Van Gelder-lezing

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How rarely did medieval merchants use coin?

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Het Geldmuseum is in 2004 ontstaan uit een fusie van Rijksmuseum Het Koninklijk Penningkabinet, Het Nederlands Muntmuseum en de numismatische verzamelingen van De Nederlandsche Bank. Zij beheert de nationale verzameling numismatische voorwerpen, waaronder zo'n 350.000 munten, bankbiljetten, penningen, zegelstempels, gesneden stenen en productiemiddelen als modellen, munt- en penningstempels en machinerieën.
Het Geldmuseum is nog in verbouwing en opent in mei 2007 haar deuren. Op de nieuwe locatie, het Muntgebouw te Utrecht, zullen regelmatig tentoonstellingen worden georganiseerd over geld en geldcultuur. Tevens zal hier een kenniscentrum voor numismatiek worden gerealiseerd, waar onder meer de omvangrijke bibliotheek voor iedere geïnteresseerde raadpleegbaar zal zijn.

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De Stichting Nederlandse Penningkabinetten beoogt de bevordering van de numismatiek met alle haar ten dienste staande middelen. In de eerste vijftien jaar na de oprichting in 1982 werd dit vooral gedaan door de uitgave van publicaties en door de aankoop van numismatische objecten ten gunste van openbare verzamelingen. Tegenwoordig wordt de aandacht meer gericht op stimulering van onderzoek en presentatie van de resultaten daarvan, onder andere via de Van Gelder-lezingen.

secretariaat: Zeemanlaan 122, 3572 ZG Utrecht

How rarely did medieval merchants use coin?

prof. dr H. Enno van Gelder
(1916-1998)

INTEGER – MILD – HULPVAARDIG

De reeks van jaarlijkse voordrachten is genoemd naar dr H. Enno van Gelder, Nederlands meest productieve en invloedrijke numismaat van de 20e eeuw. Als directeur van het Koninklijk Penningkabinet (1949-1980) en later tevens als hoogleraar numismatiek en geldgeschiedenis te Leiden (1976-1983), verbond hij de numismatiek – de wetenschap van de tastbare vormen van het geld en de verwante voorwerpen – met andere disciplines. De lezingen richten zich op ieder die het vakgebied op een multidisciplinaire wijze wil benaderen en op niet-numismatici die gebruik willen maken van de inzichten die numismatiek en geldgeschiedenis te bieden hebben.

De Van Gelder-lezing wordt georganiseerd door de Stichting Nederlandse Penningkabinetten en het Geldmuseum om, in de geest van Van Gelder, de dialoog tussen verschillende disciplines te vergroten.

How rarely did medieval merchants use coin?

Vijfde Van Gelder-lezing

gehouden voor

Geldmuseum

en

Stichting Nederlandse Penningkabinetten

te Leiden op 16 november 2006

door

PROF. PETER SPUFFORD, PH.D., LITT.D., F.B.A.

emeritus professor of European History,

University of Cambridge

met een commentaar door

DR JOOST JONKER

"Comments from an early-modern perspective"

It is a great honour to be invited to deliver this lecture, and I would like to begin by paying tribute to Hendrik Enno van Gelder himself. When I started work on my Ph.D. fifty years ago, in 1956, on the monetary problems of the fifteenth century Burgundian Netherlands, my research supervisor in Cambridge, Philip Grierson, gave me two most important introductions, one in Belgium and the other in the Netherlands. In Belgium he sent me to professor Van Werveke in Ghent and here to dr Van Gelder at the Koninklijk Penningkabinet then in Zeestraat in The Hague. It was only later that the Penningkabinet came to Leiden, and he became a professor here. I shall always remember the enormous kindness of his welcome to a foreign young man, daring to look into a coinage on which he was already the acknowledged expert. I was delighted when three years later he and Marcel Hoc chose to incorporate in their Monnaies des Pays-Bas bourguignons et espagnols some of the figures of quantities struck that I had extracted from mint accounts in The Hague, Brussels and Lille. I went on learning from him at intervals over the following forty years. He always had new and exciting ideas to talk about. Ten years ago he was telling me how little he thought still needed to be done to the Low Countries volumes of Philip Grierson's great Medieval European Coinage series. I could wish that he was about to consult now, because it has fallen to me to finish the volumes off, after Philip Grierson's death last year (2006), and there still seem to be innumerable small gaps to fill and queries to check.

Until the development of paper methods of making payments in the course of the long thirteenth century, medieval merchants generally made payments in precious metals, but that did not necessarily mean that they used coin for such payments.

Uncoined silver[1]

From the 1160s a succession of new mines enormously increased the circulating medium of Europe. The use of silver ingots was then already as normal for the payment of large sums as the use of silver deniers was for small ones. For example a hoard from Pimprez, near Compiègne, concealed around 1140, contained 12 silver ingots and 569 silver deniers, mostly English pennies.[2] The amount of silver in ingot form increased in parallel with that in the form of deniers (ill. 1). These ingots were deliberately cast for payment purposes, and should not be confused with the hack-silver of the Viking age. They gradually became standardised, but like deniers, they still varied in fineness and weight from place to place. Such ingots were naturally cast in large numbers in the silver mining areas of Europe and were carried by way of trade throughout the continent. In the thirteenth century, whilst the Champagne Fairs were still im-

1 — Round silver ingot from the hoard of Pimprez (Oise, France), buried c. 1140 [auction Spink London 6 oct 2004 nr. 487] silver, 135g, 65mm

portant as the commercial link between northern and southern Europe, the large payments made there normally took the form of ingots of a mark in weight. In 1265, Andrea de Tolomei, writing home to Siena, quoted the price of marks of silver at one of the Troyes fairs.

In the same way that some deniers had a wide circulation there were some ingots that were used over broad regions of Europe. Bars and plates of a sterling silver standard (0.925 fine) were much used not only in England, but extensively in western Europe and the Mediterranean, for example in both the principal trading cities of the Mediterranean, Genoa and Venice.[3] In Baltic countries in the Hanseatic trading area ingots of *lötiges* silver – silver one *lot* or sixteenth part short of pure (0.940 fine) – were much used. This may originally have been the local fineness for silver in Lübeck. Rods of sommi silver (0.980 fine) were used in and around the Black Sea and into western Asia. In addition, just as there were many deniers that had only a local circulation, there were many ingots, generally of a much lower fineness, that had only a local circulation. In mining areas the ingots were naturally made of newly refined silver, but elsewhere they were made by melting down other ingots or coin.

From the mid-thirteenth century ingots were frequently marked with symbols, in the city in which they were cast, as guarantees of fineness. We know for example that Montpellier was marking its bars by 1253. When the ingots were produced in the mints, coin dies were sometimes used to stamp the ingots (ill. 2). By 1273 both Genoa and Venice were doing so in their mints. Osnabrück was doing the same by 1277, and London by 1278.[4]

As long ago as 1931 August Loehr was able to list 64 bars from Germany and Austria in public collections, and many more have been found since. He distinguished between marked and unmarked ingots. Two thirds of these were marked in some way. The bars that he believed were from the thirteenth century were unmarked, and his list suggests that in the German lands of the Empire the change from unmarked to marked ingots came about in the early years of the fourteenth century.[5] This fits with the marking of bars in the Aachen mint by 1334. In Venice in

2 — Flat silver bar marked with die of late long cross London penny, class VII, 1278-79. This used to be regarded as the oldest surviving trial plate for the trial of the Pyx, but Nicholas Mayhew has commented The physical characteristics of this ingot are so different from those of later trial plates that it is difficult to accept the 1278 bar as a trial plate at all: MAYHEW (1992) 162 [Llantrisant, Museum of the Royal Mint: inv. –] silver, 221g, 55mm

1273, and in Flanders and Brabant in 1299, the governments insisted that ingots needed for export should be obtained from the mints. This may also have been the case in England. Giacomo (Jakeminus), an Italian based at Ekeren near Antwerp, committed an offence by acquiring *platas argenteas* not from the mint, but from English Jews. He was pardoned in 1285, at the request of the ruler of Holland, Floris V, presumably because the silver was destined for the Holland mint.[6] In the Flanders and Brabant regulations the ingots concerned were primarily destined for England, which tried to ban the import of foreign silver in the form of coin, but was more than happy for merchants to bring in 'silver in plate', meaning flat ingots, rather than silver tableware. Such bars or plates of guaranteed fineness could be used like a very much larger denomination of coin than the denier or even the grosso.

In the twelfth century it only seemed essential that ingots should be of a known fineness. However, from at least the early thirteenth century, standard weights began to be used. Naturally, like deniers, silver ingots were of different standard weights in different places. Most frequently they weighed a mark, but the mark weight varied from place to place (ill. 3). Luschin von Ebengreuth listed weight standards for 84 different places.[7] Many marks were around 200 grams, as were the *sommi* used in the Black Sea area. The *roubles* used in Novgorod and northern Russia, and the *grivna* used in Kiev and southern Russia were somewhat lighter. Halves were also cast, and ingots were also cut

3 — Marca usualis argenti or ingot from the end of the thirteenth century with the mark of the town Pyritz in Pomerania [from: LUSCHIN VON EBENGREUTH 1926, p. 182] silver, 228g, 66mm

into halves and even quarters, like deniers, which is somewhat surprising, since instead of a quarter of a mark bar, weighing around 50g, one might as well have used coin.[8]

On a larger scale, multiple mark bars existed in huge numbers in thirteenth century Asia. They were Chinese in origin. In his journey across Asia in 1253-55 from Paris to Karakorum the Franciscan friar William of Rubruck frequently encountered *iascot* (ill. 4), which he explained as *an ingot of silver weighing ten marks.*[9] William comments that it was in silver bars of this scale that taxation from Cathay (North China), Armenia and Persia and tribute from the Sung (in as yet unconquered South China) and Korea reached Karakorum. He also frequently saw *iascot* given out by the Great Khan, and indeed received a gift of five of them for his own return journey. He even encountered a counterfeit *iascot* made of copper. The silver of which many of these were made was almost certainly originally mined in Europe. Large silver ingots continued to be of use in Asia. As late as 1436-40 the Venetian merchant Giacomo Badoer carried silver from Constantinople to Trebizond in large plates, two of which weighed twenty marks between them. However, they need not have been of ten marks each, successors to Rubruck's *iascots.*

4 — Silver ingot of 50 tael of the Sung dynasty in China, probably 12th century: this is one of the Asiatic silver cushions or *yastuq*, that were called *iascot* by friar William of Rubruck, who saw many of these bars, weighing ten marks each, on his journey to Karakorum in 1253-1255 [New York, American Numismatic Society: 0000.999.53090] silver, 2.055g, 143x98x24mm

As well as being marked with distinguishing symbols, ingots were also made to look different in different places. They were cast in standard moulds, which had a variety of distinctive shapes. The *sommi* and the Novgorod *roubles* were in the form of silver rods, as were the ingots from Sardinia and Florence. In other places, like England, Lucca and Kiev, the ingots were in the form of flat plates. At Kiev these plates, called *grivna,* were hexagonal. In the Empire the ingots were often cast in hemispherical moulds (ill. 5–6–7–8).

When moving from one region to another it was often necessary to change from one sort of ingot to another. In Pera, the Genoese settlement across the Golden Horn from Constantinople, the sterling fineness ingots so useful for Mediterranean trade were melted down and refined to make sommi bars for use around the Black Sea and further east. However, the Mediterranean sterling standard was also sometimes used around the Black Sea. On 22 March 1291 contracts were made in Genoa for payments to be made at Caffa in the Crimea not in sommi but in

5 — Fourteenth century mark ingot from Meissen, marked with the letter M and a lion; the side view shows very clearly how measured amounts of silver were poured into a mould to make these ingots to an exact size [Utrecht, Geldmuseum: inv. NV-03570] silver, 201g, 62mm

6 — Fourteenth century hohlpfennig of Friedrich II marquis of Meissen-Thüringen; the ingot shown in illustration 5 was worth c. 400 of these one-sided pfennigs [Berlin, Münzkabinett der Staatlichen Museen: inv. 18206.714] silver, 0.36g, 19 mm

7 — Mid-thirteenth century Kiev grivna, cast in a distinctive hexagonal mould, up to the Mongol invasions, used extensively in what is now the Ukraine and Southern Russia [Utrecht, Geldmuseum: inv. NV-03552] silver, 160g, 80mm

8 — Half-rouble ingot from Novgorod; note that as well as casting standard halves, also standard size ingots were cut in two and subsequently marked at the incision, as here [Utrecht, Geldmuseum: inv. NV-03551] silver, 93g, 63mm

bars of good silver of sterling alloy marked in the mint of Genoa.[10]

As well as being used for large international commercial payments, ingots were also used internationally for large non-commercial purposes, like the payment of ransoms or political subsidies, or within the church. During the pontificate of John XXII (1316-34), payments to the curia from all over Europe came not only in coin, but also in ingots of silver – over 4800 marks of them – more than a tonne of silver in all.

Inside Europe the use of ingots was normal when large sums were carried from place to place, but these ingots were not necessarily all turned to coin once they arrived at their destination. They continued to be used in the form of ingots for large local payments, not only for commercial payments, but for non-commercial ones as well, such as for the payment of dowries or for the purchase of land. We have twelfth and thirteenth century examples of such non-commercial local payments using silver ingots from Poland and Denmark, the Low Countries and the Rhineland, northern France, the Rhône valley and Languedoc, and from Tuscany and Hungary.[11] In the thirteenth century, rulers and cities sometimes attempted to stop the local use of ingots, by forcing them to be minted into local coinage, for example at Worms in 1224, and at Cologne in 1258. Even with imperial backing such attempts proved ineffectual.

Attempts to compel the minting of newly mined silver were not effective either. In 1300 King Wenceslas II of Bohemia stipulated that all the silver refined from the newly opened silver mines at Kutná Hora (Kuttenberg) should be minted at the new mint that he set up there for the purpose. Even in the earliest years, only a quarter, or at most a third, of the silver was minted into Prague groschen, and in later years the proportion was very much smaller. All the rest of the silver left the area in the form of ingots.

