

Silver Production in Rumelia According to an Official Ottoman Report Circa 1600

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A. Introductory Remarks about the Document

Ottoman mining, especially its legal and technological aspect, has been the subject of substantial publication in the last thirty years¹). However, as Braudel remarked in his study of prices in the Mediterranean world²), with regard to determining actual figures for production in the Ottoman mines a great deal more is to be learned from systematic research and publication based on the Ottoman records preserved in the Istanbul archives. The present article introduces an important document from the *Maliyeden Müdevver* (MMD) collection in the Istanbul archives, namely MMD No. 22,148 in which data are furnished for calculating production levels in Ottoman mines over a fifty-year period from 1582—1631. While we know that a significant decline in production levels had already by the late sixteenth century begun to take effect as a result mainly of the huge influx of more cheaply-produced American silver into the markets of Europe and the Levant, the document MMD No. 22,148 gives proof that the mines of Serbia and Thrace continued to produce large quantities of silver even up to the third decade of the seventeenth century. While the decline in production from European silver mines after the 1530's has generally been accepted, the suddenness with which this decline took effect may have been less universal than was once suspected³). On the part of the Ottomans, several factors served to retard the onset of a slowdown in mining activi-

¹) See studies by R. Anhegger (1943), O. L. Barkan, N. Çagatay (1943) and N. Beldiceanu (1964) listed in the bibliography.

²) F. Braudel, *The Mediterranean and the Mediterranean World...*, p. 1156.

³) On the collapse of the European mining industry after the 1540's and the opening of the Potosi mine in Bolivia see J. Nef in: *The Cambridge Economic History*. Vol. 2, 1952, pp. 489—490.—As an example of how some recent authors have been misled, largely through the absence of information rather than by presenting conclusive positive evidence, F. Schumaker's comment about the mine at Trepča is revealing. Schumaker's conclusion that: "mining operations ceased entirely during the seventeenth century" [*Economic Geology* 49 (1954), p. 460] is clearly contradicted by the evidence supplied in our document MMD 22,148.

ty. One was the fact that American silver did not flood the Levant market as immediately as for instance Spain but only indirectly and somewhat later⁴). As a result of the relative scarcity of silver in the Levant vis-à-vis Europe, continued mining of it tended to remain economically viable for a longer period of time. Secondly, while the operation of European mines was severely disrupted by endemic and long-lasting wars beginning in 1618, the sub-Danubian region was relatively peaceful during the same period. As a result of these and other factors, up to at least 1630 Ottoman mines maintained production on a scale comparable to what they had been in the mid-sixteenth century. While perhaps the degree of activity noted by the French traveller *Belon*⁵) during his visit to the mine at Sidrekapsı in 1554 in which he noted the simultaneous operation of some 500—600 forges may have been absent in subsequent decades, there is no indication of a marked decline in levels of production until the mid-seventeenth century⁶). This decline was however indeed noticeable after 1650 as is evidenced by the fact that later European travellers who visited the Ottoman Empire gave no prominence to the subject of mines in their accounts⁷). For the purpose of accurately estimating the intensity of Ottoman mining activity in one period as opposed to another, the figures provided in our document are naturally incomparably more valuable than information gleaned from the oftentimes impressionistic accounts of travellers. Through study of the document's figures we gain knowledge not only about the volume of silver circulating in the Ottoman economy at given points in time, but also about the direct impact of recurrent devaluations of the *akča* on production levels in various mines. For instance while between 1582 and 1595 we note an increase in the *akča* valuation of the tax-farm lease for the mines of the Skopje region from 35 million *akča* to 55 million *akča*, when interpreted in terms of silver produced it implied an annual loss of over 100,000 ounces of silver (see details in Table 1, entry no. I infra, page 82).

⁴) Large shipments of silver from Venice to the Levant began only after 1570. See H. Inalcik, Impact of the Annales School on Ottoman Studies and New Findings, *Review* 1 (1978), p. 94.

⁵) P. Belon, *Les Observations...*, folio 45b.

⁶) The critical period seems to have been the reign of *Ibrahim I* (1640—1648). Evliya Çelebi (*Seyahatnâme* 5,101—102) notes that although mints were maintained at Sidrekapsı and Kratovo until the reign of *Murad IV* (1623—1639), their operation was discontinued under *Ibrahim*. This was done as part of *Kara Mustafa Pasha's* centralizing monetary reforms which closed many mints whose large number (formerly seventy-seven) impeded efficiency. Our document provides proof that at least until 1631 the mines at Sidrekapsı produced revenues of as much as 3,275,125 *akča* a year, but by 1705 (1117 A.H.) the valuation of the tax-farm lease had fallen to 1,769,805 (N. Çagatay, *Sidrekapsa...*, *Tarih Araştırmaları* 1940—1941, Istanbul 1941, p. 266).

⁷) Despite his avowed interest in the subject of mining the English traveller Edward Brown, who spent several months in Thessaly in 1669, does not once mention the existence of even derelict silver mines in the area. See E. Brown, *A Brief Account of some travels in Hungaria, Serbia, Bulgaria, Macedonia, Thessaly...* as also some observations on the gold, silver, copper, quicksilver mines... Second Edition, London 1685, pp. 32—40.

Before turning to the translation of the document *MMD No. 22,148* it may be helpful to make some general observations on the system of account according to which the information was recorded, and on the consistency and proper interpretation of the figures. Our document gives us *akča* sums for the silver production of eighteen of the principal mines and mints in Ottoman Rumelia, part of whose revenues belonged to the Sultan. The share belonging to the Sultan was usually farmed out as *mukataa* or tax-farm. Although the size of this share underwent some change in various periods it had been stabilized by the period of our document at a rate of one-seventh of the production of pure silver and given the name *sub‘-i miri*, or treasury seventh⁸⁾. Since our document provides the figures for one or two terms, of three or six years, of the tax-farm being leased, to arrive at the value of the annual production of a given mine the total amount given should be divided by the number of years and multiplied by a factor of seven. A further problem of interpretation arises from the fact that some of the tax-farms include other revenues besides those deriving purely from the mining of silver. The total revenues including those from the mint (*dar al-darb*) operations, and from certain *hass* properties as well as from other incidental revenues (*bad -i hava*) are sometimes represented in our document in a single figure without any indication of what share derived from what source⁹⁾. Furthermore, the *akča* amounts given in the document are not those from single mines or even necessarily of single areas but are often regional composites of several mines whose collective revenues were administered by a central office given the administrative designation of *nezaret*, or inspectorate, and *emanet*, or trusteeship. In our document a good example of the government’s overseeing of mining in this

⁸⁾ The canonically-approved share of the Sultan from mining enterprises as set down in the section of Mevkufati’s commentary on exploitation of hidden treasures, *al-rikâz*, was one-fifth (see Halebi, I. M., *Multaka al-abhur...*, Vol, 1, p. 150—152). However, in actual practice a number of different rates were imposed at different times and in different localities. According to information provided in the regulation for the mine of Novo Brdo dating from the reign of *Bayezid II* (1481—1512) (see Beldiceanu, *Les Actes des Premiers Sultans*, Vol. II, facsimile fol. 267v) during the reign of *Mehmed II* (1451—1481) the general rate of the treasury assessment was one-fourth of the unrefined ore. Under *Bayezid II* though it was decided to collect a tax of one-eighth of the production of pure silver for the treasury instead. Sometime afterward the rate was increased from one-eighth to one-seventh of the production of pure silver. The explanation for the derivation of this rate is simple enough if one examines other information provided in the document. In the “rules for the production of pure silver in the mines of Üsküb (Skopje),” (translation below on pages 89—90) it is specified that an outlay expense for materials of 76 out of a thousand (07.6%) and 67 out of a thousand (06.7%) for the treasury tithe are to be accounted for. These two taken together are thus nothing more than the treasury share. In other words the total of one-seventh taken by the treasury is composed of a tithe of one-fifteenth, and an additional amount taken out for expenses which were commonly met with money borrowed by the sultan’s agents (*emin*) on behalf of the mining entrepreneur (*rençber*) from treasury funds. For an example of the assessment of the treasury seventh for the Canca silver mine near Erzerum see *Başbakanlık Archives, Maliyden Müdevver No. 5566*, p. 382. In this document the treasury share for the year 1045/1635 is given as 66,183 *akča*.

⁹⁾ For other examples of these problems of interpretation see notes 26 and 28 below.

fashion is provided by Üsküp/Skopje which while enjoying the largest revenues in all of Rumelia was itself not a mineral-producing center. We must therefore assume that the figures for silver production in Skopje actually reflect the production of a number of mines scattered throughout the neighboring mountainous regions such as the Šar mountains¹⁰), as well as the Osogovska mountains to the east. Though the document does not specify it, perhaps revenues from the mint and mine at Kratovo, still active in the early seventeenth century¹¹), were also incorporated within the general figure for the Skopje region as a whole. Unfortunately, even the specific regulations governing the state-controlled mining operations in the Skopje region contained in the document (see translation, *infra* pp. 89—90) do not provide conclusive evidence as to how the area was divided. In cases where revenues were lumped together under a broad administrative rubric such as the *nezaret*, the levels of silver production at various dates were subject to great fluctuation since the boundaries of the *nezaret* and the number of the mines whose production was included within it might change with time. Despite these and similar problems of interpretation, in so much as our document also gives comparative data for revenues from specific mining concessions which in some cases spread over a period of a half century it remains a unique and valuable source for the estimation of Ottoman silver production in the late sixteenth and early seventeenth centuries¹²).

