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J. KALIĆ, *Information about Belgrade in Constantine VII Porphyrogenitus* • D. POPOVIĆ, *On Two Lost Medieval Serbian Reliquaries* • D. KOVAČEVIĆ KOJIC, *Serbian Silver at the Venetian Mint* • A. FOTIĆ, *Coping with Extortion on a Local Level* • L. HÖBELT, *Balkan or Border Warfare? Glimpses from the Early Modern Period* • P. M. KITROMILIDES, *Spinozist Ideas in the Greek Enlightenment* • M. KOVIĆ, *Great Britain and the Consular Initiative of the Great Powers in Bosnia and Herzegovina* • M. BJELAJAC, *Humanitarian Catastrophe as a Pretext for the Austro-Hungarian Invasion of Serbia 1912–1913* • F. GUELTON, *Avec le général Piarron de Mondésir: Un aller-retour de Brindisi à Valona* • D. BAKIĆ, *The Serbian Minister in London, Mateja Bošković, the Yugoslav Committee, and Serbia's Yugoslav Policy in the Great War* • G-H. SOUTOU, *The Paris Conference of 1919* • B. MILOSAVLJEVIĆ, *Drafting the Constitution of the Kingdom of Serbs, Croats and Slovenes (1920)* • M. VASILJEVIĆ, *Carrying Their Native Land and Their New Home in Their Hearts* • S. G. MARKOVICH, *The Grand Lodge of Yugoslavia between France and Britain (1919–1940)* • V. G. PAVLOVIĆ, *La longue marche de Tito vers le sommet du parti communiste* • K. NIKOLIĆ, *Great Britain, the Soviet Union and the Resistance Movements in Yugoslavia, 1941* • Y. MOURÉLOS, *Les origines de la guerre civile en Grèce* • A. EDEMSKIY, *Additional Evidence on the Final Break between Moscow and Tirana in 1960–1961* • Lj. DIMIĆ, *Yugoslav Diplomacy and the 1967 Coup d'Etat in Greece* • K. V. NIKIFOROV, *The Distinctive Characteristics of Transformation in Eastern Europe* • B. ŠIJAKOVIĆ, *Riddle and Secret: Laza Kostić and Branko Miljković* ✍

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## Serbian Silver at the Venetian Mint in the First Half of the Fifteenth Century

**Abstract:** This paper is an attempt to learn more about the inflow of Serbian silver into the Venetian mint based on three account statements sent from Venice to the Kabužić (Caboga) brothers in Ragusa (Dubrovnik) and on the sets of contemporary data published and discussed by Alan M. Stahl. A reference to the Venetian mint occurs in 1431 in a letter of Christophore Alberto, a citizen of Ragusa, but it is only the fourth page of an extensive account statement drawn by the Venetian Nicolo Grioni in 1435 that refers almost entirely to the mint's mode of operation. It contains the name of *ser Aluvisse*, whose responsibility was to add an alloy to silver bullion, and of *ser Rafael Barisson maser ala zecha*, a mint master. An account statement presented by Marco di Stai to the Kabužić brothers in 1435 mentions the name of the same mint master and refers to some steps in the operation of the mint but without specifying their sequence. Relying on the data contained in the accounting books of Guglielmo Condulmer, a Venetian merchant, Alan M. Stahl has singled out some fifteen or so names of the persons whose supplies of silver to the mint exceeded 70 kg each, notably *Marin di Gradi* (165 kg), a member of a well-known noble family of Ragusa. Apart from him, eight more Ragusans may be identified, four from the ranks of nobility and four from the citizen class, who supplied a total of 891 kg of silver to the mint. Serbian silver made its way to the Venetian mint through Ragusan middlemen, which may explain why the silver that largely came from Serbian mines tends to be classified as *Ragusan silver* in European historiography.

**Keywords:** mint, Serbian silver, Venice, Ragusa (Dubrovnik), Kabužić (Caboga) brothers, account statements from Venice, Christophore Alberto, Nicolo Grioni, Marco di Stai, Guglielmo Condulmer's accounting books, Alan M. Stahl

The exploitation of mines in medieval Serbia begins with the arrival of Saxon miners in the mid-thirteenth century, under King Stefan Uroš I (1243–76). Soon afterwards there appear the first references to the minting of coins from fine silver at Brskovo, the oldest silver and gold mine.<sup>1</sup> From the very beginning of minting the coinage issued by the Serbian kings matched the Venetian

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<sup>1</sup> The first information about the trade in and export of silver from Brskovo to Ragusa and thence to Venice also date from the 1270s. See R. Čuk, *Srbija i Venecija u XIII i XIV veku* (Belgrade: Istorijski institut, 1986), 23, 24, 100, and V. Ivanišević, *Novčarstvo srednjovekovne Srbije* (Belgrade: Stubovi kulture, 2001), 27.