The first time that what we believe may have been a largely effective rule that newly mined silver should be minted and not used as ingots came into force at Iglesias in Sardinia in the mid 1320s, and that was at a time when the production from the mines there was very nearly exhausted.[12] Until then the newly mined silver had gone into trade almost entirely in ingot form.

Francesco Pegolotti, who spent his career working for the Bardi, the largest Florentine international commercial house, put down in his notebook that in 1311 the mint at Tunis had started minting silver coins from Sardinian silver, carried there by merchants in the form of bars, which he described as thinner than those cast in Florence.[13]

The use of silver ingots for international payments faded out in the second half of the fourteenth century. At the beginning of the century Francesco Pegolotti took the use of silver bars as a normal means of inter-regional transactions. In 1345 Giovanni Villani, another leading Florentine engaged in international trade, could still note down how Florence was lacking good silver coin because so much had been *melted down into ingots* for sending overseas. But by then it was frequently more convenient to make larger payments in gold coins rather than silver bars. Hungarian gold deposits at Kremnica (Kremnitz) in Slovakia had been opened up around 1320 and the gold newly mined in Slovakia became available in such large quantities in the 1330s and 1340s that gold coins minted from it began to drive silver ingots out of circulation in many parts of Europe. In the 1340s the use of ingots at home in Italy was consequently nearing its end. The last reference to the use of *silver marks sealed with the seal of St Mark* for payment within Venice was in a regulation of 1362 evaluating them in gold.[14]

Even if they were much less used for internal payments in Italy, they went on being used for long distance transactions. In 1392 ingots of silver still made up about two thirds of the means of payment that the Kress firm of Nuremberg sent to Venice to pay for what they were buying there. But by the late fourteenth century the ingots were no longer being used directly for payments and so did not enter into circulation. It had become normal practice for 'German' merchants to be paid for the bullion that they brought to the city by crediting them with its value in a bank account. Its importers could then immediately pay for their purchases of spices and other merchandise, to carry back across the Alps, by assignment on the account.[15] The Kress principally carried away velvets and other silk fabrics, pepper and other spices, and pearls, and in smaller quantities, loaves of sugar, bales of cotton and barrels of soap.[16] The banks did not keep the silver in 'German' ingots, but sent the unminted silver to the mint as soon as possible for minting into Venetian coins.

In most other parts of Europe mark bars also gradually dropped out of use soon after the 1340s, but in northern Germany and the Baltic area, to which gold coin did not spread in the 1330s and 1340s, despite the issues of gold florins in Lübeck, the traditional use of ingots of silver for large payments naturally survived much later. Indeed Luschin von Ebengreuth considered that the use of such *getekneten Usualmarken* in northern Germany was at its most extensive in the second half of the fourteenth century.[17] This is confirmed by the large number of fourteenth century exchange rates which survive between marks and various currencies. Those collected by Peter Berghaus from Westphalia included 163 for marks of *lodiges silber*. Over four fifths of these come from the period between 1343 and 1383.[18] In 1382 it was still worth while making common arrangements for the stamping of bars in Saxony. As with agreements to mint common coin, such agreements arose out of leagues for general political and economic co-operation. Seven members of the Saxon town league, and five other associated towns, agreed that they should make ingots of a common fineness (123/4 lot = 0.800 fine) and that, in addition to their own town symbols, they should stamp them with a crown so that they should be recognised and accepted in other towns of the league (ill. 9).[19]

9 — Ingot of the Saxon town league of 1382; for a map of the towns where these ingots were cast see CUNZ 2002 p. 18 [Braunschweig, Herzog Anton Ulrich-Museum: inv. 2] silver, 187g, 60mm

Soon afterwards bars stopped being used so extensively. Many fewer exchange rates for bars came from the last years of the fourteenth century. The decline in their use coincided with diminution in the available silver in the first of the late medieval 'bullion famines', from c.1390-c.1410, which was essentially a silver famine brought about by the exhaustion of European silver mines. But it was not until the 1420s and 1430s that the circulation of silver marks finally gave way to gold *rheinsgulden* in the Baltic, supplemented by gold coins from England, France and the Low Countries.[20] Exchange rates for marks come to an end at this point, and the latest surviving German bars that August Loehr knew were from the first quarter of the fifteenth century.[21]

Only in Lithuania and in northern Russia did silver, *rouble*, bars continue to be used through the fifteenth century, and in the Black Sea area, where the use of silver, *sommi*, bars increased rather than diminished in the mid-fourteenth century, as the Byzantine gold *hyperperon* lost its gold content and then ceased to be struck, at more or less the same time as the use of gold coin was increasing so enormously in western Europe.[22] The huge number of *sommi* rods in the enormous treasure, buried 1300/1301, at Uzum Baïr in the Dobrogea (Romania south of the Danube), were therefore concealed at the point in time when gold was giving way to silver in this area. This principal constituents of this immense hoard were 195 Byzantine *hyperpera* and 92 *sommi*.[23] The continued use of *sommi* was attested in Moldova, north of the Danube, up to the early sixteenth century (ill. 10–11). In 1360 Antonio di Ponzo, a notary at the Genoese colony at Kilia at the mouth of the Danube, entered into his register contracts for the import of wine and salt, and for the export to the west of wheat and Bulgarian honey and wax, and for the re-export to the west of slaves purchased at Tana and Caffa, who were mostly Mongol girls of twelve or thirteen. Payment for all of these was predominantly made, as was to be expected, in *rods of silver sommi*.[24]

More of these silver *grivna* and *sommi* have survived than the once ubiquitous mark bars of western Europe itself. By the end of the fourteenth century the mark bars of western Europe had themselves mostly been exported. The payments in ingot form outwards from Europe to the Black Sea area had been matched by similar payments in ingots outwards to the Levant, to Egypt and to the Maghreb. Those that remained in western Europe were eventually turned into coin or goldsmith's wares. There was so little silver left in western Europe by 1400 that by then payments outwards to the Levant and Egypt were generally made in gold.

Those parts of southern Europe like Sicily and Castile which had a gold coinage much earlier probably never used silver ingots for internal purposes. I am unaware of either surviving Spanish ingots or documentary references to their use. What had happened in southern Europe was the supplementation of gold coinage by payments in un-coined gold, either by sealed bags of gold dust or of small gold bars. Whereas unminted silver was measured in marks, unminted gold was measured in ounces. Until the opening up of the Slovakian gold mines, the gold that arrived in the countries bordering the Mediterranean mostly came from West Africa. The gold of West Africa was exchanged by North African traders for goods such as salt and vessels of copper, and was mostly brought back across the Sahara in the form of gold dust, apart from a little that was made into ingots in Timbuktu. Once it had arrived in North Africa it was mostly coined into dinars, double dinars, and quarter dinars.[25] What came into southern Europe was therefore mostly in the form of these coins, but some arrived still uncoined, as gold dust in sealed bags. In Europe derivative coins like the tari of Sicily (quarter dinars) and the doblas of Castile and the augustales of Sicily (double dinars) were being struck in the thirteenth

10 — Ingot from the hoard of Uzum Baïr (Mihail Kogalniceanu, Tulcea) in Romania, buried c. 1300. Rod-shaped bars as this one and in the next, have been identified by some authors as the sommi mentioned in written sources. They are often marked at the top, but it is not clear whether these were marks of value [Bucuresti, Muzeul National de Istorie a Romaniei: inv. 138129] silver, 195g, 153mm

11 — Ingot from the hoard of Buruienesti (Doljesti, Neamt) in Romania, buried c. 1380: see PETRISOR (1980-1982) [Bucuresti, Banca Nationala a Romaniei: inv. B522/25] silver, 206g, 98mm

century. In addition gold ingots were also made in northern Italy before gold coins began to be minted there too. In Genoa gold rods *were sealed with the stamp of the commune* by 1229.[26] These all disappeared with the greater use of gold coin. What did continue, was the use of sealed bags containing specified numbers of gold coins. In this way, many gold coins could be handed over at once, without the necessity of checking each one, relying on the guarantee provided by the seal. This was a Byzantine practice in origin, but taken over by Italians.

Bills of exchange to 1350

Even more significant than the replacement of un-coined silver and un-coined gold by gold coins, was the avoidance by merchants of the use of precious metals altogether, as far as was possible. The possibility of doing so came about from the growth of mutual confidence between merchants, as business, particularly Italian business, increased in scale and complexity during the thirteenth century. Various instruments of payment were used for transferring money from place to place, out of which the bill of exchange was gradually perfected. No longer did every prospective purchaser or returning vendor need to carry with him large and stealable quantities of precious metals. Instead the static manager of a Tuscan multi-branched company could send and receive remittances from his factors and agents by bills of exchange. The bill of exchange seems to have evolved into its definitive form by the end of the thirteenth century. Its evolution had begun over a hundred years earlier with the notarised *instrumentum ex causa cambii.* The surviving Genoese notarial registers include some such instruments from the late twelfth century, mostly involving transactions between Genoa and the Champagne fairs. In the thirteenth century the Champagne fairs were not only the principal bullion-market of Europe, but also the principal money-market as well, and the forcing-house for the development of the bill of exchange. By the first half of the fourteenth century it had become normal to make commercial payments by bill of exchange between merchants in a wide range of cities in western Europe. The merchant-banking network was focussed on the great trading cities of northern Italy and Venice was becoming the financial centre to this network, even though the principal people engaged in the drawing of bills were Tuscans particularly Florentines.[27] As well as Venice and Florence, the network naturally included Genoa and Milan, as well as Siena, Lucca, Pisa and Pistoia in Tuscany, Asti and Piacenza in Lombardy and smaller centres like Ferrara and Perugia. The banking network extended westwards to Marseilles, to Avignon when the papal curia was there, to Montpellier, Narbonne, and Perpignan and on to Barcelona, Valencia, Seville and Lisbon, across the water to Palma de Majorca, and northwards beyond the Champagne fairs to Paris, Bruges and London. It also reached southwards through Rome to Naples, Palermo and Barletta. Bills were also used intermittently between northern Italy and the eastern Mediterranean.[28]

The normal commercial bill of exchange involved four parties in two places. First there was the deliverer or remitter who wished to send money to a distant place. He delivered his money to a taker or drawer, who drew up a bill on that place, which he gave to the remitter. The remitter sent his bill to the payee, who presented it to the payer, who was, of course, a correspondent, or agent of the drawer of the bill. Here is an example of such a bill being used by merchants of Lucca to send money from Avignon to Pisa.

Address on the outside:
To Bartolo Casini and compagni, *in Pisa*

Text on the inside:
Avignon, 5 October 1339
In the name of God, amen. To Bartolo and compagni *[the payers], Barna of Lucca and* compagni *[the drawers], greetings from Avignon.*
You shall pay by this letter on 20 November [1]339 to Landuccio Busdraghi and compagni, *of Lucca [the payees], three hundred and twelve and three quarter gold florins for the exchange of three hundred gold florins, because I have received such money today from Tancredi Bonagiunta and* compagni *[the remitters]. And charge to our account.*[29]

For safety the Tancredi Bonagiunta company will have sent three copies of the bill from Avignon to the Landuccio Busdraghi company in Pisa by successive couriers. Bills of exchange were carried by the courier services for commercial correspondence, which began in the thirteenth century between the Champagne fairs and the cities of north Italy. As time went on these couriers became more and more frequent and regular, and the easy transmission of bills and information was one of the keys to the success of north Italian businessmen.[30]

The accounts of the del Bene, a moderately sized Florentine firm of import-export merchants, between 1318 and 1323, show how useful the new bills of exchange were in practice.[31] They specialised in buying unfinished French and Flemish cloth, for import to Florence for finishing, and for re-sale either in Florence itself or in Naples. The centre of their operations was in Florence. They maintained a skilled buyer in the north and a Naples office for selling in the south. Although by this time the Champagne Fairs were no longer the major places for the interchange of goods between northern and southern Europe that they had been in the previous century, they still remained the principal places for making international payments for goods. There were always plenty of Florentine merchants whose agents had sold more than they bought in north-western Europe, and consequently had ready money at the fairs, who were glad to buy bills of exchange from the del Bene agents, drawn on their head office in Florence. In this way the del Bene could pay their suppliers. The surviving accounts show that during that six year time span they never needed either to send gold or silver, minted or unminted to France. Apart from buying a little wine to send back to Florence, the del Bene agent in Naples, only sold cloth, so he frequently had ready money in his hands. With this he bought bills of exchange from those who needed money in Naples and sent them back to head office in Florence for collection there. The whole business from north-western Europe to Florence to Naples was carried out without the del Bene having to move coin or bullion from one place to another.

West and south of a line from Bruges to Venice a great many long distance transactions only required the transport of precious metals to the nearest place where bills of exchange could be acquired, for onwards transmission by bill. And this not only worked for commercial payments, but also for other payments.

