
DEBATES

The Volume of Mediaeval Spice Trade

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All those who are interested in the history of international trade in the Middle Ages will find Professor Wake's article "The changing pattern of Europe's pepper and spice imports, ca 1400-1700"¹ extremely valuable. He has made an effort to assess the volume of Europe's spice imports in the later Middle Ages and in making his calculations he has not neglected the overlooked problem of the size of the bales used. It is indeed absolutely vital to calculate precisely the size of the shipments of various articles. An understanding of the terms which the merchants of the time used for the different bales is not easy, and because of the varying terminology contradictory interpretations often result. The merchants themselves who compiled freight inventories did not always distinguish between the various bales. Therefore it would be wrong to claim that any single interpretation is beyond doubt. The following observations should thus be considered as suggestions.

I

Two standard packages are most often mentioned in the freight inventories of the galleys and the other ships which transported the spices from the Near East to Southern Europe: the *collo* and the *pondo*. It is difficult to establish what the merchants meant when they used these terms since they were often interchanged and, also, because their meaning changed in the course of time.

With respect to the *pondo* of the fourteenth century, J. Heers has concluded from passages in Pegolotti's work that it was equal to 91 kg, and was the same

¹ *JEEH* VIII (1979), p. 361 ff.

as the *collo*.² In a previous paper I have tried to show that the *collo* was the standard bale used in Syria and equal to 50 Damascene rats, or 300 light Venetian pounds (*libbre sottili*), that is about 90 kg, and that it was used in that country through the Fifteenth Century.³ Professor Wake challenges this assumption and claims that this Syrian standard package became bigger in the course of time. He believes that in the second half of the Fifteenth Century it was equal to 420 light Venetian pounds or 400 net weight, i.e. respectively, 120 and 126 kg.⁴ Professor Wake does not cite any document which supports this supposition. But there are a very great number of documents which leave no doubt that the Syrian *collo* was not changed until the end of the Fifteenth Century. There are almost countless examples to prove this fact in the series *Terminazioni* of the *Giudici di petizione* (in the Venetian State Archives). Shipments of the spices (and of other articles) had to be weighed before the merchants were allowed to take them away from the Customs offices and on this occasion the equivalents of the weight in the harbour from which the merchandise came was also recorded. In all these documents, dating from the second half of the Fifteenth Century, one finds the equation 1 Syrian *collo* = 50 Damascene rats = 300 *libbre sottili*. The following are some examples:

G. P., Ter. II, f. 26b, 34b, 37a, 39a, 39b (of a. 1466)
VII, f. 89b (of a. 1480)
VIII, f. 58a, 48b, 50a (of . 1482)
XIII, f. 97b, 99a, 100a XIV, f. 30a (of a. 1493)

These are only random samples, many other sources could be added.⁵ Consequently the assumption that there was a change of the Syrian *collo* must be discarded and calculations made upon this basis are mistaken.

The case of the Egyptian *pondo* is more complex. This measure did certainly change. Professor Wake believes that at the end of the Fourteenth and at the beginning of the Fifteenth Century it was equal to a *sporta* of 225 kg, and at the end of the Fifteenth Century equalled 1680 light Venetian pounds (*libbre sottili*, henceforth abbreviated l.s.), i.e. 506 kg.⁶ However, data in the registers of the Customs offices of Genoa point to the fact that the Egyptian *pondo* in the second half of the Fourteenth century contained 4 spice *kintars* (of 45 kg each), [see ASG (Archivio di Stato, Genova), *Drietus Alexandriae* 1367, f. 13a,

² "Il commercio nel mediterraneo nel sec. XIV e nei primi anni del sec. XV", *Archivio Storico Italiano*, 113 (1955), p. 183 f.

³ "The Volume of Levantine trade in the later Middle Ages (1370-1498)". *JEEH* IV (1975), p. 575 f.

⁴ *Art. cit.*, p. 366 f. and see the calculations, p. 400.

