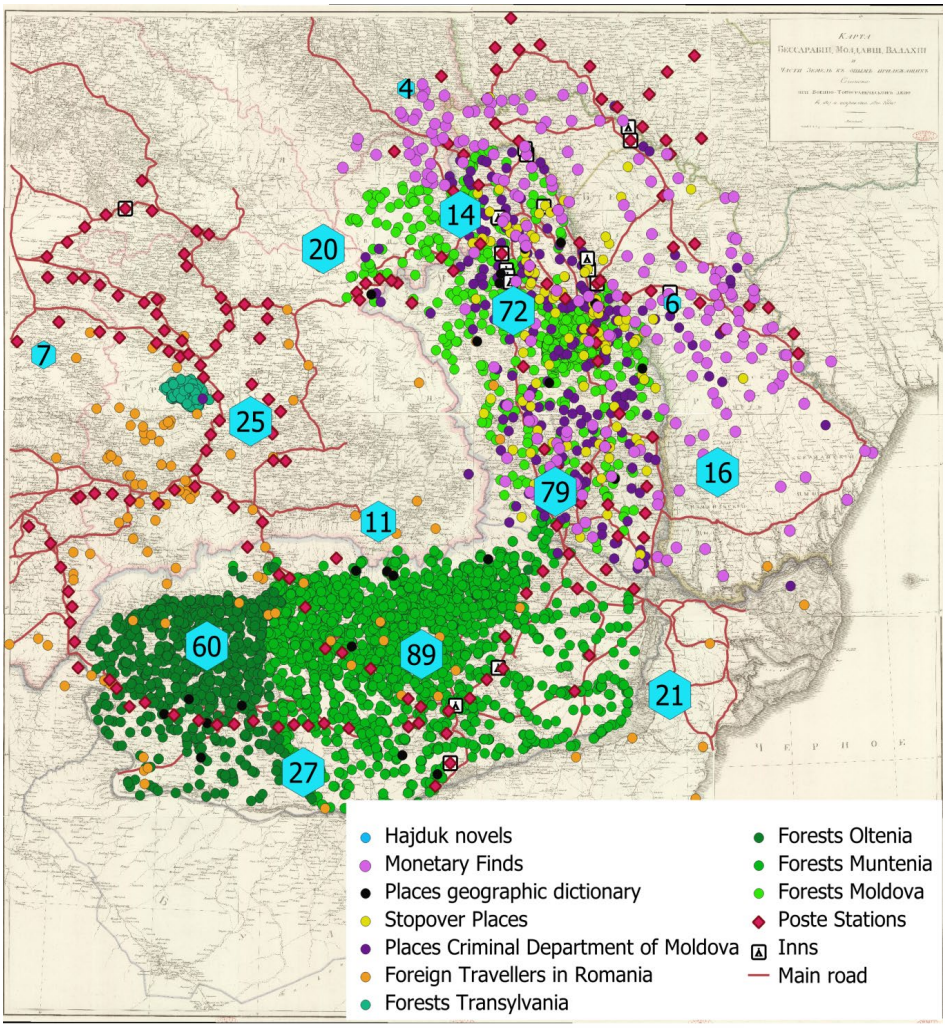

Figure 3. Landscape view (all datapoints)
Base map title: КАРТА БЕССАРАБІИ, МОЛДАВІИ И ВАЛАХІИ
(Map of Bessarabia, Moldavia and Wallachia)

Figure 3 is a composite historical map of the Romanian principalities (Wallachia, Moldavia) and surrounding regions like Bessarabia and Transylvania, based on a map commissioned by the Russians in 1820. The base map, which uses Cyrillic script, shows topography, settlements, rivers, and roads. Overlaid on this are multiple layers of thematic data represented by

colored points and symbols. These layers illustrate the distribution of locations from *hajduk* novels, monetary finds, forest areas, travel infrastructure (roads, inns, post stations), and other historical records. Light blue hexagons with numbers indicate clusters or counts of data points in specific areas.