East and north of the Bruges-Venice dividing line precious metals had to be used more extensively. The revenues of the papal curia were drawn from all over Europe, not just from the west. Even in the Rhineland there were not yet branches of Italian banks by the second half of the fourteenth century, so that papal collectors in the provinces of Cologne, Trier and Mainz had to carry cash into the Low Countries, not always all the way to Brugge, but often only as far as Luik, Leuven, Brussel or Mechelen where local means of onwards transmission to Brugge existed. Further off, papal collectors in central and eastern Europe and Scandinavia entrusted their funds to local merchants, who used them to purchase goods, which could then be carried to Brugge for sale. The funds generated would then be deposited with the Brugge branch of an Italian merchant-banking house for forwarding onward by bill to Avignon. The accounts of the collectory of Poland, for example, reveal that Polish merchants, particularly from Krakow and Torun, were regular visitors to Brugge from at least 1322 onwards. Under John XXII other papal collectors in central and eastern Europe made arrangements for coin and precious metals to be carried to Venice before they could begin to use the commercial system by buying bills of exchange there, generally from Florentines, to transmit what they had collected to Avignon, where the papacy then was. John XXII asked the Bardi of Florence, then the largest commercial firm in Europe, whether they would not open an office in Cracow or Budapest, since it would be so much more useful for papal collectors, but the second quarter of the fourteenth century was not yet the time for that. Papal collectors in Scandinavia found it increasingly hard to find local merchants to transmit their funds directly to Brugge, since in the fourteenth century Hanseatics more and more supplanted the few Scandinavian merchants who had been trading with Flanders.[32]

Where there was a gross imbalance in trade, it was not yet possible to create or maintain a system of payments by bills of exchange. This is why in the mid-fourteenth century bills were not yet available for trade, or for papal collectors, between the mining areas of central and eastern Europe and the commercial centres of the Netherlands and Italy. Similarly immense amounts of precious metals, whether as ingots or as gold coin, had to be carried between Italy and the Levant. They were sent out each year from the great ports of northern Italy, Venice, Genoa and Pisa to Constantinople, the Black Sea region, and the ports of Armenia, Syria, Palestine and Egypt. However, a certain amount of money was transmitted even here by bill, more commonly against the overall flow of payments than with it. It was easier to transmit money by bill from Constantinople to Venice, or from Pera and Caffa to Genoa than the other way round.[33]

There were limits for the use of European commercial paper. At best bills only reached as far as the Eastern Mediterranean and the Black Sea. Bills were not available to those European merchants who traded between the 1240s and 1340s into Persia, China and India. They had to use *sommi* or *iastoc*. However, parallel, but entirely separate sorts of paper for transmitting payments existed among the Karimi merchants of the Red Sea who traded between Egypt and the Indian Ocean, and among the Gujarati traders from the part of India now dominated by Mumbai. The earliest evidence for the existence of bill-of-exchange-like *hundi* in India is to be found in a writing manual that was compiled after the end of the fourteenth century.[34]

Local banking before 1350

Local banking developed at the same time as international banking.[35] Money changers were needed in towns all over Europe, not only, as to-day, to exchange foreign money with local money, but also to exchange larger denominations with smaller ones. Within certain of the leading commercial cities, money-changers extended their activities from manual money-changing to taking deposits, and then to transferring sums from one account to another on the instructions of the depositors. In Genoa, the most precocious centre for such local banking-activities, the notarial register of Guglielmo Cassinese (1190-92) indicates that local payments could be made not only by transfer between accounts within the same bank, but also by transfer between accounts in different banks in the city. This was possible because the bankers maintained accounts in each other's banks. In this way interlocking banking-systems came into existence within cities.

Such transfer banking developed in other cities much more slowly than in Genoa. In Venice, for example, the earliest direct evidence of money-changers running bank accounts is as late as 1274, when a sum of money had to be paid into a deposit account. Indirect evidence, however, suggests that both current and deposit accounts had by then already been in existence for several decades.[36] Again it is not clear when such local banks began in Florence, but there were reputedly as many as eighty banks in the city by the early fourteenth century. Other north Italian cities followed rapidly. Outside Italy, the earliest evidence also comes from the second half of the thirteenth century. The Privilege of Barcelona in 1284 implied that current-account banking, with credit transfer between accounts, already existed there at that date. It probably had done so since at least the 1260s. There is evidence for money-changers acting as local bankers at Valencia by 1284, in Palma by 1288, in Montpellier by 1293, in Lille by 1294, in Perpignan by the end of the thirteenth century, in Lerida by 1301, and also in Bruges from around 1300. In the next century, the fourteenth, money changers are known to have acted as local bankers in a number of other cities, including Toulouse, Avignon, Ghent, Antwerp, Tournai, Mons, Valenciennes, Liège, and Strasbourg. Looking at this list, it is apparent that bank money and other additions to the money supply did not develop where the money supply was generally poor, but, on the contrary, in some of the places where the money supply was already most abundant. The silver mined in Europe largely ended up in Asia. On the way, much of it concentrated in its passage through Europe in the great commercial cities. It was the middlemen of these cities who took the largest profits and added most to the value of the goods passing through their hands. In consequence, it was in their cities, and in certain areas of primary production, like wool-growing England, that the largest accumulations of silver were to be found. It was therefore only in a limited number of cities, many of them in northern Italy, that the money supply built up to an adequate level for giro banking to develop. Once it did so, it increased the money supply still more and allowed further developments to take place. The surprising city missing from this list is London, where money changing remained a royal monopoly associated with the mints.

One consequence of the creation of such local banks was that by the fourteenth century it had become customary amongst merchants within cities where local banks existed to make payments as far as possible by assignment on their bank accounts (*per ditta di banco*). Such assignment was normally made by oral instruction by the account-holder in person at the bank. In this way bank accounts were quite clearly part of the money supply by the end of the 'long thirteenth century', and legislation was introduced to protect those who used them. In Venice a guarantee of 3000 lire was required in 1270 before money-changers were allowed to set up in business. We have to presume that they intended to run bank accounts as well as engage in manual exchange. In Barcelona, from 1300, book entries by credit transfer legally ranked equally with original deposits among the liabilities of bankers. Such bankers allowed overdrafts to clients whom they thought to be safe. Collard de Marke in Bruges in the 1360s, for example, allowed overdrafts to drapers amongst his account holders when they had temporary cash flow problems.[37] To do so they let their own cash reserves fall below, and often well below, the total of their deposits. In this way such local deposit-bankers not only facilitated payments, but also effectively increased the money supply. Some bankers lent too far, and by 1321 it was apparent that some Venetian bankers were reluctant to pay out cash, instead of making transfers between accounts, for in that year the Great Council had to legislate that bankers were to be compelled to pay out cash within three days if asked to do so, and required to maintain 10% liquidity.

Another consequence was a change in the way in which investment in business was organised. In 1268, the executors of the extraordinarily rich Venetian doge, Ranieri Zeno, discovered that he had no less than 22,935 Venetian *lire di piccioli* invested in 132 *colleganza* contracts, very similar to *commenda* contracts, compared with only 3388 lire in actual coin. Less than 7% of his enormous wealth was liquid, whilst 46% was directly invested in the commercial enterprises of others. This was all very well for large investors like Zeno, but the investments of lesser men became organisable through the local banking system. As well as current accounts, local banks ran deposit accounts, which gave a fixed rate of interest. By the end of the thirteenth century small investors, rather than putting their money directly into business ventures, were in some cities able to choose to deposit it instead, in greater safety, in banks, which took the risk of the eventual commercial investments and paid interest from it on deposit accounts. In Florence in the first quarter of the fourteenth century the Peruzzi bank was paying depositors 8% and charging 2% more for loans. In Venice in the 1330s the banker Francesco Cornairo was only paying his depositors 5% and 7%, whilst loans were being made to shopkeepers and craftsmen at 8%. By combining investments, some very small indeed, in this way, quite enormous sums could be mobilised.[38] Large investors, on the other hand, continued to invest directly in business ventures.

Extensions to international banking after 1350[39]

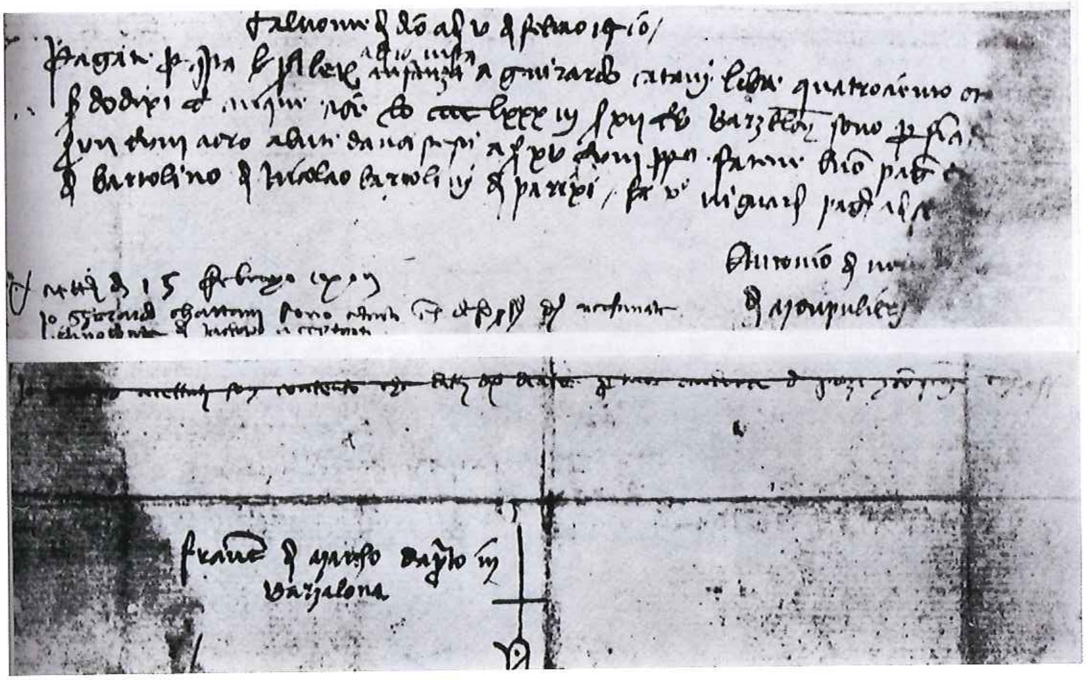
The banking network set up by the Genoese, the Tuscans and the Venetians from the late twelfth century to the early fourteenth was gradually extended over the next two centuries. Its extension was not only carried out by north Italians, as businessmen from other places began to imitate north Italian means of doing business.

Throughout the fifteenth century the primary financial centre in Europe clearly remained in Venice, with a secondary centre in Bruges. In both cities Florentines dominated the transmission of money over long distances. The core of the international banking network was thus not greatly changed from a hundred years earlier, except that the papal curia had not only moved from Rome to Avignon, but had then split into two during the Great Schism, so that there was need in the early fifteenth century for major presences of bankers in both Avignon and Rome. Bills could also be found at the temporary residences of the pope such as Florence, Constance or Basle. The Champagne Fairs had ceased to be even a place for financial settlements. However there were a series of successor fairs, and the major Italian banking firms consequently maintained subsidiaries at Geneva and Lyons in turn.

However, in the intervening century the banking network within Italy had become more intense, so that coin needed to be carried about less and less inside Italy. Giovanni da Uzzanno, in his notebook, compiled in the early 1420s, quoted usance, the customary term at which letters of exchange from one place to another became due for payment, on bills to and from Gaeta, Bologna, Padua, Camerino, Aquileia, Cremona, Fano, Pesaro, Viterbo, as well as all the places that had been using bills in the early fourteenth century.[40]

As well as the network of banking places becoming denser, the use of bills also became more flexible. They became negotiable in the last decades of the fourteenth century. In the two earliest known examples, dating from 1386 and 1394, the change of beneficiary was written out on a separate piece of paper which was then pinned to the bill. However by 1410 'endorsement' had developed, the practice of writing the change of payee on the bill itself.[41] However, they were not yet discounted, as far as we can ascertain at present (ill. 12).

In north-western Europe, Italians from Lucca, Genoa, Milan and Venice as well as Florence, continued their international banking in Bruges, and in London and to a lesser extent in Paris, until Charles VII ran France from the Loire valley rather than Paris from the 1430s onwards.[42] For most of these firms the Bruges business was by far the most important, their London and Paris firms were essentially subsidiaries (ill. 13). When the French court moved to the Loire the financial needs of those trading with it were served by Italian banks from Lyons rather than Bruges. On the other hand the Italians based in Bruges provided for the needs of merchants at the fairs at Antwerp and Bergen op Zoom. The fairs at Bergen declined in importance, leaving the rapidly expanding Antwerp fairs in possession of the field, which meant that from the early fifteenth century international trade at Antwerp became more and more a year round activity. Italian bankers consequently came to maintain a permanent presence



12 — Bill of exchange, drawn by Antonio di Neve of Montpellier and accepted by the Datini Company of Barcelona, 1410 [from: MELIS 1972, document 162, pp. 480-481]

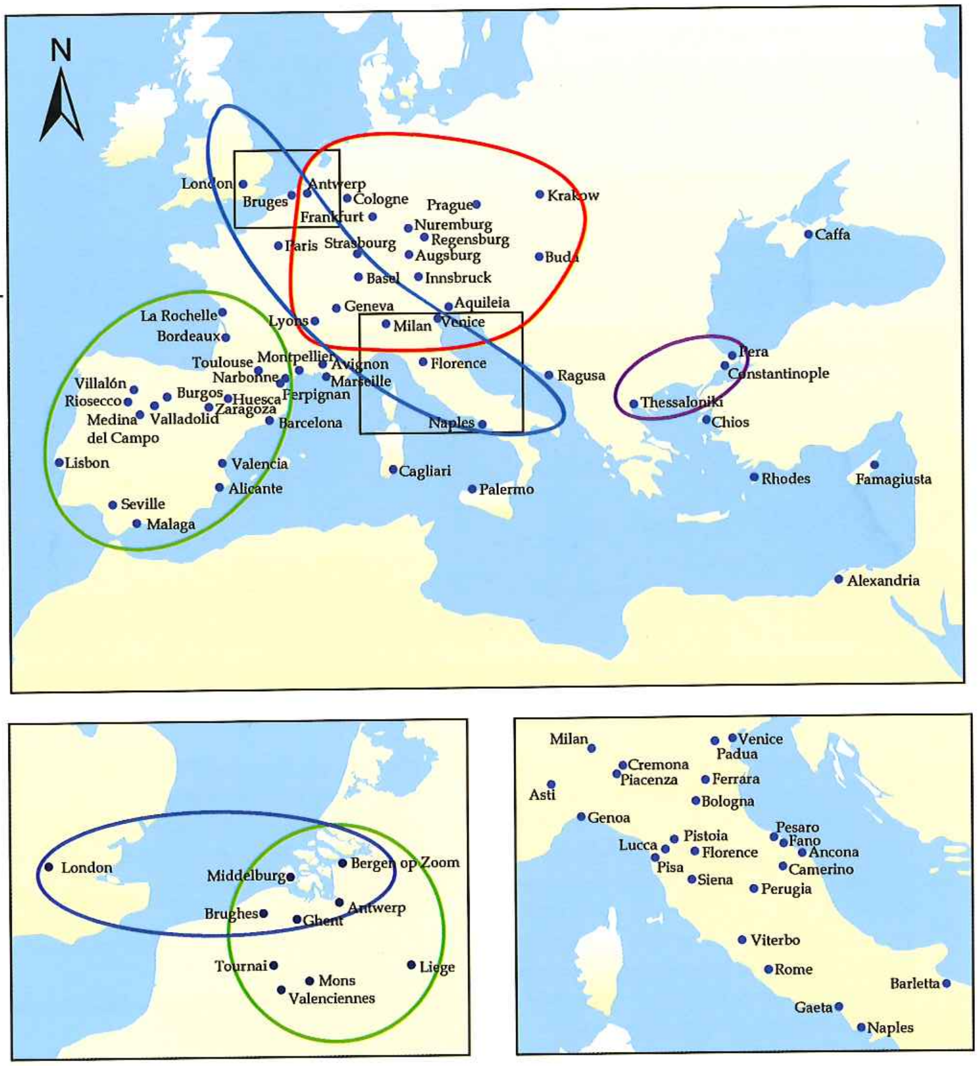
The text on the inside of the bill reads:
Al nome di Dio, a di 5 di febrao 1410
Pagate, per questa prima lettera, a di 16 vista, a Guirardo Catani, libre quatrociento ot[antatre] s. dodixi d. cinque, cioè lb. 483 s. 12 d. 5 barzelonesi; sono per franchi [617] s. 7 d. 8 a oro, avuti da noi stesi, a s. 15 d. 8 per franco. Fatene buon pagamen[to e ponete a conto] di Bartolino di Nicolao Bartolini di Parixi Cristo vi guardi. Pagate a di se[dici vista]
Antonio di Neve, di Monpulieri, [salute]
Aciettata, di 15 febrayo 1409
Io, Gherardo Chattani, sono contento che de' soprascritti danari ne faciate la volontà di Iachopo Aceptanti

