

GOLD COINS  
OF THE MIDDLE AGES

From the Deutsche Bundesbank Collection

DEUTSCHE BUNDESBANK · FRANKFURT AM MAIN

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## CONTENTS

	Page
Foreword	VII
The History of Gold Coinage in the Middle Ages	IX
The Byzantine Empire	IX
The Islamic States	XI
The Christian States before 1250	XIII
Europe in the Late Middle Ages	XV
Coinage Design	XXV
Sources of Gold	XXX
The Manufacture of Coinage	XXXII
Plates 1-67 with explanatory text	Plate
Gold Coins of the Byzantine Empire	1-7
Gold Coins of the Islamic States	8-14
Gold Coins of the Christian States in the High Middle Ages	15-20
Gold Coins of the European States in the Late Middle Ages	21-67
Appendix	
Imitations of Florentine Florins	F 1-21
Rhenish Gulden	R 1-30
Apfelgulden	A 1-23
Bibliography	
Map of the Mints	

## FOREWORD

With this volume, the Deutsche Bundesbank continues a series of publications of coins and banknotes from the collection of its *Geldmuseum*. This book dealing with the medieval period is the second in a series of three on gold coinage, following on from the one on ancient gold coins published in 1980, and covering the period from the ninth to the beginning of the sixteenth century. While the starting point is set naturally by the continuation from the previous volume, the end is based on developments in Germany. These are characterised by the superseding of the Rhenish Gulden by a large silver coin (the Taler); also by the gradual dissolution of the coinage unions typical of the late Middle Ages, above all the Rhenish Union after 1515, and the emergence of new principles of organisation. For the Byzantine and Islamic areas the chronological limit is the conquest of the individual countries by the Ottoman Turks.

The geographical range roughly corresponds to that of the first volume: it comprises the Old World with the Mediterranean at its centre, i.e. the European states, the northern half of Africa, and western Asia as far as India.

The gold coins are illustrated enlarged on 67 colour plates, each accompanied by an explanatory text. Primarily, we have selected coins from our museum which were either important for the development of monetary relations, or especially interesting historically or on account of their design; rarity and value were not taken into consideration.

The chronologically-arranged coins of the Christian states of Europe are preceded by special groups of Byzantine and Islamic coins. Additionally, three types of gold coin which were important for German coinage history in the late Middle Ages, and whose identity or similarity of design only permits colour illustrations of a few, are described and illustrated by a number of examples in an Appendix.

We would like to thank Nicholas Lowick of the British Museum and Hussam Saghir of the Orientalische Seminar of the Johann Wolfgang Goethe University in Frankfurt for their help with the identification and checking of the Islamic coins.

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Frankfurt am Main, December 1982

## THE HISTORY OF GOLD COINAGE IN THE MIDDLE AGES

In 1426 Conrad of Weinsberg, hereditary chancellor of the German Empire, commented, in an exhaustive memorandum on the improvement of the currency in Germany: "*nota bene*, that the traveller needing to maintain himself always needs gold". This was meant literally, since gold coinage had come to be accepted universally, and unlike the small silver coinages, whose currency was merely local, it did not have to be constantly exchanged. Weinsberg's shrewd observation, however, was not valid everywhere in the Old World at the same time during the period under consideration here, from c. AD 800 to the beginning of the sixteenth century. On the contrary, gold was of very varied significance as a coinage metal at different places and times. While in some countries gold coinage dominated the exchanges for centuries, in others it did not exist at all. In the course of a few centuries, changing economic and political conditions reversed this relationship almost completely. It therefore seems appropriate to deal with these regions separately, following the same sequence as the Plates.

## THE BYZANTINE EMPIRE

Byzantium used gold for its currency from its earliest period. For several centuries silver played either a subordinate role, or none at all. Copper coins were used for small change; occasionally these contained some silver, in which case the alloy is described as billon.

As previously, the standard gold coin of the Byzantine Empire was the solidus, weighing 4.5 g and with a fineness of 980/1000, which had been introduced by Constantine the Great at the beginning of the fourth century AD (cf. Vol. I, Plate 49). Its Greek name was *nomisma*, which simply meant coin. Solidi were struck in such huge numbers that even those of emperors whose reigns were short are fairly common today (for example those of the Empresses Irene and Theodora, Plates 1 and 3). With a value which was unchanged for centuries and a steady output, the solidus became an international trading coin, as it were "the dollar of

the Middle Ages". This certainly holds true for the earlier centuries, but it later acquired competition in the form of the Islamic dinar.

In the mid-tenth century, a new Byzantine gold coin, the tetarteron, was introduced alongside the solidus, perhaps to match the dinar of Fatimid Egypt. It was only slightly lighter than the solidus and had to be distinguished from it by its appearance, since neither Byzantine coin bore a mark of value. Since the difference in weight was so small, the solidus was struck thinner and with a somewhat greater diameter. The outer rim remained unstruck, since the design on the dies was not enlarged correspondingly (Plate 3). Moreover, from the eleventh century, solidi were struck in a cup-shaped form, to distinguish them more easily from the lighter tetarteron (Plates 4 ff.). The new name of the solidus, which was altered in size but not in value, is not clear, but recent scholarship has generally agreed to call it (nomisma) histamenon or stamenon, which means "standard".

After the death in 1025 of the Emperor Basil II, under whom Byzantium had reached its peak, both gold coins were gradually reduced in fineness. Maladministration, and defeat by the Seljuks, which led to the loss of large areas of Asia Minor, saw the gold coinage sink temporarily to a fineness of c. 300/1000, i.e. to an electrum coinage (electrum being a gold alloy containing large amounts of silver). Alexius I reformed the coinage in 1092 and introduced a new stabilised gold coin, whose weight was the same as the histamenon, but whose fineness was set somewhat lower, at 833–875/1000 (20–21 carats). In contrast to the high-silver-content pre-reform coins, this was called (nomisma) hyperpyron: "excessively fine" or "refined by fire", although it was less fine than the old solidus.

Higher denominations than the solidus and its successors, the histamenon and hyperpyron, were not produced in Byzantium except as presentation-pieces. Hence the sources often quote larger amounts in pounds, the pound being equivalent to 72 solidi. It is possible that sealed purses were produced at the mint containing fixed sums in pounds and marked with a description of their contents. This may, however, have been undertaken by merchants or bankers. We come across sealed purses of this type in both illustrations and written sources. Bishop Luitprand of Cremona, ambassador of the German Emperor Otto I, reported from Constantinople in 968 that the highest officers of the state received their salaries in sealed purses, with their contents marked on the outside. Larger pay-

ments in this form will not have been restricted to isolated cases, if only on practical grounds. For instance Count Bohemund, prince of Antioch (a vassal of the Byzantine emperor), certainly received his annual salary of 200 litrai or 14,400 solidi in sealed purses, not in single gold pieces. The tributes which the Byzantine emperor paid to opponents and allies may similarly have been paid in this manner.

The conquest and sack of Constantinople by the crusaders supported by Venice in 1204 brought to an end the production of gold coinage in the old capital, hitherto the most important gold mint of the empire. The Greek tradition of Byzantium was continued by the Balkan empire of Thessalonika and the empire of Nicaea in Asia Minor, which alone issued gold coinage, the cup-shaped hyperpyra. The identity of the names of some of the Nicaean rulers, such as John, with those of earlier Byzantine emperors means that it is not always easy to ascribe the coins to an individual ruler (Plate 7). The most important mint of this state was Magnesia on the river Hermos, which was sufficiently far not only from the Seljuks of eastern Asia Minor but also from the Latin rulers of Constantinople, and therefore also housed the treasury. Gold was certainly no longer coined in its former amounts: the wealth of Byzantium, which so dazzled the crusaders who conquered the imperial capital, was a thing of the past, although gold coins – albeit mostly of a very poor standard – continued to be struck until the middle of the fourteenth century. The Florentine merchant Pegolotti in his list compiled at the turn of the fourteenth century mentioned twelve different types of debased hyperpyra. Alongside copper, silver once again assumed a greater importance as a coinage metal, until it eventually replaced gold altogether. Meanwhile, in the eastern Mediterranean the role of Byzantine gold as an international trading currency had been taken over by the Islamic dinar.

## THE ISLAMIC STATES

The dinar, the standard medieval Islamic gold coin, took its name from the denarius aureus of the Roman Empire, and took its standard (and at first also its design) from the solidus of the Byzantine Emperor Heraclius (see Vol. I, Plate 63). It

weighed 4.25 g and was virtually pure gold. The first pieces appeared about sixty years after Mohammad's death, under the Caliphs of the Umayyad dynasty around AD 690. Dinars with purely Arabic designs were introduced a little later by the reform of Abd-al-Malik bin Marwan in AD 696/697 (77 Hijra). The reckoning of dates according to the Hijra (Mohammad's "exodus" from Mecca to Medina), which started from the summer of AD 622, is also used for the dates on the coinage.

Islam spread until eventually it stretched from India in the east through Arabia and North Africa to Spain. Its great geographical extent led to a weakening of central power under the Abbasids: from about AD 750 there arose independent states with autonomous dynasties, some of which did not acknowledge even the nominal (i.e. religious) sovereignty of the Caliphs in Baghdad. The production of gold coinage was originally a prerogative of the Caliphs, and had been carried out by the Caliphs themselves or in their names. The independence won by the seceding areas mostly led rapidly to the issue of gold coinage in their own names.

An exception to this is the Spanish-Moorish area under the Umayyads. Here gold coinage, apart from a few issues in the first half of the eighth century, was not again instituted until the middle of the tenth century with the proclamation of the Western Caliphate. Gold became important as a coinage metal under the Almoravids (Plate 10), whose conquest of the western trans-Saharan caravan route made available major deposits. Their gold coinage and that of the following Almohads consequently became significant in circulation beyond their own territories in the Mediterranean region. Not only did it serve as the raw material for the Fatimid dinars in Egypt (cf. Plate 16); it also penetrated into Christian Europe. Even a Chinese source from 1178 mentions Almoravid gold coins. The Almohads (Plate 11) for the first time ceased to state the value on the coins. They issued several denominations in gold, whose precise Arabic names are not known to us. The Spaniards called the heavier pieces *dobla*.

The original standard of the dinar could not be maintained indefinitely everywhere in the Islamic area. Differences in weight, both above and below, soon appeared, and were sometimes so great that individual pieces were presumably no longer counted, but must have been weighed out. The coins were once again becoming bullion. This applies in our examples to the Yemen (Plate 9), but

especially to Egypt under the Ayyubids in the twelfth and thirteenth centuries (Plate 13). The succeeding Mamluks gave up including the denomination in the inscriptions, probably for this reason (Plate 14), as had the Almohads. In contrast to the weight, the fineness did not undergo such drastic fluctuations. In this respect the western issues, which were mostly well over 900/1000, were better in standard than those of the eastern states (Plate 12).

Political and economic changes during the twelfth and thirteenth centuries displaced Islamic gold from its important position in currency. In Spain and North Africa, following the fall of the Almohads in AD 1269, there remained only unimportant minor kingdoms, while in the east the Seljuks pushed forward. The latter, especially in Asia Minor, mainly used copper as a coinage metal. Baghdad was completely destroyed by the Mongol army in 1258. In Egypt and Syria, the last centre of Islamic power, the financial stresses of the crusades were among the reasons for conversion to a silver standard. This development was instituted under the Ayyubids and continued by the Mamluks. An attempt by Sultan Faraj to reintroduce the gold standard to his territory in 804 Hijra (AD 1401) was unsuccessful. A second coinage reform in 810/811 Hijra (AD 1408–9) brought a new gold coin, based on the Venetian *zecchino*, which was struck until the conquest of Egypt by the Ottomans in 1517.

#### THE CHRISTIAN STATES BEFORE 1250

Apart from the adoption of some elements of their designs, the Byzantine and Islamic gold coinages had little influence on the monetary systems of the Christian European states north of the Alps. From the Carolingian period a pure silver currency was dominant, with a single monetary unit, the *denar* or penny; the *solidus* was solely a unit of account of twelve pence or in some areas (for instance Bavaria) of 30 pence. The gold coinages of the Mediterranean lands were of course known and named after their origins "bezant" or "mancus" – which in Arabic signified struck coinage – and were valued at 30 or 40 pence. They were imported as gifts through diplomatic relations, such as existed with Byzantium as early as the time of Charlemagne; likewise as loot, for instance from the Avar campaigns of

the end of the eighth century and later through the crusaders. The sale of slaves to the Arabs also presumably brought in gold. But gold coins evidently were not used in monetary exchanges: medieval coin-finds in Germany contain very few specimens of Islamic and Byzantine gold coins – of the latter we only know of two *solidi*, both reworked as jewellery. In France a somewhat greater number of west Islamic gold coins has been found, predominantly in the south.

Amongst the sporadic gold issues, which were principally silver types struck in gold for ceremonial purposes, that of the Carolingian Emperor Louis the Pious stands out (Plate 15). Indeed, from surviving specimens, it was produced in greater numbers than all of the others, but its character suggests a representational issue, which was much imitated, probably in Friesland, though opinion is not yet united on this point. Even if gold was not required for trade, the metal nevertheless found other uses, as we see from cult objects (for instance the great reliquaries), royal insignia and jewellery.

The situation in those European countries bordering the Mediterranean which stood in direct contact with Byzantium and the Islamic countries was completely different. In Italy, gold coinage had never ceased: the Lombards (see Vol. I, Plate 72) and the Byzantine emperors had produced coinage in their possessions in the southern half of the peninsula, and the Arabs in Sicily. In these regions, the Normans continued the issue of gold coins of Arabic type, striking the  $\frac{1}{4}$ -*dinar*, or *tari* (Plate 17). The Christian states of the Iberian peninsula, apart from the first gold coins of Barcelona in the mid-eleventh century, began to issue gold with the progressive reconquest of the land by the Catholic kings in the eighties of the twelfth century. They followed the Islamic types which were familiar there, partially adopting their Arabic legends, though with a Christian text; their name *morabitino* derives from Almoravid (*al murabitun*) (Plates 18 and 19). Some coins of the crusader states of the Near East imitated not merely the appearance but also the inscriptions of their Arab prototypes (Plate 16), until following Papal pressure the foreign inscriptions were given a Christian message.

In the thirteenth century, the monetary relations between the Islamic world and Europe began to change. There was already in the twelfth century an increasing outflow of silver from Europe to North Africa and the Levant, on the one hand because of the higher price of silver in these areas and the profits to be had from

this, and on the other in connection with the crusades and subsidies to crusader states. In the other direction, gold came to Europe especially from West Africa, mainly through Genoese merchants, which together with the discovery of European deposits led to the beginning of a “period of gold”. This was ushered in by one of the most beautiful and interesting medieval gold coins, whose design was anything but medieval: the *Augustale* struck for Frederick II of Hohenstaufen in his Sicilian kingdom (Plate 20). With its design harking back to antique Roman prototypes and value equal to contemporary Byzantine and Islamic gold coins, the significance of the *Augustale* was more fundamental than its immediate impact on the exchanges.

#### EUROPE IN THE LATE MIDDLE AGES

The city-states of Genoa and Florence issued their own gold coinage for the first time in 1252, and Venice followed in 1284. This marked the beginning of a new phase of European coinage. The timing was surely also influenced by the death of the Staufer Emperor Frederick II in 1250, since gold coinage had since ancient times been an imperial prerogative and therefore no one dared to begin during the emperor's lifetime.

The progenitor of many European gold coins was the *fiorino d'oro* or *florenus aureus* of Florence (Plate 21). It represented the value of the pound of account there (*libra*) and thus the amount of silver that was contained in 240 Florentine pence. The intermediate stage was the *shilling* (*soldo*), worth 12 pence; twenty *shillings* were worth one florin. It was struck in Florence from 1182 (?) as the *fiorino d'argento*. The gold coins thus weighed 3.53 g and were struck from gold which was as pure as could be made. The standard for the silver coins has not survived, so the ratio of the value of the two metals cannot be determined precisely; it was about 1:10.5. This “ideal” relationship: 1 gold coin = 20 shillings = 240 pence, which corresponded to the Carolingian system of account, could not be retained for long. On the one hand the relationship between the two noble metals did not remain constant, and on the other the silver coinage was debased more rapidly than the gold, insofar as the latter changed at all in coinage standard. The florin

was apparently produced in large numbers from the outset: annual outputs of 350,000–400,000 pieces are recorded from the fourteenth century. It engendered a series of further gold coinages, at first in Italy, of which the most important was that of Venice, which was worth the same as the florin. Under the name ducat, this became one of the most popular gold coins ever (Plate 26).

Three quarters of a century passed before these Italian developments reached central Europe. Here, besides trade, the Church played a significant role, since it sought to receive the church tithes in gold, which was easier to transport. But in Salzburg, for instance, this brought in only eight florins in 1283, and in 1318 the Papal tax-collector had to transport the silver he obtained to Venice in order to exchange it into gold. It was primarily Florentine gold coins that pushed northwards, as may be seen from fourteenth-century coin finds. The first hoard in which they occur was buried near Calais after 1305, while the earliest hoard from Germany with gold coins comes from the Judengasse (ghetto) in Limburg an der Lahn. It contained 136 gold coins, 84 of them from Florence, and was buried some time after 1338. Besides the Florentine gold coins, the find already included some pieces which exactly copied the Florentine prototypes, but whose legends and privy-marks served to identify their real issuers. Such imitation of important and popular coins was one of the characteristic monetary phenomena of the Middle Ages. In the fourteenth century it was the florin which was imitated by a great number of minting authorities from Spain through France, the Netherlands and Germany to Hungary, and this type thus became one of the most popular trading coins throughout Europe. A series of these imitations is illustrated in section F of the Appendix.