The map contains 6,826 documentary data points and 525 literary data points (for a total of 7,351 points), distributed as follows:
1. Locations from the HaiRo corpus (labeled "Hajduk novels"): 596 data points, of which 525 are located within the historical regions of Romania;
2. Post stations and inns from Austrian and Russian maps of the early nineteenth century (labeled "Poste Stations"): 267 data points;
3. Monetary finds/Hoards (labeled "Monetary Finds"): 237 data points;
4. Geographic descriptions of places related to criminal activity (labeled "Places geographic dictionary"): 27 data points;
5. Late-eighteenth- and early-nineteenth-century Criminal Court Documents (labeled "Places Criminal Department of Moldova"): 310 data points;
6. Forest Toponyms/Phytonyms (labeled "Forests…"): 910 for Moldavia; 2,971 for Wallachia; 478 for Transylvania; 872 for Oltenia (total: 5,231 data points);
7. Travel accounts (labeled "Foreign Travellers in Romania"): 158 data points (Odochiciuc).

In certain areas, particularly around Bucharest (Wallachia), Roman (Moldavia), or other historically significant regions, there is a higher concentration of the mapped phenomena: *Hajduk* Novels, forests, or data from the Criminal Department (for Moldavia). When dots representing different categories overlap, this suggests a spatial correlation or co-occurrence, not necessarily a direct causal relationship. The map shows the position of forests in both Romanian Principalities with respect to roads. Due to different toponymical methodology applied by regional research teams, for Wallachia the forest database was considerably bigger than the forest database for Moldavia; however, one can notice that the route Calafat-Craiova-Bucharest, which runs parallel to the Danube (West to East) and separates the Wallachian territory into North and South, is also a borderline between thick and sparse forests. The same is valid for the territory between the two main routes in Moldavia, that is, the area Bacău-Vaslui-Iași, that seems to have a higher concertation of phytonyms.

Genre-fiction data cluster into three hubs in Moldavia (distributed across its Upper, Middle, and Low Lands) and three hubs in Wallachia, the latter

mainly concentrated in Wallachian Western and Middle Lands, along the segment Calafat-Craiova-Bucharest of a grand route. However, the most evident *Hajduk* hubs in Wallachia are closer rather to forests than to roads (post stations). In contrast, *hajduk* hubs in Moldavia are closer to roads and to locations listed in the geographic dictionary as related to highway robbery. The visual data thus suggests that the literary *hajduk* hubs in Wallachia are viewed by novelists as static (linked to forests and hiding), while those in Moldavia are viewed as dynamic (linked to roads).