⁵ See, for instance, ASV (*Archivio di Stato, Venezia*), *Giudici di petizione* (henceforth quoted: G. P.), *Straordinario Nodari* 19, f. 16b, 17a, 17b, 18a, 18b (of a. 1454).

⁶ *Art. cit.*, p. 367 and see the calculations, p. 400.

13b, 14b, 15a, 47a.] This was still its size in the first half of the Fifteenth Century. In some Venetian documents one finds that it was equal to only 160 kg.⁷ On the other hand, some documents referring to transactions in the 1440's mention an Egyptian *pondo* equal to 310-330 kg.⁸ However in that period the *pondo* was still commonly reckoned at 2 Syrian *colli*, as is borne out by decrees of the Venetian Senate of 1427 and 1430.⁹ But in the middle of the Fifteenth Century it was doubled. Several documents show that it was then equal to 800-820-840 ratls (of 450 gr), i.e. 360 kg.¹⁰ Judicial records and other documents of the late 1460s and the 1470s refer to a *pondo* of 1000 ratls, i.e. 450kg.¹¹ This equation is also to be found in the registers of the Venetian Customs offices of the 1480's¹² and there are also documents mentioning a *pondo* equal to 1200 ratls, i.e. 450 kg.¹³ But the size of the *pondo* varied; other late Fifteenth Century sources indicate 360 kg as the weight of the Egyptian *pondo*.¹⁴ The equation 1 Egyptian *pondo* = 4 Syrian *colli* was indeed upheld by the Venetian authorities until the end of the century.¹⁵ Therefore Professor Wake's assumption that the late Fifteenth Century *pondo* should be reckoned at 504 kg is an over-estimate.

II

The calculations which Professor Wake has made of the Venetian spice trade at the end of the Fourteenth Century and at the beginning of the Fifteenth Century need some corrections. Beside the erroneous assumption that the Egyptian *pondo* was equal to a *sporta*, there is the fact that J. Heers's article, upon which Wake draws, contains errors and omissions. In calculating the prices, Professor Wake used the prices in Venice as given by Heers. But these are CIF prices, which include also the profits of the merchants. It is preferable, I believe, to take the FOB prices as the basis for such estimates. For the ginger imports, Professor Wake calculates on the basis of the prices of *beledi* ginger (in Venice), the only one quoted by Heers from the Datini

⁷ G. P., *Sentenze a giustizia* (henceforth quoted: G. P. *Sent.*), 27, f. 76a ff. (a. 1405) 28, f. 26a (approximately a. 1415) 114, f. 77a (about a. 1448).

⁸ Same series 70, f. 37a ff. 102, f. 84b ff.

⁹ ASV, *Senato, Misti*, 56, f. 126a 57, f. 233a.

¹⁰ ASG, *Ca. vet.* 1552, f. 128a (a. 1445); G. P., *Straordinario Nodari*, 19, f. 11b, 12b, 15b (a. 1454); G. P., *Sent.*, 150, f. 49a ff. (a. 1461).

¹¹ G. P., *Sent.*, 153, f. 54b f. (a. 1469), 161, f. 126b ff. (a. 1475) 166, f. 46b ff. (a. 1475); ASG 2774 C, f. 18b (443.7 kg) (a. 1472).

¹² G. P., *Ter.* VIII, f. 84a (a. 1453) IX, f. 18a (1484).

¹³ G. P., *Ter.*, IX, f. 94b (a. 1485), 157a (a. 1486) 11, f. 93a (a. 1487), 186b (a. 1488).

¹⁴ G. P., *Ter.* VIII, f. 50b (a. 1483) 11, f. 186b (a. 1488) 12, f. 111b (a. 1491), 135a (a. 1492).

¹⁵ ASV, *Senato, Mar VIII*, f. 144b (a. 1467), 12, f. 106a (a. 1487), 136b (a. 1488).

papers. But a great part of the ginger exported from the Levant was *Meccan* ginger ("micchino"), which had only slightly more than half the value of the beledi ginger. It goes without saying that this will cause major errors.