*grosso* in appearance, weight, fineness and intrinsic value. The striking similarity between the two did not go unnoticed even by Dante Alighieri, a contemporary of these developments, in his famous *Divina Commedia*. Thus coinage was one of the ways in which Serbian silver found its way into the Venetian market even before the fourteenth century. The Venetians at first allowed the circulation of Serbian coinage, but it did not take long before they began introducing a number of measures to protect their market, until eventually, more than a decade later, they managed to ban it altogether.<sup>2</sup>

The export of silver from Serbia to Venice can be followed from the early 1320s, intensifying in the 1330s. From the mid-fourteenth century a severe shortage of precious metals began to be felt in Europe because of the greatly depleted European silver mines and the outflow of silver to the East. These circumstances greatly contributed to an abrupt rise in mining output in Serbia. Several silver mines were opened, including Trepča, Rudnik and Novo Brdo (*Nuovo Monte*), the latter having been known for its gold-rich silver,<sup>3</sup> the famous *argentum de glama* (presumably from the Greek word *μαλαγμα*, meaning “gold”; in Latin and Italian sources also referred to as *argento indorato*, *argento in oro*). Silver mines in the area of Mt Kopaonik also began operating soon afterwards.

Silver mines began operation in the mid-fourteenth century in Bosnia, too. The silver exported from Bosnia (Fojnica, Dušina, Deževica), being unrefined (*argento plichó*), was sold at a lower market price. The silver mine of Srebrenica near the river Drina in eastern Bosnia was reopened, and in the early fifteenth century incorporated into the medieval Serbian state. The Serbian mines were also silver refining sites. Latin sources refer to this final stage in the production of silver as *affinatio*. It is known that mints only accepted fine silver, *argento fino*, for coinage.<sup>4</sup>

It is therefore understandable why Serbian silver and gold entered the European trade in precious metals as early as the mid-fourteenth century. They mostly went to Venice via Ragusa, and then from Venice to Levantine markets in the eastern and as far as Catalonia in the western Mediterranean.

The Serbian production of precious metals kept growing and reached its peak in the first half of the fifteenth century. This is evidenced, inter alia, by ever stronger Ragusan colonies established not only at the mines themselves but also in the surrounding market towns. The stronger Ragusan presence suggests

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<sup>2</sup> The efforts of the Venetian government to ban Serbian currency have been an object of attention of both Serbian and foreign historians and numismatists. See Čuk, *Srbija i Venecija*, 25–31.

<sup>3</sup> I. Voje, “Argentum de glama”, *Istorijski časopis* 16–17 (1970), 16.

<sup>4</sup> D. Kovačević Kojić, “On the Composition and Processing of Precious Metals from the Serbian Medieval Mines”, *Balcanica* 45 (2014), 97–106.

that as the mining output grew so did the amount of precious metals exported to European markets.

Apart from being traded commodities, precious metals were used for servicing debts, for purchasing goods, for making jewellery. Naturally, considerable amounts of silver ended up in mints. As far as Serbian silver is concerned, this has been documented for the mints in Serbia, Bosnia, Ragusa and the royal mint in Southern Italy, but has only been assumed for the mint in Venice.<sup>5</sup> The Venetian mint is only mentioned indirectly in the available documents, in connection with the negotiations between the Ragusan government and Venice (1319) about customs duties which were to be paid at the delivery of silver to the mint.<sup>6</sup> The otherwise ample source material concerning the export of Serbian silver to Venice kept in the State Archives in Dubrovnik, however, contains no information about any portion of that silver being supplied to the mint. It should nonetheless be assumed that it was, given the fact that the Venetian government, always careful to maintain the stability of its monetary system, implemented various measures to make sure its mint was adequately supplied with silver.<sup>7</sup> This lends all the more importance to the account statements and letters that the Ragusa-based Kabužić brothers, engaged in the trade in precious metals between Serbia, Bosnia, Ragusa, Italy and beyond, received from their Venice-based business partners.

The surviving portion of the accounting books of the Kabužić brothers is kept in the Dubrovnik Archives. It consists of the *Main Ledger* (*Quaderno*) (142 folios), the *Journal* (*Giornale*) (101 folios) – both spanning the period from 15 December 1426 to 25 May 1433 – and the *Reminder* (*Squarço*), which covers a somewhat shorter period of time.<sup>8</sup> These are not only the oldest but also the only surviving accounting books using the double-entry bookkeeping system in the South-Slavic lands. The *Main Ledger* and the *Journal* have been published, whereas the *Reminder* has not been taken into account because of the manner in which it was kept.<sup>9</sup>

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<sup>5</sup> M. Spremić, *Dubrovnik i Aragonci 1442–1495* (Belgrade: Zavod za udžbenike, 1971), 162–165.

<sup>6</sup> Ćuk, *Srbija i Venecija*, 100.

<sup>7</sup> Reinhold C. Mueller, “La crisi economica-monetaria veneziana di metà quattrocento nel contesto generale”, in *Aspetti della vita economica medievale. Atti del Convegno di Studi nel X anniversario della morte di Federigo Melis* (Florence: Università degli Studi di Firenze/Istituto di Storia Economica, 1985), 546, 556.