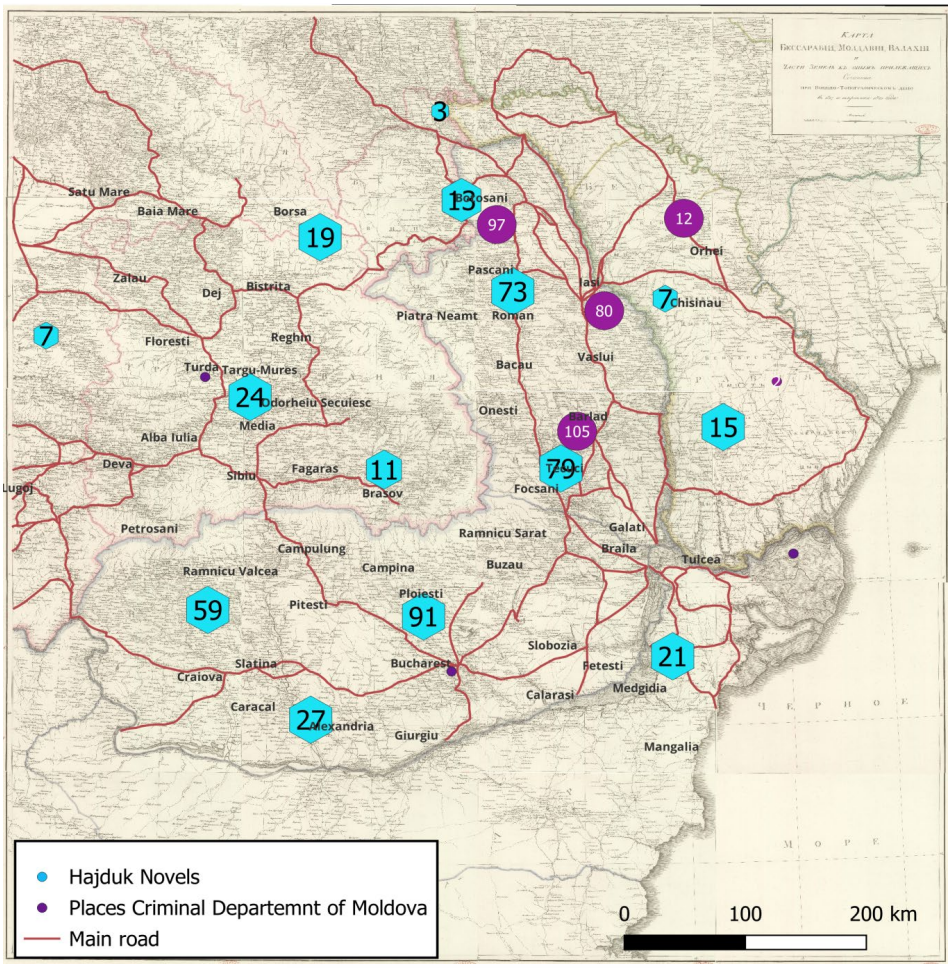

Figure 4. Criminal Data and Roads

Figure 4 shows that data points extracted from the records of the *Criminal Department of Moldova* (Văcaru and Chelcu 2017-2024) are clustered with fictional data in the Northern and Southern parts of Moldavia. The map shows a possible correlation between criminality density and main crossroads and road segments: the biggest clusters, thus a concentration of reported and trialed robbery crimes, are near the segments Tecuci-Bârlad, Vaslui-Iași, and Pașcani-Botoșani.