From my own readings of the Datini papers, the volume of the Venetian pepper trade at the end of the Fourteenth Century and at the beginning of the Fifteenth Century was, in the years which Professor Wake took as a sample, as follows: ¹⁶

TABLE I

VENETIAN PEPPER EXPORTS FROM THE NEAR EAST
(by galley convoys)

a) from Alexandria

	1394	1395	1396	1399	1404	Total	Average
bales (<i>pondi</i>)	2837 ^a	2100 sp' ^b	1573 ^c	2100 sp' ^d	1799 ^e	9166.6	1833.2 or, 374.990 l.s.
in sportas	2269	2100	1258.4	2100	1439.2		
value ^e							
FOB (in dinars)		147,000		147,000		97,144	
CIF (in ducats)		248,062		242,313		176,751	

b) from Beirut

	1394	1395	1396	1399	1404	Total	Average
bales (<i>colli</i>)	1536 ^f	1000 kinjār ^g	1403	219 ^h	1724	3941.5	656.9 or 394,150 l.s.
in kinjārs ⁱ	768	1000	702.5	109.5	862		
value ^j							
FOB (in dinars)		55,000		5,475	46,548		
CIF (in ducats)		94,500		10,101	73,054.5		

a. HEERS, *Il commercio*, p. 166 gives 2190 *pondi*, but there was a supplementary ship (*nave di rata*) carrying 647 *pondi*.

b. In this case the original has *sportas*.

c. WAKE has 1926, but HEERS, *l. c.* has 1573 *pondi*.

d. WAKE has 1317. What is the source?

¹⁶ In the following tables and calculations I have made some corrections to calculations made in my previous papers.

- e. The calculations have been based on the following prices: Alexandria 1391 1 sporta 70 din, (see ASP (Archivio di Stato Prato), Dat 710, letter of Zanobi di Taddeo Gaddi of 17 Apr.)
1395 Dat 926, (letter of the same of 13 July)
1395 Dat 927, (letter of the same of 5 Oct.)
1395 Dat 549, (letter of the same of 4 Nov.)
1399 70 din., (see Dat 1083, letter of Commessaria of Zanobi of 29 Nov. 1399)
1404 67.5 din., (see E. ASHTOR, *Spice prices in the Near East in the XVth century*, JRAS 1976, p. 28)
- Venice 1395 (carica (of 120 kg) 63 duc. (164 l) (see Dat 710, letter of Zanobi di Taddeo Gaddi of 4 Dec. 1395)
1399 61.5 duc., (see Dat 927, letter of Bernardo degli Alberti of 9 Oct. 1399 Dat 714, letters of Zanobi di Taddeo Gaddi of 25 and 31 Oct., 13 and 22 Nov., 4 and 20 Dec. 1399)
1404 56.5 duc., (see Dat 929, letter of Gherardo Davizi of 18 Dec. 1404. For the value of the Venetian lira in ducats see C.M. CIPOLLA, *I movimenti dei cambi in Italia dal secolo XIII al XV* (Pavia 1948), p. 46)
- f. This freight inventory has been published by F. MELIS, *Aspetti della vita economica medievale* Siena 1962), p. 383, who, however, has 1585 *pondi*. The document also listed 53 *pondi* of pepper from Rhodes and 273 from Modon, but one cannot be sure where they came from.
- g. Here the original has *kintār*.
- h. One should add 156 *pondi* carried to Venice on a pilgrims' galley.
- i. Of 180 kg.
- j. The prices in Beirut were:
1395 1 *kintār* 55 dinars (see Dat 710, letter of Zanobi di Taddeo Gaddi of 7 Sept. 1395; F. MELIS, *Documenti per la storia economica dei secoli XIII-XVI* (Florence 1972), p. 184; Dat 927, letter of Zanobi of 5 Oct. 1395)
1399 50 din. (see Dat 1171, price lists)
1404 54 din. (cf. ASHTOR, *Spice prices*, p. 28).