These imitations were started in 1322 by the Pope in exile at Avignon (F 2), whose example was soon followed by neighbouring authorities (F 3 and 4). A further centre from 1330 was the Netherlands, whose influence spread to the east, where a great number of florin imitations appeared from 1340, especially on the Rhine (F 6–17). It was not only the great princes such as the archbishops of Cologne, Trier and Mainz who participated in this, but also temporarily the rulers of smaller territories, such as the lords of Eppstein, Hammerstein, Heid and Bleid, and others. These established the florin on the Rhine, so that it subsequently became (as the Rhenish Gulden) the principal trade coin of Germany until the sixteenth century.

The most southerly mint was Heidelberg and the most northerly Lübeck, which needed gold coinage for its trade with Flanders and became the first German city to receive a privilege for this.

Alongside this group, which acquired its raw materials exclusively from commerce, there was a second, which had gold mines of its own. To this belonged Hungary, which had the largest gold deposits in Europe and which took up florin production in 1325 (F1), followed by Bohemia. Salzburg and Austria coined Alpine gold (F 21) and the Silesian deposits were exploited from 1345 by the dukes of Liegnitz and Schweidnitz (F 19–20), whose florins appear in numerous west German finds as well as in the earliest gold hoard from Austria, buried around 1349. A temporary shift in the gold: silver ratio in favour of gold from c. 1 : 14 at the beginning of the fourteenth century to over 1 : 20 after 1320 brought considerable gains for the gold coinage of the mining states, but made coining more difficult for the others, who were unable to begin until twenty years later, when the relationship had settled down again at around 1 : 11 to 1 : 12.

As already mentioned, gold coinage was the prerogative of the emperor, so that in principle a special privilege was required for this by the numerous minting authorities in the German Empire, such as was obtained by the Electors through the Golden Bull. However, such a grant cannot be demonstrated for everyone who is known to have produced gold coinage. Some, such as the king of Bohemia, coined on the basis of their absolute power. For others the privilege is lost, while a third group disregarded it altogether. As far as can be deduced from the privileges granted, the German kings sought to bring about a uniform gold coin for the Empire by prescribing the standard of the Florentine florin. This was not especially difficult, since the type had become established on its own and merely required official backing. Against the background of the splintering of the currency system in the German Empire, which contrasted with the situation in the western monarchies, the desire to have at least a uniform gold coinage is quite understandable.

A corresponding attempt with the smallest monetary denomination, the Heller, was made by King Wenceslaus in the Imperial Monetary Statute of 1385, which equated the Gulden with a pound of silver, or 240 Heller. But the German kings did not encourage this development by issues of their own; they hardly produced any gold coins at all throughout the whole fourteenth century. Only a few florins



are known which can be attributed to the German kings (F 6 and 7). Their own political position was no longer sufficiently strong alongside the enormous preponderance of the issues of the Rhenish Electors. Attempts to set up gold coinage in the imperial mints at Frankfurt and Nuremberg were ineffective. Although the Emperor Louis IV issued gold coinage, it was not of the design and value of the florin, but rather of the larger chaise d'or, which recalled French prototypes and permitted a more imposing design (Plate 23). Six of these coins were also included in the aforementioned Limburg find.

In Germany, the gold coinage encountered a monetary system which was still heavily dependent on the penny. Here, as in Italy, intermediate pieces were introduced in silver shortly before or simultaneously with the gold. These were the groats, which represented the accounting unit of the shilling (12 pence). But like the gold coins, the French gros tournois and the Prager Groschen soon spread outwards from their areas of origin.

In western Europe the Florentine florin was unable to succeed in the face of the local gold coinages, which were in part much bigger and heavier than the "small" florin. One particularly popular and much-copied type was the écu d'or, which was introduced in France in 1337. The larger diameter of this coin met the needs of princely display, since it offered sufficient space to depict the ruler in all his majesty (Plates 22, 23, 25, 45). The French coins especially influenced the Netherlands region, above all the county of Flanders, which under Louis de Mâle (1346–1384) alone issued eight different types, mostly imitations of French designs (Plates 33, 34). Annual outputs of several hundred thousand pieces attest to the wealth of this state. The range of types issued in the Netherlands diminished during the fifteenth century under the Burgundian dukes due to their standardisation of the currency system, but the total output remained many times higher than that of German mints (Plates 37, 46, 50, 62), even if it was no longer as great as in the fourteenth century. The securing of access to Flanders as a market for English wool led *inter alia* to the Hundred Years War with France, and with it also to the first large issues of English gold coins, whose design clearly reflects competition with the French issues (Plates 32, 52).

While the florin circulated to the north, the Venetian ducat followed the trade of the Adriatic metropolis in the eastern Mediterranean, where it not only became

the dominant means of exchange but was also extensively imitated (Plate 29). It is known in the literature as the Euro-dollar of the Near East in the fourteenth and fifteenth centuries, in succession to the Byzantine solidus and the Islamic dinar. For a time Venice sent about 300,000 ducats or c. 1000 kg of gold to the Levant every year. This explains why Venetian ducats are so rare in European coin-finds. In Italy many issuers adjusted their gold coinages to the value of the ducat, which became the principal gold coin there (Plates 24, 27, 49, 61). By contrast, the ducat was not introduced to Spain until the end of the fifteenth century. Until then, doblas continued to be struck (Plates 30, 47).

In addition, it was Hungary's wealth in gold that helped the ducat to predominate over the Gulden in sixteenth-century Europe. Here the consistent high quality of her gold coinage, even in unsettled times, was decisive (Plate 36).

From the mid-1360s the florin-type with the lily and St. John was gradually given up in the Rhineland, and replaced by individual designs (Appendix, R 1–6), following the early lead of Bohemia (Plate 28). In place of florin, it was now legitimate to use the term "Gulden", although the abbreviation "fl" has been retained to the present, as for instance in modern Dutch currency. At the same time, the change in design indicated that the Gulden was no longer considered to be an imported trade currency, but had become incorporated into the domestic monetary system. The Rhenish Electors, who made the Gulden the basis of their joint monetary politics in the Rhenish Monetary Union, were decisive here.

On 26 November 1385, the prince-archbishops of Mainz, Trier and Cologne, together with the Count Palatine of the Rhine, combined for the first time to regulate their currency in common, in order to create a stable and durable system in their area. This treaty arose from the peace-, toll-, passage- and coinage-alliances which the religious and secular rulers of the middle and lower Rhine had often concluded with each other during the previous decades. It was repeatedly renewed through subsequent treaties. The Gulden (the golden penny) was declared to be the coin of the Union. Uniform designs for the obverse and reverse and the coinage standard to be maintained were laid down for the four members (see Appendix, section R). The slightly modified treaty of 1386 prescribed a fineness of 23 carats (958/1000) and a weight of 3.54 g, or 66 pieces to the Cologne Mark of 233.856 g, representing a slight reduction against the florin-types. The relation-

ship with the silver coinage was set at one Gulden to twenty Weisspfennige, or a gold : silver ratio of 1 : 10.76.

The treaty did not embrace the full extent of the four territories, but left out large parts. The area of currency extended down the Rhine to Neuss and up the river to Worms, up the river Main to Höchst and the Mosel to Cochem. Parts of the territories which were not situated on the Rhine were excluded. However, treaty-Gulden were allowed to be issued from mints in these areas, such as Trier, Heidelberg and the Mainz mint of Udenheim, south of Speyer. As well as the four permanent partners, neighbouring rulers were included as members in individual treaties. The twenty-fifth and last treaty of October 1515, with ten partners in all, brought the Electoral Rhenish Monetary Union to its greatest extent, stretching from the Alsace border to the Netherlands, but at the same time it heralded its end.

As can be seen from the map at the end of this book, the Electoral mints of the treaty area all lay on the rivers Rhine and Main, concentrated around Cologne and the knee of the Rhine between Oberwesel and Oppenheim. As the swiftest link between north and south, the navigable Rhine was the busiest waterway in central Europe. Mints and toll-booths were located at the same place (for instance Bonn, Coblenz, Oberwesel, Bacharach and Oppenheim) or close to one another, such as Bingen and Ehrenfels. The compulsory exchange enforced at these toll-houses provided the metal needed by the mints, since there were no natural deposits of gold. The toll-points in turn required mints to meet the needs of the large transactions there.

A consequence of the inclusion of the Gulden in the Rhenish Monetary Union was that its standard, both in weight and fineness, did not remain stable, but gradually dropped. While in 1400 it stood at a weight of 3.54 g and a fineness of 22.5 carats or 937/1000, by 1490 it had sunk to 3.34 g and 18.6 carats or 770/1000, by today's standards a modest decline. The individual steps in this development may be inferred from section R of the Appendix. The issued Gulden did not always achieve the prescribed standard, but frequently remained below it, partly due to insufficient technical expertise and on other occasions as a result of fraudulent manipulations by mintmasters seeking to maximise the profits conceded to them. The lowering of the fineness resulted from the universal view that the coinage should yield a profit, which was only possible if the purchase price of gold

(primarily in the form of foreign coin) and the cost of manufacture were balanced by reducing the gold content of the coinage. Only the owners of gold mines were in a better position, since they could themselves set the price of the metal.

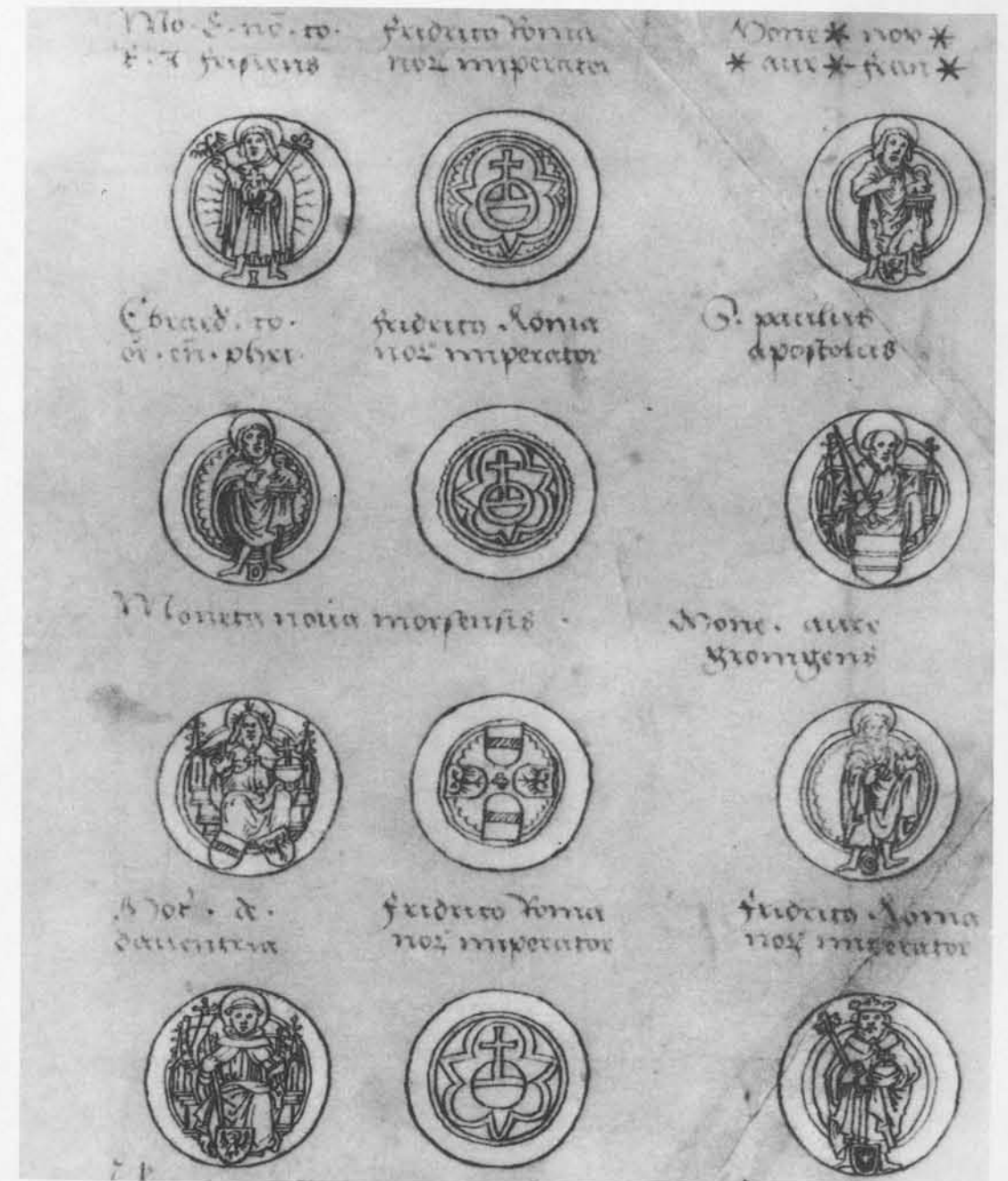
The monetary union of the Rhenish Electors had made the Gulden (now known as the "Rhenish Gulden", abbreviated fl. Rh) into the principal trading coin in Germany by the turn of the fifteenth century; other issuers, even the German kings, had to adjust their coinages to match it, if they wished them to be accepted in general circulation. The Empire was not very active in this field during the fourteenth century, but following several unsuccessful attempts under King Rupert (including the first imperial gold coinage law) at the beginning of the fifteenth century, a new energetic effort to introduce imperial gold coinage was made under King Sigmund in 1418/1419. The main reason for this was economic rather than political, since flourishing coinage issues produced good profits, urgently needed by the king, who was in permanent financial difficulties. Behind these undertakings was a well-laid plan, probably the work of Conrad of Weinsberg, who from 1411 was hereditary chancellor of the Empire and later intimate at the royal court. The centre of the royal gold coinage was to be the imperial city of Frankfurt am Main (where there had long been a royal mint), on account of its fairs and the concentration of the precious-metal trade there. In addition, mints were projected in Nördlingen, Cologne, Aachen, Dortmund, Mülheim am Rhein and Basle, but not all of these became active (Appendix, A 1-15). The new royal Gulden were given a common design, consisting of a large orb (Reichsapfel) on one side (Plate 51 and Appendix, A 1-15). Their issue started well: at Frankfurt, which through its fairs obtained sufficient gold, about 86,000 of the new Gulden were struck at the autumn fair of 1418 alone, as we learn from the surviving accounts.

The Electors soon introduced counter-measures against this new competition, often extending to a ban on the royal coinage in their own areas. Thus throughout the fifteenth century, the Rhenish Electors used all methods to carry on a permanent war against the royal Apfelgulden, as they had meanwhile become universally known. The mint at Frankfurt am Main was particularly troublesome to the Electors since, apart from its economic importance, it was also situated right next to their own territories. Nevertheless the Apfelgulden were able to hold their own alongside the Gulden of the Rhenish Electors and were being counterfeited at

Reckheim on the Maas by 1427, which confirms their good quality, which was often unjustifiably questioned by the Electors. The position of the royal issuer with respect to his Apfelgulden was, however, weak relative to the Electors. Direct royal control of their manufacture was soon withdrawn, since the mints were pawned because of the king's permanent cash crisis, and were never redeemed. In 1431 Frankfurt, Nördlingen and Basle came into the hands of Conrad of Weinsberg, initiator of the royal gold coinage, who bequeathed them to his children, until by the beginning of the sixteenth century these mints gradually ceased activity altogether.

During the fifteenth century, the German kings awarded a whole series of privileges for gold coinage, in which the Reichsapfel design was prescribed. Amongst these were not only imperial cities, which was natural, but also religious and secular princes, and even the Elector of Saxony, whose Rhenish colleagues were the principal opponents of the Apfelgulden (Plate 59 and Appendix, A 16–23). Their issues continued in part until the seventeenth century. Nuremberg was the only royal mint to use the king as the design of its Gulden (Plate 41).

As gold became scarcer during the fifteenth century, the output of gold coinage gradually diminished, and this is also reflected in the falling fineness of the German Gulden. Older gold coins were frequently used as raw material; since their fineness was higher, they could be recoinied profitably. Under an agreement made in 1430 between a number of German mintmasters, the purchase prices of gold coins for recoining were fixed; old French and English coins headed the list, as well as the hundred-year-old chaises d'or of the Emperor Louis IV (Plate 23), which were apparently still to be found. Likewise, Hungarian ducats seem to have been popular as raw material, since we find them only occasionally in hoards. Many gold coins from the Netherlands area were of particularly poor quality, but often sought through their design to resemble a (better) Rhenish Gulden (Plate 39). However, coins other than the Netherlands Gulden provided reasons for constant grievances on the part of cities that required a stable currency for their trade. They therefore repeatedly assessed the various circulating coin-types, and made their results known to their townsfolk through notices at the town hall or through printed tables. One such illustrated warning on parchment against poor Gulden, published by the city of Frankfurt in 1497, is shown opposite. The coin at the top



A warning against poor Netherlandish and other Gulden  
Placard, handwritten on parchment  
Frankfurt am Main 1497  
Extract, actual size

The placard was cut up when it was no longer current. The cuts may be seen here in the upper and lower right-hand corners.

left may be found as number A 17 in the Appendix. The fineness ascertained for this piece confirms the correctness of the Frankfurt measures. As an indication of their value, Gulden were occasionally countermarked with small supplementary dies (Plate 43).