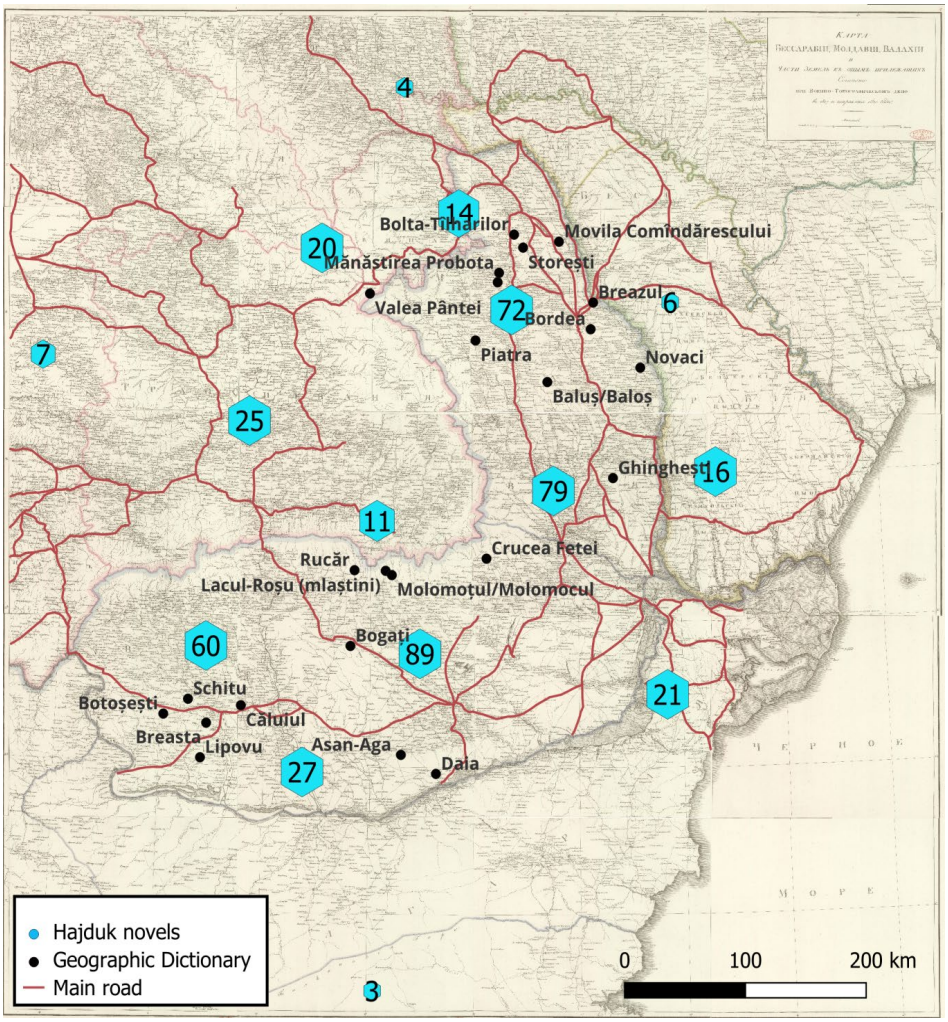

Figure 5. Geographic Attestation of Hajduks and Roads

Figure 5 contains data points from the *Hajduk* novels and from geographic resources, the latter being a small dataset of 27 *hajduk*-related toponyms that were extracted from *Marele Dicționar Geografic al României* (Lahovari et al. 1898-1902). As a rule, literary data clusters are far from the geographically-informed data points, with the only exception being Middle Moldavia, where a big hajduk hub (72 data points) is surrounded by a constellation of geographically-attested hajduk circumstances. The other geographic data points are close to secondary roads, mountain passages, and river valleys not yet marked on our map. A remark should be made about the exits of Iași (though Bordea, Bârnova, and Breazu) that are marked as difficult not only because of their slopiness (Boicu 1968, 132), but also because of robbery danger.