The text on the outside of the bill reads:
Io, Iacopo Acettati, son contento ch'e' ditti danari diate per me a 'Ndrea de' Pazi e conpagni. Chassata.
Francesco di Marcho da Prato, in Barzalona.
Prima

On the inside of the bill this translates as:
In the name of God, 5 February 1410
Pay Gherardo Cattani [the beneficiary] on this first letter, 16 days from sight of it, four hundred and eighty three pounds twelve shillings and five pence, that is 483 li. 12 s. 5 d., in money of Barcelona, for 617 gold francs 7 s. 8 d. which we have received today, at 15 s. 8 d. [of Barcelona] per franc. Make a good payment and charge to the account of the [compagnia] of Bartolino Bartolini of Paris [the remitters]. May Christ keep you. Pay at sixteen days from sight.
Greetings from Antonio di Neve, of Montpellier [drawer of the bill]
Accepted [by the Datini Company of Barcelona] 15 February 1409 [1410 new style]
I, Gherardo Cattani am content that the sum above be paid as Iacopo Accetanti wishes

On the outside of the bill this translates as:
I, Iacopo Acettanti, am content that the said money be given on my behalf to Andrea de Pazzi and Company. Paid.
Francesco [Datini] of Prato, in Barcelona [the payers]
[with the logo of the Datini Group]
First [of three copies]

And payment was made on 6 March 1410 by the Barcelona company in the Datini Group to the new beneficiary, not to the original beneficiary Gherardo Cattani.



13 — Fifteenth-century banking places

The main map illustrates points made on pages 23 - 33. The blue ellipse contains the heartland of north Italian banking operations from Naples in the south as far north as London and Bruges, although money was also moved by Italian bills of exchange as far west as Lisbon and as far east as Famagusta. The green ellipse contains most of the places between which Burgos merchants moved money. They also operated in London, Bruges, Florence and Venice. The red ellipse contains most of the places between which Nuremberg and Augsburg bankers moved money. They also operated in Rome and Lisbon. The purple ellipse contains the few places between which Greek bankers are known to have been able to move money. The north west Europe inset shows the inter-city exchange operations by Low Countries bankers based on Bruges in the green ellipse, and the exchange operations of London Mercers in the blue ellipse. The Italian inset shows the extraordinary density of exchange operations between Italian cities.

in Antwerp. In the 1430s, the Borromei company of Venice, although still nominally based in Bruges, kept a presence in Antwerp for eight months of the year.[43]

As well as the longer distance transactions in the hands of Italians, there was an extension of local banking from Bruges that allowed inter-city payments to be made within the southern Netherlands. Already in the second half of the fourteenth century the fifteen or sixteen changers who ran local banking in Bruges not only operated a clearing system amongst themselves, but they also linked with changers in other cities – in particular Ghent and Antwerp, but also Tournai, Mons and Valenciennes, so that there was in effect a clearing system between all six cities. Furthermore some changers, like Collard de Marke sent a representative, sometimes his son, to Antwerp at fair time, so that his clients could have access to their money there, or order payments there, or receive money from sales there into their accounts with him in Bruges. In other words they had all the Bruges banking facilities available to them at Antwerp in fair time.[44]

This was still the case a century later, in the 1480s. Merchants from Holland who had bought wool-fells from the Celys, wool exporters from England to the Low Countries, took advantage of the possibility of bringing their money from Leiden or Delft to Antwerp rather than having to carry it on to Bruges, or to Calais where the Celys were based, since Flanders was the centre of the civil war. On one occasion in 1484 the Holland merchants came to Calais with hardly any money at all for fear of Maximilian's soldiery.[45] Many payments to the Celys were therefore only partially in coin and some not in coin at all, but made through deposit bankers (*wisselaers*) in Antwerp. At Antwerp they received payments through Jacob de Bloke and others. When the Celys could not send the payments they received back to England by exchange, or did not need them in cash in Calais, for example to pay their wool taxes, they left them in their bank accounts.[46]

In the fifteenth century the merchants of Burgos came to imitate the Tuscan ways of doing business that they encountered in Bruges. They also met them, as practised by the Genoese, in Seville. Burgos the ancient capital of Castile lay on the road to

Compostella and close to the passes that led through the Cantabrian mountains to the ports on the Bay of Biscay. It had therefore had considerable regional trade since the thirteenth century, but it was only from the second quarter of the fifteenth century that it suddenly became of international commercial importance, on the back of the rapid growth in the export of Castilian wool to the Low Countries. Like the Italians, the Burgos firms in Bruges had subsidiaries in London, and at Antwerp, to begin with in fair time and then continuously. By the last quarter of the fifteenth century merchants from Burgos were transmitting money by bill to and between Bruges and Antwerp and London, as well as within the Iberian peninsula to and from Seville, Lisbon and Valencia and the great wool fairs of northern Castile at Medina del Campo, Rioseco and Villalón, and in France to and from Toulouse and La Rochelle, and even to and from northern Italy, where they maintained a presence in both Florence and Venice.[47]

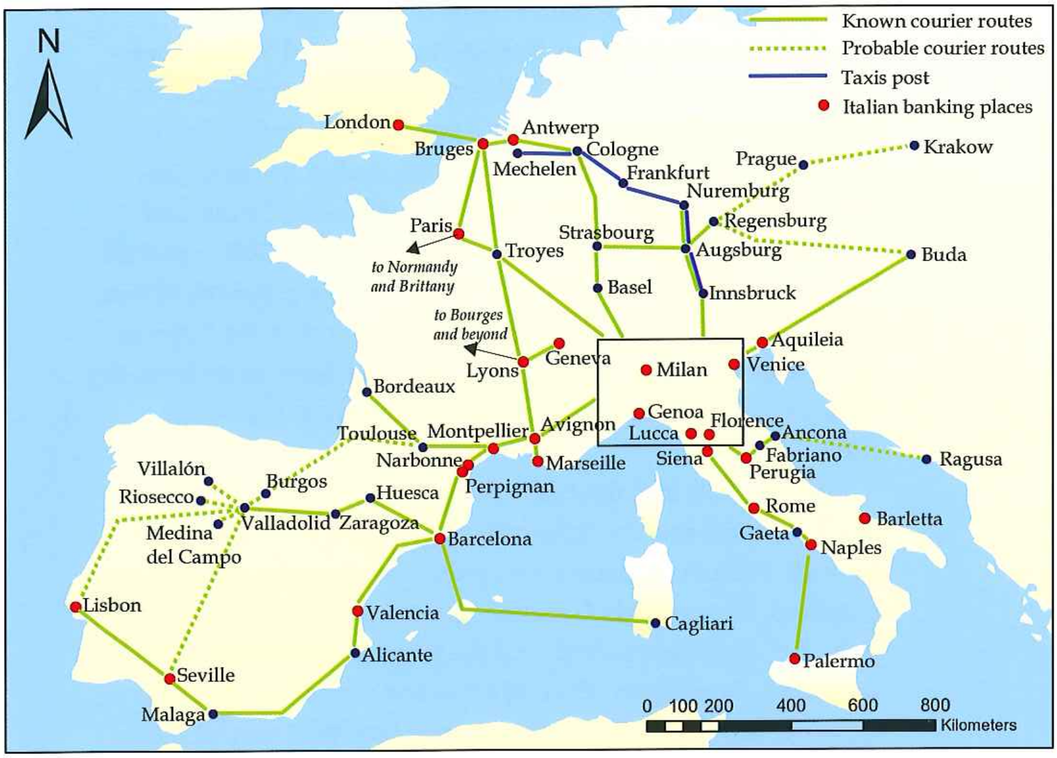
Although London for both Italian and Burgos merchants remained subsidiary to their business in Bruges, nevertheless the names of the Florentines resident in London at one time or another in the first quarter of the fifteenth century sound like a roll-call of members of the Florentine nobility. They included members of some of the very greatest Florentine families like the Alberti and the Bardi, but also the Rucellai, the Davizzi, the Ardinghelli, the Tornobuoni, and the Vettori. Since the mid-thirteenth century members of all these families had been taking a considerable share in running the Florentine state. They appear in the four surviving 'exchange rolls' of licences for non-commercial transmission of funds out of the country by bill of exchange between the 1380s and the 1430s.[48] For example St. Thomas's hospice in Rome, for English pilgrims and English poor there, was partially supported by a formal network of brethren and sisters in England. In 1410 the hospice's agent in London was given royal permission to export one hundred marks to the hospice in Rome via 'Richard Victor' (Ricardo Vettori), *provided that no gold or silver was exported.* In other words, during the first bullion famine of c.1390 to c.1410, the English government was insisting that only bills of exchange could be used for sending money abroad even by the nobility and the clergy. On an even smaller scale a bill of exchange was used in 1407 to transfer funds from England to Middelburg, via the Alberti, for an English prebendary returning from Rome to enable him to pay for his passage home.[49]

Fascinating as the non-commercial uses of the international payment system are, it is better that I give a concrete example of how exchange worked to facilitate business. In 1451 the successful William Cantelowe, who had already been Master of the London Mercers, began exporting wool direct to Italy. He loaded no fewer than 260 sacks of wool on a galley bound for Pisa. Wool is bulky, so that each 364 lb. sack filled a whole cart. His 260 cartloads weighed over 42 tonnes and were the wool from around 55,000 sheep. He was working in conjunction with Jacopo Salviati who was running the London branch of the Florentine Salviati bank. Cantelowe sent his agent John Balmayn with the cargo, and he remained in Florence as Cantelowe's representative. With the Salviati he oversaw the sale of the wool which raised 22,300 florins (over £4,000 sterling) after all expenses had been met. The proceeds were transmitted first to Venice, as the financial centre of Europe, and thence, in the summer of 1452, some was transmitted back to London and some to Bruges, where it was available for Cantelowe to use for purchasing linens and other mercery for import into England.[50]

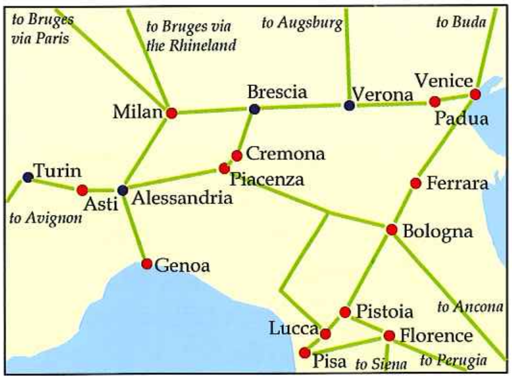
This is a case of an English mercer using Florentine bills, but by the second half of the fifteenth century some English mercers were themselves drawing bills of exchange. Let me use the example of the Cely firm in the 1480s to show how this worked out in practice. They concentrated almost exclusively on the export of the highest quality of English wool and above all fleeces (woolfells), which they sold in the Netherlands, generally at Bruges or even at Calais where they were based, and imported virtually nothing into England. They sold their fleeces largely to clothiers in Leiden and in Delft, and their shorn wool to Burgos merchants like de Lopez, who sold it on, combined with Castilian wool. De Lopez had a London branch and made his own arrangements to pay the Celys at their head office there. Other purchasers were expected to make a down payment of a proportion of the purchase price in coin in Calais, where the Celys maintained their continental base. The purchasers of wool-fells from Leiden and Delft paid in a mixture of gold coins (like Utrecht *gulden*) and white money, i.e. good silver (like *double patards*) often preferring white money to gold.[51] The initial payment was normally accompanied by obligations to pay the remainder in instalments at subsequent Antwerp fairs.