<sup>8</sup> Državni arhiv u Dubrovniku [State Archives in Dubrovnik; hereafter DAD], *Privata, Libro di negozio Nicolo Luca Caboga*, 28/1; 28/2; 28/3.

<sup>9</sup> D. Kovačević Kojić, *Trgovačke knjige braće Kabužić (Caboga) 1426–1433* (Belgrade: Srpska akademija nauka i umetnosti, 1999), 367.

At the end of the *Main Ledger* is an appendix containing (twelve) letters of the Kabužić brothers' business associates, mostly from Venice (ten letters or account statements). The account statements from Venice include two that contain information about the Venetian mint (1430–1431). A third one, also sent from Venice (1435), is kept in the *Massa* series of the Dubrovnik Archives.<sup>10</sup> Their content, especially because of the information about the mint in Venice, invites us to try to learn more about the merchants who drew them up, about their environment and about the ways in which they organized their businesses.

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The first reference to the Venetian mint in the documentary material from the Dubrovnik Archives dates from 1431. It occurs in a letter of Christophore Alberto sent from Venice to his business partners, the two Kabužić brothers, Nikola and Luka. The way in which Christophore and his brother Ivan ran their business is worthy of particular attention.

Christophore and Ivan Alberto were sons of Alberto Bono who had come from Venice to Ragusa at the invitation of the Ragusan government to assume the office of notary and chancellor. They did not follow in their father's footsteps but rather chose to act as middlemen in the trade between the lands in the hinterland of Ragusa – Serbia and Bosnia – and the Mediterranean. Ivan began his career in the Serbian lands, at Novo Brdo, while Christophore moved to Venice, where his role in their business was to sell the shipments of silver and hides sent by his brother and to purchase other commodities in return.<sup>11</sup>

In the following years the brothers ran their business either independently or in partnership with one or, more often, a few associates. Their business collaboration with the Kabužić brothers was a long and successful one, with the latter's abovementioned accounting books providing a fairly good insight.<sup>12</sup>

The most extensive testimony to the scale and nature of this business, however, is an account statement from Venice, itself contained in the appendix at the end of the *Main Ledger*. It was drawn up on 15 July 1430 in Venice and received on 20 December the same year in Dubrovnik. Christophore informs the Kabužić brothers about the completed business transactions in great detail.

<sup>10</sup> DAD, Miscellanea XV seculi, box 6, 1. I am grateful to my colleagues Neven Isailović and Nebojša Porčić for this piece of information.

<sup>11</sup> R. Ćuk, "Porodica Alberto (Bono) u Dubrovniku u poznom srednjem veku", *Zbornik Vizantološkog instituta SANU* XLI (2004), 377–386; M. Spremić, *Srbija i Venecija VI–XVI vek* (Belgrade 2014), 219, 229, 236, 260–261.

<sup>12</sup> Kovačević Kojić, *Trgovačke knjige*, 268–269, 271, 273–276, 291–293. Ivan also traded in unrefined silver from Bosnia (*Argento plicho di Bosnia*), which he shipped to his brother in Venice, see Ćuk, "Porodica Alberto (Bono)", 381.

Apart from mentioning textiles and some other commodities, he pays the greatest attention to the accomplished sale of large shipments of fine silver, and of *argento dorado* and *argento tien oro*. The separation of gold from silver (*partidura*) was carried out in Venice. He even mentions two gold ingots (*de verige*). The content of this account statement convincingly shows that Christophore traded in the precious metals from Serbia on a quite large scale.

It is only in a letter of 30 June 1431 he sent from Venice to Nikola and Luka Kabužić in Ragusa that the Venetian mint is mentioned. Namely, Christophore stresses that he took *li argenti bianchi* to the mint because it would be sold quickly (*piu presto*) in that way. He also informs them about their joint business operations not only in Venice and Italian cities but also in the Levant, notifying them that he shipped certain quantities of fine silver, wax and tin by ships sailing for Tana (on the Black Sea) and Syria. Christophore then returns to the question of silver (*la chaxon dei argenti*), saying that twelve ingots have not yet been sold from the mint, providing information about the varying value of the *solidi* against the ducat, and suggesting several possibilities for the Serbian fine silver (*argenti fini*) to be sold at last.

The letter is signed with: *Christofol* (Xpfal) d'Alberti/salute.

The names of the addressees at the back of the letter are: *domino Nicolo e Luca di Caboga in Raguxi*. They received the letter on 12 July 1431, which means that it travelled twelve days, which was how long it usually took a ship to get from Venice to Dubrovnik.

The letter does not say much about the mint itself, but it nonetheless suggests that big silver merchants, like Christophore Alberto himself, invested silver in the Venetian mint, too.