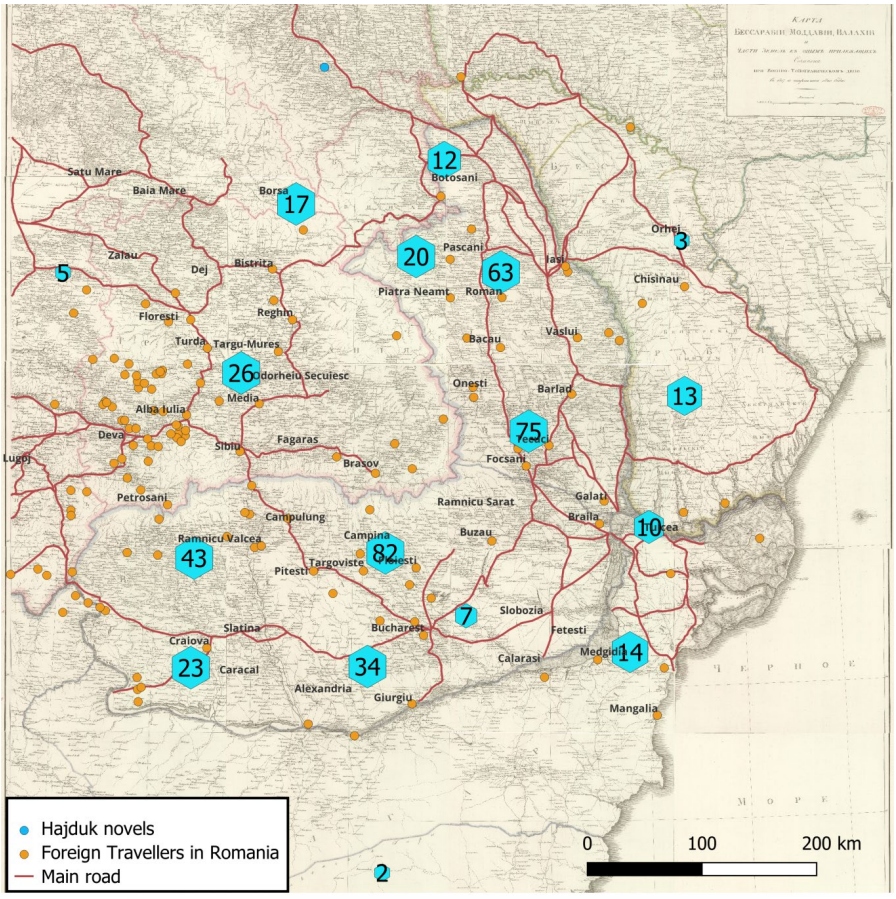

Figure 6. Foreign Travelers Accounts of Robbery and Roads

Figure 6 was created to test if data from foreign travelers' accounts aligns with the main commercial routes of the Romanian provinces. Generally, the places mentioned in travel narratives are close to the post stops on the grand roads, thus information about robberies can be considered reliable. If we zoom in the South exit of Iași, we may discover that the travelers' information enhances the attestation provided by *Marele Dicționar Geografic al României*, with plundering reported in the South-Eastern exist of Iași, towards Vaslui. Other information refers to older roads, such as the segment Câmpulung-Târgoviște-Buzău, or to mountain passages Onești, Brașov, Petroșani and Râmnicu Vâlcea.

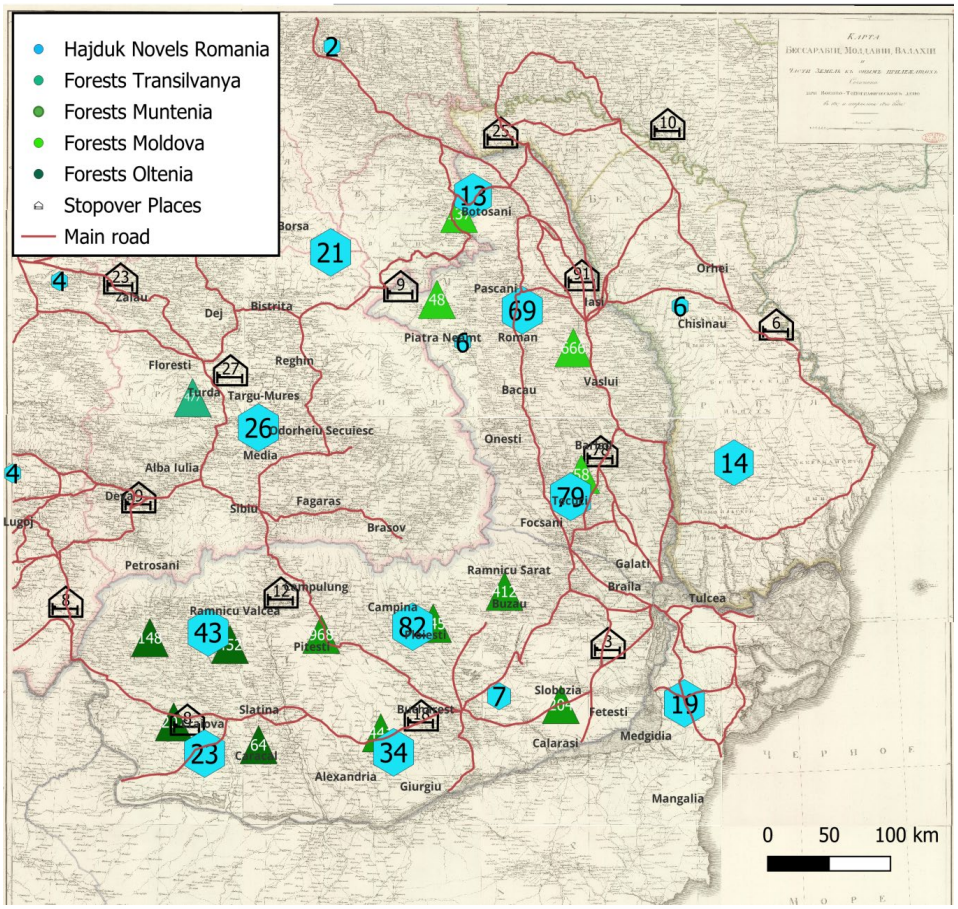

Figure 7. Stopover places, Forests and Roads

Figure 7 shows that literary *hajduk* hubs are closer to forests than to stopover places (post stations, pubs, inns). Eleven *hajduk* clusters (with more than 10 data points each) are scattered across the five historical regions. Given the data limitations for Transylvania, Dobruja, and Bessarabia, this visualization is more useful for the Principalities of Moldavia and Wallachia. Of the seven clusters in these principalities, six are grouped with forests. The largest *hajduk* hub in Moldavia (79 data points) is also surrounded by a cluster of stopovers, while the largest hub in Wallachia (82 data points) is not. Instead, two of the smaller Wallachian hubs are located near stopover clusters. In general, stopover clusters are isolated from other data, suggesting that hiding (in forests) and