In order to standardize the information which the document provides in a form better suited to comparative analysis, several steps were taken. First three of the document's eighteen entries, namely those for Istanbul, Serez, and Edirne (see transcription of document, nos. IV, VII, VIII) which do not reflect active production figures but rather revenues deriving from mint operations, were excluded from consideration. Secondly by applying a conversion coefficient¹³) to the *akča* amounts of the remaining fifteen productive centers, figures for the output of each in grams were determined. Transposing these data into amounts in troy ounces (table 1, right hand column) provides a basis for comparison with statistics for European mining

¹⁰) Anhegger, *Beiträge*, p. 162, mentions the existence of ancient silver works in the Šar mountains, although he could find no evidence of active production there under the Ottomans.

¹¹) Evliya Çelebi, *Seyahatnâme* 5, 563 informs us that while during the reign of *Murad IV* (1623—1639) silver coins were struck at the mint of Kratovo, at the date of his account (1660/1071 A. H.) the mint was no longer operative. He adds however that silver continued to be mined there even after the closing of the mint.

¹²) In his study of Ottoman mining in Rumelia N. Beldiceanu comments on the "paucity of information" (*Les Actes des Premiers Sultans*, Vol. II, p. 157) concerning the actual figures for tax-farm leases. Our document thus fills an important gap by showing the changes over time of the most important *mukataa*.

¹³) The values used are those calculated by H. Sahillioğlu in his unpublished dissertation of 1958 (*Kuruluşundan XVII Asrın Sonlarına Kadar Osmanlı Para Tarihi Hakkında bir Deneme*) based on the *tabrizi dirhem* weighing 3.07 grams as opposed to the standard *dirhem* weighing 3.086 grams. For an exposition of changes in the standard of the *akča* coin see O. Barkan, *XVI Asrın ikinci yarısında Türkiyede fiyat hareketleri*, *Bulleten* 34 (1970), pp 557—607; cf. English translation of the same article in *The International Journal of Middle Eastern Studies* 6 (1975), pp. 12—15.

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published by Soetbeer¹⁴⁾ and later analyzed by Nef¹⁵⁾. Summing the data for individual mines and determining regional production levels (see table 2) facilitates this process of comparison. The total silver production of Rumelian mines at the turn of the seventeenth century reached to about 1,600,000 ounces, or somewhat more than

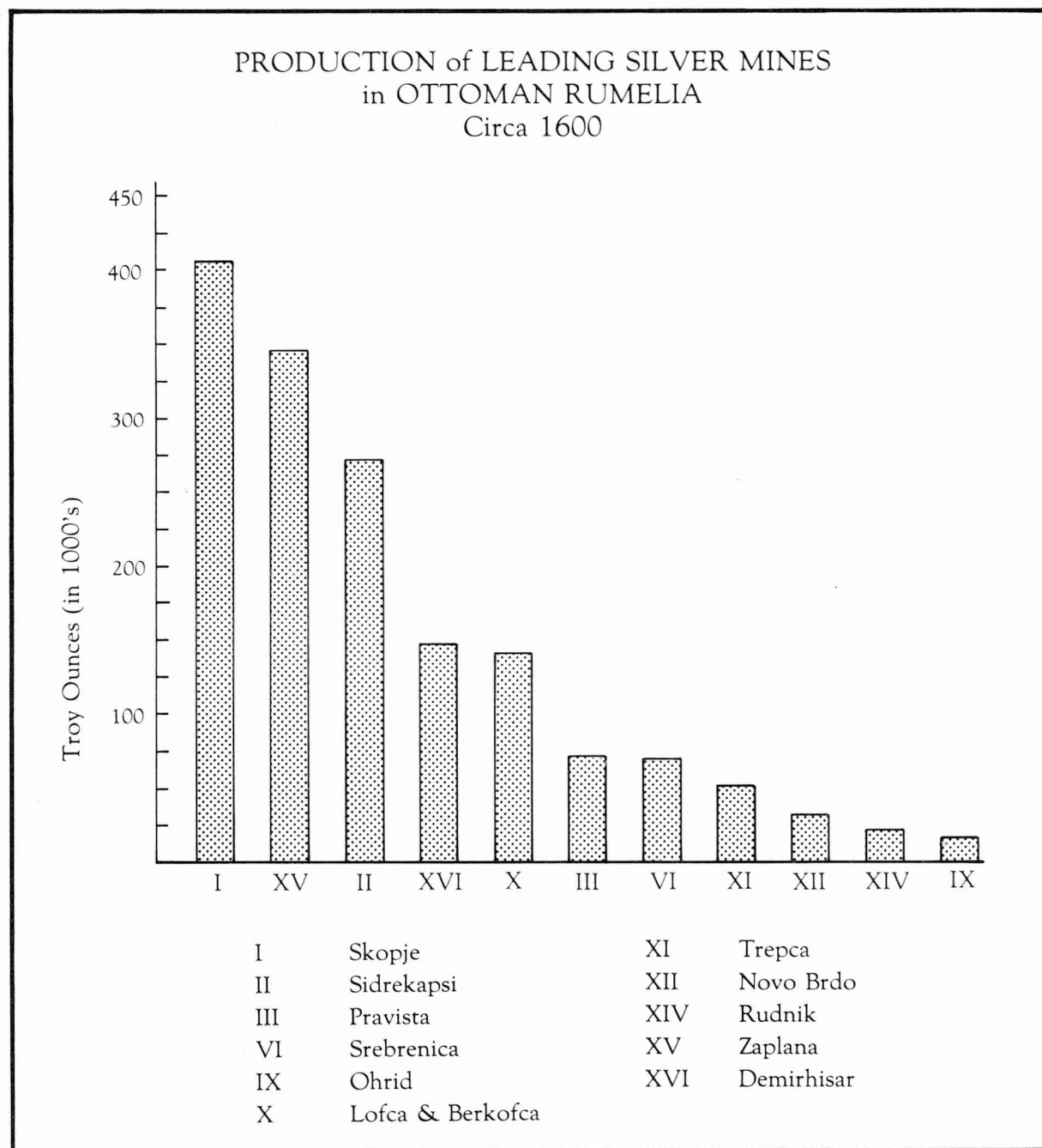


Figure 1:

Graph showing the relative size of production in eleven silver mines in Ottoman Rumelia.

¹⁴⁾ A. Soetbeer, *Edelmetall-Produktion und Wertverhältnis zwischen Gold und Silber seit der Entdeckung Amerikas bis zur Gegenwart*. Gotha 1879.

¹⁵⁾ J. Nef, *Silver Production ...*, *Journal of Political Economy* 49 (1941), pp. 575—591.

one-half of the total production of central European mines during the peak of their production around 1530¹⁶). Figure 1 shows in order of their importance the eleven most productive mines in Rumelia using data for the years 1585—1603 and excludes the four mines (table 1, Hasköy, Morevik/Smederevo, Alasonya, Inebahti/Tirhala) whose yearly production fell below the 15,000 ounce level. The location of the fifteen silver-producing mines is shown in a general map in figure 2, while a more detailed map of Serbia, where the greatest quantity of silver was mined, is found in figure 3.



Figure 2:
Map of the Balkans showing location of mining centers.

¹⁶) Ibidem, p. 585.