As far as the mint's operation is concerned, especially relevant is an account statement that Nicolo (*Nicholo*) Grioni, a Venetian citizen, sent to the Kabužić brothers from Venice. Grioni had been engaged in the trade in the precious metals from Serbia ever since the 1420s. In November 1421 Nikola Živolinović, a business associate of the Kabužić brothers residing in Priština, engaged *ser Nicola quondam Johannes Grioni*, a Venetian citizen and merchant in Venice, as his agent. He sent him considerable quantities of silver and money to purchase woollen textiles of the type, colour and price of his own choosing, and to pack them, declare them to the customs and send them back by ship.<sup>13</sup>

Soon after that the names of Nicolo Grioni and his partner *Goan-Ganin Riço* began to figure quite frequently in the Kabužić brothers' accounting books. The brothers sent them silver shipments several times. Thus, on 27 July 1427, through their agent Antonio, they sent two substantial shipments of silver to

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<sup>13</sup> D. Kovačević Kojić, "Nikola Tvrтка Glavić i Nikola Živolinović u Trgovačkim knjigama braće Kabužić", *Istorijski časopis* 40–41 (1995), 8–9.

*Nicholo Grioni* and *Goan Riço* in Venice.<sup>14</sup> The Kabužić brothers conducted all their transactions with Venice through an agent, *Antonio di Bon*, also named in documents as *Antonio di Dobrosau* (Antonije, son of Dobroslav), who lived and traded in Venice.

Based on the data contained in the Kabužić brothers' accounting books, we can reconstruct in detail the process of sale of these silver shipments. First, Antonio di Dobrosau confirms receipt and cites the names of the ship-owners, and then delivers the silver to Nicolo Grioni. The selling price of the silver is established according to the local system of weights and the currencies in use in Venice. *Bernardo Gaschigli*, a Catalanian who purchased the silver from Nicolo Grioni (12 September), drew up a bill of exchange (*una litera di cambio*) for the Kabužić brothers. Finally, on 15 October, according to the contract, the Kabužić Company received 600 ducats from Venice through the bill of exchange.<sup>15</sup>

This is only one of the examples of business transactions conducted between Nicolo Grioni of Venice and the Kabužić brothers. The latter's accounting books contain plentiful relevant data. This intensive business collaboration continued after 1433, until 1438. Since it began in the 1420s, it means that it lasted for almost twenty years.

The intensity of these commercial relations is also evidenced by an account statement (*chonto*), which Grioni and *Riço* sent by ship from Venice on 5 December 1435 and the Kabužić brothers received in Dubrovnik on 27 December, i.e. twelve days later. The six-page account statement put together according to the double-entry bookkeeping system is quite exhaustive and detailed. Of particular interest to us are the first and third pages with their data about auriferous (*glamsko*) silver. The term *partidura* standing beside each recorded quantity of silver means that it was only in Venice that the silver underwent the process of separating gold from silver. The fee charged for this service is also stated. The same two pages contain information about pure gold, mentioning as many as six gold ingots (*peça de verige 6 d'oro*).

Nicolo Grioni no doubt was a successful businessman with a wide network of associates. The sixth page lists the names of several of them, including a few Catalanians. Bills of exchange were in common use in various business transactions at the time.<sup>16</sup>

The fourth page of this extensive account statement concerns the Venetian mint. First, Nicolo Grioni confirms that he received the 13 ingots of *argenti bianchi* that Nikola and Luka Kabužić had sent by ship on 18 October. Half of

<sup>14</sup> Kovačević Kojić, *Trgovačke knjige*, 180.

<sup>15</sup> *Ibid.* 174–175.

<sup>16</sup> M. Spremić, "Pravo i ekonomija. Propisi i praksa o poslovanju menica u Dubrovniku i Srbiji 15. veka", in *Srednjovekovno pravo u Srba u ogledalu istorijskih izvora*, eds. S. Ćirković and K. Čavoški (Belgrade: Srpska akademija nauka i umetnosti, 2009), 165–178.

the quantity belongs to cousin Radulin, while the other half, weighing *libra* (L.) 176 *oncie* (on.) 0 *saggi* (s.) 2 according to the Ragusan system of weights (*al peso di Ragui*), is to be taken to the mint (*in zecha*). Even though it was fine, white, silver, each of the 13 ingots was subjected to the refining process, and then their weight was established according to the Venetian system of weights, i.e. it was expressed in the Venetian marks (*marcha*). The total weight of the 13 ingots expressed in marks was: mr.241 on.5 s.3 ch.18.

The silver bullion was alloyed, however. Namely, the silver was *ligado per ser Aluisse a ch.3 de piu per marcha, per liga mr.4 on.6 s.10*. The total weight of the alloyed silver now was: mr.246 on.4 s.6 ch.18. Of this, however, the loss of weight in the process of alloying (*tara*) was on.4 s.0 ch.18. The end result of the whole process was *l'arzeno ligato* with a total weight of mr.246 on.0 s.0.