socializing (in pubs and inns) represent two distinct aspects of *hajduk* activity. The main exception is the border area between Wallachia and Moldavia (Focșani-Tecuci). The map indicates, in accordance with other scholarly contributions, the importance of Craiova, Bucharest, Bârlad, Iași and Suceava as relevant key-locations for the history of grand routes.

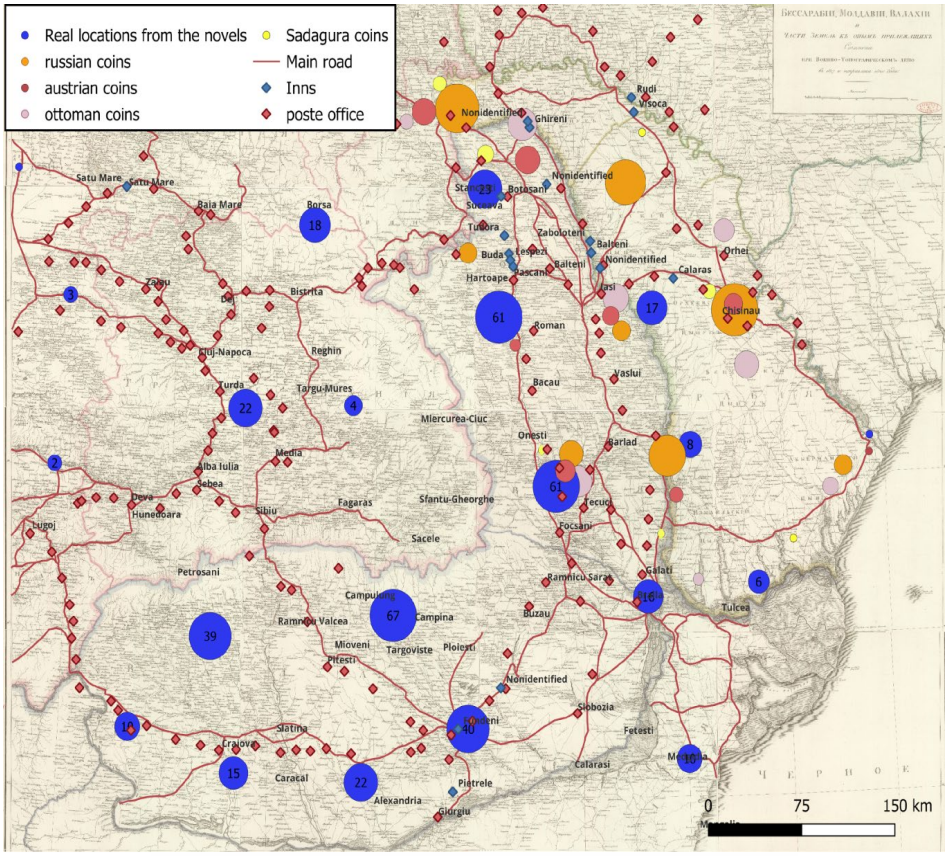

Figure 8. Monetary finds (various types of coins) and Roads

Figure 8 shows that monetary finds are closer to fictional data in northern and southern Moldavia. The zones of stealing (hajduk hubs) and the zones of burying monetary treasures are shown as distinct traits of activity. The largest clusters of monetary finds are at the ends of grand routes' segments (Chernivtsi) or on the natural borders (Prut), confirming that hiding a treasure involved avoiding highly circulated routes and hajduk robbery. The map also

brings to light the fact that there is only one area (Onești-Tecuci-Focșani) where all types of coins are clustered closely, which indicates intense circulation and trade at the border between the two principalities.