Since the Celys were not importers into England, they had no use for this continuous stream of money paid to them in Antwerp or even Bruges or Calais, except for minor expenses and their share of the upkeep of Calais. What they needed was money in England to pay their suppliers of English wool. In so far as they could, they purchased bills of exchange at the fairs from English merchant adventurers, mostly London mercers, who were spending more buying linens and silks than the value of the English cloth that they sold. These generally ranged from £20 to £90 sterling. Whereas small sums could be transmitted across the Channel to London from Bruges, Antwerp, Bergen op Zoom or Middelburg by bills of exchange drawn by the more substantial mercers, for really large sums of money, or for transmission outside this network of places, Florentine or Burgos bankers were generally used. On the occasions when neither English mercers nor Italian or Burgos merchants could provide bills of exchange for them, the Celys as a last resort sent bags of coin across the Channel with a reliable courier. This was particularly the case from 1486 onwards when the falling value of the Burgundian coinage meant that it was extremely difficult to find any takers for the Celys' money in the Low Countries.[52] We know that at this time the Celys were sending Burgundian *double patards* into England, and presumably other staplers were doing the same. Certainly *double patards* circulated widely in England until re-coined in the 1520s.[53]

Like the Burgos merchants, those of southern Germany, of Augsburg and Nuremberg, from the Stromer and the Kress, in the late fourteenth century, to the Fugger and the Welser a hundred years later, also imitated Tuscan business practices which they had encountered in Venice and Milan. By the mid-fifteenth century they were running courier (ill. 14) services of their own and using them to transmit money by bill within south Germany



14 — Fifteenth-century courier routes



In order to contract business on an international scale it was necessary to have courier services to carry bills of exchange, as well as other business letters. Initially, in the 13th century, these were on an ad hoc basis, but in 1357 seventeen Florentine merchant companies agreed to start a common courier service to send weekly couriers to Barcelona and Bruges. By the early 15th century courier services were also being run out of Barcelona, Milan, Genoa and Lucca, and later in the century by Augsburg and Nuremberg. The inset map shows Alessandria as a junction for the most important and regular routes. Known routes are mainly derived from the Datini archive and Uzzanno's Pratica della mercatura (MELIS 1973 and PAGNINI DELLA VENTURA 1765-1766 chapter 10; see also SPUFFORD 1986 pp. 320-321 and SPUFFORD 2002 pp. 25-29). The probable courier routes are implicit in the business links between south Germany and the central European capitals, and in the business undertaken from Burgos, whose courier services were run by their Universidad de Mercaderes. At the end of the century the Taxis post between Mechelen and Innsbruck carried commercial as well as government correspondence.

between Augsburg and Nuremberg, and to Regensburg, Innsbruck and Strasbourg, but also to Milan and Venice themselves, and even to Rome. Furthermore they were also able to send money back and forth along the route north through the Frankfurt fairs to Cologne and Antwerp and so by sea to Lisbon, on the route west to the fairs in Geneva and Lyons, and eastward to Prague, Cracow and Budapest. John XXII 's wishes had been fulfilled, but 150 years too late for his purposes.[54] It is a comment on relative financial development that the German merchants who were using bills at this time were those from the cities of south Germany, rather than those from Hanseatic cities.

Between Italy and the eastern Mediterranean bills continued to be used into the fifteenth century, generally organised through Italian companies with subsidiaries in the Levant. In his notebook, Giovanni da Uzzanno, quoted usance not only within Italy, but also between Pisa and Alexandria, and between Genoa and Caffa, Famagusta, Pera, Rhodes and Chios.[55] Even if bills of exchange were no longer being sent or received from all these places in the 1420s, they had been in the sufficiently recent past for Uzzanno to have thought it worthwhile putting them down in his notebook.

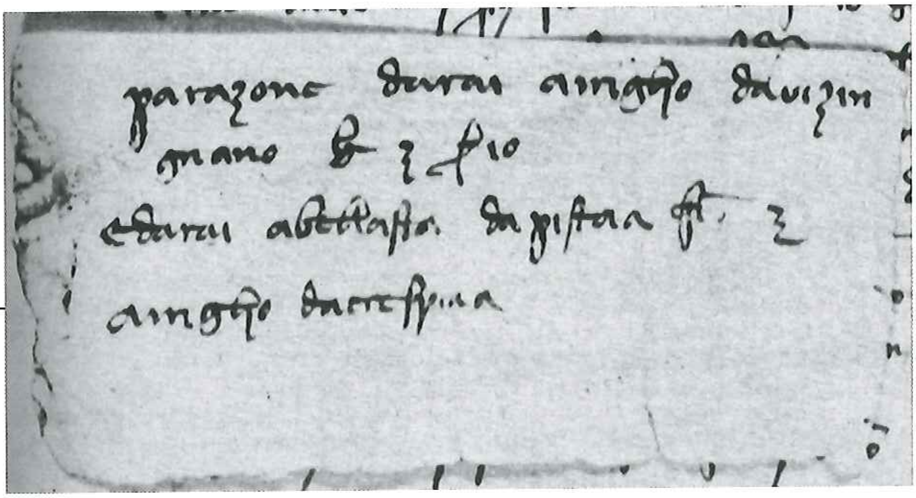
At just this very time, in the 1420s, we know that Greeks were imitating the Italians by running cashless transfers between Constantinople and Thessalonike, the second city of the shrunken Byzantine Empire. By this time Greeks as well as Italians were running local *banchi di scritta* in both cities.[56] During the fifteenth century Ottoman advances meant it was no longer possible for bills to be sent to and from Italy to most of these places in the east. By 1491 exchanges to the east from Genoa were confined to the Genoese colony on Chios.[57]

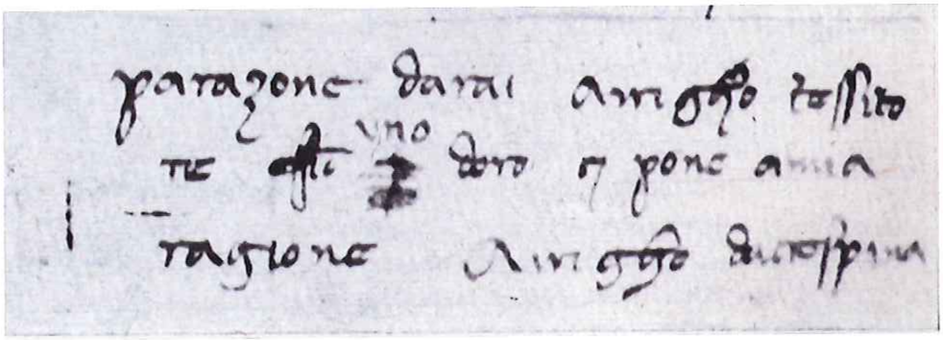
By the end of the fifteenth century, it was possible to transmit funds between an immense number of places not only within northern Italy and the southern Netherlands, but also as far west as Lisbon and Seville, as far east as Cracow and Buda, as far south as Palermo, and as far north as Middelburg, if not yet Leiden. Despite all this, there were a large number of places between which payments still had to be made in precious metals, by now generally in gold coins. In the northern Netherlands I am only conscious of bills to and from Middelburg before the sixteenth century, not yet Amsterdam or even Dordrecht. In England I am only conscious of bills to and from London, not even to and from Southampton or Bristol, ports much used by Italians and Castilians.

Changes in local banking after 1350

As well as the international network being intensified and extended by Italians, Netherlanders, Castilians, Englishmen, southern Germans, and even Greeks, the local banking network also changed. One of these changes can perhaps be regarded as only a technical one, but it made the local banking system much more like that which we remember from the twentieth century. In the course of the fourteenth century, written instructions, or cheques, supplemented and eventually supplanted oral instructions. The earliest surviving cheques are Tuscan, from Pisa and Florence. The earliest surviving Florentine cheque so far discovered was drawn on the Castellani bank by two patrician Tornaquinci in November 1368 to pay a draper, Segnia Ciapi, for black cloth for a family funeral. Not much later are two cheques from Arrigo da Crespina, who ran a woollen cloth making business, which have survived in a ledger of the Parazzone bank of Pisa and were not destroyed after being entered up or returned to the drawer (ill. 15–16–17). Instead they have survived slipped in at the page where they were entered up.[58]

Similar written orders to pay came into use in Genoa and Barcelona, but Venetian and Bruges banks continued to insist on the presence of the payer, or of an agent with a notarised power of attorney, to give oral instructions. Very rapidly cheques were in use by very modest men for modest purposes (ill. 18). In both fourteenth century Florence and fourteenth century Bruges, drapers who were running large cloth manufacturing enterprises used their local bank accounts to pay weavers, who were themselves sub-contractors rather than wage earners, and often employed people for cash wages. In Florence they could do





15–16–17 — Two cheques written by Arrigho da Crespina in 1374 and the relevant page of his account with the bank of Parazzone Grasso in Pisa [from: MELIS 1972 document 155, pp. 466-467]

15 — Double cheque, written by Arrigho da Crispina in Pisa 1374 [from: MELIS 1972 document 155, pp. 466-467]

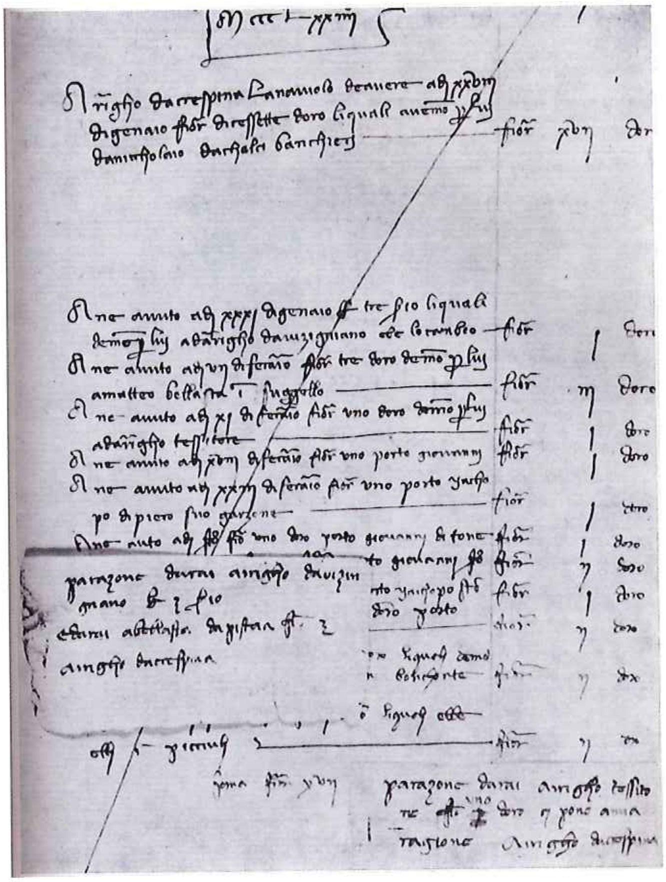
This cheque is a double cheque telling the banker to make two separate payments:
Parazone, darai a 'Rrigho da Vizingnano lb. 3 s. 10
E darai a Bellasta da Pistoia f. 3
Arrigho da Crespina

This translates as:
Parazzone, give Arrigo da Vizignano 3 li. 10 s.
And give Bellasta of Pistoia 3 florins
Arrigo da Crespina

16 — Cheque, written by Arrigho da Crispina in Pisa 1374 [from: MELIS 1972 document 155, pp. 466-467]

This cheque is for a fee to a sub-contractor:
Parazone, darai a 'Rrigho, tessitore, f. uno d'oro; et pone a mia ragione
Arrigho da Crespina

This translates as:
Parazzone, give Arrigo, weaver, one gold florin and put it to my account
Arrigo da Crespina



17 — Page in the books of the Pisan bank of Parazzone Grasso and Donato del Maestro Piero devoted to the current account of Arrigho da Crispina in Pisa 1374 [from: MELIS 1972 document 155, pp. 466-467]

The page in the books of the Pisan bank of Parazzone Grasso and Donato del Maestro Piero devoted to the current account of Arrigho da Crespino reads:

Mccclxxiiij

Arrigho da Crespina, lanaiuolo, de' avere, a di 28 di genaio, f. dicessette d'oro, li quali avemmo per lui da Niccholaio da Chalci banchieri *f. 17 d'oro*

Ane avuto, a di 31 di genaio, lb. tre s. 10, li quali demmo per lui ad Arrigho da Vizigniano; ebe lo canbio f. 1 d'oro

Ane avuto a di 7 di ferraio, f. tre d'oro, demmo per lui a Matteo Bellasta, in suggello *f. 3 d'oro*

Ane avuto a di 11 di ferraio, f. uno d'oro, demmo per lui ad Arrigho tessitore *f. 1 d'oro*

This page in the ledger translates as:

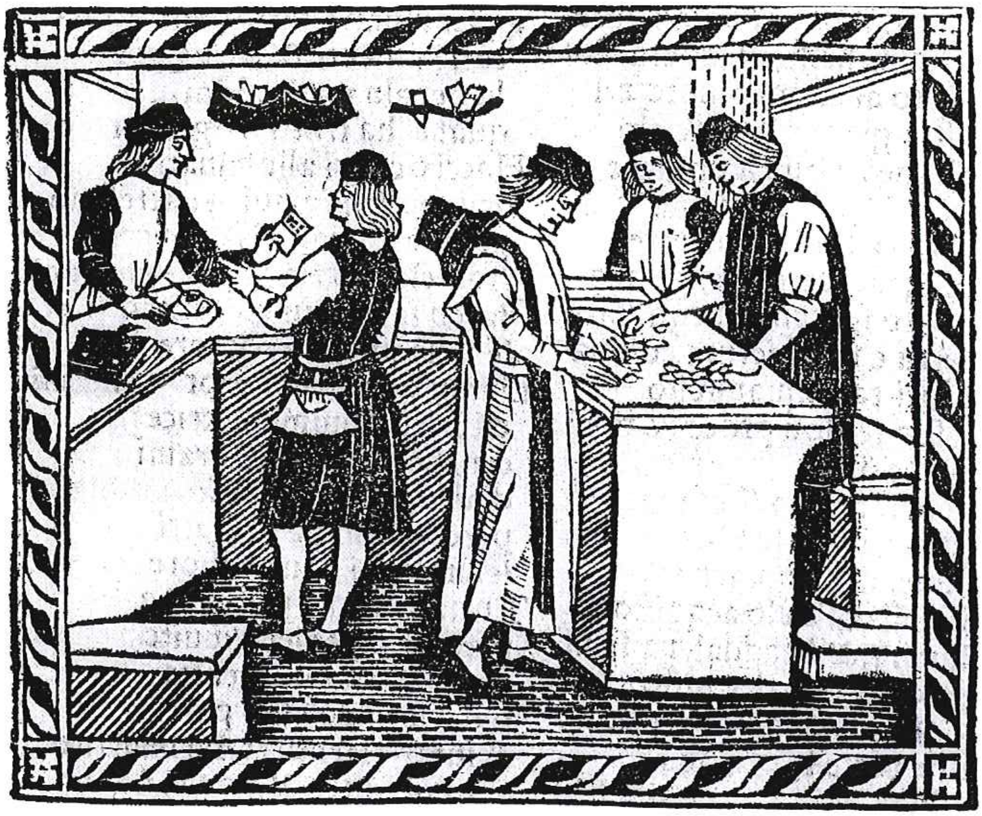
1374

Arrigho da Crespina, cloth manufacturer, balance at 28 January of seventeen gold florins which we have received for him from Niccolo da Chalci, banker. *17 gold florins*