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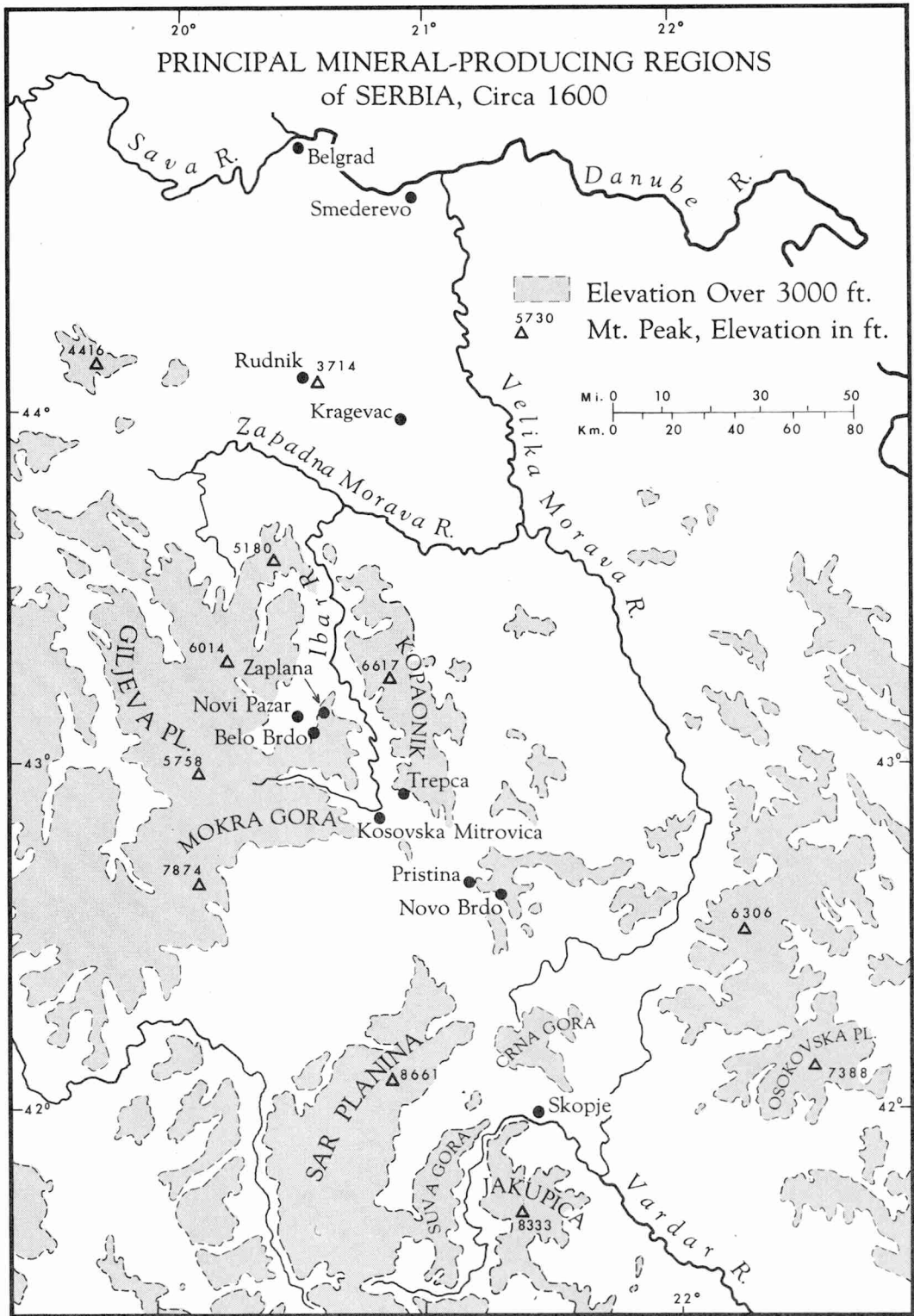


Figure 3: Map of Serbia showing configuration of mountain ranges and principal mineral-producing regions.

Table 1: Production Levels in Ottoman Silver Mines 1582—1631

date	gram equiv. of silver akça	akça amount	gram equivalent	tithe/no. of years	yearly production (in grams)	yearly production (in troy ounces)
(I) Üsküp						
1582	$\frac{3.07}{4.5} = .682$	35,492,700	24,206,021	$\frac{7}{6} = 1.16666$	28,240,357	907,947.85
1583	$\frac{3.07}{4.5} = .682$	25,317,595	17,266,599	$\frac{7}{6} = 1.16666$	20,144,364	647,655.86
1584	$\frac{3.07}{8} = .384$	28,175,495	10,819,390	$\frac{7}{6} = 1.16666$	12,622,620	405,826.35
1595	$\frac{3.07}{8} = .384$	55,964,552	21,490,387	$\frac{7}{6} = 1.16666$	25,072,116	806,086.64
1616	$\frac{3.07}{9.5} = .323$	45,159,641	14,586,564	$\frac{7}{6} = 1.16666$	17,017,657	547,129.97
1623	$\frac{3.07}{10} = .307$	37,339,111	11,463,107	$\frac{7}{6} = 1.16666$	13,373,624	429,971.67
1629	$\frac{3.07}{10} = .307$	37,339,111	11,463,107	$\frac{7}{6} = 1.16666$	13,373,624	429,971.67
(II) Sidrekapsı						
1585	$\frac{3.07}{8} = .384$	22,140,000	8,501,760	$\frac{7}{7} = 1.0$	8,501,760	273,337.72
1593	$\frac{3.07}{8} = .384$	22,140,000	8,501,760	$\frac{7}{7} = 1.0$	8,501,760	273,337.72
1598	$\frac{3.07}{8} = .384$	19,200,000	7,372,800	$\frac{7}{6} = 1.16666$	8,601,600	276,547.65
1607	$\frac{3.07}{9.5} = .323$	20,600,000	6,653,800	$\frac{7}{6} = 1.16666$	7,762,766	249,578.54
1627	$\frac{3.07}{10} = .307$	22,925,874	7,038,243	$\frac{7}{6} = 1.16666$	8,211,283	263,998.69
1631	$\frac{3.07}{10} = .307$	22,925,874	7,038,243	$\frac{7}{6} = 1.16666$	8,211,283	263,998.69

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date	gram equiv. of silver akča	akča amount	gram equivalent	tithe/no. of years	yearly production (in grams)	yearly production (in troy ounces)
(III) Pravišta						
1590	$\frac{3.07}{8} = .384$	5,107,095	1,961,124	$\frac{7}{6} = 1.16666$	2,287,978	73,560.16
1593	$\frac{3.07}{8} = .384$	5,807,095	2,229,924	$\frac{7}{6} = 1.16666$	2,601,578	83,642.62
1628	$\frac{3.07}{10} = .307$	1,960,333	601,822	$\frac{7}{1} = 7.0$	4,212,756	135,443.13
(V) Hasköy						
1597	$\frac{3.07}{8} = .384$	1,000,000	384,000	$\frac{7}{6} = 1.16666$	448,000	14,403.52
1598	$\frac{3.07}{8} = .384$	1,200,000	460,800	$\frac{7}{4} = 1.75$	806,400	25,926.34
1600	$\frac{3.07}{9.5} = .323$	5,200,000	1,679,600	$\frac{7}{6} = 1.16666$	1,959,533	63,000.40
1603	$\frac{3.07}{9.5} = .323$	5,200,000	1,679,600	$\frac{7}{6} = 1.16666$	1,959,533	63,000.40
(VI) Srebrenica						
1585	$\frac{3.07}{8} = .384$	5,088,634	1,954,035	$\frac{7}{6} = 1.16666$	2,279,708	73,294.25
1585	$\frac{3.07}{8} = .384$	5,656,290	2,172,015	$\frac{7}{6} = 1.16666$	2,534,018	81,470.50
(IX) Ohri						
1598	$\frac{3.07}{8} = .384$	1,200,000	460,800	$\frac{7}{6} = 1.16666$	537,600	17,284.23
1599	$\frac{3.07}{8} = .384$	1,300,000	499,200	$\frac{7}{6} = 1.16666$	582,400	18,724.58

date	gram equiv. of silver akča	akča amount	gram equivalent	tithe/no. of years	yearly production (in grams)	yearly production (in troy ounces)
(X) Lofča & Berkofča						
?	$\frac{3.07}{8} = .384$	100,000	38,400	$\frac{7}{3} = 2.33333$	89,600	2,880.70
?	$\frac{3.07}{8} = .384$	4,800,000	1,843,200	$\frac{7}{3}$	4,300,800	138,273.82
(XI) Trepča						
1585	$\frac{3.07}{8} = .384$	2,000,000	768,000	$\frac{7}{6} = 1.16666$	896,000	28,807.05
1585	$\frac{3.07}{8} = .384$	1,610,000	618,240	$\frac{7}{6} = 1.16666$	721,280	23,189.67
1606	$\frac{3.07}{9.5} = .323$	1,440,000	465,120	$\frac{7}{6} = 1.16666$	542,640	17,446.27
(XII) Novobrdo						
1582	$\frac{3.07}{4.5} = .682$	650,000	443,300	$\frac{7}{3} = 2.3333$	1,034,367	33,255.63
1615	$\frac{3.07}{9.5} = .323$	3,410,972	1,101,744	$\frac{7}{6} = 1.1666$	1,285,368	41,325.50
(XIII) Morevik/Smederevo						
1584	$\frac{3.07}{8} = .384$	220,000	84,480	$\frac{7}{3} = 2.3333$	197,120	6,337.55
(XIV) Rudnik						
1588	$\frac{3.07}{8} = .384$	1,640,000	629,760	$\frac{7}{6} = 1.1666$	734,720	23,621.78