The results of these calculations, are not very different from those of Professor Wake. They show that at the end of the Fourteenth Century and at the beginning of the Fifteenth Century the Venetians exported from Alexandria 412 t and from Beirut 104 t of pepper a year. In a previous paper¹⁷ I calculated that they shipped 1500-2000 *sportas* a year, i.e. 337-450 t from Egypt and Syria. The years chosen by Wake (for which our calculations have also been made) were indeed boom years. The spice exports from the Near East were not typical of the volume of the Levantine trade in that period.¹⁸

III

Between Professor Wake's estimates of the Venetian ginger trade in the later Middle Ages and our own there is a greater discrepancy.

¹⁷ "The Volume of Levantine trade", p. 584.

¹⁸ See, *art. cit.*, p. 584, 608.

TABLE II

VENETIAN GINGER EXPORTS FROM THE NEAR EAST
(by galley convoys)

a) from Alexandria

	1394	1395	1396	1399	1404	Total	Average
bales ^a							
(<i>pondi</i>)	210	bel. 70 micch. 120	220	bel. 90 micch. 80 col. 202 ^b	336 ^c		
in spice							
<i>kințars</i> ^d	840	bel. 280 micch. 480	880	bel. 360 micch. 320 col. 808	1344	5312	1062,4 or 159,360 l.s.
value ^e							
FOB (in dinars)		bel. 12,320 micch. 12,560		bel. 4,680 micch. 2,880 col. 10,504	17,936		
CIF (in ducats)		bel. 23,100 micch. 19,440		bel. 12,420 micch. 5,760 col. 27,876	43,344		

b) from Beirut

	1394	1395	1396	1399	1404	1405	Total	Average
bales								
(<i>colli</i>)	316	bel. 260 micch. 63	309	2419	920	823		
in spice								
<i>kințars</i>	632	bel. 520 micch. 126	618	4838	1840	1646	10866	1811 (i.e. 271,650 l.s.)
value ^f								
FOB (in dinars)		bel. 52,000 micch. 6,552	60,475			43,000		
CIF (in ducats)		bel. 85,800 micch. 10,206	127,000			59,340		

a. In some freight inventories the three kinds of ginger (*beledi*, *micchino* [Meccan] and *colombino* [of Kulam]) are separated, in others one finds only one figure.

b. For 1394 Wake has 138 bales and for 1399 (altogether) - 130.

c. 106 *colli* on the galleys and 230 on a supplementary ship. Wake has a total of 113 (with a question mark).

d. Of 45 kg.

e. The calculations have been made on the basis of the following prices:

Alexandria 1395 1 spice *kințar* bel. 44 din., micch. 22 din., (see Dat 926, letter of Zanobi di

- Taddeo Gaddi of 13 July 1395 Dat 927, letter of the same of 5 Oct. 1395)
1399 bel. 13 din., micch. 9 din., (see Reinaud, JA 1829, II, p. 30 Dat 927, letter of Comm. of Zanobi of 20 and 25 May 1401 and see below the data about the prices in Beirut)
1404 bel. 22 din., micch. 16 din., (see Dat 928, letter of Comm. of Zaboni of 29 Sept. and 8 Oct. 1403 (I did not find data of 1404).
Venice 1395 100 l.s. bel. 55 duc., micch. 27 duc., (see Dat 710, letter of Zanobi of 8 Jan. 1396 Dat 926, letters of the same of 23 and 31 Dec. 1395 and 2 Jan. 1396)
1399 bel. 23 duc., micch. 12 duc., col. 19 duc., (see Dat 926 letter of Bernardo degli Alberti & Cie of 20 Oct. 1399, 22 Jan. 1396)
1404 bel. 27 duc., micch. 16 duc., (see Dat 929, letter of Perluccio del Maestro Paolo of 8 Nov. 1404, 5 Jan. 1405).