He no longer has, on 31 January 3 li. 10 s. which we gave on his behalf to Arrigo da Vizignano, by exchange 1 gold florin

He no longer has, on 7 February three gold florins, which we gave for him to Matteo Bellasta, in sealed florins *3 gold florins*

He no longer has, on 11 February one gold florin which we gave for him to Arrigo, weaver *1 gold florin*



18 — In 1490 Piero Pacini printed the standard Italian merchant manual, as Il libro di tucti echostumi, first compiled in Florence in the 1420s. He added woodcuts, in this case of a busy bank in Florence in his own day. Is it a cheque that the cashier on the left is holding? [from: SPUFFORD 2002, p. 41]

this by cheque, but in Bruges still by oral instructions. Artisans in the building trades too were paid in both places through bank accounts, but in Florence in 1477 the haberdasher who needed to pay for the emptying of a cesspit, wrote a cheque.[59]

A picture of what the local banking system could offer is provided by the account books of Collard de Marke. He was one of the principal changers in Bruges in the 1360s so what he could offer may not have been available with all the other changers. He had 305 accounts open on 20 May 1369.[60] These naturally included all the other changers at work in Bruges, but also many of the Bruges hostellers, who ran 'hostels' which combined the facilities of large inns for foreign merchants and their households, with considerable warehousing facilities for their goods around the great courtyards. Those who ran them, the hostellers, were, however, far more than grand innkeepers. As members of the brokers' guild, they shared in the monopoly of arranging commercial contacts for foreign merchants, and arranged for notaries to draw up contracts for them. They accepted bullion and coin from foreign merchants for safe keeping, which they did by depositing them with changers. In this way a changer like de Marke effectively had numerous foreign merchants among his clientele who ran the equivalent of nominee accounts with him, through the hostellers responsible for them, and so had access to the clearing system and could make payments without having to use coin. There is no evidence that the hostellers had means of clearing directly with one another. There were also a handful of foreign merchants who resided in Bruges for long periods of time, who acquired their own hostels there, and had direct accounts with changers like de Marke.[61]

International banking and local banking continued to be combined, where that was possible. At least in Genoa and Venice, Barcelona and Bruges, bills of exchange could be bought by debiting a bank account and their proceeds credited to a bank account. A vivid example of how important this combination of the two forms of banking became comes from fifteenth century Genoa. An account-book of the Piccamiglio records the receipt of payments from abroad by bills of exchange between 1456 and 1459, totalling 159,710 Genoese lire. Of these only 11,753 lire worth of bills (7%) were paid to them in cash. All the rest of them (nearly 93%) were met by transfer in bank.

A surprising change to the local banking system was that in many cities the number of private local money-changer banks did not go on increasing, but instead actually diminished in the course of the fifteenth century. Novel expedients had to be invented to cope with their disappearance. Whenever any such bank collapsed, state intervention, and over-regulation, took place to safeguard the interests of account holders in the remaining banks. For example, larger and larger sums were demanded for deposit as security. Combined with tighter controls on liquidity, stricter regulations made the remaining banks less viable. This only served to accelerate the decline in banking by money-changers.

One can only hypothesize about why such local banking collapsed in so many places at much the same time. Was there less money-changing as a consequence of the bullion famines? Did the increased use of bills of exchange mean less foreign coin about? How significant was monetary unification? In the Empire there were monetary leagues amongst the Hanseatic cities, amongst the electors and other princes in the Rhineland, and between cities in Saxony and Swabia, all of which meant that common coinages could circulate over wide areas without need for exchange, in the Netherlands the Burgundian rulers built on similar leagues to provide a common coinage for all their principalities, in France royal coinage pushed out princely coinages, and in Italy coinages became interchangeable within wide currency areas. Did all this mean that there was less of a livelihood in the local exchange side of banking? However, it does not explain why there should be a collapse in the deposit side of banking.[62]

In Paris the number of money changers on the Grand Pont diminished rapidly in the 1440s. Money changers who had previously produced the largest number of échevins of any group in the fourteenth century had extremely few after 1445. Those who pulled out of local banking and invested in land were not replaced. Having lost its international banking already, with the loss of its local banking too, Paris was virtually non-existent as a financial centre by the end of the Middle Ages.[63] Montpellier which had had 42 changers in 1342 had fewer than ten under Louis XI.[64]

In the southern Netherlands their numbers had already began to shrink in the last quarter of the fourteenth century and continued to decline in the fifteenth century, as elsewhere in Europe. Furthermore the Burgundian rulers were quite deliberately antipathetic to deposit banking by money changers.[65]

In 1481 the Celys had a narrow escape, when they closed their accounts with William Roelandts and Nicholas (Colard) de May shortly before their banks in Bruges failed.[66] In Germany, even at expanding Frankfurt and Nuremberg, the number of money-changers dropped sharply in the fifteenth century.

Even on the Rialto in Venice, the most concentrated financial quarter in fifteenth century Europe, banks collapsed. In 1499 the bank of Alvise Pisani, the largest of the private deposit banks still open, nearly did so. He had too little cash in hand, and too much invested abroad. He was only saved by a 100,000 ducat guarantee fund put together by his relatives and friends and added to *by almost all on the Rialto,* including foreign businessmen *of every country.*[67]

Only in Castile did the number of money changers increase. Juan II began the deregulation of 'tablas de cambio' between 1435 and 1445 which favoured a rapid multiplication of such banks in Andalucia, not only in Seville but also in Jerez and Cordoba, and by the end of the fifteenth century in other coastal towns like Cadiz, El Puerto and Sanlúcar. In northern Castile they increased in number as well. Temporary *bancos de ferias* were also set up at the four general fairs of the kingdom, as joint ventures by permanent banks in the towns.[68]

In Mediterranean Europe, when private bankers fell on hard times in crisis years of the late fourteenth century and the fifteenth, more permanent alternative arrangements began to be considered, beyond the private rescue to tide the individual bank over its temporary lack of liquidity. Instead of either demanding heavier guarantees, or the traditional tightening of regulations, some cities and states began to take an active part in the provision of a service so important to the business community. Such action was discussed in Venice in 1356 and again in 1374, but nothing was done.

The first, and longest lived, of these public banks to come into existence was the *Taula de la Ciutat* or *Taula de Canvi* founded by the city of Barcelona in 1401, which, having surmounted a number of crises in the fifteenth and sixteenth centuries, survived until it became a part of the Bank of Spain in 1853. After the failure of the private exchange bank of Jacme de Casasagii and Pere Grau in 1446, the city fathers ordered that in future all exchange payments should be made uniquely through the city's own *Taula.*[69] Payment of the bill of exchange illustrated above (p. 25 ill. 12) was made on 6 March 1410 by the Barcelona company in the Datini group through the city bank of Barcelona, three decades before this became obligatory.

Other attempts to found public banks in the kingdoms of the crown of Aragon were, however, short lived, like the *Taula de Canvi* of Valencia which only lasted from 1408 to 1416. On Majorca, the *Taula del General* at Palma, which was operating by 1454, did not survive the fifteenth century. Plans to set up municipal public banks in Tarragona and Gerona in 1416 and 1443 never got off the ground.

In Italy in the first half of the fifteenth century, the Casa di San Giorgio, the association of state bond holders in Genoa, which collected most of the state's taxes which had been assigned to them, amongst many other activities, ran a public deposit bank in Genoa from 1407 to 1444, but with little long term success. It was not until the sixteenth century that, after further experimentation, more durable state institutions were created.[70]

In the north too, cities took direct action to cope with the lack of money-changers. In Brabant a partial solution was provided by the setting up of municipal exchanges, or *stadwissel*, by such towns as 's-Hertogenbosch, as early as 1378, and later in Brussels, Leuven and Antwerp. There is no evidence, however, that these combined banking with exchange functions. This meant that banking needed to be re-invented in sixteenth century Antwerp. Here men other than licenced money changers began to act as *kassiers* (cashiers) for merchants, keeping their money on deposit, accepting payments on their behalf and making payments to their order. They came to perform many of the same functions that the money-changer-bankers had earlier performed, transferring funds from one account to another for clients, and to other *kassiers*. They also received payment for bills of exchange into their clients' accounts, or accepted and paid bills of exchange on behalf of their clients.[71]

In London too there was a different need for deposit bankers, that had never been met by money changers, since no private money changers had ever been licenced in medieval London. From the fifteenth century onwards London goldsmiths were beginning to engage in deposit banking.[72]

Where they were available, local banking facilities were used by a large number of people, which makes it the more surprising that the system turned out to be a fragile one. It has been suggested that in Bruges around 1400 one in forty of the total population, perhaps one in ten of the adult males, had bank accounts.[73] Yet further people received payments through the local banking system without accounts of their own, like weavers from clothiers. A slightly higher proportion has been suggested for Venice around 1500, when not only 2000 patricians, but as many as a further 2000 non-patricians also had current bank accounts, out of a total adult male population of 30,000, more than one in eight of them. If the wealth and tax structure of Venice in 1500 was anything like that of Florence in 1457, these 4000 account-holders would have enjoyed three quarters of the taxable income of the city. For large payments, indeed for most of the payments with which merchants were involved, the banking system worked admirably. However, even in Venice, by far the most commercially sophisticated city in Europe in 1500, a vast number of small transactions had still to be carried out with actual metallic coins, and in less advanced cities the use of coin remained dominant for local transactions.[74]

Banking beyond the Middle Ages

The real solutions to the lack of local banking only came beyond the end of the middle ages. The appearance of *kassiers* in Antwerp, which is described above, led on to the development of similar private banks in Amsterdam. In London too the need for deposit bankers which had already begun to be met in the fifteenth century by goldsmiths did not develop fully until the end of the seventeenth century when some of the loan and mortgage broking scriveners developed an extensive and effective deposit banking system.

The system of municipal exchange banks which we have seen already in Barcelona and Venice was extended to other parts of Europe, the most famous example being the Amsterdam Wisselbank. The international banking network continued to expand in the sixteenth century and not only reached the northern Netherlands, but also at last came to the Hanseatic world, for which Hamburg became the key exchange place. Transfer of bills became more common and discounting developed. As well as international bills, inland bills came into being in several other countries, like England, as well as France, where bills between Paris and Montpellier had already existed in the later Middle Ages.

In the mid-sixteenth century Venice at last lost its central place in the financial system, and was replaced first by Antwerp, which had already taken over the secondary role of Bruges for northern Europe in the 1520s. Then, in the seventeenth century Antwerp itself was supplanted by Amsterdam, and then in turn by London.[75]

The money supply increased enormously from the end of the fifteenth century with the opening up of fresh central European silver mines, and the creation of large silver coins which supplemented gold in the currency. The increase in the precious metal money supply increased further with bullion from the Americas, although most of both the central European and the American silver ended up outside Europe. Credit expanded in proportion to the underlying supply of precious metals, so that all in all merchants were less and less reliant on actual coin, and more and more on paper instruments.

The seventeenth century saw the innovation of *assignaties* and from there the development of bank notes. The next major changes in the means of payment did not come until the twentieth century use of plastic and electronic transfer – so that at last 'merchants' are beginning to be less dependent on paper! Datini and Fugger would be astonished.

When then did merchants use coin?

There were of course geographical limitations to the use of commercial paper. The moving frontier of international paper transfer has already been discussed above, from a Bruges-Venice frontier in the early fourteenth century, to a Middelburg-Nuremberg-Cracow frontier by the late fifteenth. However, even at the end of the fifteenth century commercial paper was not yet available in England outside London or in the northern Netherlands, or in northern Germany east of the Rhineland.

I have not explored the number of places where local banking facilities were available. I have instead been struck by the surprising shrinkage of these, rather than their extension. Outside of such places the use of coin was mandatory.

So far I have dealt with large payments, particularly those for long distance trade. However most transactions were much smaller, and this is where coin normally played a vital role, as it did between lesser towns and the main urban centres, even in those areas with banking facilities, and above all between town and country. Urban merchants going out to the countryside needed to come out with money in hand for the annual or bi-annual sale of farm produce at local fairs. By the mid-fourteenth century they were coming out with gold coin as well as large silver, to buy livestock, and barrels of grain or wine or woad.[76] The Celys, although using bills of exchange whenever possible to get payments back to London, then used coin to purchase wool in the Cotswolds. Farmers had to spend these large quantities of money very quickly, to pay their rent, to pay annual wages to their men, to pay taxes and tithes, and to buy tools and fabric, often at the very same fairs at which they sold their produce. In this way seasonal, annual or half-yearly, outflows of money returned to capital cities and ports, where it remained for most of the year. In cities small change was used on a daily basis for such regular purposes as the payment of day wages, and the purchase of food and drink, although even at this level there was much credit and delay in payment.[77] In England in the later middle ages barter was basically confined to villages, and only between the seasons when money came out from the 'city'. However in the most acute moments of the 'bullion famines' around 1400 and 1450 there were exceptional occasions on which barter proved useful.