Towards the end of the fifteenth century the number of authorities striking gold coinage increased, above all in the German Empire, but for most of these the need for display was the prime motive, since their issues were often so small as to have no economic significance (Plates 55, 58, 60, 63–65, 67). The issue of Gulden in the Tyrol was more extensive, financed by the Schwaz silver, from which the first “silver Gulden”, which superseded the “Goldgulden”, were eventually struck. The equivalence of value of the two Gulden was given visible expression by the transfer of the obverse design of the gold coins to the silver. As well as in the Tyrol, new silver deposits were discovered in Saxony, Bohemia and the Harz, to which were soon added the first imports from the New World, all of which procured for the silver Gulden its dominant position in monetary exchange. As the Taler, it set out on its triumphant worldwide advance.

## COINAGE DESIGN

The design in its totality turns a metal disc or blank from bullion into a coin: it is the guarantee of the value of a coin and an identifying mark of its issuer. In it the legitimate issuing authority makes itself known, and provides information it considers important and necessary. This is done through illustration and inscription, or simply through one of the two. All of the coins described in this volume are struck on both sides. The metal discs and the designs are as a rule of the same size, so that the whole surface is filled right to the edge, which at the same time acts as a protection against manipulation, for instance by filing or clipping. The design is thus completed towards the outside by a significant border. However, it may occur that the die is smaller than the metal disc, or *vice versa* (Plates 3–7, 12, 14). As well as the issuer, the two religions, Christianity and Islam, with few exceptions occupy a dominant place in the coinage design: frequently a whole side is devoted to one of them. In contrast, statements such as the value or the date, which today are a matter of course, are very seldom found in the areas of Christian culture; on the other hand, the place of production is often named. The engraver gave artistic expression in the contemporary style, according to his ability, to the official character of a coin design.

Byzantine coins have as their basic type a depiction of Christ on the obverse, with the reigning emperor on the reverse. The solidus of Irene (Plate 1), struck during the continuing controversy over the veneration of images, is an exception, showing an identical bust of the ruler on both sides. Christus Pantokrator, introduced on the coinage of Justinian II at the end of the seventh century (cf. Vol. I, Plate 66), was represented as a bust, or enthroned or standing, raising his right hand in blessing and holding the Gospels in his left (Plates 2–7). The throne may take various forms, such as that with a lyre-shaped back or those resembling broad benches (Plates 2, 5 and 7). The emperor may appear as a bust, a half-length or full-length figure, alone or together with his son or the Virgin Mary (Plates 2–7). The depiction represents the emperor himself, but a portrait-likeness is not supplied; merely the size and type of beard signify differences from person to person. The depictions remain impersonal, but render prominent the holder of the office, with the

trappings of his rule – crown, robe and attributes. The coins could not be ascribed unambiguously, and emperors and empresses could hardly be distinguished on the basis of appearance, were they not also identified by name. Where two persons are shown (Plates 2, 3 and 5), the central axis is defined by a long patriarchal cross or a labarum, to either side of which the figures are depicted as mirror-images in their dress, posture and attributes. The figures are always represented from the front, not in profile. The strong symmetry of the design and the frontal depiction lend to the whole a certain rigid dignity, which is again encountered as an important feature of Byzantine influence on the bracteates of the Hohenstaufen period.

The inscriptions – partly in Latin and partly in Greek – give the names and titles of the emperor or empress. At first they follow the curve of the rim, but on later hyperpyra they are arranged in columnar form in the right and left fields (Plates 6 and 7). Christ and the Virgin Mary are now and then identified only by single letters. Latin and Greek letters are mixed, sometimes cursive, several of them in addition apparently misunderstood by illiterate die-engravers. With the cup-shaped form of the gold coins, the design can often no longer be made out in all its parts, since it becomes unclear or blurred towards the curved edge. The design and inscription are always surrounded by circles of pellets.

Islamic gold coins are fundamentally distinguished from those of the Christian cultural tradition by their exclusive use of inscriptions: occasional pictorial designs are merely temporary departures from this rule (Plate 12). The decisive step towards an autonomous coinage design was taken with the reform of the Umayyad Caliph Abd-al-Malik bin Marwan. This brought the division into a horizontal inscription in the field and continuous circular legends whose beginning was not always placed at the top of the design. The script itself is read from right to left, and there are no capital letters. Pellets or groups of pellets as distinguishing marks of particular letters are frequently dispensed with on the coins, or incorporated into the letters so as to become hardly detectable.

A fundamental part of the text consists of religious formulae, of which the most important is the basic text on God and his prophet Mohammad, known as the Kalimah (the Word). As a rule, it denotes the obverse of the coin and is frequently found in the field. Here also appears the name of the issuer and his secular and reli-

gious titles, divided between the two sides; the Fatimids (Plate 16) are an exception. On the dinars of the Abbasid Caliphs (Plates 8 and 9) the Kalimah is divided between the fields of the two sides; the saying “there is no god but God” on the obverse is extended by the addition of “he has no companions”, which accentuates the uniqueness of God. The text on Mohammad on the reverse is taken from the beginning of Sura 48, verse 29. The religious texts of the legends also originate from the Koran; there is no hard-and-fast rule for their placing on obverse or reverse. Only on the dinars of the Almoravids and the Almohads (Plates 10 and 11) is the inscription “Mohammad is the prophet of God, sent by him with guidance and the religion of truth...” (Sura 9,33 or Sura 48,28) at first dispensed with and replaced by other Koranic quotations (Sura 3,79 and Sura 2,158); both are issues of rulers belonging to sectarian movements arising among the Berbers of the High Atlas.

There are also in general in the legends indications of denomination and the place and date of issue, in which numbers are always expressed as letters. On Mamluk issues (Plate 14), which only bear inscriptions running horizontally, the statements of place and date are divided between well-separated lines; as with the Almohads, the statement of the denomination is absent. The usual introduction “In the name of God”, the opening words of the so-called Bismillah, is also absent. The full Bismillah, which opens each Sura, appears on Plates 11, 13 and 15. Dates are expressed according to the so-called Hijra. This system of dating was introduced under the second Caliph, Omar (AD 634–641), and begins with 16 July 622, the fictitious date of Mohammad’s temporary migration from Mecca to Medina. In addition, it is based on the lunar year, which is eleven days shorter and thus does not coincide in length with the Christian calendar.

At first the oldest script, the angular Kufi, was employed. Its name refers to the city of Kufa in Iraq, which was declared capital of the region by the aforementioned Caliph Omar, in place of Ctesiphon. Later rulers went over to the more rounded Naskh (Plate 13) or to Thuluth (Plate 11). In the names of the issuers, the word Ibn (son) was occasionally arbitrarily altered by the die-engravers to Bin (descendant) by omission of the first letter; without actually being false, this did not convey the fact with the same precision (Plates 10, 11, 14). This form of the name is also found on the coins of Alfonso VIII of Castile (Plate 18).

Of the European coins, the Venetian ducat and its eastern Mediterranean imitations were influenced by Byzantine coin designs, as is shown by the investiture scene with its prominent central axis and the depiction of Christ (Plates 26, 29), while Islamic influence affected the south Italian and Spanish coinages (Plates 17, 18). On the other hand, the profile portrait of Louis the Pious is related to late Roman Imperial portraits (Plate 15). The bust of Frederick II on the Augustale, viewed likewise from the side, and the eagle with their high and graphic relief similarly recall Augustan prototypes (Plate 20). The question of a portrait-likeness is controversial in both cases.

As a rule, one side of late medieval coins is devoted to the issuer and the other to religious motifs: deviations from the norm are characteristic of the end of this period (Plates 57, 58, 64). Within this pattern we meet with numerous variants. The western European gold coins of large diameter contrast with the smaller florins, ducats and Gulden of Italy and the German Empire, whose stylistic development may be traced in sections F, R and A of the Appendix. Since it would take far too long to explain all forms in detail, a few general aspects are discussed here.

The issuer is not portrayed as a likeness, but as a type, characterised by signs of his rule, such as dress, headgear and attributes. For example, the king usually wears a long robe, a mantle and crown, and carries a sceptre and imperial orb. Or he may appear in full armour with a raised sword, like the secular princes. Now and then the reproduction is so detailed that (for example) an ermine cloak may easily be recognised (Plate 34). A standing or enthroned figure of the ruler is preferred. A profile head is only encountered as an exception (Plate 30), and busts and half-length figures *en face* are also quite rare (Plates 28, 32, 41, 52). Western European coins fill in the free space with Gothic architecture, such as frames (Plates 22, 34) or a throne (Plate 23) and an estrade (Plate 33). The king is also depicted in a tent (Plate 25) or on horseback like other princes (Plates 31, 46). The ruler standing in a high-sided ship typifies the English noble (Plates 32, 52).

Unlike the ancient and Byzantine custom, the figure of the ruler is not accompanied by other persons such as members of his family. Several persons are hardly ever found on a single side: the annunciation scene (Plate 44) and the duke kneeling before the Virgin Mary (Plate 65) should be seen as exceptions.

The central motif on the reverse of French coins is always the Christian cross, but as on Netherlandish and English issues it becomes increasingly lost in ornament, until the Christian symbol can hardly be recognised, but resembles the elaborate rose windows of Gothic cathedrals.

The most commonly encountered saint is John the Baptist, the use of whose image (taken from the florin) became the trademark of the florin imitations and a series of Gulden (Plate 21; Appendix, F and R). Depictions of Mary and of Christ are conspicuously rare (Plates 60, 65, 53): the local patron saints are found more frequently on coins of both religious and secular territories.

Heraldry took its place on the coinage with the use of the Florentine lily and the Genoan city-gate as punning symbols. Small coats of arms were added to the anonymous effigies of the coin-issuers during the fourteenth century. They served for recognition, as did the privy-marks on the florin imitations and Gulden. Heraldic beasts such as the Flanders lion (Plates 33, 50) and the respective territorial arms (Plates 36, 44, 48, 49, 60, 65, 67) could take the place of the issuer on the obverse or fill out the reverse design (Plates 28, 46, 50, 58). The issues of religious princes seldom bore their likeness, but always the arms of their foundation or family (Plates 55, 63).

The legends, which were usually separated from the design by an ornamental border, were exclusively in Latin, which would be understood everywhere by the educated. The letters are predominantly Lombardic (Gothic) in form. The legends mention the name and title of the issuer and denote the saint or the city. Round the cross on all French and some Netherlandish coins there is the motto taken from the Easter acclamation: *Christus vincit, Christus regnat, Christus imperat* (Christ conquers, Christ rules, Christ governs). Issues from Flanders also use the words: *Blessed be the name of the Lord* (Plate 37) or *Blessed is he who cometh in the name of the Lord* (Plates 33, 34). Some legends are taken from the Gospels (Plates 32, 40). In place of the normal mint identification, western European coins frequently use a symbol (Plates 44, 45) or a secret mark (Plates 40, 48).

From the late fifteenth century dates on coins, which hitherto occurred only occasionally, became more frequent. However, the decisive innovation at the turn of the sixteenth century lay in the portraits, in which individual features could be recognised (Plates 57, 64) and which announced the coming of the Renaissance.

## SOURCES OF GOLD

The much-sought-after yellow metal was found in all three of the continents of the Old World, both as vein-gold and as gold which was more easily obtained by washing from alluvial placer-deposits. In the Middle Ages the principal supplier was initially the African continent: besides the East African deposits of Nubia and Ethiopia, already known since antiquity, there were substantially greater ones in West Africa. On the upper courses of the rivers Niger and Senegal in the present-day states of Guinea and Mali and in Ghana on the Gold Coast there were many extensive deposits, mainly placer-deposits. The gold was transported through the Sahara northward to the Mediterranean and eastward to Egypt by the camel caravans. The departure points were the cities of Audaghust in present-day Mauretania and Timbuctoo in Mali, which lay to the north of the goldfields themselves. The western trans-Saharan route ended in the north at Sijilmassa in southern Morocco, which no longer exists. The Almoravids set up a mint there when they got some of the caravan routes into their hands around the middle of the eleventh century.

The West African gold not only fed the gold coinages of the Almoravids and other Arab states, but also found its way in increasing quantities to Europe, and created the basis for the latter's gold issues. An interruption of the African trade routes in the fourteenth century caused a temporary rise in the price of gold. A century later, the Portuguese gained access to West Africa by sea and brought the gold by ship to continental Europe. In the eastern Mediterranean area, Arabian deposits of gold known since antiquity (such as Wadi Kanauna in the Yemen) were also worked during the Middle Ages and must have supplied more than local needs. The Byzantine Empire probably acquired gold from here as well as East Africa, in addition to that from the Caucasus, the Crimea and the Urals, insofar as it did not obtain metal from its own mines.

The failure of the West African gold was balanced by the deposits of north Hungary, the largest in Europe, in whose exploitation German miners played an important part. These areas belong today to Czechoslovakia. Accurate figures for the wealth of these mines are not known, but estimates suggest an annual output

amounting to 420,000–450,000 ducats, or 1,470–1,575 kg of gold, much of which regularly went to Venice. No other European deposits came anywhere near them in size; some significance was achieved by those of southwest Bohemia and those in Silesia at Liegnitz and other places, which enabled the dukes of that name and those of Schweidnitz to issue the above-mentioned florins. The margraves of Brandenburg-Franconia struck Gulden in large numbers from the gold of the Fichtelgebirge at Goldkronach from the second half of the fifteenth century, and the Tauern gold from the eastern Alps was used chiefly by the archbishops of Salzburg. Panned gold from the rivers, especially the Rhine, was also used for coinage, but never in significant quantities.

## THE MANUFACTURE OF COINAGE

We first have sufficient knowledge of the production processes for coinage from the fifteenth century; this depends partly on written sources and partly on pictorial depictions of whole mints, such as that opposite, which begin to appear during this period. Nevertheless much still remains unclear. The processes used in a mint-workshop may best be compared to those of a conventional smithy, which in those days often served as a "coinage-smithy" at the same time. First the material delivered was smelted and alloyed or refined as prescribed. A mint-worker then cast the liquid metal into flat bars, or ingots, which were then hammered out (as in the picture) or pulled between the fixed jaws of a draw-bench to achieve a greater uniformity than was possible by simply hammering. Discs (the blanks) were then cut from the strips with shears, and were adjusted to the correct weight and the required circular shape. The waste from this process was re-used. This process (not shown in the picture) took place in a number of steps, between which the metal was if necessary annealed to keep it workable. The discs thus prepared and cleaned were finally stamped with the coin designs. For this a journeyman placed the disc between two dies engraved with the designs. The lower die was fixed in an anvil, and the upper was positioned by hand and received one or more powerful hammer-blows, which impressed the design on to the relatively soft gold. If the upper die bore no markings indicative of the orientation of the engraving, the obverse and reverse designs could take up any position relative to each other, dependent on the placing of the upper die. The mint at Constantinople, however, seems to have used some such mark, since the positioning of the obverses and reverses was uniform, and opposed, i. e. transposed at 180° to each other.

The mintmaster, as director, was responsible for the whole operation; his status could be very varied, depending on the place and period. In the Byzantine Empire he was a civil servant, integrated in a strict hierarchy, subordinate to the appropriate minister or Logothetes. Beside the permanently employed mintmaster, there worked increasingly in the Middle Ages a contractor, employed for a limited period, who had to deliver an agreed seigniorage to the issuing ruler, and who worked at his own risk. The profit he made from this undertaking depended on his



A medieval mint-workshop  
Illustration from the Spiez Chronicle of Diebold Schilling  
Berne 1486  
Original size: 21 x 20.5 cm

This glimpse of the workshop shows two journeymen on the left. One is hammering long cast metal strips to the thinness necessary for coining. The blanks are then cut from these, using shears. The second journeyman places the blanks on the lower die, which is embedded in a wooden block, positions the upper die by hand and strikes the coins with powerful hammer-blows. The mintmaster sits in the middle and holds out a bowl with finished coins for a group of controllers. In the background is the furnace necessary for smelting the metal, with two pairs of bellows visible.



own skill and efficiency. The decisive factor in this was the favourable purchase of the metal, which mostly fell to the mintmaster, who often also operated as a money-changer and was thus a forerunner of the banker. As shown by the numerous legal proceedings with coinage contractors, the difference between legal profits and illegal profiteering by manipulation of the weight and fineness of the coins was very small. The mintmaster could also be technical director, if he had a relevant occupation such as goldsmith, or purely an entrepreneur who transferred the supervision of production to a "journeyman" while remaining responsible to the issuing authority. Members of the Winterbach family, Peter Gatz, Steffan Scherff and others are known as such entrepreneurs at the imperial mints, who often held several mints on lease at a time. As the issue of gold coinage spread north of the Alps again during the fourteenth century, experienced Italian coinage specialists were fetched, such as members of the Salimbene family to Lübeck, Anastasio Venture to Liegnitz, Balbinus Lombardus to Prague, and to London two Florentines with the anglicised names Kirkyn and Nicholyn.