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date	gram equiv. of silver akča	akča amount	gram equivalent	tithe/no. of years	yearly production (in grams)	yearly production (in troy ounces)
(XV) Zaplana						
1603	$\frac{3.07}{9.5} = .323$	27,600,000	8,914,800	$\frac{7}{6} = 1.16666$	10,400,600	334,386.77
1603	$\frac{3.07}{9.5} = .323$	990,008	319,773	$\frac{7}{6} = 1.16666$	373,068	11,994.41
(XVI) Demirhisari						
1589	$\frac{3.07}{8} = .384$	330,000	126,720	$\frac{7}{3} = 2.3333$	295,680	9,506.33
1589	$\frac{3.07}{8} = .384$	4,800,000	1,843,200	$\frac{7}{3} = 2.3333$	4,300,800	138,273.82
1590	$\frac{3.07}{8} = .384$	360,000	138,240	$\frac{7}{3} = 2.3333$	322,560	10,370.54
1590	$\frac{3.07}{8} = .384$	4,800,000	1,843,200	$\frac{7}{3} = 2.3333$	4,300,800	138,273.82
(XVII) Alasonya						
1586	$\frac{3.07}{8} = .384$	250,000	96,000	$\frac{7}{3} = 2.3333$	224,000	7,201.76
(XVIII) Tirhala/Inebahtı						
1586	$\frac{3.07}{8} = .384$	300,000	115,200	$\frac{7}{3} = 2.3333$	268,800	8,642.11
1588	$\frac{3.07}{8} = .384$	400,000	153,600	$\frac{7}{4} = 1.75$	268,800	8,642.11

Table 2
Regional Distribution of Ottoman Silver-producing
Mines Circa 1600 (figures in troy ounces)

Thessaly

(XVII)	Alasonya	7,201.76 (1586)
(XVIII)	Inebahti	<u>8,642.11</u> (1586)
		15,843.87

Thrace

(II)	Sidrekapsı	273,337.72 (1585)
(III)	Pravišta	73,560.16 (1590)
(V)	Hasköy	14,403.52 (1597)
(XVI)	Demirhisari	<u>147,780.15</u> (1589)
		509,081.55

Macedonia

(I)	Üsküp	405,826.35 (1584)
(IX)	Ohri	<u>17,284.23</u> (1598)
		423,110.58

Northern Bulgaria

(X)	Lofča & Berkofča	138,273.82
		<u>2,880.70</u>
		141,154.52

Serbia

(VI)	Srebrenica	73,294.25 (1585)
(XI)	Trepča	
	28,807.05 (1585)	
	<u>23,189.67</u> (1585)	
	51,996.72	51,996.72 (1585)
(XII)	Novobrdo	33,255.63 (1582)
(XIII)	Morevik	6,337.55 (1584)
(XIV)	Rudnik	23,621.78 (1588)
(XV)	Zaplana	
	334,386.77 (1603)	
	<u>11,994.41</u> (1603)	
	346,381.18	<u>346,381.18</u> (1603)
		534,887.10

Totals

Thessaly	15,843.87
Thrace	509,081.55
Macedonia	423,110.58
N.Bulgaria	141,154.52
Serbia	<u>534,887.10</u>
	1,624,077.63

B. Translation of the Document

*Report on the Condition of the Imperial
Mint and the Prosperous Mines
in the Year 1589 (897 A.H.)*

In the aforementioned year, the current rate of the *gurush* being eighty *akča*, each *gurush* contains nine and one-half *dirhems* (3.086 grams x 9.5 = 29.31) of silver and over one *dirhem* of copper, so that if it were to be melted down and new money minted from it, only sixty-five *akča* of standard measure would be produced. Thus the advantage of the newly-minted *čil akča* over *gurush* was soon realized by men of commerce, and as a result the new *akča* began to be hoarded, everyone preferring to make their payments and do their transactions in *gurush* instead of *akča*. After a short time, the new *akča* almost entirely disappeared from circulation between men of affairs and the population is consequently in great distress. The solution to this problem is that henceforth the rate of the *gurush* should be set at seventy *akča* and purchased in the name of the treasury at the rate of sixty-eight *akča* to be expended at the rate of seventy *akča* per *gurush*. If this plan were put into effect little advantage would remain in hoarding the newly-minted *akča*, and being of small demand everyone would prefer to spend rather than hoard their *akča*, thus bringing ease and contentment to all, and giving them cause to busy themselves with prayers for the continuance of your majesty's reign. Nor would the treasury suffer any loss if the rate of the *gurush* were to be set at seventy *akča*. Thus from now on the *gurush* received by the treasury should be collected at the rate of sixty-eight *akča* per *gurush*, and expended at a rate two *akča* higher. In this case, the imperial treasury would suffer no loss¹⁷⁾. The only conceivable loss would arise from the as yet unreceived installments due to the treasury such as the August payments from the tax-farms, and the sheep-tax¹⁸⁾. This however would not amount to any great loss either, probably no more than 1,500,000 *akča* all together. The Sultan should there-

¹⁷⁾ The government was often at a loss to find adequate supplies of ready silver, especially at the quarterly salary distributions to the troops and reduced to forcibly collecting the old *akča* of higher standard from the business community, returning the debt in terms of the newly-minted coin of lower standard. For a description of how this measure was carried out on another occasion in 1061/1650 see Mustafa Naima, *Tarih*, Istanbul 1281/1864, Vol. 5, pp. 97—101. Compare also an order from the year 1013/1604 for the collection of debased *akča* for reissuing as *gurush* from the Bursa *kadi sidjils*, B. S. Baykal, *Osmanlı İmparatorluğu ...*, *Belgeler* 4 (1967), pp. 51—53.

¹⁸⁾ Tax-farms, including the *rusum -i ağnam*, were auctioned and collected on the basis of the solar calendar. The traditional time for the auctioning of tax-farms was *nevruz* (mid-March), and *agustos* (beginning of August) was when the first six-month installment was due. Since the date of this proposal to devalue the *gurush* from 80 to 70 *akča* is 23 Cemazi al-ahir 997/10 May 1589, this would mean that the August installments for the lunar year 997, while budgeted at 80 *akča* per *gurush*, would be paid at a rate of 70 *akča* to the *gurush*, thus resulting in a loss to the treasury of ten *akča* per *gurush*. If we take into account that a profit of two *akča* is to be made on the reissuing of the coins, that loss is diminished to eight *akča* per *gurush*, or 11.4 per cent. According to regulations

fore be content to accept such a loss for the common good, and write orders to be sent by messengers (*čavush*) before the time of *cizye* (Islamic poll-tax) collection to the *kadis* (judges) and *müfettish* (judicial inspectors) all over the Empire, telling them that as before the gold ducat (*filori*) will continue to circulate at the rate of one hundred twenty *akča* to the *filori*, not to be more or less. Whatever the Sultan's decision in these matters may be, he should announce his regulations (*yasak*) accordingly and give strict orders that his instructions be carried out, indicating his desires in an imperial rescript (*hatt -i hümayûn*) to be issued and distributed throughout the Empire without delay. The final disposition of these matters is the prerogative of his most just majesty, in whom all the world takes refuge.

Should it be asked why the Sultan was not cautioned about these matters earlier, the answer is that since previously the supply of *hurda akča* (debased coin) in circulation was never short the proposed measure of collecting all the old coins and reissuing new coins with smaller silver content never became necessary¹⁹). Now however, not only has silver become unobtainable, but the clipped *akča* too has disappeared from circulation. Furthermore, since the standard of the new *akča* is full measure, it has become necessary to implement these measures to prevent more hoarding of silver. These questions were debated with men of knowledge and experience, and it was their unanimous determination that unless these measures were effected the newly-minted *akča* too would soon disappear from circulation. In addition to this the central treasury is sometimes forced, as for instance at the time of the quarterly salary payments (*mevacib*), to mint *akča* from *gurush* since suffi-

dated 1004/1596 (see 'Abd al-Rahman Tawki'i (ed.). Osmanlı kanunnameleri: ma'rudat -i Ebu Su'ud, in *Milli Tetebbüleri Mecmuası*, Istanbul 1331/1913, pp. 107—108) sheep were registered at the beginning of April, and the tax was collected after the lambing season in May. Thus while assessments made at the time of registration were in terms of the old *gurush*, by the time they were due to be collected the new rates proposed in our document were to be in effect. This problem was known as *kesr -i zuyuf* (revenue loss suffered through a devaluation of the currency). In this instance the *kesr -i zuyuf* of 11.4 per cent would result in a loss to the treasury of 1,500,000 *akča* for the combined August payments of the tax-farms and the sheep tax. The expected revenue in terms of the previously-circulating *akča* must then have been $\frac{1,500,000}{.114}$ or about 13,150,000. In fact this corresponds quite well with the figures for

these revenues from the budget for the year 954/1547 published by O. Barkan, 954—955 (1547—1548) malî yılına âit bir Osmanlı Bütçesi, in *Iktisat Fakültesi Mecmuası* 19 (1954—55), pp. 238—240. In 1547 the yearly *mukataat* revenues totaled 48,795,290 which means that each quarterly installment would have been approximately 12,000,000 *akča*.