It is not known what silver was alloyed with in this case. The Venetian coinage was notable for the purity of the silver used and it is known that there was resistance to its being alloyed with copper. Thus, according to Marino Sanudo, a fifteenth-century Venetian historian, there was a debate over whether the new coinage should be struck from *argento fino come il grosso* or from silver alloyed with copper. The Council voted for *argento fino*.<sup>17</sup>

The alloyed silver, *l'arzeno ligado mr.246 on.0 s.0*, was taken to *ser Rafael Barissan maser ala zecha*, i.e. to the Venetian mint. He minted *grossi*, and from a mark of silver: (L.) 30 *solidi* (sol.) 8, or L.7478 sol. *parvoli* (p.) 0 *grossi*. Once the fees charged by the mint were settled (L.20 sol.2 p.0), there remained: L.7504 sol.10 p.0 of *grossi*. This is the quantity of *grossi* struck from the silver that Nicolo Grioni took to the Venetian mint, which weighed L.176 on.2 s.0 according to the Ragusan system of weights. The value of the ducat and *solidi* is also cited: sol.110 p.6, respectively L.735 sol.16 di 6 [...].

The information concerning the mint ends there. There follow specifications of various expenses, for example, for transport, mint fees (*per dazio ala zecha*) etc. Finally, a balance statement was given (*saldo*), including the obligation of the Kabužić brothers *di aver 5 decembrio per resto del deto chonto*.

### *On the operation of the Venetian mint*

#### *From the account statement of Nicolo Grioni of 1435 to the Kabužić brothers*

Nickola e Lucha di Chaboga die aver a di 18 octubrio per ligazi [...] d'arzeno bianco peçe 13. ricevuto per la barcha pa(t)ron Antuonio Zialapia, scrisse eser la mitade de

ser Primo de Radolin e l'altra mitade so[.] disse [...]

L.176, on.0, s.2 al pesso de Ragui el qual fo messo in zecha

<sup>17</sup> Nicolo Papadopoli, *Le monete di Venezia* (Venice: F. Ongania, 1893), 301.



peça una no.1 neta de sazio a peça ess[.]	mr. 32	on.0	s.0	[.....]	pezo ch. 34
peça una no.1 neta de sazio	....	mr. 35	on.1	s.2	ch. 18 pezo ch. 36
peça 3 no.1 neta de sazio	....	mr. 19	on.7	s.0	pezo ch. 64
peça una no.1 neta de sazio	....	mr. 34	on.0	s.0	ch. 0 pezo ch. 32
peça una no.1 neta de sazio	....	mr. 25	on.0	s.0	ch. 0 pezo ch. 40
peça una no.1 neta de sazio	....	mr. 19	on.0	s.0	ch. 0 pezo ch. 60
peça una no.1 neta de sazio	....	mr. 7	on.4	s.3	ch. 0 pezo ch. 40
peça una no.1 neta de sazio	....	mr. 29	on.0	s.0	ch. 0 pezo ch. 44
peça una no.3 neta de sazio	....	mr. 27	on.0	s.0	ch. 0 pezo ch. 32
peça 3 no.3 neta de sazio	....	mr. 13	on.0	s.2	ch. 0 pezo ch. 32
<b>Summa:</b>	....	<b>mr.241</b>	<b>on.5</b>	<b>s.3</b>	<b>ch.18</b>

ligado per ser *Aluvisse*

[.....] a ch. 3 de piu per *marcha* per la liga mr.4 on.6 s.10

Summa: in tuto, mr.246 on.4 s.0 ch 18, tara ai fondadori

mr.4 s.0 ch. 18, resta *l'arzento ligado* mr.246 on.0 s.0 [.....]

ser *Rafael Barissian maser ala zecha* fato grossorum [d...] 8 [....]

per L.30 sol.8 *la marcha*, monta L.7478 sol.8 p.o per cressimento

*de la zecha* L.20 sol.2 p.o

Summa: in tuto, L.7504 sol.10 p.o

valoro a sol 110 p.6 per ducatos

L.735 sol.16 di 6 [....]

Information about Serbian silver being invested in the Venetian mint can also be found in an account statement that Marco di Stai presented to the Kabužić brothers. The account statement addressed to *ser Nichola e Lucha de Chaboga de Ragusio* and their partner *ser Pribislavo* was sent from Venice on 27 February 1435 and arrived in Ragusa on 25 March 1436. The interval of one whole year between the dates can be explained by the fact that the sender followed Venetian mores, *more veneto*, according to which the year began on 1 March.

Marco di Stai states that Nikola and Luka Kabužić in partnership with Pribislav Radolin sent him a silver shipment – *l'arzento bianco* L.47 on.3 s.3 *l'arzento bianchi fini* – which he received and took to the mint. He first cites the name of the mint master, *signor ala zecha ser Rafail Barixan*. The weight of the shipment from Ragusa was established according to the local system of weights, i.e. expressed in marks (*mr.64 on.7 s.2*). When the silver was refined (ch. 32 *per marcha*), an alloy was added (ch. 31 *per marcha*), but the name of the person who performed the process is not cited. The weight of the silver after the deduction of the waste (*tara*) of on.1 s.2 was *mr.66 on.4 s.0*. *Grossi* were struck from a mark of silver – L.29 s.8 *la marcha*. After the deduction of the mint fees, L.1955 s.2 *grossi* were obtained out of the silver invested in the mint. The value of the ducat was sol.105, i.e. L.37, sol.4, d[...].