The number of employees in a mint depended on its size, ranging from perhaps three persons as shown in our picture to as many as several hundred in a large concern such as Constantinople, as may be deduced from the volume of the output alone. On this point, as well as on Byzantine coin production as a whole, the sources are silent. Within a mint, the die-engravers formed an important part of the staff, since the precision of the design and the attractiveness of the coins depended on their artistic and technical abilities. Large mints employed their own die-engravers because of their continual need for new dies. The smaller mints commissioned dies from outside, either from other mints or from goldsmiths and seal-engravers. The Rhenish Electors made use of a common engraver for their joint coinages over a long period. The designs, taken from models, were cut in bronze or (later exclusively) in iron and subsequently hardened. Individual parts of the design such as annulets, pellets, stars and letters were formed by previously-prepared punches, which were struck into the soft metal at the appropriate places. For the cup-shaped Byzantine coins, the engraved areas of the dies must have been concave and convex. But no originals have survived, nor have any of the devices used in the striking. It is reported of the dies for Mamluk dinars, which only bear script, that they were initially engraved in lead, from which clay impressions were

made. These were then baked and cast in bronze, and in the same process acquired stems, also in bronze. Techniques for hardening the dies were still imperfect; they often had only a short life and needed to be renewed frequently – the upper die (which was struck by the hammer) more often than the lower.

Particular attention was paid to checks throughout the manufacturing process, especially where the mint was farmed out to a contractor, who worked for profit and could easily be tempted into illicit manipulations. The test first of all checked the alloy of the smelted metal, which was compared with a trial-piece or "needle", and passed by the tester. Then the weights of individual pieces were checked, by the assayer, using a pair of scales. Nevertheless the permitted tolerance in weight and fineness, the *Remedium*, allowed varying coins to pass into circulation which, while perfectly regular, allowed competitors recourse to appeals and bans if the occasion suited them. Before delivery of the coins, the seigniorage of the ruler was worked out by determining the quantity of coinage produced. This was mainly calculated by the "keeper of the irons", who kept the dies or irons under lock and key, and was only allowed to issue them for coining, to prevent unauthorised use. These various functions became united in the office of warden, which we encounter regularly as the controlling authority from the fifteenth century, albeit with differing duties. To guarantee his independence from the mintmaster, the warden was as a rule not appointed by him, but directly by the ruler or the cities, who thus ensured their direct influence on the quality of the coinage.

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The gold coins illustrated in this volume reflect seven centuries of the history of the Old World. As in antiquity, the Mediterranean was clearly the centre of the economic and cultural developments in which gold coins dominated. Outside the Mediterranean, Europe at first lay at the edge of this development, until its centre of gravity shifted increasingly from east to west and thence northwards. Here too a coinage system with gold at the top of the scale had evolved by the end of the Middle Ages; it originated in Italy, and largely superseded a barter economy, bringing with it the beginnings of a banking system. After the discovery of the New World, it finally spread there as well, but initially precious metal supplies from the New World influenced the economic and financial structure of Europe.

# T H E P L A T E S

*The colour illustrations of Plates 1-67 reproduce the coins at varying scales, each enlarged to between 3 and 6 times its actual size. The black-and-white photographs beside the captions give the actual sizes of the coins.*

*The coin design as a whole is described from the point of view of the observer, as is usual nowadays, except that figures are dealt with in the opposite (heraldic) fashion: for instance, the right hand of a figure lies in the left half of the coin design.*

*All Arabic inscriptions are to be read from right to left, apart from the coin in Plate 12.*

*The date of striking is only recorded on a few coins, and is given in the caption after the designation of the coin. Dates in brackets indicate that the date of production is inferred from information on the coin itself or from other sources.*

INDEX OF COINS ILLUSTRATED

- 1 BYZANTINE EMPIRE Solidus (797-802)
- 2 BYZANTINE EMPIRE Solidus (908-912)
- 3 BYZANTINE EMPIRE Histamenon (1055/56)
- 4 BYZANTINE EMPIRE Histamenon (1071-1078)
- 5 BYZANTINE EMPIRE Hyperpyron (1118-1143)
- 6 BYZANTINE EMPIRE Hyperpyron (1143-1180)
- 7 EMPIRE OF NICAIA Hyperpyron (1222-1254)
- 8 ABBASID EMPIRE Dinar 805
- 9 YEMEN Dinar 898
- 10 SPAIN/WESTERN NORTH AFRICA Dinar 1124
- 11 SPAIN/WESTERN NORTH AFRICA Dinar (1156-1163)
- 12 NORTH INDIA Dinar (1173-1206)
- 13 EGYPT/SYRIA Dinar 1226/27
- 14 EGYPT/SYRIA Dinar 1361/62
- 15 CAROLINGIAN EMPIRE Solidus (816-821)
- 16 KINGDOM OF JERUSALEM Bezantinus saracenus (1118-1131?)
- 17 KINGDOM OF SICILY Tari (after 1140)
- 18 KINGDOM OF CASTILE Dinar 1187
- 19 KINGDOM OF PORTUGAL Morabitino (1185-1211)
- 20 KINGDOM OF SICILY Augustale (from 1231)
- 21 REPUBLIC OF FLORENCE Fiorino d'oro (1318/19)
- 22 KINGDOM OF FRANCE Royal d'or (1326-1328)
- 23 KINGDOM OF GERMANY Chaise d'or (from 1338)
- 24 REPUBLIC OF GENOA Genovino d'oro (1341/42)
- 25 KINGDOM OF FRANCE Pavillon d'or (from 1339)
- 26 REPUBLIC OF VENICE Ducato d'oro (1343-1354)
- 27 REPUBLIC OF MILAN Half-ambrosino d'oro (1349-1354)
- 28 KINGDOM OF BOHEMIA Gulden (1350-1355?)
- 29 PRINCIPALITY OF ACHAEA Ducato d'oro (1346-1364)
- 30 KINGDOM OF CASTILE Dobla (1350-1369)
- 31 KINGDOM OF FRANCE Franc d'or à cheval (from 1360)
- 32 KINGDOM OF ENGLAND Noble (1361-1369)
- 33 COUNTY OF FLANDERS Lion helm (1364-1370)
- 34 COUNTY OF FLANDERS Flandres (franc à pied) (1369/70)
- 35 DUCHY OF BRABANT Pieter (1374-1383)
- 36 KINGDOM OF HUNGARY Gulden (1385/86)
- 37 COUNTY OF FLANDERS Double helm (1386/87)
- 38 RHENISH PALATINATE Gulden (1391-c. 1393)
- 39 PRINCE-BISHOPRIC OF UTRECHT Gulden (1415-1420)
- 40 KINGDOM OF FRANCE Mouton d'or (1417)
- 41 KINGDOM OF GERMANY Gulden (1415-1421?)
- 42 DUCHY OF JÜLICH Gulden (1421)
- 43 IMPERIAL CITY OF LÜBECK Gulden (15th cent.)
- 44 KINGDOM OF FRANCE Salut d'or (from 1423)
- 45 KINGDOM OF FRANCE Royal d'or (from 1431)
- 46 COUNTY OF FLANDERS Rider (1434-1447)
- 47 KINGDOM OF CASTILE Dobla de la Banda (from 1442)
- 48 KINGDOM OF FRANCE Écu d'or à la couronne (from 1449)
- 49 KINGDOM OF NAPLES Ducatone d'oro (1442-1458)
- 50 COUNTY OF FLANDERS Lion (1454-1460)
- 51 KINGDOM OF GERMANY Apfelgulden (1460-1490)
- 52 KINGDOM OF ENGLAND Ryal (1466/67)
- 53 PRINCE-ARCHBISHOPRIC OF COLOGNE Gulden (c. 1469)
- 54 IMPERIAL CITY OF NUREMBERG Gulden (c. 1469-1471)
- 55 PRINCE-ARCHBISHOPRIC OF BREMEN Gulden (1463-1496)
- 56 PAPAL STATE Fiorino di camera (from 1475)
- 57 COUNTY OF TYROL Gulden (1478-1482)
- 58 COUNTY OF HOLLAND Broad reaal 1487
- 59 ELECTORATE OF SAXONY Apfelgulden 1499
- 60 DUCHY OF POMERANIA Gulden 1499
- 61 REPUBLIC OF BOLOGNA Doppio bolognino d'oro (from 1476)
- 62 COUNTY OF FLANDERS Florin Philip (1499-1503)
- 63 PRINCE-ARCHBISHOPRIC OF SALZBURG Gulden 1500
- 64 DUCHY OF WÜRTTEMBERG Gulden (1503-1519)
- 65 DUCHY OF BAVARIA Gulden 1506
- 66 KINGDOM OF ENGLAND Angel (1507-1509)
- 67 LANDGRAVIATE OF HESSE Gulden 1506



BYZANTINE EMPIRE

Empress Irene, 797-802

Solidus, n. d.

Mint: Constantinople

*Obverse:* •GIRINH - bASILISSH

Bust of the empress in a richly-ornamented garment (loros), wearing a crown from which pendilia hang on either side. She holds in her right hand a globus cruciger and in her left hand a sceptre

*Reverse:* •GIRINH - bASILISSH

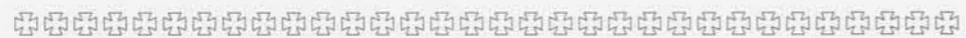
Bust of the empress as on the obverse. Control-mark: ⊕ at the end of the legend

Weight: 4.40 g · ø 18.9 mm

Literature: DOC 1a.1



Irene, whose name means peace, was the first woman to occupy the Byzantine throne, but she brought little distinction to her name. Indeed, circumstances were anything but peaceful. Internally, Irene reintroduced, through the Council of Nicaea in 787, the veneration of images, over which controversy had raged for half a century. Abroad, in the east tribute had to be paid to the Arabs following military defeat, and in the west the influence of Byzantium waned in favour of the Franks. Here, while she was regent during the minority of her son, Irene tried to strengthen her influence by betrothing him to a daughter of Charlemagne. Intending to disinherit her son in 790, she was herself temporarily deposed, but was eventually able to regain power as a result of the political and personal ineptitude of Constantine VI, whom she deposed and blinded in 797. During the five years of her sole reign Irene was again defeated by the Caliph Harun-al-Rashid and was forced to accept, with the coronation of Charlemagne as emperor at Christmas 800, the emergence of a second empire alongside Byzantium. She sought to appease the Iconoclasts by tax concessions, but a simultaneous increase in expenditure estranged the administration, whose leader Nicephorus removed her from the throne by a coup in 802 and installed himself as emperor. The solidus illustrated here, the first standard gold coin of the empire, belongs to the five years of Irene's sole reign, and must have been produced in considerable numbers. Unusually, both sides bear the same design, which may be explained by the circumstances in which Irene came to the throne. The reverse is distinguished from the obverse only by the special mark at the end of the legend and a pellet above the globus. A realistic portrait is not intended. The depiction of the loros, a richly-decorated shawl-like garment which was wound round the body, is extraordinarily well-modelled.





## BYZANTINE EMPIRE

Emperor Leo VI the Wise and his son Constantine VII, 908–912

Solidus, n. d.

Mint: Constantinople

*Obverse:* +IHSXPS REX - REGNANTIΩN

(Jesus Christus Rex Regnantium)

Christ enthroned, wearing a tunic and mantle (himation), his right hand raised in blessing. He holds the Gospels in his left hand

*Reverse:* LEON ET CONSTANTINVS AVGVSTI ROMANI

(Leo et Constantinus Augusti Romanorum)

On the left Leo VI, standing; on the right his son Constantine VII. They are both crowned and wearing a loros, and each holds a globus cruciger, in the right and left hand respectively. Between them they hold a long Patriarchal cross

Weight: 4.36 g · Ø 21.2 mm

Literature: DOC 2



When Leo VI came to the throne in 886, he took over a state which was engaged in reconstruction and consolidation following the final settlement of the Iconoclast controversy. He himself was well prepared for his office by a good upbringing and a thorough education. His literary activities earned him the nickname “the Wise”, but Leo’s real significance for the state lay in the field of legislation, for during his reign the Greek revision of the laws codified by Justinian was completed. Leo also finalised the reorganisation of the Themes, i.e. the military districts. The commanders of these districts, the Strategoi, each received an annual salary commensurate with the size and importance of his region, ranging between 5 and 40 pounds of gold, corresponding to 360 to 2,880 solidi, the latter representing an enormous income. According to one source, for instance, the wages allowed for 700 Russian seamen who took part in a military venture were about 10 solidi per man.

The Emperor Leo VI produced coinage on his own as well as jointly with his brother Alexander and his son Constantine VII. The solidus still conformed to the old standard and could thus maintain its role as an international trading coin. Following the end of the Iconoclast controversy, the obverse no longer showed the reigning emperor, but once again depicted Christ, here seated on a throne with a lyre-shaped back. The relative sizes of father and son on the reverse are distinctly unrealistic, since Constantine VII was born in 905 and can only have been between 3 and 7 years old when the coin was struck. On each figure, the pendant ends of the sash- or shawl-like ceremonial robe, the loros, may clearly be seen hanging from his arm.





BYZANTINE EMPIRE

Empress Theodora, 1055/56

Histamenon, n. d.

Mint: Constantinople

*Obverse:* + IŪIXI IDCX - RCSNANTI IŪΩ

(Jesus Christus Rex Regnantium)

Christ with nimbus cruciger standing on a pedestal, wearing tunic and himation. He raises his right hand in blessing and holds the Gospels in his left

*Reverse:* + ΘΕΟΔΩΙΑ - ΑΥΤΟΒΥΤΑ

(Theodora Augusta)

On the left, Theodora standing, wearing a crown with pendilia on either side. Under a decorated loros she wears a wide-sleeved undergarment, the divitision, and holds her right hand before her breast. On the right stands the Virgin Mary, with nimbus. She wears a tunic and on her head is a long veil, the maphorion. Her left hand is raised. By her head are the letters M and Θ. Mary and the empress hold between them a labarum

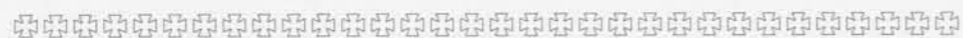
Weight: 4.40 g · ø 25.7 mm

Literature: DOC 1a.3



The Macedonian dynasty, during whose last years the final schism between the eastern and western churches took place, ended with Theodora. Since the death of Basil II in 1025, effective power had lain in the hands of the nobility, under whose rule the state's capacity to defend itself and raise taxes gradually declined. This is also reflected in the coinage. The principal coin is no longer the solidus but the histamenon, or in full "nomisma histamenon", which means simply "coin of the appointed standard". This coin could not maintain its intrinsic value and was slowly debased. This example is thus no longer fine gold, but has a fineness of only c. 825/1000, which however cannot be detected from its colour. To better differentiate it from a new, lighter gold coin introduced during the tenth century - the tetarteron - the histamenon was struck larger in diameter and correspondingly thinner. The design does not fill the whole flan, so an irregular broad unstruck border remains. All three figures on the obverse and reverse are depicted full length and identified by their dress, attributes and inscription, the Virgin Mary by the letters M - Θ (mother of God). The labarum held by Mary and Theodora is the old Roman military standard, which appeared in a dream to the Emperor Constantine before the battle of the Milvian bridge near Rome in 312, adorned with the Christogram and the legend "in hoc signo vinces". The Graeco-Latin lettering of the inscription is very unclear and hard to read.





BYZANTINE EMPIRE

Emperor Michael VII Dukas, 1071-1078

Histamenon, n. d.

Mint: Constantinople

*Obverse:* Bust of Christ with nimbus cruciger in tunic and kolobion, his right hand raised in blessing, his left hand holding the Gospels. In the field, left the letters IC, right XC

*Reverse:* +MIX - AHA - RACIAOA

(The Emperor Michael Dukas)

Bust of the emperor in a loros, wearing a crown with pendilia. He holds in his right hand a sceptre crowned by a labarum, in his left hand a globus cruciger

Weight: 4.35 g · Ø 26.5 mm

Literature: DOC 2a.1



Hardly any emperor suffered so many defeats and reverses as Michael VII Dukas during his seven-year reign. In the east, Asia Minor fell to the Seljuks and at the same time Bari, the last Byzantine bastion in Italy, was lost to the Normans. In the Balkans, Byzantine influence waned further. Repercussions on domestic politics and on the economic situation were inevitable. An abortive attempt to corner the grain market led to price rises and the emperor acquired the nickname "Parapinakes", or "minus a quarter", because the standard gold coin, the histamenon, would no longer purchase a whole bushel of wheat (320 kg) but a Pinakion (¼-bushel) less. Perhaps Michael VII also wished to trim the national budget, with whose workings he was thoroughly familiar, by this measure. As a result of internal and foreign events, several pretenders to the throne appeared. One was eventually successful and banished Michael to a monastery, legitimising his usurpation by marrying the emperor's wife.

All this was reflected in the coinage, where the decline of the histamenon continued. While the coin of Theodora in Plate 3 was still 825/1000 fine, the piece here is only c.640/1000; the depreciation of the gold coinage thus amounted to more than 25%.

The design shows as usual Christ on one side and the emperor on the other: merely the depiction varies. Here a bust was chosen for both and joint rulers are not mentioned. As before, the imperial portrait is not supposed to be realistic. The legend is even more difficult to read; the last two letters OΔ give the family name ó Δούκας. Here we meet for the first time the cup-shaped form of the gold coinage, which appeared in the mid-eleventh century and was retained until the end of Byzantine coinage.