¹⁹) For references to the production of *kirkik akča* see A. Refik, Osmanlı İmparatorluğunda Meskukât, *TTEM* 83 (1340/1921), p. 368 and B. S. Baykal, Osmanlı İmparatorluğu ..., *Belgeler* 4, pp. 57—58. The production and circulation of *akča* of lower standard amounted to a kind of unofficial devaluation whereby private parties profited from the discrepancy between the official rate and the actual market value of silver. The production of such debased coins, and the clipping of coins of official standard began to be widely practiced only after the devaluation of 994/1586 when instead of 450 *akča*, 800 *akča* began to be struck from 100 *dirhems* of silver.

cient supplies of silver may be lacking at the time to meet the need²⁰). In such cases a loss of fifteen *akča* for every *gurush* would be suffered. It is thus clear that, as has been repeatedly stated, a rate of seventy *akča* per *gurush* is in every way most beneficial to treasury interests.

An order should be sent to the *kadi* of Istanbul to the effect that henceforth the official *akča* circulating in my well-protected realm should be struck at the rate of eight hundred *akča* per hundred *dirhems* of silver, that is to say eight *akča* from every *dirhem*. Henceforth all *akča* will be struck, circulated, and accounted for in accordance with this scale. All previously-circulating debased (*hurda*) *akča* which contains pure silver should be collected and weighed, everyone bringing the debased *akča* in their possession to the imperial treasury and submitting them to be reissued at the rate of eight hundred *akča* per one hundred *dirhems* of silver. Raw silver which is sold on the open market, if it meets the official standards and bears a seal (*tamga*), should be bought at a rate of not more than seven *akča* per *dirhem*. *Yaldızlı sırma* (fancy silver braid) should fetch a price of fifteen *akča* per *miskal* (4.81 grams), and *beyazî* (plain silver braid) should fetch a price of twelve *akča* per *miskal*. The sale of silversmith's silver (*simkeşler akča*) should be unconditionally restricted²¹). From now on the export of the best quality raw silver to areas outside Istanbul should be forbidden²²). Accordingly imperial orders (*emr-i şerif*) have been sent to Istanbul, and to the other parts of the Empire. Written on the twenty-third of Cemazi al-ahir in the year 997 (May 10, 1589).

Rules for the production of pure silver in the mines of Üsküb (Skopje)

Those who undertake to excavate a mine for the purpose of extracting silver seek the advice of a special consultant called a *hutman*²³) who advises them as to the most

²⁰) The inability of the state to meet the quarterly salary payments of the soldiers was a significant factor underlying incidents of political unrest in the Ottoman Empire. H. Sahillioğlu draws attention to the connection between state bankruptcy and major disturbances in the capital in his article: Sıvış year crises in the Ottoman Empire. See M. A. Cook (ed.), *Studies in the Economic History of the Middle East*. London 1970, pp. 40—42.

²¹) The reason for the restrictions on the distribution of raw silver for use by the royal guild of the manufacturers of silver thread (*sîmkesh*) was that the amount to be allotted for such uses was limited by the mint to a certain quantity each year; see H. Sahillioğlu, XVII yüzyılın ortalarında..., *Belgelerle Türk Tarih Dergisi* 16 (1969), pp. 48—53. On the administration of this guild under the supervision of the comptroller of the mint (*darbkhane nazırı* see A. Refik, *Osmanlı İmparatorluğunda...*, *Türk Tarih Encümeni Mecmuası* 83 (1340/1921), p. 371.

²²) On the question of the restrictions placed on the circulation of pure silver outside Istanbul see E. Kolerkılıç, *Osmanlı İmparatorluğunda...*, p. 43. This prohibition was also designed to prevent the trade in silver with Iran through which channel a great quantity was escaping the Empire. For an example of an order banning the sale of pure silver to foreign merchants see *Belgeler* 4 (1967), p. 58.

²³) On the *hutman* and his office see R. Anhegger, *Beiträge*, p. 405; N. Beldiceanu, *Les Actes des Premiers Sultans*, Vol. II, pp. 109—111; and N. Çagatay, *Sidrekapsa...*, *Tarih Araştırmaları* 1940—1941, p. 268.

promising place for digging. Here in a table are shown the various shares of those who engage in mining:

	<i>Out of 1,000 dirhem</i>
Reckoning of outlay for overhead expenses	76
Quarter-share of the mint	250
Treasury tithe	67
Firewood tax	1
Share of the money-coiners	1
Share of the mining entrepreneurs	<u>605</u>
	1,000

If the mining entrepreneurs should fail to turn up a trace of silver on the spot recommended by the *hutman*, the latter is punished accordingly. In the mines, another expert called the *shafardji* (foreman)²⁴ is also employed. It is his job to find the workers in the mine and make sure that they are doing their tasks properly. He too is liable to punishment by the mining entrepreneurs if he is negligent in his duties.

Regulation

If the agent undertaking the management of a mining operation (*emin*) borrows money from the treasury to meet his expenses in renovating a derelict (*battal*) mine in conjunction with other partners, the proceeds are divided in the following manner; out of one thousand *dirhem* of silver, the share of the treasury tithe (*öşr -i miri*) taken together with the other expenses for operating the mine brings the total of the treasury share to 395 *dirhem*, which leaves 605 *dirhem* remaining as the share of the mining entrepreneurs. According to these calculations therefore the treasury share in a mining operation amounts to four *dirhems* from every ten produced. However, for an investor who from the beginning meets the expenses of opening a new mine from his own pocket and pays the wages of his workers from his own funds, the treasury share of forty per cent would be financially ruinous.

Regulation

The mine at Pravişta is a state-treasury operation. Of the ore produced, after two *akça* have been set aside as the fee of the money-coiners (*sarrafiyye*) and the entrepreneurs' share has been paid, the remaining part is treasury property. For the collection of these revenues a *cabi* and *mütevelli* (officials with the responsibility for collecting *wakf* revenues) are appointed. The payment of the salaries of these officials should not be imposed on the populace, but met from the profits of the mining operation.

²⁴) On the *shafardji* and his office see R. Anhegger, Beiträge, p. 406; N. Beldiceanu, Les Actes des Premiers Sultans, Vol. II, pp. 111—112; and N. Çagatay, Sidrekapsa..., Tarih Araştırmaları, 1940—1941, p. 268.

Note on the purification of silver ore

Silver when first mined has a bad odor. The process of smelting the ore in crucibles (*kefçe*) for purification is most difficult, and the danger of the ore being wasted is great. The best measure to insure against wastage is that the crucible be removed from the fire allowing the silver to cool down. Subsequently the crucible should be put back on the fire, and when the silver comes to the boiling point one *kiyye* (1.2828 grams) of dried human excrement²⁵⁾ should be mixed in, which insures that the silver will be of pure standard. These measures should not be neglected.

.....

[Here follows an account of the revenues deriving from eighteen of the principal mines and mints of Ottoman Rumelia. For the figures see the Document Transcription (infra pp. 93—97 and notes 26—38).]

Note on the System of Transcription

Since the photographs of the text are published with this article, it was deemed unnecessary to indicate long vowels and *ayns* by the use of the standard but cumbersome diacritical marks. Instead, I have opted for a simpler system of transcription which closely follows the rules of modern Turkish orthography.

C. Transcription of the Document: Ahval -i Darbhane -i Amire ve Meadin -i Mamure der Sene 997

(p. 4) Sene -i mezburde hala cari olan guruş seksaner akçeye cari olup, be her guruş dokuz buçuk dirhemdir, ve bir dirhemden ziyade bakırı vardır, kal olup çil akçe kat olunduğu takdirce akçe ayarı üzere altmış beş akçe hasıl olur. Bu manayı erbab -i ticaret bilip, nef çil akçede idiği izan eyledikleri sebebden, kat olunan akçe her kimin eline girer ise saklayıp guruş harc etmek üzere olmağla, cidden erbab -i muamelat beyninde cedit akçe bulunmaz olmuştur. Halk -i alem istirab üzerelerdir ki çare budur ki min bad cari olan guruş yetmişer akçeye cari olup ve miriye altmış sekiz akçeye kabz olunup, yetmişer üzere masraf ola. Böyle olicak, cedit akçeden nef -i cüzi kalmak ile rağbetden kalıp asla bir ferd saklamayıp, ele gireni herkes

²⁵⁾ A mixture known as the flux was added at the final stage of the refining process to precipitate the separation of impurities. Typically vinegar or dried lees of wine were used (Agricola, *De Re Metallica*, 234: “feces vini siccae”) but the text of our document gives dried human excrement as a principal ingredient (Transcription, infra p. 93: “*kurumuş adam tersin*”). It may be supposed that this was added because of the purifying properties of the nitrates contained within it.

harc etmek üzere olmağla, cümle -i alem huzur edip, devam -i devlet -i padişahi duasına iştigal üzere olurlar. Guruş yetmişer akçeye cari oldukça hazine canibine dahi zararı yoktur. Zira min bad kabz olunan guruş altmış sekizer üzere kabz olunup, ve ikişer akçe ziyadesine sarf olunur. Bu takdirce hazine -i amireye zarar olmaz, nihayet mukataatdan kabz olunup şimdiye değin hazine -i amireye irsal olunmayıp Agustos irsaliyesinden ve rusûm -i ağnamdan kabz olunan akçeden bir mikdar kesr zuhur eder. Ol dahi çokluk akçe değildir, cümle onbeş yük akçe mikdarı kesr ancak olur. Islah -i alem için bu mikdar kesra razı olup, ve filori kema kan yüz yirmişer akçe üzerine cari olup, izdiyad ve noksan bulmamak üzere fermanları olur ise, memalik -i mahruselerinde vaki her kadı ve her müfettişe evamir -i şerife yazılıp, haraç cemine mübaşiret olunmazdan mukaddem çavuşlar ile irsal olunup, min bad vech -i meşruh üzere yasak ve tenbih ve tekid ve amel olunmak babında izn -i hümayunları ne vechiyle cari olur ise, hatt -i hümayun -i saadet-makrunlar ile işaret -i ali buyurala ki mücebiyle amel olunup, muacellen vech -i meşruh üzere memalik -i mahruselerine evamir -i şerif irsal oluna. Baki -i ferman adaletli padişah -i alem-penah hazretlerininindir.