So, all elements in the operation of the mint needed to obtain coins from silver bullion were taken into account. They, however, are summary and do not reveal the sequence of steps which must have been followed in the mint's operation process. In this respect Marco di Stai's account statement is quite different from the manner in which Nicolo Grioni drew up the account statement he sent to the Kabužić brothers in 1435.

In the list of mint masters (*massari alla moneta, massari all'argento*), which was instituted in the last years of the thirteenth century (1298), the name of *Rafaele Barisan* occurs in 1434.<sup>18</sup> So, he was a contemporary of Nicolo Grioni and Marco di Stai. In Grioni's account statement of 1435 he is referred to as *Rafael Barisian maser ala zecha*, and in Di Stai's one of the same year, as *ser Rafail Barixan*.

A decision of 6 February 1420 determining the weight and fineness of the Venetian silver coinage also prescribed that its design include the name of the mint master (*massaro all'argento*) responsible for the issue, which the Venetian mint would continue to practise in the future as well.<sup>19</sup> *Rafaele Barisan's* mark was *RB*.<sup>20</sup> The initials of the mint master (*iniziali del massari*) are helpful in establishing the fineness of particular issues. In *Barisan's* case, the issues of silver *grossi* minted under his supervision had the high fineness of 0.949.<sup>21</sup>

Christophore Alberto's letter of 1431 to the Kabužić brothers does not specify the quantity of silver taken to the mint. Nicolo Grioni, however, is known to have supplied L.176, on.0, s.0, and Marco di Stai, L.47, on.3, s.3, which would be about 74 kilograms combined.

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The quantities of silver discussed by Alan M. Stahl based on the accounting books of the Venetian merchant Guglielmo Condulmer are much larger than the 74 kilograms mentioned above.<sup>22</sup>

Guglielmo Condulmer, a money changer, son of Nicolo, was of a non-noble class. His public activity was limited to the confraternities of the Celes-

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<sup>18</sup> Ibid. 301, 305.

<sup>19</sup> Ibid. 301.

<sup>20</sup> Ibid. 305.

<sup>21</sup> Ibid. 270, 271.

<sup>22</sup> Alan M. Stahl, "Ingots and the Venetian Mint in the Later Middle Ages: The Accounts of Guglielmo Condulmer", in *Essays in Honour of Professor Peter Spufford*, eds. Martin Allen and Nicholas Mayhew (London: Royal Numismatic Society, 2017), 75–84; Alan M. Stahl, *Zecca: The Mint of Venice in the Middle Ages* (Baltimore - London: The Johns Hopkins University Press with the American Numismatic Association, 2000).

tia and San Giovanni Evangelista, where he is referred to as a member of the “noble popolo”. He had political and commercial importance, but, unlike some of his family members, did not rise to the status of hereditary nobility. He died in 1421.

For some reason, he appointed the *Procuratores* of San Marco as executors of his will. His estate included his personal accounts, which comprised nine individual books, all on paper, ranging from 16 to 32 folios, and spanning the period from 1389 to 1413, with the exception of the years 1395 and 1396.

Condulmer’s accounting books concern the processing of silver by the Venetian mint. Alan M. Stahl has dealt with several related topics in a well-documented manner convincingly supported with graphs. A set of data concerns the quantities of silver Condulmer received back from the mint in the form of coins or ingots. According to Stahl, the production of metal in ingot form was an important part of the Venetian mint’s operations, being used in long-distance trade in the later middle ages.

Especially relevant to the topic discussed here is the total of 491 named individuals who supplied silver to Guglielmo Condulmer over the period of twenty-three years (1389–1413). Some of them are Venetians known from other sources, both noble and non-noble. In some cases it is not clear if they came from Venice. Some came from nearby cities, such as Padua (6) and Treviso (5), and some from more distant parts of Italy.

Some of those who supplied less than 70 kg of silver to the mint came from the German and other northern lands (41), from Bohemia (Prague, Bratislava) and Hungary. Those from the eastern coast of the Adriatic came from Zara (3), Sebenico and Spalato (2 each), Ragusa, Rassa (Serbia), Thessalonica.<sup>23</sup>

The origin of those who supplied more than 70 kg of silver has been more difficult to establish, however. The biggest supplier was Marin di Gradi. Stahl singles him out, and assumes from his name that the Gradi family was from somewhere on the Adriatic coast east of Venice. Between 1406 and 1412 he supplied 165 kg of silver to Guglielmo Condulmer.