BYZANTINE EMPIRE

Emperor John II Comnenus, 1118–1143

Hyperpyron, n. d.

Mint: Constantinople

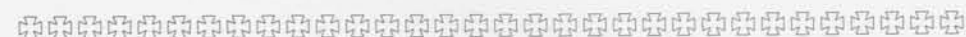
*Obverse:* Christ enthroned with nimbus cruciger in tunic and kolobion, his right hand raised in blessing, his left hand holding the Gospels. Beside his head, left the letters IC, right XC

*Reverse:* + ICWΔECΠIOTH - ΘV - MΦ

On the right, a half-length figure of Mary in tunic and veil, her left hand raised. On the left, a half-length figure of the crowned emperor in a loros, with an akakia in his right hand. Both hold between them a long Patriarchal cross. Above the emperor appears the Hand of God blessing him

Weight: 4.29 g · ø 28.8 mm

Literature: Hendy p. 102; pl. 9, 1–3



John II was regarded as the most important of the rulers of the House of Comnenus. His reign brought a series of armed conflicts, with notable victories over the Patzinaks and Serbs in the north, the conquest of the Danishmandid Emirate of Melitene and of the Armeno-Cilician Kingdom and finally the subjugation of Antioch in the east. At his death the Byzantine Empire consisted, in addition to present-day Greece, of the Balkan area south of the Danube from Belgrade to the Black Sea, Turkey west of Ankara, a small strip on the south shore of the Black Sea (including Trebizond), Syria, and the Mediterranean islands of Cyprus and Crete. The standard gold coin after the currency reform of Alexius I in 1092 was the hyperpyron, which had a somewhat lower fineness than the pre-debasement histamenon. Hyperpyron means “refined by fire”, implying the reintroduction of a coin of good metal. This piece is c. 860/1000 fine gold.

John II issued three series of hyperpyra. The first issue depicts Christ on a backless throne and the half-length figures of Mary and the emperor. The legend gives the name and title of the emperor “the lord John” in the dative and for Mary the first and last letters of “mother of God”, as is the case for Jesus Christ on the obverse. The striking no longer has the clarity of the earlier pieces on smaller flans, and is especially unclear at the curved edges. Therefore the akakia described above cannot be made out: it is illustrated and explained in Plate 7. On the obverse the right-hand side shows a doubling of type and legend, produced by the die slipping during striking.







BYZANTINE EMPIRE

Emperor Manuel I Comnenus, 1143–1180

Hyperpyron, n.d.  
Mint: Constantinople

*Obverse:* + KΘRO – HΘEI (KYPIE BOHΘEI)  
Youthful bust of Christ with nimbus cruciger in tunic and kolobion. His left hand holds a scroll. In the field, left and right, the letters IC and XC

*Reverse:* ΜΑΝΥΗΛ ΔΕCΠΙΟΤΗ – ΤΩ ΠΙΟΡΦΥΡΟΓΕΝΝΗΤΩ  
in two columnar groups left and right.  
The emperor standing crowned, wearing a divitision and a decorated cloak (chlamys). He holds in his right hand a sceptre with labarum, and in his left hand a globus with patriarchal cross. The Hand of God appears in the upper right field, blessing the emperor

Weight: 4.15 g · Ø 28.7 mm  
Literature: Hendy p.111 Var. II; pl.12.5 var.



By the will of John II Comnenus, the throne passed on his death to his fourth and youngest son. The latter was able temporarily to enlarge still further the empire, which his father had strengthened and extended. To the traditional enemies of the Byzantine state – the Turkish Seljuks, the Normans and the Balkan peoples – was added another in the form of the Crusader states, and thus it became more deeply involved in European politics. This led to a rapprochement with the German Empire under King Conrad III, which was confirmed by the marriage of Manuel to the German king's sister-in-law and another between Margrave Henry II of Austria and a niece of Manuel. Changing interests and fortunes of the various powers later found Manuel and the Emperor Frederick I Barbarossa in opposition, since both clung to the idea of a single empire, which precluded the existence of a second.

Manuel's policies required a strong army consisting mainly of well-paid mercenaries; as the country was unable to meet the costs of the mercenaries, the first setbacks were suffered at the end of the long reign of this emperor.

Manuel employed only one type for the hyperpyra during his 37-year reign, which was struck in several variants, almost exclusively at Constantinople. The cup-shaped fabric with the rim empty was retained. Besides the hyperpyron, Manuel issued large numbers of its third, the Aspron Trachy, which was struck in gold heavily alloyed with silver (i.e. electrum). The childlike depiction of Christ on the hyperpyra is unusual. The legend, which is divided between the two sides, reads in full: "O Lord Jesus Christ help the Lord Manuel, born in the purple".





EMPIRE OF NICAEA

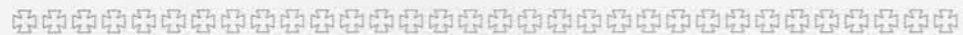
Emperor John III Dukas-Vatatzes, 1222-1254

Hyperpyron, n. d.  
Mint: Magnesia

*Obverse:* Christ enthroned with nimbus cruciger in tunic and kolobion, his right hand raised in blessing and his left hand holding the Gospels. Beside his head, left and right, the letters IC and XC

*Reverse:*  $\text{IC XC} \Delta \Theta \Sigma \text{ΠΙΟΤΗ ΤΩ ΠΟΡΦΥΡΟΓΕΝΝΗΤΩ}$  (illegible), abbreviated in two columnar groups; in the upper right field  $\text{M-P} \Theta \text{V}$ . On the right, Mary standing in tunic and veil, crowning the emperor standing beside her. He wears the crown and a richly-decorated ceremonial robe (loros). He holds in his right hand a labarum and in his left hand an akakia

Weight: 4.44 g ·  $\phi$  26.6 mm  
Literature: Hendy p. 237; pl. 32.4



The renewal of the Byzantine Empire originated in the Empire of Nicaea, one of the sub-empires which were established within its territories after it had been smashed by the Crusaders and the Venetians in 1204. This was named after the city of Nicaea, about 100 km southeast of Constantinople, well-known as the site of a number of Councils of the Church.

Through favourable conditions and the ability of its first two rulers, it reunited a large part of the former Byzantine Empire and maintained its cultural heritage. Eventually, Constantinople itself fell to this power. A new alliance was formed between the eastern empire and a German emperor, Frederick II of Hohenstaufen, again sealed by a marriage.

Since the Empire of Nicaea was not the centre of commerce that the old Byzantine Empire had been, it had at its disposal only a few products, predominantly agricultural. The resulting imbalance of trade affected the currency, and the fineness of the coinage could not be maintained at the prescribed level.

In their design these coins resemble the hyperpyra of John II Comnenus (1118-1143) and they cannot unequivocally be attributed to one or the other of the Johns. The present example is not clearly struck overall. Other examples show that here, as before, the name and title of the emperor are in the dative, although on the obverse the first part of the legend "O Lord Jesus Christ help..." is lacking. The magnificent costume (loros) of the emperor is very clear, as is the akakia in his left hand, a container which was filled with dust as a symbol of mortality. In a list of gold coins in circulation during the thirteenth and fourteenth centuries compiled by the Florentine merchant Pegolotti, coins of this type are referred to as "the common gold perperi".



ABBASID EMPIRE

Caliph Abu-Ja'far Harun-al-Rashid, 170–193 Hijra (AD 786–809)

Dinar, 189 Hijra (AD 805)

Mint uncertain

*Obverse:* In the field in 3 lines لا اله الا / الله وحده / لا شريك له  
(There is no god but God alone, he has no companions)

*Legend:* محمد رسول الله ارسله بالهدى ودين الحق ليظهره على الدين كله  
(Mohammad is the prophet of God, sent by him with guidance and the religion of truth, to make it prevail over every other religion)

*Reverse:* In the field in 4 lines محمد / رسول / الله / الخليفة  
(Mohammad is the prophet of God. The Caliph)

*Legend:* بسم الله ضرب هذا الدين سنة تسع وثمانين ومئة  
(This dinar is struck in the name of God in the year 189)

Weight: 4.22 g · ø 17.7 mm

Literature: BMC Vol. I, 156

The Abbasid Harun-al-Rashid inherited a realm which stretched from the Atlas mountains in the west through Egypt and Syria to Afghanistan in the east. The centre of the empire and seat of the Caliph was Baghdad, which had only been founded a few decades earlier. Harun-al-Rashid has been immortalised less by his historical actions than by the Tales of 1001 Nights and those of Wilhelm Hauff in the nineteenth century. They reflect alike the immense wealth of what was still a young capital. Harun was a shrewd but not outstanding ruler, with a cruel streak. Personally he was suspicious and immoderately jealous, which led him to kill his Barmakid Wazir Ja'far. Harun was hardly successful in domestic politics either. The western provinces seceded, and in the eastern provinces serious revolts broke out towards the end of his reign. Harun died while campaigning against the rebels.

The gold coinage was oriented in weight and fineness towards the Byzantine solidus. Harun only produced a single type, as illustrated here. The individual issues can only be distinguished by their date of issue and through the last line of the reverse. The first coinages mostly bear the name Ja'far, which Harun had in common with his Wazir, but from the year 189 H this was replaced by the title Caliph. It is conspicuous that this alteration coincides with the suppression of the Barmakids. In contrast to the silver coinage, the mint is not named on Harun's dinars. They could have been struck anywhere in the empire, from Africa to Balkh, but Baghdad is the strongest candidate.



YEMEN  
under the Abbasids

Caliph Abu-l-Abbas Ahmad al-Mu'tadid, 279–289 Hijra (AD 892–901)

Dinar, 285 Hijra (AD 898)

Mint: San'a

*Obverse:* In the field in 3 lines لا اله الا / الله وحده / لا شريك له  
(There is no god but God alone, he has no companions)

Outer legend لله الامر من قبل ومن بعد ويومئذ يفرح المؤمنون بنصر الله  
(To God belongs the order, before and after. And in that day the faithful will rejoice in God's help)

Inner legend بسم الله ضرب هذا الدينر بصنعا سنة خمس وثمانين ومائتين  
(This dinar is struck in the name of God at San'a in the year 285)

*Reverse:* In the field in 5 lines لله / محمد / رسول / الله / المعتمد بالله  
(God, Mohammad is the prophet of God, Al Mu'tadid billah)

Legend محمد رسول الله ارسله بالهدى ودين الحق ليظهره على الدين كله  
(Mohammad is the prophet of God, sent by him with guidance and the religion of truth, to make it prevail over every other religion)

Weight: 2.89 g · Ø 18.2 mm

Literature: BMC Vol.I, 378 var.

The political fate of the Abbasids was determined during the following centuries in the western and eastern border provinces, the early rebellion of Spain and North Africa being less important. Even the Yemen was soon only nominally under central government. It was therefore quite usual in later periods for the governors appointed by Baghdad to strike coins in their own names. The Yemen had important gold deposits.

This coin was struck at San'a, capital of the modern Yemen Arab Republic, under the Caliph Al-Mu'tadid. Its design is again exclusively inscriptional. On the obverse is an additional outer legend with a quotation from Sura 30, verses 3 and 4. The somewhat confusing opening of this text refers to the changing fortunes of war between Byzantium and the Persian Sassanians. The low weight is conspicuous, since it is considerably below the official weight of the dinar (4.2 g) and may represent a  $\frac{2}{3}$ -dinar, although the legend describes the coin as a dinar. The diameter is somewhat larger than that of the dinar of Harun-al-Rashid, and the flan is correspondingly thinner. On the basis of the varying weights, one may perhaps conclude that gold coins were weighed out in bulk.





SPAIN/WESTERN NORTH AFRICA  
under the Almoravids

Amir Ali ibn Yusuf, 500–537 Hijra (AD 1106–1143)

Dinar, 518 Hijra (AD 1124)

Mint: Ishbiliyah (Seville)

*Obverse:* In the field in 5 lines ( . الله . in the first line belongs to the end of the second) . الله . / لا اله الا / محمد رسول الله / امير المسلمين على / بن يوسف  
(There is no god but God alone, Mohammad is the prophet of God, Ali bin Yusuf Amir of the Muslims)

*Legend* فمن يبتغ غير الاسلام دينا فلن يقبل منه وهو في الآخرة من الخاسرين  
(Whosoever craves other than Islam for a religion, it shall surely not be accepted for him, and he shall be lost in the next world)

*Reverse:* In the field in 5 lines الامام / عبد / الله / امير المؤمنين / لك  
(The Imam, slave of God, Amir of the believers [LK])

*Legend* بسم الله ضرب هذا الدينار باشبيلية سنة ثمان عشرة وخمسة مائة  
(This dinar is struck in the name of God at Ishbiliyah in the year 518)

Weight: 3.91 g · Ø 25.9 mm

Literature: BMC Vol. V, 22 var.



When the Almoravids came to power in Spain, the country looked back on nearly 300 years of Islamic rule under the Umayyad dynasty, who produced a united kingdom. After the collapse of their rule (c. AD 1030), sub-kingdoms (the Taifas) emerged in the Islamic part of Spain, which were mostly dependent on help from North Africa.

The final Berber invasion began with the Almoravids. Fighting against King Alfonso VI of Castile and Leon, they recaptured large areas of Spain from the Christians, which they gradually lost again under Ali ibn Yusuf, the issuer of this coin.

Besides silver and a few copper coins, the Almoravids struck mainly dinars, which were somewhat reduced in fineness, but so popular across the frontiers that they served as prototypes for the Christian gold coinages (Plates 18, 19). The flans are relatively broad and correspondingly thin, so that they can easily be bent, as can be seen from our piece. Moreover, the legends in the field are different. Thus on the obverse, besides the Kalimah (see Introduction), the name of the minting authority appears, with the title Amir of the believers, and on the reverse the title Imam, slave of God. The combination of letters LK is unexplained.





NORTH INDIA  
under the Sultans of Delhi (Ghurids)

Sultan Mu'izz-ud-Din Mohammad ibn Sam of Ghur,  
589–602 Hijra (AD 1173–1206)

Dinar, n.d.  
Mint: Kanauj?

*Obverse:* The four-armed goddess Lakshmi, seated

*Reverse:* श्री म ह् / मीर महम / द साम  
Sri Mahamad vene Sam (The noble [ruler] Mohammad ibn [bin] Sam)

Weight: 4.27 g · Ø 15.2 mm  
Literature: Wright 5

By the beginning of the eighth century, the first waves of Arab conquest had already reached Sind, a southern province of modern Pakistan. True Islamic rule in North India began however with the Sultans of Delhi (initially the Ghurids) towards the end of the twelfth century AD. The medieval kingdom of Ghur lay east of Herat in Afghanistan. Mu'izz-ud-Din Mohammad ibn Sam of Ghur, a nephew of the conqueror of the Ghaznavid dynasty which had hitherto reigned in Afghanistan, was the progenitor of Islamic power in India. In 569 H, he was made governor of the province of Ghazni, but it was twenty years before he finally gained a foothold in Hindustan. The decisive battle against the Hindu princes took place in AD 1192 (588 H), north of Delhi. Mohammad ibn (or bin) Sam began to issue gold coins comparatively late, and they are very varied in type. His issues in Ghazni bear Arabic inscriptions on obverse and reverse. Another type from the Indian region bears Nagari, the alphabet of Sanskrit, for the first time, between Arabic letters.

This piece is a typical example of the adoption of an indigenous coin by a new ruler. The figure of Lakshmi, which originated on gold coins of the Indian Gupta kingdom (see Vol. I, Plate 59), was employed unaltered, even though for Mohammadans it had a heathen character. The text of the reverse is entirely in Nagari. Since the die was larger than the flan, the inscription does not appear in full on the coin. The name of the denomination is not certain; the Arabic dinar is surely the prototype here, as suggested by the weight. The measured fineness of c. 660/1000 is however too low. The later gold coins of the kingdom were called Tanka.



EGYPT/SYRIA  
under the Ayyubids

Sultan Al-Kamil Nasir al-Din Abu al-Ma'ali Mohammad I ibn Al-Adil I,  
615–635 Hijra (AD 1218–1237)

Dinar, 624 Hijra (AD 1226/27)  
Mint: Misr (Cairo)

*Obverse:* In the field in 4 lines

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ / الملك الكامل / ابو المعالي محمد / ابن ابي بكر بن ايوب

(The King Al-Kamil Abu Ma'ali Mohammad ibn Abu Bakr bin Ayyub)

Legend لا اله الا الله محمد رسول الله ارسله بالهدى ودين الحق ليظهره على الدين كله  
(There is no god but God alone, Mohammad is the prophet of God, sent by him with guidance and the religion of truth, to make it prevail over every other religion)

*Reverse:* In the field in 4 lines

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ / الامام المنصور / ابو جعفر المستنصر / بالله امير المؤمنين

(The Imam Al-Mansur Abu Ja'far al-Mustansir-billah, Amir of the believers)

Legend بسم الله الرحمن الرحيم ضرب هذا الدينر بمصر سنة اربع وعشرين وستمائة  
(This dinar is struck at Misr in the name of God, the merciful, the compassionate, in the year 624)

Weight: 5.28 g · Ø 22.9 mm

Literature: Balog, Ayyubids 384

One of the outstanding personalities of the near eastern centre of Islamic rule was the founder of the Ayyubid dynasty, Sultan Salah-al-Din Yusuf ibn Ayyub, known in Europe as Saladin. On his death in 1193 the kingdom was divided amongst the members of his family. The real centre of power lay in Egypt. Al-Kamil, a nephew of Saladin, was embroiled in the domestic rivalries of his dynasty, but was also forced to hold his own against the Crusaders. He beat them off in 1221 (618 H), but primarily sought compromise, which led to relations with the Stauffer Emperor Frederick II which were almost amicable.