Bu husus bundan evvel niçin ikaz olunmadı deyü sual buyurulur ise, hurda akçede muzayaka olmamağın vech -i meşruh üzere mecal olmazdı. Şimdi kırkık akçenin vucudu kalmayıp ve gümüş dahi ele girmeyip ve hala cari olan akçenin ayarı sahih ve tamam al-vezn olmağın, bu vechiyle tedarik olunmak lazım olup, bu meani nice ehl -i vukuf ile müşavere olunup, eğer bu vechiyle olmaz ise, çil akçenin vucudu munadim olur deyü ale'l-ittifak haber vermişlerdir. Ma haza hazine -i amireye bazı mevacic için çil akçe lazım geldikte gümüş olmamak ile bi'z-zaruri guruşden kat olunmak lazım gelir. Her guruşdan onbeşer akçe zarar müterettib olur. Bu takdirce yetmişer akçe olmak üzere cari olmanın canib -i miriye her vechiyle nefi olduğu mukarrer olmağın ma vakaa arz olundu.

(p. 5)

Istanbul kadısına hükm yazıla ki min bad memalik -i mahrusemde cari olan akçe sahih ve meskuk olup, yüz dirhem gümüşden sekiz yüz akçe ki bir dirhemden sekiz akçe olur, vech -i meşruh üzere kat ve cari ve sarf olup, ve hurda akçe ki sahih'al-ayar gümüş ola, ol makule akçenin her yüz dirhemi sekiz yüz akçe kat olunmak üzere vezn ile alınıp, herkes elinde bulunan hurda akçesin darbhane -i amireye alıp getirip sekizi bir dirhem hesabı üzere akçe kat ettirip, ve esvakda bey u şira olunan ham gümüş tamgaya gelir ise yediye furuht olunup, bundan ziyadeye furuht olunmayıp, ve sipahiye müteallik zencir ve eğer ki tamgaya gelir ali gümüşden ola dirhemi sekizer akçeye furuht olunup, ve yaldızlı sırmanın miskali onbeşer akçeye ve beyazinin onikişer akçeye furuht olunup, ve simkeşler akçeyi sızdırdmayıp ve Istanbuldan ahar diyara ham ve evani gümüş min bad gitmeyip yasak ve amel olunmak emrim olmuştur deyü sair memalik -i mahruseye dahi minval -i meşruh üzere emr -i şerif verilmiştir. Fi 23 Cemazil'al-ahir sene 997.

Ihrac -i Sim -i Halis der Meadin -i Üsküb

Mesela bir madenci gümüş ihrac için kuyu kazdırıp, cevher çıkarmak lazım geldikte hutman tabir olunur mahsus bir adam vardır, onun tahmin eylediği yerde kazarlar. Cevher çıktıkta ne mikdar harc tutulur ve rub -i darbhane ve öşr -i miri ve hisse -i rencberane ne kalır beyan olunur. (Dirhem 1,000)

bedel -i ihracat	76 dirhem
rub ^c -i darbhane	250 dirhem

Silver Production in Rumelia

öşr -i miri	67 dirhem
öşr -i hime	1 dirhem
hisse -i sarraf	1 dirhem
hisse -i rencberan	<u>605</u> dirhem
	1,000

Kanun -i Ihrac -i Sim

[Ihrac -i kanun -i kadim.] Cevher ihracı için kuyu kazmak lazım geldikte, madeni hutman tabir olunur bir adam vardır, onun tahmin eylediği yerde kazarlar. Eğer cevher zuhur etmez ise, madenciler mabeyninde hakkından gelinir. Ve safarcı derler bir adam dahi vardır, kuyuda işçilerin bulup sakladığı yeri izan edemez ise onun dahi hakkından gelinir.

Kanun

Cevher -i maden ihracı için kadimden kazılıp battal kalan kuyuları umena ve gayri maden reayasına tekrar kazdırıp cevher çıkarıp emrim olan kimesne harc ve masrafın miri maldan verip, hasıl olan bin dirhem gümüşdan yetmiş altı dirhem öşr -i miri verip, ve sair harcı tutulup taksim olundukta hisse -i miri öşr ile üç yüz doksanbeş dirhem, ve hisse -i rencberan altı yüz beş dirhem olup, bu minval üzere vefa ettiği mastur olup, bu hesap üzere on dirhemden dört dirhem öşr alınmak icab eder. Lakin ibtida'dan kendi mal ile kuyu kazdırıp cevher ihrac eden kimesneye rencbercinin ücretleri kendi malından verip, on dirhemde dört dirhem öşr -i miri vermek maliyle kuyu kazana zarar etmek lazım gelir.

(p.6)

Kanun

Pravişta madenlerinde, çıkan halis yüz dirhem gümüşdan iki akçe sarrafıye alındıktan sonra rencberan hissesi dahi verildikten sonra fazla kalan mirinin olup, müteveli ve cabi nasb olunup, zimem -i nasdan devr eder, müteveli ve cabi ulufeleri murabahasından verilir.

Maden çıkan gümüş kokulu olup, keçeye girip kal olunmakta islah olunması asir, ve gümüş zai olmak görene ilaç heman ateşin çekip soğuşya, badehu yine ateş edip kaynamağa başladıkta bir kiyeye kurumuş adam tersin halt ile halis gümüş ola. Gaflet olunmaya.

(p.7) (I)

Nezaret -i mukataat -i meadin -i Üsküb²⁶⁾ der vacib -i sene 990/1582

	in akça
990/1582 (fi sitte sinin)	35,492,700
991/1583 (fi sitte sinin)	25,317,595
992/1584 (fi sitte sinin)	28,175,495
1003/1595 (fi sitte sinin)	55,964,552
1025/1616 (fi sitte sinin)	45,159,641
1032/1623 (fi sitte sinin)	37,339,111
1038/1629 (fi sitte sinin)	37,339,111

²⁶⁾ The Üsküb mines continued to be an important source of revenue for the Ottoman treasury as is confirmed by the yearly valuation of 4,000,000 *akça* assigned to this tax-farm lease in the year 1678 (1089 A.H.); O. L. Barkan, Osmanlı bütçelerine dair notlar, in *Iktisat Fakültesi Mecmuası* 17 (1955/56), p. 206, note 14. However, as in our document, that portion of the revenues which derived purely from mining operations is unfortunately not itemized.

(p.8) (II)	Nezaret -i mukataat -i meadin ve dar'al-darb ve mukataat -i saire -i Sidrekapsı²⁷⁾ ma nezaret -i Kavala	
	993/1585 (fi saba sinin)	22,140,000
	1001/1593 (fi saba sinin)	22,140,000
	1006/1598 (fi sitte sinin)	19,200,000
	1016/1607 (fi sitte sinin)	20,600,000
	1036/1627 (fi sitte sinin)	22,925,874
	1041/1631 (fi sitte sinin)	22,925,874
(p.9) (III)	Nezaret -i mukataat -i meadin -i Pravišta ve Kavala	
	998/1590 (fi sitte sinin)	5,107,095
	1001/1593 (fi sitte sinin)	5,807,095
	1037/1628 (fi sene)	1,960,333
(p.10) (IV)	Mukataat -i dar'al-darb -i nukre -i hasene -i Sultaniye ve fuls -i Istanbul an gurre -i Cemazi'al-evvel sene 990 (end of May, 1582) deruhde -i Musa veled -i Yasif	
	990/1582 (fi selase sinin)	2,490,000
	992/1584 (fi arba sinin)	3,370,000
	1003/1595 (fi tisa sinin)	12,475,960
	1010/1601 (fi sitte sinin)	9,311,642
	1011/1602 (fi sitte sinin)	9,261,642
	1012/1603 (fi sitte sinin)	9,261,642
	1013/1604 (fi tisa sinin)	16,850,960
	1014/1605 (fi tisa sinin)	16,975,959
(p.11) (V)	Mukataat -i nukre ve şab der kaza -i Akça-Abad -i Hasköy der nehr -i Ulu - Dere an 16 Şevval sene 1006/1597	in akça
	1006/1597 (fi sitte sinin)	1,000,000
	1007/1598 (fi arba sinin)	1,200,000
	1009/1600 (fi sitte sinin)	5,200,000
	1012/1603 (fi sitte sinin)	5,200,000