As far as the origin of the other fifteen or so biggest suppliers of silver, whose individual total quantity exceeded 70 kg, Stahl assumes that their names may suggest Venetians, but none of them matches any of the known patrician families. These are:

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<sup>23</sup> Ibid. 78–79.

*Marin di Gradi and the other biggest silver suppliers (more than 70 kg each)*<sup>24</sup>

Marin di Gradi	165 kg
Simon de Lapazin	160 kg
Lucca de Bon	136 kg
Elia di Tripo (?)	124 kg
Raticho di Menzo	124 kg
Raticho and Elia together	124 kg
Corrado Prechimet	122 kg
Nicolo Granata	118 kg
Martore di Giovanni Magno	117 kg
Guglielmo Romole	91 kg
Tomaso di Martore	81 kg
Giacomo Granata	81 kg
Giacomo Granata	81 kg
Nicolo da Poza	78 kg
Bindo di Girardo	73 kg
Marco de mercer	73 kg
Paolo di Radin	70 kg
Bono di Nadal	70 kg
	<b>1,807 kg</b>

In fact, *Marin di Gradi*, son of *Johannes*, came from a well-known Ragusan family, Gradić (De Gradi), one of the most influential patrician families. He figures in the sources from 1396 to 1427.<sup>25</sup> In 1396 he established a *fraterna societatis* with his brother Matija (*Matheus*). The brothers' activity can be followed from the end of the fourteenth century and over the first three decades of the next. They traded in various goods in Dubrovnik, Venice, at the mines at Novo Brdo and Srebrenica, but silver seems to have been the focus of their business.<sup>26</sup> There is a reference in the will of Marin Gradić to the mine pits exploited by him and his brothers, specifically *le parti che io o delle fosse in Srebrniča et in Nouaberda*. Ragusan merchants frequently purchased mine pits in order to secure silver supplies for their businesses.<sup>27</sup> We can also learn from the will that

<sup>24</sup> Ibid. 79 n. 21.

<sup>25</sup> I. Manken, *Dubrovački patricijat u XIV veku*, vol. I (Belgrade: SANU, 1960), 285.

<sup>26</sup> R. Ćuk, "Delatnost dubrovačkog trgovca Luke Milanovića dvadesetih godina XV veka", *Istorijski časopis* (1991), 2, 23, 27.

<sup>27</sup> S. Ćirković, "Dubrovčani kao preduzetnici u rudarstvu Srbije i Bosne", *Acta historico-oecologica Yugoslavicae* (1979), 4 n. 10.

Gradić had 6,000 ducats, largely earned during the two years he spent at the Srebrenica mine.<sup>28</sup>

The noble Gradić family enjoyed high social prestige in Ragusa. Its members were assigned to important diplomatic missions. Thus, in 1455, faced with the imminent Ottoman threat, Despot Djuradj Branković of Serbia assigned the Ragusan nobleman Junije Gradić (*Giunio di Gradi*) as a member of a joint Hungarian-Serbian embassy sent to seek help across Italy, including Mantua, where pope Callixtus III was trying to organize a crusade against the Ottoman invasion.<sup>29</sup>

Besides Marin Gradić, the list includes some other silver merchants coming from noble families: *Lucca de Bon* (136 kg), *Raticho de Menzo* (124 kg), *Nicolo da Poza* (73 kg), all three of them in fact well-known from Ragusan sources: Luka Bunić (*Lucca de Bon*),<sup>30</sup> Ratko Menčetić (*Raticho de Menzo, filius naturalis Marini Lampre de Menze*)<sup>31</sup> and Nikola Pucić (*Nicolao di Poza*).<sup>32</sup>

Among them, especially prominent in silver trade and export in the second half of the fourteenth century was Luka Bunić, son of Mihailo,<sup>33</sup> figuring in the sources from 1363 to 1417.<sup>34</sup> He and his brother Marin conducted business in Venice from the early 1390s.<sup>35</sup>

The Bunić brothers were partners of Luka Milanović, a well-known Ragusan merchant who lived, worked and died in Venice. Apart from Ragusa, Serbia, Bosnia and Hungary, the Bunić brothers pursued their business ties with Venice, Sicily and various lands in the vast area to the east as far as the Levant.<sup>36</sup> Being a reputable man, Luka Bunić was frequently entrusted by the Ragusan government with political or economic missions.<sup>37</sup> Based on all we know about Luka Bunić, a business biography may be put together, as is the case in particular with the Ragusans who traded in precious metals along the Serbia–Ragusa–Venice line. The Bunić family was among the pioneers in Ragusa’s literary history, too.<sup>38</sup>

<sup>28</sup> D. Kovačević Kojić, *Srednjovjekovna Srebrenica, XIV–XV vijek* (Belgrade: SANU, 2010), 45.

<sup>29</sup> M. Spremić, “I Balcani et la criocata (1455–1464)”, in *Il sogno di Pio II e il viaggio da Roma a Mantova*, eds. A. Calzona et al., (Florence: Leo. S. Olschki, 2003), 481–592.