The gold standard began to fall under the Ayyubids. The type of our coin was introduced by Al-Adil, Al-Kamil's father. In the year 624 H (AD 1227), to which this coin belongs, Kufic script was abandoned. The fields give the names of Sultan Al-Kamil as issuer on the obverse, and of the Caliph reigning at the time in Baghdad, Al-Mustansir, whose sovereignty was nominally acknowledged, on the reverse. The term "Misr" for the mint is ambiguous: it translates as "Egypt". At this time, this probably meant the mint at Fustat, today a southern suburb of Cairo.





EGYPT/SYRIA  
under the Mamluks

Sultan Al-Mansur Salah al-Din Mohammad, 762–764 Hijra  
(AD 1361–1363)

Dinar, 763 Hijra (AD 1361/62)  
Mint: Dimishq (Damascus)

*Obverse:* In 5 lines / ضرب بدمشق سنة ثلاث / السلطان الملك المنصور /  
صلاح الدنيا والدين محمد / بن الملك المظفر حاجي / وستين وسبعماية  
(Struck in Damascus in the year three – The Sultan, the King Al-Mansur,  
steward of the world and religion of Mohammad, son of King [Prince]  
Al-Muzaffar Hajji – and seven hundred and sixty)

*Reverse:* In 6 lines (الله in the first line belongs to the end of the second)  
الله / و ما النصر الا من عند / لا اله الا الله محمد /  
رسول الله ارسله بالهدى / ودين الحق ليظهره على / الدين كله  
(And victory comes from none but God alone. There is no god but God  
alone, Mohammad is the prophet of God, sent by him with guidance and  
the religion of truth, to make it prevail over every other religion)

Weight: 2.94 g · Ø 21.6 mm  
Literature: Balog, Mamluk Sultans 380

After the violent death of the last of the Ayyubids, the Mamluks ruled the entire area from 1250. Their rule ended in 1517 when the Ottoman Turks captured Cairo. Thus the erstwhile Byzantine Empire as well as most of the former Abbasid Empire fell into the hands of the Turks. Cairo was also the capital of the Mamluks, since the Iraqi-Syrian region was soon overrun by the Mongols. The Mamluks occupied a special position amongst Islamic rulers, since they were originally unfree: the Arabic word means “owned”. Thanks to their careful military training they soon became a privileged class, who acted *inter alia* as the bodyguards of the current ruler and who could rise beyond this to the highest offices. In the light of history they were decisive as Sultans of Egypt.

The fall in the gold standard continued under the Mamluks, and the weight of the dinar dropped so much (our example weighs 2.94 g) that they had to be weighed out, and silver was adopted as the basic standard of value. The setting out of the inscription in horizontal lines is characteristic of the gold coinage from the time of Al-Nasir, the predecessor of Al-Mansur Salah al-Din Mohammad. On the obverse the issuer is named with all his titles. The date is as a general rule divided between two well-separated lines, and the religious formulae appear on the reverse. The flan of our dinar is smaller than the die, so the inscriptions are incomplete.



CAROLINGIAN EMPIRE

Emperor Louis the Pious, 814–840

Solidus, n. d. (816–821)

Mint: Aachen?

*Obverse:* DNHLVDOVVICVSIMPAVG  
(Dominus noster Hludovicus imperator augustus)  
Bust to right, with laureate crown and mantle

*Reverse:* MVNVS DIVINVM  
Cross within a wreath with two ribbons

Weight: 4.37 g · Ø 19.7 mm

Literature: Morrison and Grunthal 515

The Emperor Louis, whose deep religious convictions earned him the nickname “the Pious”, had inherited from his father Charlemagne a kingdom which was geographically extensive and very heterogeneous in ethnic and economic structure, stretching from the Frisian North Sea coast to north Spain, taking in most of Italy, and petering out in the Hungarian plain. In the regions north of the Alps the currency was based on silver, with the denar or penny (disregarding a few halfpence) the sole coin type. In such company this gold coin, of which about a dozen specimens have come down to us, is a distinct intruder, and has thus excited considerable scholarly interest. The design and legend of the obverse imitate late Roman imperial coins rather than contemporary Byzantine solidi (Plate 1). The reverse is also taken up with the notion of empire, since its legend “the gift of God” or “the grace of God” may refer to the imperial crown. If this hypothesis is correct, the coin may refer to Louis’ imperial coronation at Reims in 816. As for its mint, the likeliest guess is Aachen, from time to time the royal residence. In its weight the piece is equal to a Byzantine solidus, the only significant gold coin of the time. The metal necessary for Louis’ solidi may have come from Lombard tribute payments.

There are imitations of this kind with badly garbled design and legends, which were probably produced in Friesland, since most coins of this kind are found there. This suggests the use of gold coins as currency, at least in the coastal region. But it still remains uncertain whether this applies to our piece. The extraordinary design coupled with the metal used suggest perhaps a display motive rather than a normal coin issue. Another later parallel to this solidus is provided by the Augustales of the Emperor Frederick II in Sicily (Plate 20).



KINGDOM OF JERUSALEM

King Baldwin II (?), 1118–1131

Bezantinus saracenus  
Mint uncertain, (Acre?)

*Obverse:* In the field in 2 lines عال / غاية (highest standard)  
Inner legend لا اله الا الله محمد رسول الله على ولي الله  
(There is no god but God alone, Mohammad is the prophet of God, Ali is the [preferred] friend of God)  
Outer legend محمد رسول الله ارسله بالهدى ودين [الحق ليظهره على الدين] كله  
(Mohammad is the prophet of God, sent by him with guidance and the religion of truth, to make it prevail over every other religion)

*Reverse:* In the field in 2 lines الامام / المنصور (the Imam Al-Mansur)  
Inner legend ابو على الامر باحكام الله امير المؤمنين  
(Abu Ali al-Amir bi Ahkam-illah, Amir of the believers)  
Outer legend بسم الله الرحمن الرحيم ضرب هذا الدينير بمصر سنة ست  
(This dinar is struck in the name of God, the merciful, the compassionate, at Misr in the year ..6)

Weight: 3.81 g · Ø 22.0 mm

Literature: BMC Vol. IV, p. 52, 206. Schlumberger p. 135; pl. V, 19

Following the Crusades, a number of Christian states sprang up in areas of Syria and Palestine previously under Arab rule. Thus, after the capture of Jerusalem in 1099, a kingdom of the same name was founded, whose first king was Baldwin of Boulogne, Count of Edessa.

In their new territories the crusading knights encountered a monetary system which was much more sophisticated than that which they had known at home. They had to adapt, and thus they initially produced imitations of the coins familiar there and in general circulation. This applies to this coin, which recalls a dinar of the Fatimid ruler Al-Amir bi Ahkam-illah, 495–524 H (AD 1101–1130), not simply in its appearance but also in its use of the original Fatimid legends. The incomplete date and the somewhat crude epigraphy indicate an imitation. Its date suggests that the issuer could have been King Baldwin II of Jerusalem, although as a Christian knight the use on his coins of the religious formulae of his opponent should have been unthinkable.

The name “Bezantinus saracenus” for this coin recalls its descent (no longer recognisable in its appearance) from the Byzantine solidus and the Arab (Saracen) dinar.



KINGDOM OF SICILY

King Roger II de Hauteville, 1105–1154, King from 1130

Tari (after 1140)

Mint: Messina

*Obverse:* Two circles of Kufic inscriptions around a field with three pellets.

Inner legend in translation: The envoy of God (King Roger)

Outer legend in translation: Minted at Messina in the year...

*Reverse:* Cross with, to either side, the letters

IC – XC (Jesus Christus)

NI – KA

Legend as on the obverse

Weight: 1.52 g · Ø 13.9 mm

Literature: Spahr 66

During the eleventh century the Normans, supported by the Pope, conquered south Italy, which was ruled partly by Byzantium and partly by the Lombards, and the island of Sicily, which was ruled by the Amirs of Tunis. Count Roger II de Hauteville established there a tightly organised state, and by skilful playing off of Pope and Antipope obtained the kingship in 1130. The centre of power in the kingdom was shifted from the mainland to Sicily and the new residence at Palermo at the beginning of the twelfth century. Its sphere of influence also extended to the adjacent north coast of Africa. The coinage of this state consisted predominantly of Byzantine coppers in south Italy, Islamic gold coins and their local imitations in Sicily, and silver deniers which the Normans had brought from their homeland.

In the course of a great deal of legislation in 1140, King Roger also carried out a coinage reform which brought a uniform currency to every part of the kingdom. The sole gold coin was the Tari, a coin worth ¼-dinar which the Moslems had struck in Sicily since the beginning of the tenth century. The word means “fresh, newly struck” and came to indicate the denomination. The design continued the Islamic type, complete with Kufic script, though with a different content. The Christian cross and Latin letters were added. The shape of the Tari, as shown by our example, was very irregular, as was the weight, and so these coins passed in exchange by weight and not by number. On the other hand, its fineness was steady at 16⅓ carats (680/1000) and maintained this level until the end of the Tari coinage in the second half of the twelfth century. The somewhat careless manufacture makes it hard to read what is anyway a fairly unclear inscription. As well as the Tari in gold, the reform of 1140 introduced the very “Byzantine” silver ducale and its third, together with a copper coin.



KINGDOM OF CASTILE

King Alfonso VIII, 1158-1214

Dinar, 1225 Saphar (AD 1187)

Mint: Toledo

*Obverse:* In the field below a cross, in 2 lines of Arabic script

امام البيعة / المسيحية بابه رومي

(The Imam of the Christian Church is the Pope of Rome)

In Latin letters: ALF

Legend بسم الاب والابن والروح القدس الاله الواحد من امن وتعمد يكن سالما

(In the name of the Father and of the Son and of the Holy Ghost, God is

one. He that believeth and is baptised shall be saved)

(Mark chap.16, verse 16)

*Reverse:* In the field in 5 lines الامير/العتوليفين/الفرنس بن سنحه / ايده الله / و نصره

(Amir of the Catholic Christians Alfonso, son of Sancho, is supported by

God and God protects him)

Legend ضرب هذا الدينر بمدينة طليطله سنة خمس وعشرين ومايتين والف بالصف

(This dinar was struck in the city of Toledo in the year 1225 of the Saphar era)

Weight: 3.83 g · Ø 25.9 mm

Literature: Heiss p.29 no.5; pl.4,5

Power politics and the petty jealousies of the Christian kingdoms, and the contrast with the people of different faith in the southern half, determined events in the Iberian peninsula. Alfonso VIII's brilliant victory in 1212 at Las Navas de Tolosa in the Sierra Morena mountains, which finally sealed the fate of Islamic rule in Spain, was decisive for Spanish history. Alfonso was brother-in-law to King Richard the Lionheart of England.

This gold coin is a faithful mirror of the political and economic conditions. The gold dinars struck by the Almoravids and Almohads in north Africa and southern Spain were also the standard means of exchange between the Christian states and the Arabs. Alfonso thus had to conform to the usual type in his own coinage. However, he did not simply copy the Almoravid originals, but gave a Christian content to the Arabic texts. The Christian cross dominates the obverse field, together with the initial letters of the name Alfonso in Latin script. The legend describes the coin as a dinar, but the name used at the time was Morabitino (derived from the name Almoravid) or Alfonsino.

The date of issue given on the coin does not use the reckoning of the Gregorian calendar. The era known in Spain as Saphar began on 1 January, 38 BC. It is recorded from the fifth century, and was finally abolished in Portugal in 1422.



KINGDOM OF PORTUGAL

King Sancho I, 1185–1211

Morabitino, n. d.  
Mint: Braga?

*Obverse:* ✠ SANCIVS REX PORTVGALIS \*

The king holding a raised sword and a cross-sceptre riding to the right on horseback; outer border of pellets

*Reverse:* ✠ IN NE PTRIS TFILII SPS SCIꝞ

(In nomine patris et filii et spiritus sancti amen)

Five shields in the form of a cross, with stars between; outer border of pellets

Weight: 3.77 g · ø 28.1 mm

Literature: Ferraro Vaz II S 1.04 var.

Portugal, formerly a feudal dependency of the Kingdom of Castile, developed gradually into an independent state. Its ruler Afonso Henriques of Burgundy made himself king following his victory over the Arabs in the battle of Ourique in 1139, and in 1147 he took Lisbon with the help of Crusaders. His son, Sancho I, pushed further south into the Algarve, which however was not conclusively won for Portugal until 1249. The country reached its final boundaries in 1267.

Little is known of the earliest coinage and finance of Portugal. As well as denars and their halves struck in very poor silver, Sancho I, like his Spanish neighbours (Plate 18), started to strike gold coins whose name recalls their Arabic source, the Almoravid dinars. The design of the dinars, which were also struck by Sancho's successors, is of course purely Christian, but its layout and the ornamental engraving are modelled on its Islamic prototype. The five shields on the reverse, known as Quinas, and still today part of the Portuguese arms, have been interpreted firstly as a symbol of Christ's five wounds, and secondly as representing the five Moorish kings killed at the battle of Ourique.

The morabitini were probably primarily struck for use in foreign payments, as is also suggested by their parity with Islamic gold coins. Moreover, Portugal itself had little need for this type of coinage; denars and obols presumably sufficed. But it may be noted that as early as 1211 a law was passed to combat false coin.



KINGDOM OF SICILY

Emperor Frederick II of Hohenstaufen, 1197–1250, Emperor from 1220

Augustale, n. d. (from 1231)

Mint: Messina

*Obverse:* •IMP ROM – •CGSAR AVG •  
(Imperator Romanorum caesar augustus)

Bust of the emperor to right, with laureate crown and mantle held on the right shoulder by an annular brooch. On the upper right arm bracelets, or the border of a garment

*Reverse:* ✠FRIDE – RICVS

A standing eagle with spread wings, looking to the rear

Weight: 5.26 g · Ø 20.0 mm

Literature: Kowalski 92

Through the marriage of the Emperor Henry VI to Constanza, heiress of Sicily, this Mediterranean kingdom came to the Staufer and thus into the Holy Roman Empire. Frederick II succeeded his father in Sicily in 1197 at the age of three, and transformed this land, to which he always felt more fundamentally attached than to his German territories, into the most modern state of its time. His new gold coin, which was called the Augustale, was introduced in association with a new legal constitution in Sicily in 1231. The programmatic name accords with the design, which depicts Frederick in the guise of a Roman emperor, with the eagle as a symbol of imperial rule on the reverse; the legend is restricted to the imperial title, which had been Frederick's since 1220. It remains an open question to this day whether or not the design is a realistic portrait of the emperor; one can however assume that he authorised the representation and thus gave it an official character.

The standard, which at first sight seems unusual, is perhaps derived from Byzantine and Islamic gold coins, since the fineness of the Augustale (20½ carats or 855/1000) corresponds to the Byzantine hyperpyra, and the weight of fine gold (4.54 g) equals that of the contemporary double dinar of the Hafsid of Tunis as well as that of Roman and early Byzantine solidi. The Augustales, according to analyses, came very close to this norm, which *inter alia* indicates high technical standards, since the gold came from diverse sources such as the annual tributes of the Amir of Tunis, and needed to be alloyed accordingly. In addition to the full denomination, gold half-Augustales of variable weight were also struck in smaller numbers. Unlike the Augustales, these had to be weighed out, as had the Tasis of Roger II (Plate 17). The coinage was completed by denari and their fractions in a poor silver alloy.





REPUBLIC OF FLORENCE

Fiorino d'oro, n. d. (1318/19)

Mint: Florence

Mintmaster: Catellino Infangati

*Obverse:* ✠ FLOR – ENTIA

Heraldic lily with three petals and two stamens

*Reverse:* •S•IOHΛ – NNES•B sun

St. John the Baptist in a belted shirt and skin cape, standing with his right hand raised, holding a cross-sceptre in his left hand

Weight: 3.49 g · ø 19.9 mm

Literature: CNI Vol. XII, p. 24, 135



Florence belonged to the group of independent city-states in upper and central Italy which, thanks to their economic importance, also formed a significant power factor in political matters. It was one of the largest communities in Europe, with over 60,000 inhabitants. The basis of its economic power, besides a high-quality cloth industry, lay to an increasing extent in the trade in money and the banking-houses which developed therefrom, represented by such names as Bardi, Peruzzi and later the Medici.

When in 1252 the city council decided to strike gold coins, they surely cannot have foreseen the influence that these coins would soon have on Europe (on this point see the Introduction and section F of the Appendix). The design, a stylised lily and St. John the Baptist (the arms and patron saint of the city), was taken from the silver coinage, as was the name fiorino, to which was added an indication of the metal, "d'oro". The standard was so adjusted that the new coin, weighing 3.53 g and struck from the finest gold possible, corresponded to the pound of account (lira) of 20 shillings (soldi), each of 12 pence (piccioli), and to 1/6 of the Florentine pound weight (libbra), and was thus well adapted to the accounting and weight systems, which was necessary for its introduction into the system of exchange.