Even on the main lines of trade there were perpetual imbalances so great that eventually precious metals had to be carried. In the fifteenth century the imbalance of trade between the Low Countries and the Baltic was met in this way. Gold coins such as *rijnse guldens,* Netherlands *guldens* of various sorts, and English *nobles* were carried into the Baltic, as well as limited quantities of silver. Beyond the Baltic the perpetual imbalance of trade with Novgorod resulted in the continuous payment of silver into Russia where silver continued to circulate in the form of *rouble* bars.[78]

We have seen the Kress carrying silver from Nuremberg to Venice. They were part of a pattern of trans-alpine merchants carrying Kremnica gold and Kutna Hora silver to northern Italy which continued. Even when a system of payments by bills of exchange had been developed, it was not easy to maintain, wherever there was a gross imbalance in trade. We have seen that this not only applied to trade between the mining areas of central and eastern Europe and the commercial centres of the Netherlands and Italy, but even more to the imbalance between western Europe and the Levant. Even in the reduced trade of the first half of the fifteenth century, the imbalance was such that it has been suggested that the Venetians were sending out, principally on the Venice-Alexandria axis, some 300,000 ducats in coin, and that other Europeans were sending out a further 100,000 ducats in coin, beside what was sent to the Black Sea and the rump of the Byzantine Empire.[79]

Inside western Europe itself, however hard merchants tried to avoid moving coin, they sometimes had to do so, even between places where mechanisms for paper transfers existed. We have seen the Celys reluctantly sending back Burgundian *double patards* into England. In southern Europe when large payments had to be made in coin, it was sometimes useful to be able to use sealed bags of gold coins. In Florence the office for sealing up bags of florins was attached to the mint.

But the general merchant ethos was to use paper transfers as often as possible, and use coin as little as possible. Equally whenever cash was available, it should not be hoarded, but put to work as soon as possible and not kept idle. As the 'sententious and dyspeptic moralist' Paolo da Certaldo, wrote in Florence in the third quarter of the fourteenth century: *If you have money, do not stand still, nor keep it at home dead, for it is better unprofitably to act than unprofitably to stand by, because if you act, even if you gain nothing else, you will not lose your trade contacts.*[80] As early as the mid-thirteenth century, the Venetian Ranieri Zeno, when caught up with by death, had only 7% of his great wealth in actual coin. The mark of the merchant was not money, but paper (ill. 19).

There were of course specific exceptions from this general rule of keeping liquid assets as small as possible. Money changer bankers were compelled by law to keep reserves. Collard de Marke, whom we have already met as one of the principal Bruges money changers, made a note in the 1360s of the actual coin in his hands. It amounted to nearly twenty thousand gold coins: 2,000 *lions*, 2,400 *double moutons*, 2,000 *doblas*, 12,400 *francs* and 1,000 *francs à rosette*.[81]

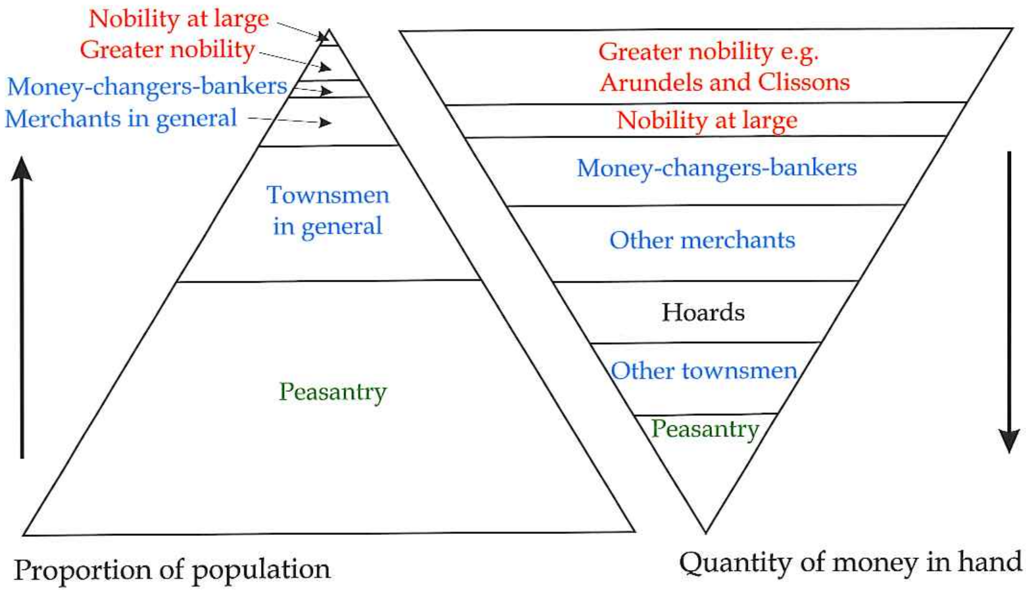
Whenever Collard and his fellow changers in Bruges and Valenciennes had more foreign coin in hand than they needed for their business, they sent it – along with any bullion they had accumulated – to the mint of Flanders, which in the 1360s was at Ghent.[82] Their opposite numbers in contemporary Venice

19 — Sketch of Jacob Fugger (right) telling Matthäus Schwarz (left) what to enter in his books. Young Matthäus wrote in his memoirs, entitled Trachtenbuch ('Book of achievements'), with pride that he came to Jacob Fugger in 1516 at the age of 19. After a year training in each of the Fugger offices in Milan, Genoa and Venice, he came back to Augsburg, as bookkeeper, in 1520. The mark of the merchant was not money but paper. Schwarz has drawn symbolic files behind his own head for each of the subsidiary companies in the group: in the left-hand column Rome, Venice, Ofen or Buda, and Cracow; and in the right hand column Milan, Innsbruck, Nuremberg, Antwerp and Lisbon. In reality the amount of paper will have filled several rooms. A century earlier Francesco Datini had already 320,000 business letters in his filing system [from: SPUFFORD 2002, pp. 384-385]

were doing the same. Changers too, like other businessmen, were tempted to invest and not keep money idle, despite laws to enforce a certain degree of liquidity on them. Collard de Marke invested in cloth and in tax farming, other changers invested in running mints.

By contrast rulers and rich aristocrats were far more likely to have large sums in coin than merchants. When his goods were inventoried in 1377, after his death the previous year, Richard FitzAlan, earl of Arundel and Surrey, had nearly 44,000 marks of *deniers secks,* hard cash *in the keep of the high tower of Arundel,* together with a further 17,000 marks in coffers in London at St.Pauls, and 30,000 marks more in other houses and castles around the country.[83] Olivier de Clisson, constable of France since 1380, had accumulated a vast hoard of over 133,000 gold coins in his Breton chateau when he died in 1407, besides jewellery, and goldsmith's work. Nevertheless even he invested, and also held bonds at his death.[84] All the same he still had nearly seven times as many gold coins in hand as a leading money-changer banker.

I would like to end with an example that I first used long ago. In 1970, I published a list of *Redey money by me* noted down in Calais about 1478 by one of the Celys, whom we have met as wool exporters from England to the Low Countries, which contained well over five hundred gold pieces and at least five thousand silver pieces.[85] I was able to point out that this was as many gold coins as survive from all the known hoards from the whole of the Netherlands from the period 1454-96 combined and considerably more silver coins than in those hoards. His *redey money* was worth £ 168 14s 4d sterling in all, but even this was tiny compared with the £ 60,000 sterling of ready money kept by the Earl of Arundel. What I did not then know was whether or not £ 169 was a large or small amount of liquid money for a merchant to have in hand. I now believe it was remarkably large. But how did his *redey money* in Calais compare with the overall scale of the Celys' operations? Over the period from July 1482 to July 1487 their sales in the Low Countries averaged something over £ 1,200 a year.[86] In other words, at one particular moment, one of them had around 14 % of the proceeds of their annual sales in hand, waiting to transfer to England. For a medieval merchant this was a relatively large sum of money to keep in hand, and one with which the Celys were not happy, but it related directly to their problem of moving their money to England. It is hard, but necessary, to establish some sense of proportion. Compared with the coins we find in hoards this merchant's ready money was very large, but compared with the number of coins that changers had to hold it was small, and compared with the liquid resources of great aristocrats it was minuscule (ill. 20).



20 — Most people with least cash, most cash with fewest people

A diagrammatic representation of the inverse relationship between the proportion of the population and the amount of cash that they held at the end of the Middle Ages, as described in pages 46 - 47 The right hand cone (to be read from top to bottom) illustrates the amount of money in different groups in European societies at the end of the Middle Ages. The left hand cone (to be read from bottom to top) illustrates the proportion of the population in various groups. It can readily be seen how the peasantry, tenant farmers and rural labourers who together formed the most numerous group in the population had very little ready money except at the season when they marketed their produce or received their annual wages. At the top of society, the very small numbers of the greatest nobility accumulated the largest amounts of ready cash. In between the relatively numerous ordinary townsmen were spending small sums on a daily basis. In the right hand cone there is an additional slot for the hoards that are discovered to-day. These hoards are sums of money which had been concealed and not recovered, and represent accumulations by ordinary peasantry or townsmen, put aside for extraordinary occasions, such as dowries. By their nature these were larger than the sums handled ordinarily by most peasantry or townsmen. A sub-group of townsmen, merchants, even with their aversion to keeping ready money unused, generally still had more cash in hand than other townspeople. Amongst merchants only the very small group of changer-bankers were supposed to keep a large stock of money on hand at all times. The rather larger group of nobility in general, were more prone both to spend and to save than other groups in society, and amongst them the tiny group of greater nobility, such as the Arundels and Clissons, had dramatically much more money than anybody else.

Notes

1 Much of what is contained in this section of my lecture appears at greater length in chapter 9 of SPUFFORD (1988). Full references to my sources are given there
2 Much of the hoard, including 6 of the ingots, was auctioned in London by Spink's: catalogue 170=4018 (6 October 2004) nr. 387-492 and 832-864, especially 487-492. The weights of the ingots were far from standardised around 1140. Those auctioned by Spink weighed 135g, 46g and 35g, the halves were of ingots of around 115g and 50g, and the quarter was of an ingot of around 85g
3 The earliest known sterling ingots were mark bars cast for the Bishop of Utrecht at Vollenhove around 1210 : BENDERS/BENDERS (2007)
4 The London mint's monopoly only lasted until 1327, when the charter to the Goldsmith's Company of London gave them, as well as the mint, permission to melt coin into *silver in plate* for sending out of England in payment
5 LOEHR (1931)
6 GROLLE (2002) doc.2, 10-11. Grolle speculated that a few years earlier plates of silver, rather than coin, may have been involved in the robbery of £ 960 sterling worth of silver which Catharina van der Wale had bought in England for the Holland mint, where her husband was master. The sheriff of Bedfordshire who captured the robbers, retained the silver. Although Catharina returned to Holland without the silver, she reputedly became the ruler's mistress. Floris V petitioned Edward I for the release of the silver, but sent someone else to collect it. *Ibid* document 1, 6-9 and I, 64-70
7 LUSCHIN VON EBENGREUTH (1926) 166-170
8 In the Pimprez hoard, admittedly from around 1140, before weights were standardised, there were both cut ingots and cut deniers. The smallest piece, a quarter of a small ingot, was the equivalent of no more than fifteen English pennies
9 JACKSON (1990) 162, 190, 196, 198, 203, 218, 224, 237, 252. Also translated into most other European languages. Rubruck was hearing the Turkish word *yastuq*, cushion, which describes the form of these large ingots. Examples survive from Russia to Indonesia and are decribed in CRIBB (1979)
10 *argento buono in verghe marcate della zecca di genova alla lega sterlinorum:*

PESCE / FELLONI (1975) 342

11 For details of these examples see SPUFFORD (1988) 212-214

12 SPUFFORD (1988) 121-125; TANGHERONI 112-124 on free trade in silver, most going to Pisa from the mid-12th century onwards until the mid-1320s when mine-managers had to sell their silver exclusively to the royal chamberlain for minting

13 SPUFFORD (1988) 212 and 221. Pegolotti also noted that it later became a crime, liable to capital punishment, to export unminted silver from Sardinia, see PEGOLOTTI (1936) 119

14 SPUFFORD (1988) 216 and 222 n. 6

15 LANE (1966)

16 BRAUNSTEIN (1964) 240-241

17 LUSCHIN VON EBENGREUTH (1926) 182

18 BERGHAUS (1951). Perhaps I should have incorporated them in SPUFFORD (1986), but I did not

19 JESSE (1924) document 306

20 SPRANDEL (1975) 68-82

21 LOEHR (1931)

22 The Constantinople mint effectively ceased striking even debased 12-carat *hyperpera* around 1340. The extremely small issues in the 1340s were of little significance, and there is no reason to suppose that gold coins were available in any normal quantities in the Black Sea region from around 1350 onwards, see GRIERSON (1982) 293-294 and METCALF (1979) 332

23 It also contained 23,440 Golden Horde aspers from the thirteenth century, and small pieces of jewellery and other silver, see ILIESCU / SIMION (1964) 217-218. These rod-shaped ingots mostly mostly weighed 197-205 grams, which they suggested was aiming at the notional weight for the *summus ad pondus Chili,* the sommo of the Genoese colony at Kilia at the mouth of the Danube, of 206.5g, which was the same weight as the sommi of Caffa in the Crimea and Tana on the sea of Azov. For the revised date of deposition of this hoard, see OBERLÄNDER-TARNOVEANU (1981-1982) and see OBERLÄNDER-TARNOVEANU (1997)

24 *virge sommorum argenti:* BALARD (1980)

25 SPUFFORD (1988) 165

26 SPUFFORD (1988) 176

27 MANDICH (1970) underlines that in 1336-9 Venice was already the key exchange place for Europe

28 DE ROOVER (1953) and his numerous other writings, the most important collected posthumously in DE ROOVER (1974). Most, but far from all, the exchange rates from the twelfth, thirteenth and first half of the fourteenth century collected in SPUFFORD (1986), fall within the geographical area outlined above