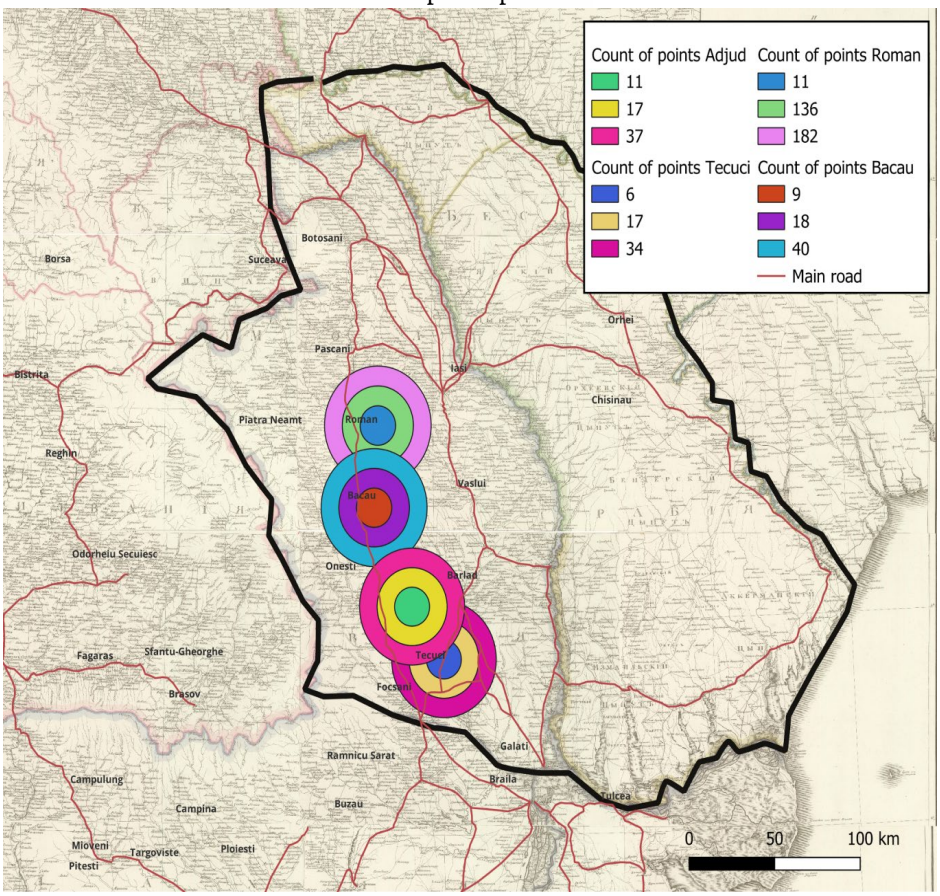

Figure 9. Buffer analysis (10+10+10 km) around Adjud, Tecuci, Roman and Bacău

Figure 9 and *Figure 10* show buffer zones around cities on *Via Valachica* (Tecuci, Adjud, Bacău, and Roman) and around Bucharest. These areas consistently appear as significant centers of mapped phenomena. With a few exceptions, the factual data is distributed gradually from the 10 km inner circle to the 30 km outer circle. The proportional increase in data points as the area expands shows that the documentary dataset we assembled is balanced and reliable. At the same time, the Moldavian mainland cities Tecuci-Adjud-Bacău-Roman, which are

situated within distances of 40 to 50 km (that is approximately 2 *postes*) show a similar distribution of surrounding data, with peaky scores around Roman. Future explorations with buffer analysis need to focus on the comparison between cities that are located within 3 and 4 postal station distances (ex. Roman, Iași, and Vaslui). All in all, the proxies of criminality data are relatively homogeneously distributed along the grand roads of Moldavia and Wallachia, which shows that social phenomena such as hajduk plundering should be researched with an eye to the history and evolution of road networks in the two Romanian Principalities.