From 1300 the officials responsible for the coinage placed their marks on the reverse beside the head of St. John. Our example bears the rayed sun of the mintmaster Catellino Infangati, who during the second semester of 1318 (which lasted from 1 November 1318 to 30 April 1319) was responsible for the manufacture of the gold coinage. Output during a single period of office could be over 100,000 pieces. The fiorino d'oro, or florin, was produced virtually unaltered in design and standard until about 1530.





KINGDOM OF FRANCE

King Charles IV, 1322–1328

Royal d'or, n. d. (1326–1328)

Mint uncertain

*Obverse:* ◦KOL◦REX◦ – ◦FRA◦COR◦

(Karolus rex Francorum)

The crowned king standing in a Gothic baldachino, wearing a long robe and mantle and holding in his right hand a long sceptre

*Reverse:* †XP'C◦VINCIT◦XP'C◦REGNAT◦XP'C◦IMPERAT

(Christus vincit, Christus regnat, Christus imperat)

Cross fleury in a quatrefoil; a crown in each outer angle

Weight: 4.12 g · Ø 25.5 mm

Literature: Lafaurie 244 var.

King Philippe IV le Beau was succeeded on the French throne by his three sons, Louis X, Philippe V and Charles IV respectively, none of whom reigned for very long. The youngest son, Charles IV, married Maria, daughter of the future Emperor Henry VII and sister of King John of Bohemia. Like his two elder brothers, Charles left no male heirs, and when he died in 1328 the Capetian line became extinct. The throne passed to a collateral line, the House of Valois.

King Louis IX (Saint Louis) introduced gold coinage to France in 1266 with the écu d'or, whose name (golden shield) derives from the coat of arms which fills the obverse and of which few examples survive. Under Philippe IV there began in 1290 an extensive issue of different types of gold coin, amongst them the masse d'or, the chaise d'or and the agnel d'or. On the royal d'or, proclaimed by the *ordonnance* of Charles IV of 16 February 1326, the king was depicted for the first time standing in a Gothic architectural setting. The ornamental cross on the reverse and the legend "Christus vincit, Christus regnat, Christus imperat" had already appeared on the écu d'or of Louis IX and were retained on all French gold coins until the Revolution, although the treatment of the cross varied. The text of the inscription is taken from the Easter acclamation and is reputed to have been used as a battle-cry during the First Crusade.

The royal d'or is as fine as was possible at the time, i. e. about 995/1000. 58 pieces were struck from a Paris Mark of 244.7 g, giving an average weight of 4.22 g. The coin bears no indication of its mint: under Charles IV there were eight mints other than Paris, spread throughout France.





KINGDOM OF GERMANY

Emperor Louis IV of Bavaria, 1314–1347, Emperor from 1328

Chaise d'or, n. d. (from 1338)

Mint: Antwerp?

*Obverse:* † · LVDOVICVS · DEI · x - x · GRΛ · x - x · ROMANORVM · IMP

In a tressure of eight arches, the crowned and armed emperor seated on a richly-decorated Gothic throne, holding a shouldered sword in his right hand and a shield bearing a double-headed eagle in his left

*Reverse:* † · XP · C · VINCIT · XP · C · REGNAT · XP · C · IMPERAT

(Christus vincit, Christus regnat, Christus imperat)

Richly-decorated cross fleury within a quatrefoil

Weight: 4.48 g · Ø 29.6 mm

Literature: Kull 8



The reign of Louis IV, the first Wittelsbach on the German throne, was bedevilled by rival claimants and a confrontation with the Papacy regarding the authority of the latter over the election of the German kings. As a result of this, Louis was crowned emperor not by the Pope, but by representatives of the Roman Republic. To strengthen his position, he gave vacant imperial fiefs to members of his family and sought the political support of the expanding cities, to which he also confirmed minting privileges (Plate 43).

Louis was the first emperor to issue gold coinage in the German imperial territories since Louis the Pious (Plate 15). The Augustales of Frederick II (Plate 20) were Sicilian coins. This gold issue was made possible by a subsidy of 300,000 florins received by the emperor in 1337 from King Edward III of England in return for military support against the French. The gold was struck from 1338 into gold chaises which copied the écus d'or struck in France since the previous year. However, the obverse clearly identifies the issuer. The mint is generally considered to be Antwerp, since the type chosen was particularly popular and widespread in the French-Netherlandish region. Although Frankfurt has recently been suggested once again as the mint, it may be discounted. Louis perhaps chose the type on account of its larger diameter, which allowed a better depiction of his imperial majesty than the smaller florin, which he may also have issued (Appendix, F6). The gold chaises of the "Emperor of Rome" circulated together with French and Netherlandish écus d'or in the Rhineland and Westphalia, on the evidence of coin-finds and literary sources. They were mentioned as late as 1430 in an agreement between Electoral and Royal mintmasters on the purchase of old coins.





REPUBLIC OF GENOA

Doge Simone Boccanegra, 1339–1344

Genovino d'oro, n. d. (1341/42)

Mint: Genoa

*Obverse:* ✠ DVXIANVENSIVM PRIMVS:C:

City gate in an eight-arched tressure, with stars in the outer angles

*Reverse:* ✠ COHRADV' REX. ROMANORVM:A:

Cross in an eight-arched tressure, with stars in the outer angles

Weight: 3.51 g · ø 20.0 mm

Literature: CNI Vol. III, p. 55, 136 var.



The Republic of Genoa on the western side of the “boot” of Italy was the counterpart of Venice on the eastern, not only in its geographical but also in its economic importance and trading interests. It also ranked alongside Venice, Milan and Florence as one of the most populous communities of medieval Europe. To secure its trade, Genoa obtained territories in the eastern Mediterranean, such as the islands of Samos, Chios and Lesbos, and on the Black Sea. Incessant internal power struggles and naval defeat by Venice eventually saw Genoa fall back behind its Adriatic rival.

Genoa claims priority over Florence in the introduction of gold coinage in 1252. The new genovino d'oro is of the same value as its Florentine counterpart, although we do not know of an agreement between the two cities concerning this. The design follows that of all other Genoese coins since the granting of minting rights by King Conrad III in 1139: on one side a cross and the name and titles of King Conrad, on the other a city gate (or Ianua, the Latin name of Genoa) as a punning coat of arms.

Our example is from a later period, as can be seen from the rich Gothic ornamentation, and identifies the first Doge, Simone Boccanegra, by title and number, but not by name. In his first period of office (1339–1344) there were three issues, of which this piece belongs to the last, in which 208,561 coins were struck between March 1341 and April 1342. The letters at the ends of the legends on the obverse and reverse indicate the mintmasters responsible. At the same time, fractions of one-third and one-quarter were struck, but their small size and weight made them impractical in trade. From the beginning of the fifteenth century, the genovino was called a ducat and was struck under that name with an unaltered design until the first decades of the sixteenth century. However, it was unable to establish a supra-regional importance, and circulated only in the neighbourhood of Genoa.





KINGDOM OF FRANCE

King Philippe VI, 1328–1350

Pavillon d'or, n.d. (from 1339)

Mint uncertain

*Obverse:* † PHILIPPVS DEI GRA FRANCO RVM REX  
(Philippus dei gratia Francorum rex)

The king, crowned and enthroned in an open tent decorated with lys, his right hand raised and his left hand holding a sceptre

*Reverse:* ✠ XP' C VINCIT XP' C REGNAT XP' C IMPERAT  
(Christus vincit, Christus regnat, Christus imperat)

Cross fleury in a quatrefoil with crowns in the outer angles

Weight: 5.09 g · ø 30.7 mm

Literature: Lafaurie 254



The great conflict between France and England, known to history as the Hundred Years War, began in 1339. Edward III of England, as a grandson of Philippe IV, had a claim to the French throne which since 1328 had been occupied by Philippe VI de Valois, who was a descendant of a collateral line of the Capetians. Further important points at issue were the English feudal territory of Gascony in southwest France, and Flanders, which was important and desirable for both countries because of its trade and its woollen industries.

Philippe VI issued ten types of gold coin during his twenty-two-year reign, two of which also appeared as halves and some (such as the well-known écu d'or) in several issues. The raw material for such a multifarious coinage, with few exceptions ordered to be struck in 24-carat gold, was supplied *inter alia* by subsidies in the form of coin from the Popes resident at Avignon.

Seven different types of gold coin followed each other in quick succession between 1337 and 1341 alone, each revalued above its predecessor, since the war with England brought great financial stress. The pavillon d'or belongs to the issues of these years, and was put into circulation following the *ordonnance* of 8 June 1339. The obverse is filled by a great tent, whose French name "pavillon" gave the coin its name. It is opened wide from the front, decorated inside with lys, and gives a clear view of the enthroned king. The lys which decorates the top of the tent also indicates the start of the legend.

This piece is 994/1000 fine, and thus matches the defined standard. Attribution of the pavillon d'or to one of the 20 mints operating under Philippe VI is not yet possible.





## REPUBLIC OF VENICE

Doge Andrea Dandolo, 1343–1354

Ducato d'oro, n. d.

Mint: Venice

*Obverse:* ANDR DANDVLO; vertically: .S.M VNETI/DVX  
(Sanctus Marcus Venetiae)

St. Mark standing wearing a broad cloak, holding in his right hand a banner which he gives to the Doge, who kneels in his official robes and grasps it with both hands

*Reverse:* •SIT.T.XPG.DAT.QTV – REGIS ISTG DVCAT.

(Sit tibi Christe datus, quem tu regis, iste ducatus)

Christ framed by stars, standing in a mandorla, raising his right hand in blessing and holding a book in his left

Weight: 3.36 g · Ø 20.6 mm

Literature: CNI Vol. VII, p. 74, 39 var.



Medieval Venice was the capital of a far-flung empire, stretching from a small strip of the eastern Adriatic coast, through parts of modern Greece, to numerous Aegean islands including Crete, and with well-established settlements in Constantinople. These all formed the basis of extensive trade, on which the wealth of Venice (comparable to that of Constantinople) was based. The far-reaching and often very risky operations required methods of finance which soon produced an extensive banking system.

Venice also applied new methods to coinage, producing the first groat, later known as matapano, in connection with the Fourth Crusade, which led to the conquest of Constantinople in 1204. On 30 October 1284 the Grand Council decided to mint a gold coin, which in weight and fineness was to correspond to the fiorini d'oro produced at Florence for the past thirty years (Plate 21), and which as a result was difficult to fit into Venice's own weights and accounting system. The name of this coin was that originally used for the groat, "ducatus" (duchy), but with the addition of "aureus" indicating the metal. Later, the term ducato or ducat referred only to the gold coin, for which the name zecchino was also adopted, taken from the Italian word for mint (zecca). The obverse depicts an investiture, in which St. Mark hands over the ducal banner to the Doge, as a symbol of authority. The reverse states that Christ is the true lord of the duchy, which is placed under his protection. The representation of Christ and the two figures on the obverse follow Byzantine prototypes, indicating the main focus of Venetian trade. Imitations of the ducat are found exclusively in the eastern Mediterranean (Plate 29).





REPUBLIC OF MILAN

Signore Giovanni Visconti?, 1349-1354

Half-ambrosino d'oro, n. d.

Mint: Milan

*Obverse:* ✠ MEDIOLANVM

The letter M in a tressure of six arches

*Reverse:* ✠ S AMBROSIVS ✠

Bust of St. Ambrose in episcopal vestments, with mitre and nimbus

Weight: 1.74 g · Ø 15.8 mm

Literature: Orlandoni and Martin 20-21



With an estimated 200,000 inhabitants, Milan was probably the biggest of the medieval Italian city-states, representing in Lombardy an important power with which the German emperors were forced to reckon in their Italian politics. Here too, however, there were feuding parties, amongst whom the Visconti, first as Vicars of the Empire, and then from 1395 as dukes, were able to establish a formidable authority for themselves. Giovanni Visconti was at first Archbishop of Milan, before he became regent of the city with his nephews, temporarily adding Bologna and Genoa to its territories.

As kings of Italy, the German emperors from Otto I to Louis IV issued coins at Milan almost continuously. One of the earliest groats appeared here under the Emperor Henry VI (1190-1197).

The dating of the half-ambrosino, named after the patron saint of Milan, is controversial: suggestions range from the second half of the thirteenth century to the mid-fifteenth. Recent research attributes it to the period of the above-mentioned Archbishop Giovanni Visconti, and interprets the letter M on the obverse as the initial letter not of Milan (since the city-name appears in full in the legend) but of Mary, whom the Archbishop especially venerated. The evidence of coin-finds, which suggest that the piece must have been struck between 1330 and 1370, is stronger than this argument.

From its weight and fineness, the ambrosino was a half of the current florins and ducats, of which fractions do not exist. Milan perhaps sought to fill a gap in the monetary system by issuing this coin, but was however unsuccessful. The half-ambrosino was a short-lived episode, with no lasting impact.





## KINGDOM OF BOHEMIA

King Charles I (IV), 1346–1378, Emperor from 1355

Gulden, n. d. (1350–1355?)

Mint: Prague

*Obverse:* ✠ KAROLVS D - EI GRACIA

Crowned half-length figure with a cloak fastened at the breast, holding in the right hand a sceptre and in the left hand an orb (Reichsapfel)

*Reverse:* ✠ ROMANORVM ET BOEMIE REX

The two-tailed Bohemian lion

Weight: 3.51 g · Ø 20.8 mm

Literature: Berghaus 1



The Emperor Henry VII gave the kingdom of Bohemia as an imperial fief to his son John of Luxemburg in 1310. John in turn bequeathed it in 1346 to his son Charles, the first Bohemian king to bear that name. Shortly before, Charles had also been named King of the Germans by a majority of the Electors, in place of the Emperor Louis IV (Plate 23). During a reign of over thirty years, Charles paid special attention to Bohemia and its capital Prague, where in 1348 he founded the first German university. Bohemia's rich silver deposits made possible the first central European issue of groats around 1300. The first gold coinage followed in 1325.

As the reverse demonstrates, this Gulden is a Bohemian coin, not an imperial one. It was introduced in the course of a presumed coinage reform in Bohemia in 1350, and the design for the first time abandons simple imitation of the Florentine type. The obverse design clearly recalls French prototypes (Plate 25), albeit adapted to the smaller diameter of the Gulden. As had been the case for the first Bohemian Gulden, Italians were probably employed because of their expertise in the production of gold coinage. As well as this Gulden showing the open crown, there is another type with a high closed ("imperial") crown, which can be attributed to the years following Charles' imperial coronation in 1355. It is however much rarer than the first ("royal") type, which was only struck for five years, if this chronology is correct. Imitation by the small Netherlands lordship of Born suggests that the Bohemian Gulden were also known in western Europe. The coins are known both as Gulden and ducats, both of which designations are correct for that period since there was not yet a difference in value between the two. Bohemia, unlike Germany, where there was a gradual depreciation of the Gulden, maintained the original coinage standard, so that from the end of the fourteenth century the correct term is ducat.





PRINCIPALITY OF ACHAEA

Prince Robert of Anjou, 1346-1364

Ducato d'oro, n. d.

Mint: Clarentia

*Obverse:* ΛΗΥΡΥΛΗΥ ■ ΥΝΟ ΥΝΧ  
(a corruption of: Andrea Dandolo dux)

vertically: ∴. SNVENETT ∴.

(Sanctus Marcus Venetiae)

St. Mark standing wearing a broad cloak, holding in his right hand a banner which he gives to the Doge, who kneels in his official robes and grasps it with both hands

*Reverse:* ∴. ■ ΤΤΙΤΧΡ·ΣΕΛΤΕΥ - ΣΧΧΤΥΤΥΤΕΘ·V·ΑΛΤ·

(a corruption of: Sit tibi Christe datus, quem tu regis, iste ducatus)

Christ framed by stars, standing in a mandorla, raising his right hand in blessing and holding a book in his left

Weight: 3.49 g · Ø 23.9 mm

Literature: Schlumberger p. 320; pl. 21, 21



The principality of Achaea was set up in the Peloponnese as part of the fragmentation of the Byzantine Empire following the Fourth Crusade by Crusaders and Venetians in 1204, which also led to the establishment of the Empire of Nicaea in Asia Minor (Plate 7). Achaea was primarily a plaything of the French nobility, until it passed to the House of Anjou. Although Constantinople had meanwhile been recaptured by the Palaeologans, the princes of Achaea continued to bear the hereditary title of emperors of the Latin kingdom of Constantinople.

While still a minor, Robert took the title Prince of Achaea on the death of his father in 1332. His dominion became increasingly restricted to the mere title. Harassed by the Turks and a reinvigorated Byzantium, the territory of the principality shrank to the northwestern Peloponnese. Robert died at Naples in 1364 without an heir, and was succeeded by his widow, Marie de Bourbon.

In his own name, Robert struck small deniers of poor silver, on which the mint is named as Clarentia, then a well-known port on the northwest coast. He also struck a whole range of imitations of foreign coins, occasionally signed, but sometimes giving no indication of the issuer. This imitation of a Venetian ducat of the Doge Andrea Dandolo, a contemporary of Robert of Anjou, belongs to the latter category. Comparison with the original (Plate 26) shows obvious differences. The style is essentially clumsy and the unintelligible inscription includes Greek letters. Surprisingly, the standard comes close to that of the prototype, which is not the case for Robert's other issues.