<sup>30</sup> Manken, *Dubrovački patricijat*, vol. I, 146, 148.

<sup>31</sup> *Ibid.* 301, 315, 330.

<sup>32</sup> *Ibid.* 367, 370.

<sup>33</sup> Ćuk, *Srbija i Venecija*, 104, 150.

<sup>34</sup> Manken, *Dubrovački patricijat*, vol. I, 151.

<sup>35</sup> *Ibid.* 465.

<sup>36</sup> Ćuk, “Delatnost dubrovačkog trgovca Luke Milanovića”, 20.

<sup>37</sup> Manken, *Dubrovački patricijat*, vol. I, 153–155.

<sup>38</sup> *Ibid.* 156.

Besides the four aristocratic Ragusans, the list includes four citizens of whom some have patronymic surnames: *Elia di Tripo* (?), *Paolo di Radin*, *Bono di Nadal*, while *Raticho* (Ratko) and *Elia* (Ilija) are common local Slavic names. All four were citizens of Ragusa trading, like the aristocrats, in precious metals, mostly in silver from the hinterland of Ragusa, i.e. from Serbia and Bosnia.

So, it may be reliably argued that some of the fifteen or so biggest silver suppliers were of Ragusan origin:

from the ranks of nobility	
Marin di Gradi	165 kg
Lucca de Boni	136 kg
Raticchio di Menzo	124 kg
Nicolo da Poza	73 kg
from the citizen class	
Elia di Tripo (?)	124 kg
Raticho and Elia combined	124 kg
Paolo di Radin	70 kg
Bono di Nadal	70 kg
<b>Total:</b>	<b>891 kg</b>

This accounts for as much as about 49 per cent of the 1,807 kg supplied by the other biggest suppliers of silver.

The amount of 891 kg reached the Venetian mint through Ragusans. This fact may explain how it comes that the silver that mostly came from Serbian mines is classified as Ragusan silver in European historiography.

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The first half of the fifteenth century saw an abrupt and rapid development of mining in Serbia<sup>39</sup> and, in parallel, an increase in its export to Europe, notably to the Venetian market. The Kabužić brothers provide a good enough proof. From December 1428 to November 1432, i.e. within the span of six years, they procured in Serbia, through their business associates, 10,600 pounds of silver – or 3,480 kg – worth about 100,000 ducats. Only some 200 kg of the total quantity came from Bosnia, all the rest came from the Serbian state's mines. Nearly the entire export (88 %), i.e. more than three tonnes of silver (3,056 kg) went to

<sup>39</sup> Recent research has shown that the output of Serbian mines was much larger than previously assumed, see D. Kovačević Kojić, "Les métaux précieux de Serbie et de Bosnie: Estimation de la production (XIV<sup>e</sup>–XV<sup>e</sup> siècle)", in *Der Tiroler Bergbau und die Depression der europäischen Montanwirtschaft im 14. und 15. Jahrhundert: Akten der internationalen bergbaugeschichtlichen Tagung Steinhäus*, eds. Rudolf Tasser and Ekkehard Westermann (Innsbruck–Vienna–Munich–Bozen : Studien Verlag, 2004), 87–93.

Venice (*viaggio di Venezia*) in the *Main Ledger*.<sup>40</sup> Some researchers suggest that there were in Ragusa itself about forty larger trading houses, some of them even stronger than that of the Kabužić brothers.<sup>41</sup>

Since the first half of the fifteenth century saw another and considerable increase in Serbian silver imports into Venice, it has been reasonable to assume that some of the silver ended up in the Venetian mint. Three account statements sent from Venice to the Kabužić brothers in Ragusa convincingly confirm this assumption. Even more information about the Venetian mint being supplied with Serbian silver can be found in the accounting books of Guglielmo Condulmer discussed by Alan M. Stahl. Moreover, the account statements of Nicolo Grioni and Marco di Stai provide information about the operation of the mint, from the processing of silver to the minting of *grossi* from it.

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<sup>40</sup> Kovačević Kojić, *Trgovačke knjige*, 14; D. Kovačević Kojić, "I libri contabili dei fratelli Caboga (Kabužić) (1426–1433), fonte importante per la storia dei rapporti economici fra la Serbia e Venezia (comprese le città marchigiane)", *Glas CDIV, Odeljenje istorijskih nauka SANU* (2006), 107–118; D. Kovačević Kojić, "La Serbie dans l'économie de Venise au XV<sup>e</sup> siècle", in *Balcani occidentali, Adriatico e Venezia fra XIII e XVIII secolo = Der westliche Balkan, der Adria-raum und Venedig (13.–18. Jahrhundert)*, eds. Gherardo Ortalli and Oliver Jens Schmitt (Venice–Vienna: Österreichischen Akademie der Wissenschaften, 2009), 39–52.

<sup>41</sup> J. Tadić, "Privreda Dubrovnika i srpske zemlje u prvoj polovini XV veka", *Zbornik Filozofskog fakulteta X-1* (1968), 528.

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