If in a freight inventory no distinction is made between the three kinds of ginger, the calculations are based on an average price. In the cases where there are no data about the price of *colombino* ginger, I have assumed that its price was equal to that of the *beledi*.

f. The prices (of a *kinšār* of 180 kg.) in Damascus were as follows:

- 1395 bel. 200 din., micch. 104 din. See Dat 549, letter of Zanobi di Taddeo Gaddi of 7 Sept. 1395 Dat 797 letters of the same of 19 and 27 Oct. 1395.
1399 bel. 65 din., micch. 35 din., see Dat 1171, price list of 14 Febr. 1399.
1404 bel. 90 duc., micch. 45 duc., see Dat 714, letter of Paris Soranzo of 24 Nov. 1403 Dat 1171, price list of 6 Nov. 1406.

Although Professor Wake (in my view erroneously) calculated the Alexandrian bale at 225 kg, his estimate for the ginger which the Venetians shipped at the end of the Fourteenth Century and at the beginning of the Fifteenth Century from Egypt is much lower than my own. The difference stems obviously from the data relating to the smaller shipments in certain years, given by Heers. The different estimate of the value of the ginger exports from Alexandria, especially that of the shipment in the year 1395, derives from the surely mistaken calculation when Wake failed to distinguish between the *beledi* and *Meccan* ginger.

The shipments of ginger from Alexandria and Beirut in the years which have been studied here would indicate an average export of 128 t, whereas I have argued in a previous paper that the Venetians every year exported 400-800 spice *kintārs* from Egypt and 1700-1800 from Syria.¹⁹ It is indeed reasonable to estimate the total of the ginger which the Venetian galleys carried in that period from Egypt and Syria to Venice every year at no more than 2000-2300 spice *kintārs*, as the shipments in the years sketched here were exceptional ones.

IV

Professor Wake rightly challenges as an under-estimation R.-H. Bautier's claim that the Genoese and the Catalans (together) exported at the end of the Fourteenth Century and at the beginning of the Fifteenth Century no more than 100-200 t of spices from Egypt and from Syria.²⁰ He believes that in that

¹⁹ *Art. cit.*, I. c.

²⁰ "Les relations économiques des occidentaux avec les pays d'Orient au moyen âge,

period the Venetians shipped on the average 500-600 t pepper from the Levantine countries to Europe, and the Genoese and the Catalans (together) 250 t.²¹ I believe that even this is an under-estimation.

The freight inventories which were forwarded by agents and friends to the Datini house contain the following data on the pepper shipments of the Genoese and the Catalans:

TABLE III

PEPPER EXPORTS FROM THE LEVANT
BY THE GENOESE AND THE CATALANS

Genoese ships	average in t	Catalan ships	average in t
		a. 1379	
		Catalan ship	
		Alexandria-Barcelona	111 pondi 19
		Franc' Casasagia	201 p' 18
		Beirut-Barcelona	
		a. 1383	
		Capo de Bon *	
		Beirut-Barcelona	650 p' 36.3
		Joh' Carbi	
		Beirut-Barcelona	198 p'
		a. 1386	
		Joh' Meroso *	
		Beirut-Barcelona	137 p' 12
		a. 1389	
		Pere Salom	
		Alexandria-Barcelona	125 p' 22.5
a. 1391			
Buto Squarzafico		Franc' Casasagia	
Alexandria-Genoa		Beir'-Barc'	420 p'
238 pondi	42.8	Joh' Morella	
		Beir'-Barc'	297 p' 27.9
		Joh' Dertazo	
a. 1394		Beir'-Barc'	214 p'
2 ships			
Giorgio Riccio and			
Crist' Lomellino			
Alexandria-Barcelona	26 p'		

points de vue et documents", (in *Sociétés et compagnies de commerce en Orient et dans l'Océan indien, Actes du VIII.e colloque international d'histoire maritime* (Paris 1970), p. 298.

²¹ WAKE, *art. cit.*, p. 371.