²⁷⁾ Inciciyan, quoting Kâtib Çelebi as his source, says that the mines of Sidrekapsı produced a yearly quantity of 50,205 *čeki* of silver (see Inciciyan-Andreasyan, Osmanlı Rumelisi, GDAAD 2 (1973), p. 50). The *čeki* was a measure equivalent to 100 *dirhems* (307 grams) so this quantity amounted to 15,412,935 grams or 495,537 troy ounces. If we compare the production levels in our document for the late sixteenth century it will be seen that in no instance does the production exceed 300,000 ounces. The discrepancy may be assumed to have arisen from the fact that Katib Çelebi lumped the production of several nearby mines together in a single figure, while our data reflect only the silver produced at the mine of Sidrekapsı proper. Belon's figures (Belon, Les Observations, folio 45b; R. Anhegger, Beiträge, pp. 180—181) are even more disproportionate. He gives the Sultan's monthly revenue of the silver mine at Sidrekapsı in the 1550's as 18,000 gold ducats. Accordingly each year 216,000 gold ducats (12,960,000 *akça*) that is 9,473,760 grams or 304,588 ounces would have been the Sultan's share. But in order to ascertain the total production of the mine this share would then have to be multiplied by a factor of four, five, seven, or even as much as eight (see supra note 8 on changes in the rate of the treasury assessment). We must therefore conclude either that Belon's figures were based on exaggerated hearsay, or that he misinterpreted what he heard and reported as the Sultan's share what was in fact the total production of the mine.

Silver Production in Rumelia

(p.12) (VI)	Emanet -i maden -i Srebrenice ve hasha -i atik ve cedid ve mukataat -i müteferrika -i maden fi 4 Zilhicce sene 993 deruhde -i Yasif veled -i Musa	
	993/1585 (fi sitte sinin) — 4 Zilhicce/November 28	5,088,634 ²⁸⁾
	993/1585 (fi sitte sinin) — 27 Zilkade/November 21	5,656,290
(p.13) (VI)	Mukataat -i rusum an mal -i kalhane -i ifrazciyan -i dar al-darb -i Serez ve Sidrekapsi an vacib -i sene 991	
	991/1583 (fi sitte sinin)	120,000
(p.14) (VIII)	Mukataat -i dar al-darb -i nukre i- Edirne fi 27 Muharrem sene 993	
	993/1585 (fi selase sinin)	310,000
	1014/1605 (fi selase sinin)	198,000
(p.15) (IX)	Emanet -i dar al-darb ve maden -i Öhri an gurre -i Şevval sene 1007	
	1007/1598 (fi sitte sinin)	1,200,000
	1008/1599 (fi sitte sinin)	1,300,000
(p.16) (X)	Emanet -i maden -i Mirkovo (?) der kaza -i Lofča ve karye -i Suho (000) der kaza -i Berkofča²⁹⁾ der liva -i Niğbolu (yevm 4)	
	(fi selase sinin)	100,000
	nukre -i halise — hasene 40,000 (x 120)	= 4,800,000
(p.17) (XI)	Emanet -i meadin -i Trepča ve mukataat -i müteferrika -i meadin -i mezbure fi 19 Zilkaade sene 993 (yevm 40)	
	993/1585 (fi sitte sinin)	
	min meadin -i mezbure;	
	nukre -i halise — hasene [*] ³⁰⁾	2,000,000
	min mukataat -i müteferrika -i meadin	

²⁸⁾ It is unclear here whether the two different assessments are meant to represent separate contracts one for the mine and the other for the *hass* or whether two separate tax-farmers agreed to share the revenues for both the mine and the *hass*. Since there are only six days separating the two payments however it is probable that the figures represent two installments for a single tax-farm combining the revenues from both the mine and the *hass*.

²⁹⁾ The village of Mirkovo just to the west of Lofča (Lovech) is listed among the timar revenues of the *sancak* of Sofya, (Izvoriza Bulgarskata Istorija, Volume 13, Sofia 1966, p. 224) but no specific reference is made to silver production there. On the other hand a silver mine named the Kirus mine was said to exist in Katib Çelebi's time at Berkofča; Hammer, Rumeli und Bosna, p. 55.

³⁰⁾ The scribe's rendering of the figure for the production of the mine at Trepča for the year 1585 as 2,000,000 *hasene* (gold ducats) is obviously a mistake since the figure for Trepča's production only twenty years later in 1606 is given as 13,000 *hasene*. It may be supposed that as in the figure for 1606 the scribe intended to write both the *hasene* amount and the *akča* equivalent, but in his haste wrote only the 2,000,000 figure and mistakenly put it in the slot meant for *hasene*. If we proceed on the assumption that the 2,000,000 figure refers to *akča* rather than to *hasene*, a figure closely approximating that of 1603 results ($\frac{2,000,000}{110.769} = 18,056$ *hasene*). Other evidence which corroborates this assumption is found by comparing the relative size of other Serbian

		1,610,000
	1015/1606	
	nukre -i halise — hasene 13,000 (x 110.769) ³¹⁾	= 1,440,000
(p.18) (XII)	Emanet -i maden -i Novobrdo ma mukataat -i müteferrika ve nisf -i bad -i hava -i işciyan -i Novobrdo ve maden -i ahen -i Zarljevo³²⁾ fi 28 Zilhicce sene 1024	
		in akča
	990/1582 (fi selase sinin)	650,000
	993/1585 (fi sitte sinin) <i>terkim sehvdır</i> ³³⁾	
	1024/1024 (fi sitte sinin)	3,410,972
(p.19) (XIII)	Mukataat -i hasha -i maden -i bac -i Morevik³⁴⁾ der liva -i Semendire, an gurre -i Şaban sene 992	
	992/1584 (fi selase sinin)	220,000
(XIV)	Mukataat -i maden -i müteferrika -i Rudnik³⁵⁾ ma hasha -i Morevik der liva -i Semendire, fi 29 Muharrem sene 997	
	997/1588 (fi sitte sinin)	1,640,000

mines. The size of Trepča's mineral production in the fifteenth century was calculated by Kovačević (Les mines d'or. . . , *Annales 15* (1960), graph on page 257) to be about four-fifths that of Srebrenica. This corresponds to what is achieved by adjusting our data to compensate for the scribal error; see table 1: Srebrenica (1585) — 73,294 ounces as compared to Trepča (1585)—51,996 ounces.

³¹⁾ The *hasene* was the Ottoman gold coin of current circulation. Its value in terms of *akča* fluctuated considerably, even within a relatively short period of time; see Sahil-lioğlu, *Belgeler 1* (1964): pp. 228—233. In this entry, the *akča* equivalent of 1,440,000 is given for 13,000 *hasene* making it possible for us to calculate a rate of 110.769 *akča* per *hasene*, but in other entries the rate is not specified. For purposes of our calculations, unless otherwise given, the standard rate of 120 *akča* per *hasene* was used for conversion of *hasene* to *akča*.

³²⁾ I am grateful to Professor Adem Handžić of the Orijentalni Institut of Sarajevo for his help in identifying this and other toponyms.

³³⁾ *Terkim sehvdır*, literally “mistaken penning” was the chancellery term applied when expunging an entry from the record. This then is the explanation for the absence of an *akča* figure for this entry.

³⁴⁾ Morevik (Morovič) is identified by Fekete (Siyaqat-Schrift, Volume 1, p. 805) as a town in the *sancak* of Sirem lying 30 kilometers west of Mitrovica. The bac -i Morevik mentioned in our document is however clearly said to belong to the *sancak* of Semendire. From its name it can be guessed that it was near a ford or toll post on a main road, but its exact location is not known.

³⁵⁾ Silver mining was engaged in at Rudnik from the early Middle Ages; see J. Jireček, *Handelsstraßen und Bergwerke . . .*, p. 50. During the reign of *Süleyman I* (1520—1566) a portion of the revenues (213,769 *akča*) from silver mining there were set aside as income for the imperial domains; T. Gökbilgin, *Rumeli eyaleti, Belleten 20* (1956), p. 257.