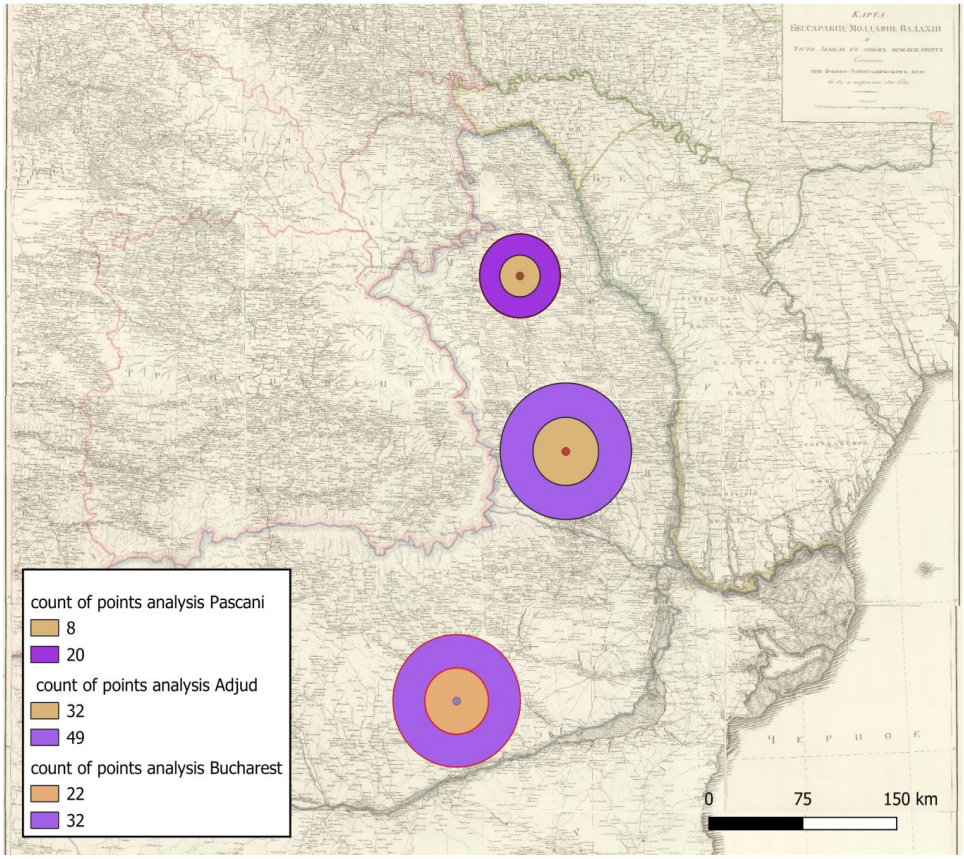

Figure 10. Buffer analysis (25+25 km, ca. a poste's distance) for Bucharest, Adjud and Pașcani

CONCLUSIONS

All the maps above demonstrate how physical geography (forests, roads) was intertwined with human activity (travel, crime) and cultural narratives (*hajduk* novels, foreign accounts).

The documentary framework indicates that the literary portrayal of banditry in Wallachia is more closely linked to hiding and stopping over (forests, inns) than to criminal acts reported by foreign travelers or by the informers of the geographic dictionary. In contrast, considering the two major trade routes in Moldavia and the distance from monetary finds and crime scenes, literary *hajduk* life in Moldavia is more likely linked to mobility and crime (highway robbery). This conclusion is also supported by the origins of the authors: those from Muntenia (e.g., N.D. Popescu) propose a romantic type of *hajduk* linked to the forest *topos*, while those from Moldavia (e.g., Panait Macri) propose a criminal type, more akin to a bandit or to the highway man. The distinction between the two types of literary *hajduk* spatiality—one more factual (Moldavia) and the other less factual (Muntenia)—is also supported by the concentration of literary data along the major trade routes. The Galați-Tecuci-Adjud-Bacău-Roman connection in Moldavia is more densely populated with literary data than the routes in Wallachia. From this perspective, the Moldavian *hajduk* is "the factual Other" of the heroic *hajduk* archetype. This factuality is not accidental, as the phenomenon was reported in Moldavia even in the early twentieth century.
Criminality along the main routes and roads has been analyzed with both qualitative and quantitative methods that brought to the fore the complexity of the phenomenon under discussion. The conclusions indicate that the historicity of the roads, with segments that are either abandoned or created according to political or commercial opportunities, is relevant in explaining data density in certain areas

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