29 Translated from Italian in LOPEZ / RAYMOND (1955) as document 115, p. 231

30 SPUFFORD (2002) 25-29 and SPUFFORD (1986)
31 SAPORI (1932)
32 RENOUARD (1941) and DESPY (1952)
33 For examples see SPUFFORD (1986) 286-290
34 SUBRAHMANYAM (1994)
35 DE ROOVER 1954, reprinted in DE ROOVER (1974) 200-238; see also SPUFFORD (2002) 38-43
36 MUELLER (1997) 8-32
37 MURRAY (2005) 161
38 SPUFFORD (1988) 260-261
39 Up to this point much of what I have said repeats things that I have already written elsewhere, but from this point onwards most of it is novel
40 Published – from a copy made in 1442 – by PAGNINI DELLA VENTURA (1765-1766); the relevant pages are reprinted as an appendix to SPUFFORD (1986) 316-320, with a map on p. 314
41 DE ROOVER (1970) 33-34; MELIS (1958)
42 FAVIER (1985), elaborating on DE ROOVER (1970) pointed out that the Florentines had mostly abandoned Paris by 1400, and that the Genoese and Lucchese only survived in diminishing numbers over the next twenty years
43 I owe this example to Professor James Bolton of Queen Mary College, London. For the long term transition from Bruges to Antwerp as a financial centre see my Ortelius Lecture, 2005, revised as SPUFFORD (2006)
44 MURRAY (2005) 212, 252-256 on Collard de Marke's relations with changers in five other cities. De Marke occasionally effected payments in London and Paris, although it is not clear how, and made exceptional single transfers to Rome and Genoa and from Brittany. Some of this was presumably carried out through the international Italian network: MURRAY (2005) 257-258
45 HANHAM (1985) 137
46 HANHAM (1985)187-190
47 CASADO ALONSO (2003) 46
48 Supplementary Close Rolls 15-18, covering 1382-1393, 1405-1413, 1422-1434. They are calendared as Appendixes to the *Calendars of Close Rolls* for 1392-96, 1409-13, 1422-29 and 1429-35 [London, Public Record Office]
49 HARVEY (1999) 63-64 and 48
50 SUTTON (2005) 227. Three decades earlier Giovanni da Uzzanno had noted that it was quicker to send money from Florence to Bruges by way of Venice rather than direct. The relevant passage from his notebook is translated in LOPEZ / RAYMOND (1955) 421
51 HANHAM (1985) 180. Because of the higher valuation of gold, in terms of silver, in the northern Netherlands than in the southern, it was preferable to carry gold north, and good silver south, whenever there was a choice
52 HANHAM (1985) 137, 400-402

53 COOK (1999) 265-266 and 275-276 and SPUFFORD (1964)

54 VON STROMER (1970)

55 The relevant pages of PAGNINI DELLA VENTURA (1765-1766) are reprinted as an appendix to SPUFFORD (1986) 316-320, with a map on p. 314

56 MATSCHKE (2002)

57 DORMIO (1992)

58 MELIS (1972) document 155, pp. 466-467

59 SPALLANZANI (1978); MURRAY (2005) 186 and 286

60 MURRAY (2005) 169-170

61 MURRAY (2005) 168-169

62 The diminished importance of exchange in banking means that the current collapse of exchange dealing within Europe, since the introduction of the euro, appears to have had little impact on European banking. However Professor Jan Lucassen has pointed out to me that there seemed to be a link in India between the number of different coinages and the number of money changers. The post Mughal proliferation of coinages and the subsequent proliferation of money changers can perhaps be compared with the multiplication of mints and separate coinages in late twelfth and early thirteenth century Europe and the subsequent multiplication of money changers. SPUFFORD (1988) 187ff

63 FAVIER (1985) 166-168

64 REYERSON (1985) 92-93, quoting FAVREAU (1964)

65 SPUFFORD (2005) 297-298, also SPUFFORD (1995) 319-320

66 HANHAM (1985) 75-76

67 Diary of Girolamo Priuli, quoted by LANE (1973) 328

68 LADERO QUESADA (1999) 62-64; CASADO ALONSO (2001) 500; and LADERO QUESADA (1994)

69 CARRÈRE (1967) 846-847

70 SPUFFORD (2005) 297-299, also SPUFFORD (1995) 319-321

71 VAN DER WEE (1991)

72 NIGHTINGALE (2004) 62-63

73 DE ROOVER (1948) 171-344

74 LANE (1966)

75 SPUFFORD (2006)

76 SPUFFORD (1988) 335. Tuscan examples from the fourteenth century are provided by DE LA RONCIÈRE (1976) 310-313. A compressed, and slightly revised version, was published as DE LA RONCIÈRE (1982)

77 SPUFFORD (1988) 328-332

78 SPUFFORD (1988) 212

79 ASHTOR (1971) 96. I discuss in SPUFFORD (2002) 346-347 why I believe that this was smaller than at the beginning of the fourteenth century, and on when this might have been sent out from Italy in gold and when in silver. Numerous examples are provided by STAHL (1999)

80 SCHIAFFINI (1945) 226-7. A translation of Paolo di Messer Pace da Cer-

taldo in LOPEZ / RAYMOND (1955) 424. Paolo came from a distinguished legal family that had had a share in running the Florentine state over the previous hundred years. The striking phrase to describe him is MOLHO's (1994)

81 MURRAY (2005) 133. Only the *doblas*, presumably brought by Burgos merchants (this is before they were drawing bills of exchange), were necessarily foreign, *francs* were minted in both France and the Low Countries, the *double moutons* were Low Countries multiples of the *moutons* first struck in France and widely imitated in the principalities of the Low Countries. Only the Flemish *lions* were necessarily local to Bruges

82 MURRAY (2005) 297-298

83 Making a total of 90,359 marks in all (£ 60,240 sterling). Arundel was one of the greatest landowners in the country, but increased his liquid wealth from forty years of royal service, and by repeated short-term loans to the king and others. The largest loan he made to Edward III was of £ 20,000 in the summer of 1370, to be repaid from the customs. A generation later John Beaufort, earl of Somerset, had at least £ 20,000 in coin at his death in 1410, see GIVEN-WILSON (1991)

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Comments from an early-modern and modern perspective

Joost Jonker

I am most honoured to be invited as commentator at an occasion which, designed to bridge gap between numismatics and economic history, has developed into an annual highlight for people interested in the history of money. I have to admit to feeling a little daunted that I should have to comment on a paper by Professor Peter Spufford, eminent authority on monetary history, who has allowed us to profit tonight from lifetime's research and insights into the subject. That feeling emanates both from the immense respect which I have for his great contributions to economic history over the years, and from a distinct sensation of being a novice myself relative to him and likely to remain so: Peter Spufford started his PhD research in the year after I was born, and if I might ever match that timespan of study devoted to monetary history, I am still far away from it tonight.

In addition my role on the programme is described as 'stellingname', i.e. defining one's position with respect to what has been said before. Some of you may have come here tonight in the hope of witnessing a good oldfashioned academic fight between two people with opposite convictions. If so you are going to be disappointed, for I find myself totally in agreement with what Spufford has written. Indeed, some years ago I have followed a very similar line of reasoning to argue that Amsterdam merchants avoided the use of coin whenever possible, which led to a fully fledged paper money circulation long before the establishment of a banknote monopoly by the Nederlandsche Bank in 1814. It is of course very amusing, given the bridge-building purpose of the Van Gelder lecture, that Spufford's lecture should argue that, actually, coins were not very relevant to that key sector of the Medieval economy, trade, because merchants avoided whenever possible the use of coin or bullion. Their success in avoiding coin settlements is well brought out by the very low amounts of coin found in merchants' assets and estates. We are talking about wholesale merchants here, of course, for retailers would have received coin from their customers. Within the emerging European economic area of the later Middle Ages, merchants moved from using silver ingots, to using bank transfers and financial instruments such as bills of exchange to settle their debts. Specie settlements first receded to peripheral areas, and then disappeared there as well once these areas grew closer ties to the centre. I should have liked a closer discussion at this point of what determined the change from specie to paper: the level of economic activity in peripheral area, the level of integration between periphery and centre, or the nature of the balance of payments between periphery and centre, because passive balances continued to be settled in specie. The paper now leaves that question open, and it is relevant to our understanding of the dynamics of coin and bullion substitution. I think one might want to add a fourth potential factor and that is the level of monetization and financial intermediation in the periphery. As the paper demonstrates, financial services and substitutes such as bank money appeared when the money supply had become abundant, and peripheral regions may have had to suffer more from bullion famine than the centre.

With the increasing use of paper, specie settlements moved from the meso level to the macro level and became the domain of arbitrage, first by bullion traders, and, with the development of sophisticated financial instruments, by specialist bankers and bill brokers. Some years ago, Professor Ranald Michie has demonstrated how the 'invisible stabilizer' of paper arbitrage already operated to a remarkably high degree between the main Western European financial centres by the time of the 1720s Bubbles.*

Spufford's conclusion that coin hardly mattered to Medieval merchants has important implications. First of all, deficiencies in the circulation, i.e. worn, clipped or lightweight coins, are often cited as having been detrimental to trade. If merchants did

* R.C. MICHIE The invisible stabilizer, asset arbitrage and the international monetary system since 1700 *Financial History Review* 5 (1998) 5-26

not use coin, this clearly was not the case for the wholesale trade; for the retail trade things were probably different. Secondly, what function did coins have if they were not used in the wholesale trade? To my mind, tonight's paper is really a complement to Spufford's earlier description of the limited flow of coin, which Professor Jan Lucassen's article of a few years ago expanded.* Lucassen demonstrated the close link between the composition of the coin circulation and wage payments in the Netherlands, and the fluctuations in the flow of money as determined by the weekly wage payments. Together, these findings suggest a much narrower function for coin than one would have thought before, by and large limited to wage payments and the retail trade, both geared to the ebb and flow of weekly payments. This limited function helps us to understand why so many cities and states got by admirably and as often as not for a very long time with a circulation made up of poor coins. The wholesale trade and specie arbitrageurs made sure that they could always get specie or bullion in the quantities and quality required, and the rest of society simply had to make do with the leftovers.

Thirdly, we will have to form an entirely different conception of the money stock and money circulation in the Middle Ages and the early modern period. There appears to be something like a tacit consensus in the literature that, until the rise of commercial joint-stock banking in the 19th century, the money stock consisted overwhelmingly of coin and banknotes; and the share of demand deposits in the money stock invariably rises after the appearance of joint-stock banking. However, we must now realize that, because of the importance of the diverse forms of paper, and because of the accounts merchants had with various financial service providers and with each other, this was a process of substitution, not creation. Consequently, we will have to consider the importance of these forms of money in making up the money

* J. LUCASSEN Loonbetaling en muntcirculatie in Nederland, 1200-2000 *Jaarboek voor Munt- en Penningkunde* 86 (1999) 1-70

J. LUCASSEN Wage payments and currency circulation in the Netherlands from 1200 to 2000 *Wages and currency. Global comparisons from Antiquity to the Twentieth Century* J. LUCASSEN ed (Bern 2007) 221-263 stock of any given country during earlier periods as well.

Fourthly, Spufford's paper provides a good and interesting discussion about the emergence of banking and bank money. As I just said, this latter form of money appeared in cities with an abundant money supply: after all, banking services arise on the back of real exchanges and may in time come to replace them, but they will provide substitutes for a deficient money supply only on a temporary basis in cases of emergency if they are already well-established. In talking about banking, we really ought to be talking about financial services in a wider sense, for the emerging sophistication of international trade in the later Middle Ages created different types of bankers. The paper suggests, but does not specify, a link between the emergence of local banking and international banking; I would suggest one practical link may have been the spread of double-entry bookkeeping from the 14th century, which greatly simplified the tracking of debts and claims, thus reducing the risks of banking. Local deposit banking emerged, usually run by money changers and cashiers. This type of business was by and large a local affair, extending overdrafts to the businessmen whose payments the changers and cashiers effected.

The low entry threshold coupled to the intensity of competition in this sector probably explains the recurrent bankruptcies amongst them. Because of that instability, changers and cashiers have had a bad press as a subordinated group slightly better than bookkeepers, closely associated with a deficient circulation, and suspect because of their issuing of scrips as money. I think we ought to rehabilitate them. They performed the vital function of clearing local settlements and providing links between the paper-oriented international trade and the coin-operated local economy. Moreover, Lucien Gillard's recent book on the Wisselbank has shown how, in Amsterdam, cashiers assumed a central position as a sluice between the Wisselbank and the mercantile community, operating very much in the way of the British clearing banks in the 20th century.* London forms an exception

* L. GILLARD *La banque d'Amsterdam et le florin européen au temps de la République néerlandaise*, 1610-1820 (Paris 2004)

here in that goldsmiths rather than money changers or cashiers developed banking services, which I presume explains why it is missing from the list of cities with changers/bankers in the paper.

The second type of financial services which emerged on the back of bills of exchange are the merchant bankers, who dealt in bills and from that activity gradually developed international financial services such as loans to governments. It is important that merchant bankers always remained merchants first, for the close involvement with the commodity trade generated both the bills and the information required for rating the bill signatures. This raises a huge problem of defining what constituted a banker in the later Middle Ages, but I will not go into that now. The third type of services was provided by bullion traders, specialized in buying and selling precious metals and coin. In my impression this business was often run by Jewish traders, sometimes in connection with billbroking, but for that latter function to emerge we have to move to the 17th century. The arbitrage inherent in bills was effected by both merchant bankers and bullion traders but, because of the tendency to avoid bullion settlements, the former were more important than the latter. Finally, large merchants such as the Fuggers provided banking services to selected clients.

Though all types of financial services were broadly speaking banking services, we should not overestimate the volume of credit which they provided. Until well into the nineteenth century, most credit remained within the commercial circuit itself, where it was hidden in high margins and/or very long terms of payment. The timespan of William de Cantelowe's wool exports shows just how much time such transactions could take, forcing the merchant to build strong safeguards for his liquidity, and this example could easily be multiplied.

Summing up, then, I found Peter Spufford's paper a most stimulating contribution to European economic history and I earnestly hope that we may long benefit from his inspiring work.

COLOFON

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