Silver Production in Rumelia

(p.20) (XV)	Mukataat -i maden -i hasha -i atik ve cedid -i Zaplana³⁶⁾ der liva -i Alacahisar, an 12 Zilkade sene 1012	
	1012/1603 (fi sitte sinin)	
	nukre -i halise — hasene 230,000 (x 120)	= <u>27,600,000</u>
	— [nakdine] ³⁷⁾	<u>990,008</u>
(XVI)	Emanet -i mukataa -i maden ve hasha -i Singil³⁸⁾ der kaza -i Demirhisarı, an 6 Rebi'ul-ahir sene 998 (ibtida -i mukataa)	
	998/1590 (fi selase sinin)	
	nukre -i halise — hasene 40,000 (x 120)	= <u>4,800,000</u>
	— nakdine	<u>360,000</u>
	997/1589 (fi selase sinin)	
	nukre -i halise — hasene 40,000 (x 120)	= <u>4,800,000</u>
	— nakdine	<u>330,000</u>
(p.21) (XVII)	Mukataat -i hasha -i nahiye -i Alasonya ve Domenik, an 26 Rebi'ul-ahir sene 994	
	994/1586 (fi selase sinin)	250,000
(XVIII)	Mukataat -i maden -i cedid der liva -i Eğriboz ve kaza -i Tacağaç ve Badracık ve Çatalca ve Velsin³⁹⁾ der liva -i Inebahti ve Tirhala, an gurre -i Muharrem sene 994	
	(ibtida -i mukataa şud, fi gurre -i Muharrem 994)	
	994/1586 (fi selase sinin)	300,000
	996/1588 (fi arba sinin)	400,000

³⁶⁾ Zaplana (Zaplanina) 's location is fixed on the map drawn by Kovačević (Les mines d'or . . . *Annales* 15 (1960), p. 248) as midway between Belobrdo and Livadje on the edge of the Kopaonik mountains and close to the left bank of the Ibar river. For details on the extraction of lead from ore mined in Zaplanina see Barkan, Süleymaniye Cami, pp. 371—373.

³⁷⁾ In a few entries in the document (e. g. nos. XI, XV, XVI) the revenues from mining are recorded in terms of gold and silver coin. Accounting for revenues in gold simplified payments to the treasury and avoided the complications which arose from *akča* coins of variant standard which often circulated coincidentally. The gold coin or *hasene* was, for purposes of accounting, at this date equivalent to 120 *akča*, while the silver *nakdine* corresponded to the official *akča* whose standard was fixed by the mint. Compare the rates of these coins in sixteenth century Hungary in L. Fekete, *Sıyaqat-Schrift*, Volume 1, p. 238, note 7.

³⁸⁾ Singil (*سنگل*). This name is attested in the district of Demirhisar in the *salname* of the province of Selanik for the year 1897 (1315 A. H.) on page 121.

³⁹⁾ On the location of Velsin among the towns of the *sancak* of Tirhala, see Hammer, *Rumeli und Bosna*, p. 104; Inciciyan, *Osmanlı Rumelisi*, p. 61.

D Appendix

Facsimile of the Document.

6

فایده

برداشت شده صد نفوسه جفاه خالص بوز ورج کشیده کتبه ایفوز مزایه لاندنزه صبره بجزله
کلیه حق دبره کتبه فغنه نده بیگین لودون منق و جابا لغیر لودون فوج بکسره
و در لبره منق و جابا عود لوی و لکسسه در لبره

صد نفوسه کشن فوفوز لودون کتبه کتبه فکله لودون جابا اصلاح لودون بکسره و کشن لودون
کدره اصلاح و کشن کتبه کتبه کتبه کتبه کتبه کتبه کتبه کتبه کتبه کتبه کتبه کتبه
کسین فوفوز لودون کشن لودون اصلاح لودون

7

لغیر لودون
۶۹۰
۳۵۹۹۲۷۰
۹۹۲
۲۸۱۷۵۴۹۰
۱۰۲۰
۲۷۳۹۱۱۱
۱۰۳۲
۵۲۱۵۹۶۲۱
۱۰۲۵
۵۵۶

Handwritten text in Ottoman Turkish script, top left section.

Handwritten text in Ottoman Turkish script, top center section.

Large handwritten text in Ottoman Turkish script, right side of the page.

Handwritten text in Ottoman Turkish script, middle left section.

Handwritten text in Ottoman Turkish script, middle left section.

Small handwritten text in Ottoman Turkish script, middle left section.

Handwritten text in Ottoman Turkish script, middle left section.

Small handwritten text in Ottoman Turkish script, middle left section.

Handwritten text in Ottoman Turkish script, middle left section.

Handwritten text in Ottoman Turkish script, bottom right section.

Handwritten text in Ottoman Turkish script, bottom left section.

Rhoads Murphey

9

8

Handwritten musical notation for measures 9 and 8. Measure 9 is on the left, measure 8 on the right. Each measure contains a long horizontal line with notes and stems, and several smaller staves below with notes and stems. Some notes are circled or have other markings.

11

10

Handwritten musical notation for measures 11 and 10. Measure 11 is on the left, measure 10 on the right. Each measure contains a long horizontal line with notes and stems, and several smaller staves below with notes and stems. Some notes are circled or have other markings.

13

12

Handwritten musical notation for measures 13 and 12. Measure 13 is on the left, measure 12 on the right. Each measure contains a long horizontal line with notes and stems, and several smaller staves below with notes and stems. Some notes are circled or have other markings.

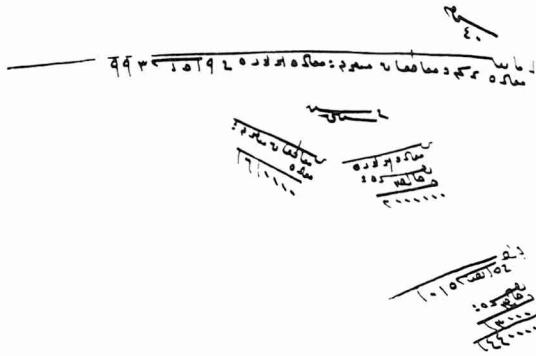
15

14

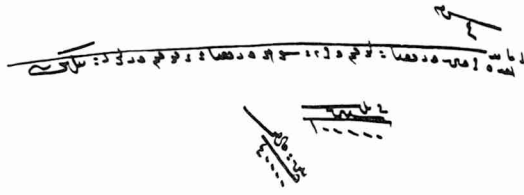
Handwritten musical notation for measures 15 and 14. Measure 15 is on the left, measure 14 on the right. Each measure contains a long horizontal line with notes and stems, and several smaller staves below with notes and stems. Some notes are circled or have other markings.

Silver Production in Rumelia

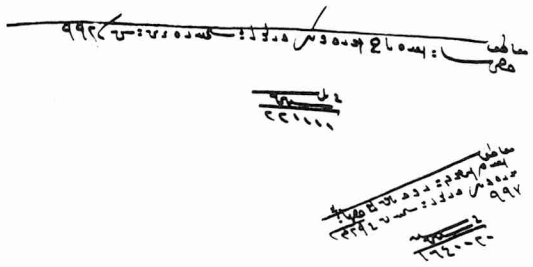
17



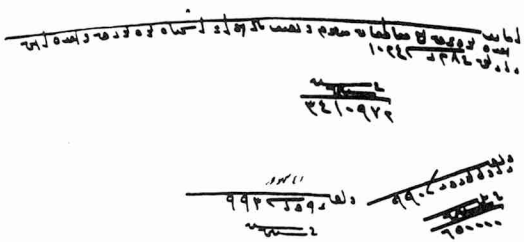
16



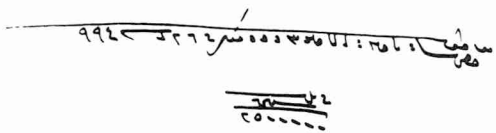
19



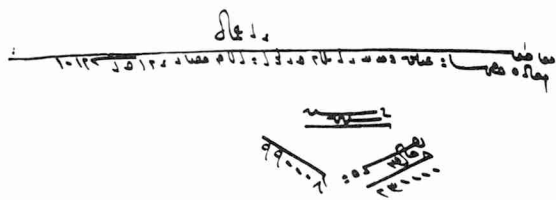
18



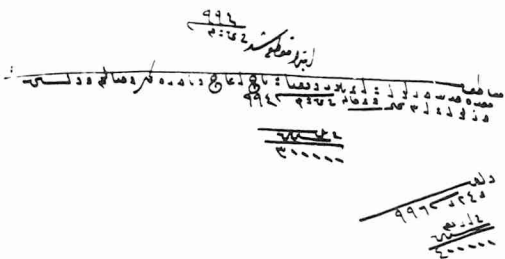
21/a



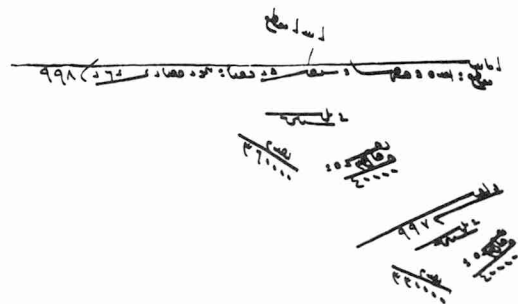
20/a



21/b



20/b



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