Pietro Dentuo				
Alexandria-Flanders	27 p'			
				79
3 ships				
Alexandria-Flanders ^a				
				2600 p'
a. 1395				
2 galleys				
Syria-Genoa	296 p'			
		4 cogs in Rhodes	1200 sporta	
		3 galleys		43.6
N... Grillo and another ship		Beirut-Barcelona	394 p'	
Beirut-Genoa	250 p'			
				22
Ott' Lercaro				
Alex'-Genoa	377 p'			
... Negro				
Alex'-Flanders	82 p'			
a. 1396				
2 galleys		5 galleys		
Alex'-Genoa	279 p'	Beirut-Barcelona	800 p'	14.4
ship Lomellina				
Alex'-Genoa	590 p'			
				56
Paolo Lercaro				
Alex'-Genoa	600 p'			
Rafaale Squarzafico				
Alex'-Genoa	84 p'			
		a. 1397		
		4 galleys		
		Beirut-Barcelona	1000 p'	
		Joh' Maresa		22.5
		Beirut-Collioure	227 p'	
a. 1401				
3 ships to Genoa a' to Flanders				
				60
	1600 sporta ^a			

- a. The freight inventory of this ship and of those of the ships of Pere Salom (a. 1389) and Johan Morella (a. 1391) have been published by M. SPALLANZANI, *Ceramiche orientali a Firenze nel rinascimento* (Florence 1978), pp. 145 ff.
- b. Dat 705, letter from Valencia to Florence arrived 1 Dec.
- c. Dat. 549, letter of Zanobi di Taddeo Gaddi of 21 May 1394 and cf. BAUTIER, *Les relations économiques*, p. 297 (whose estimates are mistaken, as in the inventory of the third ship he read 700 loads of cotton instead of 600 *pondi* pepper and 200 *pondi* Meccan ginger).
- d. Dat 713, letter of Zanobi di Taddeo Gaddi of 6 May 1401 and Dat 550, letter of the same of 8 May 1401.

The data compiled in our table indicate 40-60 t of pepper as the average freight of the Genoese ships which sailed in that period from the ports of Egypt and Syria, and 20-30 t that of the Catalan merchantmen. Since at the end of the Fourteenth Century usually 5 Genoese ships sailed every year from the Levantine ports to Genoa and 2-3 directly to Flanders, and 5-7 Catalan ships commuted between the Levant and Barcelona, we can conclude that these two trading nations exported on the average 400 t of pepper in a year from Egypt and Syria. This was certainly not much less than the shipments of pepper carried home by the Venetian galleys (to which some shipments carried by the cotton cogs should be added). Consequently, the share of the Venetian in the pepper trade was smaller in that period than Professor Wake believes.

V

There are also major objections to Professor Wake's estimates of the volume of the Levant trade at the end of the Fifteenth Century. As these estimates are calculated on the assumption that the Egyptian bale contained 504 kg and the Syrian *collo* 120 kg, the growth of the Venetian trade in the Levant in the Fifteenth Century, becomes much greater than it really was.

TABLE IV

VENETIAN PEPPER EXPORTS FROM THE LEVANT
AT THE END OF THE FIFTEENTH CENTURY
(freight of the galleys)

a) export from Alexandria			
	1496	1497	1498
<i>pondi</i>	950	1250	933
(in <i>sportas</i>)	1520	2000	1492
b) export from Beirut			
	1496	1497	
<i>colli</i>	2600	1170	
(in <i>kinfārs</i>)	1300	585	

These data, taken from the accounts given by the Venetian chroniclers Marino Sanuto and Girolamo Priuli, point to a total of 2500-3000 *sportas* (or 562-675 t) as the average Venetian pepper exports from Egypt and Syria in the last years of the Fifteenth Century. This was the conclusion reached by Fre-

derick Lane a long time ago.²² According to Professor Wake the total of Venetian pepper exports had reached 3460 *sportas*, or about 780 t.

Even the growth of the Venetian ginger exports from the Levant was not as great as Wake believes. It rose from 2000-2300 spice *kinşārs* to 6000-7000, i.e. by 250%. Therefore Professor Wake's supposition²³ that Venice's spice trade (in addition to pepper) had grown nearly thirteen-fold in the Fifteenth Century is a great exaggeration.

²² "Venetian shipping during the commercial revolution", (in his) *Venice and history* (Baltimore 1966), p. 13.

²³ *Art. cit.*, p. 372.