## KINGDOM OF CASTILE

King Peter I, the Cruel, 1350–1369

Dobla, n. d.

Mint: Burgos

*Obverse:* ✠ PETRVS ✠ DEI ✠ GRACIA ✠ REX ✠ CASTELLE

Youthful bust of the king to left, with crown, long hair and royal robe;  
all within wire-line and pelleted borders

*Reverse:* ✠ PETRVS ✠ DEI ✠ GRACIA ✠ REX ✠ CLEGIENS

In the field the arms of Castile (a castle) and Leon (a lion), each twice;  
in the lower right field below the castle the letter B, mark of the Burgos mint

Weight: 4.53 g · Ø 26.6 mm

Literature: Heiss – cf. p. 57



When Peter I came to power, his kingdom already comprised most of modern Spain. Moorish influence was restricted to the kingdom of Granada. Peter was thus able to set up his residence in Seville (he built the Alcazar there), where he is also buried.

He was crowned king in 1350, and his reign was overshadowed by perpetual conflict with his half-brother Henry (Enrique) of Trastamara. These quarrels arose from Peter's behaviour in imprisoning under dubious pretexts his wife Blanche de Bourbon, a niece of Charles V of France, in order to devote himself to another woman. Henry obtained French help and Peter was forced to flee the country. He managed to return with English backing, but Henry was crowned King Henry II in Burgos in 1366. In the decisive battle at Montiel in the plain of La Mancha in 1369, Peter was stabbed to death by his half-brother.

The dobla was first struck under Peter's father as a continuation of an equivalent Almohad piece, when the Spaniards obtained large quantities of African gold. This wealth of gold found expression in the coins of 10 dobla produced under Peter I, who was the first king to place his portrait on the obverse of his coins, where he is depicted as a youth. The final union of the kingdoms of Castile and Leon is illustrated by the appearance on the reverse of the arms of both countries. The principal mints were Burgos and Seville, identified by their initial letter on the coins.

As well as the portrait dobla, Peter issued a further type and also fractions, which however did not bear a simple relationship to the larger piece.





KINGDOM OF FRANCE

King Jean II, le Bon, 1350–1364

Franc d'or à cheval, n. d. (from 1360)

Mint uncertain

*Obverse:* † IOHANNES: DI - : GRACIA: - FRANCORV: REX

(Johannes dei gratia Francorum rex)

The king riding to the left in full armour, his sword raised; armour and caparison are decorated with lys

*Reverse:* ✠ XPC ✠ VINCIT ✠ XPC ✠ REGNAT ✠ XPC ✠ IMPERAT

(Christus vincit, Christus regnat, Christus imperat)

Cross fleury in a quatrefoil, with trefoils in the outer angles

Weight: 3.81 g · Ø 29.9 mm

Literature: Lafaurie 297 var.



The conflict begun with England in 1339 continued under Jean II, who was notorious for his extravagance and above all for his military incompetence. After several defeats, the king was held prisoner in England in 1356 and did not return home until after the treaty of Brétigny-Calais in 1360. Unable to raise the agreed ransom of three million écus d'or, he voluntarily surrendered himself again to the English in January 1364. He died in April of the same year in London. In December 1360 Jean II issued a new coin, the franc d'or à cheval, whose name and design have a propaganda content. Franc means "free" and refers to the returned king, who through the choice of design declares his determination to renew the struggle with England and to exact retribution. This is also stressed by the lowered visor, the full gallop of the horse (whose hooves break out of the allotted space) and the brandished sword.

The franc d'or à cheval, the first coin to depict a French king on horseback, was struck in fine gold like its predecessors. The type was copied in the Burgundian Netherlands (Plate 46) and the kingdom of Naples (Plate 49).

The word "franc" is here met for the first time as the name of a coin.





KINGDOM OF ENGLAND

King Edward III, 1327–1377

Noble, n.d. (1361–1369)

Mint: London

*Obverse:* ♂ ED - WARD ꝛ DEI ꝛ GRA ꝛ REX ꝛ ANGL ꝛ DNS ꝛ hYB ꝛ S ꝛ AQ  
(Edwardus dei gratia rex Angliae dominus Hiberniae et Aquitaniae)  
The crowned king with sword and shield in a high-sided ship; the water is depicted by wavy lines

*Reverse:* ✠ IhC ꝛ AVTEM ꝛ TRANSIENS ꝛ PER ꝛ MEDIV ꝛ ILLORVM ꝛ IBAT  
(Jesus autem transiens per medium illorum ibat)  
Ornate cross fleury in a tressure of eight arches. In each angle of the cross, a crown and a leopard; in the middle, the letter E for Edward

Weight: 7.74 g · ø 33.8 mm

Literature: North 1232



The treaty of Brétigny-Calais in 1360 ended the first phase of the Hundred Years War. It brought considerable continental possessions to the island kingdom, and allowed uninterrupted delivery of her wool to the Flanders cloth industry. After barely a decade of peace, hostilities broke out again in 1369 with a revolt in Aquitaine.

Our noble, struck during this period of peace, is one of the most beautiful European coins of the late Middle Ages. It has a propaganda message comparable to that of the French franc d'or à cheval (Plate 31).

The depiction of the king in a ship refers to the naval victory over the French off Sluys, the harbour of Bruges, in 1340. The reverse legend also takes up the theme: but Jesus passing through the midst of them went His way (Luke 4,30). Edward III declares with his raised sword his readiness for the struggle, the object of which (the French throne) is proclaimed by the lys on his shield. The reverse is transformed into pure ornament, in which the Christian cross is barely recognisable: the whole resembles somewhat the rose-window of a Gothic cathedral. Changes in the detail of the obverse legend permit a chronological arrangement of the nobles, which were struck for most of Edward's reign. They show that this coin, with the Aquitaine title but lacking the French, was struck during the treaty period from 1361 to 1369.

In 1361 it was ordered that, of every pound of gold (the Tower pound of 348.16 g), half should be struck into ½-nobles, a third into nobles and a sixth into ¼-nobles.



COUNTY OF FLANDERS

Count Louis III de Mâle, 1346–1384

Lion helm, n. d. (1364–1370)

Mint: Ghent

*Obverse:* LV·DOVICVS·DEI·GRA·COM·S·D·NS·FLANDR·IE

(Ludovicus dei gratia comes et dominus Flandriae)

Lion in a large plumed helmet, seated on a Gothic estrade;  
beneath, the word FLANDRES

*Reverse:* ✠ BENEDICTVS·QVI·VENIT·IN·NOMINE·DOMINI

Cross fleury, in a tressure of 20 arches; in the angles and the middle,  
the letters FLAND

Weight: 5.36 g · Ø 33.4 mm

Literature: Gaillard 214 var.

The county of Flanders, which lay between the North Sea coast and the river Scheldt, was one of the richest lands of late medieval Europe. It owed its wealth principally to a highly developed cloth industry in the cities of Bruges, Ghent and Ypres, and to its trade. Here the Mediterranean met the Hanseatic trading circles of north and east Europe, served by fast and useful waterways. The prosperity of the land is displayed not only in the surviving buildings (churches, town-halls, cloth-halls) but also in its coins.

The coin created by Louis and known as the lion helm takes its name from the heraldic animal of Flanders on its obverse. The lion wears an enormous helmet, whose plume reaches the top of the coin. The name of the county under the skirt-ing is repeated at the end of the legend, and appears a third time on the reverse. The original form of the cross has here completely disappeared: the Christian symbol becomes mere ornament. From surviving mint statistics, the lion helm was not a rare coin. Between 10 February 1364 and 5 August 1370, the mint of Ghent produced 1,253,025 pieces, of the same design and quality. This figure represents about 6,700 kg of gold. There is also a half-denomination whose output was comparatively small (19,500 pieces).





## COUNTY OF FLANDERS

Count Louis III de Mâle, 1346–1384

Flandres (franc à pied), n. d. (1369/70)

Mint: Ghent

*Obverse:* L-VDOVIC'·DEI·G'·COM'·S·DNS·FLANDRI·E

(Ludovicus dei gratia comes et dominus Flandriae)

The count standing in a Gothic housing, crowned and wearing over his armour an ermine cloak decorated with a lion. He holds a sword in his right hand and his left hand rests on a lion-shield. On the left is a helmet, and below, the word FLANDRES

*Reverse:* ✠ BENEDICTVS · QVI · VENIT · IN · NOMINE · DOMINI

Cross fleury in a quatrefoil; in the angles the letters FLAD,  
and in the middle a lion

Weight: 4.16 g · Ø 30.6 mm

Literature: Gaillard 217 var.



The reign of Count Louis was decisive in both internal and external matters. Flanders was one of the bones of contention in the Hundred Years War between France and England, which lasted from 1337 to 1453. While Louis sided with France, the cities orientated themselves more towards England, because of the wool industry. The years 1343–1349 and 1379 were marked by weavers' riots; in 1382 the city of Ghent itself rose against the count and was defeated in the battle of Roosebeke.

During his long reign, Louis de Mâle issued a multifarious and extremely rich series of gold coins, which consisted of 13 denominations (including fractions) with 8 designs. These included both independent creations such as the lion helm on the previous plate and imitations of French coins. Thus the Flandres has its origins in the franc à pied, first struck by Charles V in 1365, on which the French king is represented standing (à pied) rather than on horseback (à cheval). The Flemish coin is only slightly altered vis-à-vis the original. The helmet and lion-shield are added on the obverse. The Flanders lion decorates both Louis' cloak and the middle of the cross on the reverse. Here the French crowns and lys are replaced by the abbreviated name of the county. The name is also given in full on the obverse below the count and this apparently gave the coin its name. According to mint records, the Flandres was struck at Ghent for only a little over a year, 21 April 1369 to 5 August 1370, with an output of 684,500 pieces.





## DUCHY OF BRABANT

Duchess Johanna and Duke Wenceslaus, 1355–1383

Pieter, n. d. (1374–1383)

Mint: Louvain

*Obverse:* ✠ WENCGLAVS ꝛ ꝛ IOHANNA ✠ - ✠ DEI ꝛ GRA ꝛ BRAB ꝛ DUCES

(Wenceslaus et Johanna dei gratia Brabantiae duces)

Bust of St. Peter holding book and key, in a tressure of nine arches, over a quartered shield with the two-tailed lions of Bohemia and Limburg (1, 4) and the single-tailed lions of Brabant and Luxemburg (2, 3)

*Reverse:* ✠ XPꝀ ꝛ VIꝀCIT ꝛ XPꝀ ꝛ REGꝀAT ꝛ XPꝀ ꝛ IMPꝀRAT

(Christus vincit, Christus regnat, Christus imperat)

The cross transformed into ornament, with a rosette in the centre

Weight: 4.05 g · ø 27.3 mm

Literature: de Witte 390



The duchy of Brabant occupied the area of modern Belgium and the southern Netherlands between the rivers Maas and Scheldt. The affiliated small duchy of Limburg lay on the right of the Maas, separated from Brabant by the bishopric of Liège. Johanna was the heiress to the duchies, since her three brothers all predeceased their father Jean III. The latter had betrothed her in 1347 to Wenceslaus, son of John the Blind, king of Bohemia and count of Luxemburg, and brother to the Emperor Charles IV; he was 15 years younger than his wife.

Like neighbouring Flanders, Brabant was a wealthy land, thanks principally to her cloth industry. The first gold coins – florins and shields – were struck under Jean III (1312–1355), the latter in imitation of French prototypes.

The striking of Pieters, which were 995/1000 fine, probably started in 1374 and continued without alteration until the end of the reign. They took their name from the bust of St. Peter on the obverse – the patron saint of Louvain, where they were struck. Gros and half-gros depicting St. Peter were also struck here under Jean III.

The Pieter was a very popular coin, and was soon imitated by the neighbouring Prince-bishop of Liège, Jean d'Arckel (1364–1378).

As well as the Pieter, Johanna and Wenceslaus struck other gold types: single and double Lamm at Vilvorde, riders at Louvain and St. Servatius-Gulden at Maastricht.





KINGDOM OF HUNGARY

Queen Maria d'Anjou, 1382-1387

Gulden, n. d. (1385/86)

Mint: Kremnitz?

*Obverse:* ✠ MARIÆ · DEI · G · R · VNGARIE

(Maria dei gratia regina Ungariae)

The arms of Old-Hungary and Anjou within a tressure of six arches subdivided into eighteen

*Reverse:* S · LADISL · AVS · RĚ

St. Ladislaus, crowned, standing holding in his right hand a battleaxe, and in his left hand the orb (Reichsapfel); on either side of him, the mintmarks G - M

Weight: 3.56 g · ø 20.5 mm

Literature: Pohl C 2-1



King Louis d'Anjou of Hungary died in 1382, leaving his twelve-year-old daughter Maria as heiress. She was later betrothed to a younger son of the Emperor Charles IV, the future Emperor Sigismund. During her mother's regency, Maria was opposed by two claimants from the Houses of Orléans and Anjou-Naples, who fought each other. After his marriage with Maria, Sigismund was elected king of Hungary in 1387.

The most important parts of the country must have supported Maria, since all the coins known from this period are in her name. Because her reign was short and turbulent, they are distinctly rare. However, since she had access to the gold mines of Kremnitz in north Hungary, she was able to continue the gold coinage of her father Louis, using the same type, which had been introduced in the 1360s. St. Ladislaus, who appears on the reverse, was a king of Hungary in the second half of the eleventh century, and was canonised in 1192. He replaced St. John the Baptist on the gold coinage (Appendix, F1) and the type remained in use until the seventeenth century, being retained also by the Habsburgs. Because of the unsettled conditions under Maria, it is impossible to interpret the two letters which on Hungarian gold coins identify the mint and the responsible official. The mint of this Gulden is thus uncertain, but it could well be Kremnitz, which was later the principal mint for gold. These coins were known as Gulden, since they derived from the florin. However, they maintained their original high fineness: this piece as well is of fine gold. Because of their value, they became universally known as ducats from the beginning of the sixteenth century.





COUNTY OF FLANDERS

Philip the Bold, Duke of Burgundy, 1384-1404

Double helm, n. d. (1386/87)

Mint: Ghent

*Obverse:* † - PHILIPP' x DEI x G' x DVX x BVRG' x x COM' x FLAND'

(Philippus dei gratia dux Burgundiae et comes Flandriae)

The arms of Burgundy and Flanders, each with a plumed helmet, inclined towards each other, with a star between them

*Reverse:* † SIT x NOMEN x DOMINI x BENEDICTVM

Cross fleury in a quatrefoil

Weight: 4.05 g · Ø 29.6 mm

Literature: Delmonte 471



Philip, who is said to have owed his nickname "the Bold" to his bravery against the English in the battle of Poitiers, received the duchy of Burgundy as a fief from his father, Jean II of France. Through his marriage with Margaret, the only daughter and heiress of Count Louis III de Mâle, he acquired extensive territories on the latter's death. As well as Flanders, these included the county of Artois, which bordered it to the south, and the free county of Burgundy, which lay east of the duchy of the same name.

Philip the Bold was the first of four Burgundian dukes who ruled territories in the Netherlands for nearly a century until 1477, and who from time to time lived there.

At first Philip struck écus in Flanders, imitating those of his father-in-law. On 16 July 1384 he came to an agreement with his aunt Johanna of Brabant, whereby the gold and silver coins issued by the two rulers in Flanders and Brabant should be struck to the same standards and bear identical designs. This treaty was meant to run for five years, but striking had to be discontinued at the end of 1385, since France had debased her coinage, and Flanders and Brabant were obliged to follow suit. Thus a new lighter coin, the double helm containing 3.84 g of pure gold, was issued in October 1386, whereas the previous coin struck under the treaty, the double shield, had contained 4.75 g. A year later the new coin was replaced by the gold angel, which was further reduced in value.

The Burgundian shield on the obverse of the double helm is quartered, with the lys of the House of Valois (to which Philip belonged) and the three bends of the arms of Burgundy. The second shield bears the Flanders lion.







## RHENISH PALATINATE

Elector Rupert II, 1390–1398

Gulden, n. d. (1391–c. 1393)

Mint: Oppenheim

*Obverse:* RVPRT·DV·X COMS P̄AL

(Rupertus dux comes palatinus)

St. John the Baptist in a belted garment and cape. His right hand is raised and in his left hand he holds a cross-staff; between his bare feet there is a single-headed eagle

*Reverse:* ·MONET·Λ·I·OPP·ENHEI

(Moneta in Oppenheim)

Trefoil, with in the centre the quartered shield of Palatinate-Bavaria and in the corners the family arms of the Electors of Mainz, Trier and Cologne

Weight: 3.49 g · Ø 21.1 mm

Literature: Noss, Ruprechtsgoldgulden 94a



The family settlement of Pavia, concluded in 1329 between the Emperor Louis of Bavaria, his sons and his brother's grandson, separated the possessions of the Wittelsbachs in the Palatinate and Bavaria. The Palatine territory consisted of the Upper Palatinate and scattered possessions on either side of the Upper and Middle Rhine, which Rupert I (1353–1390) was able to enlarge by the purchase of Oppenheim, Kaiserslautern, Zweibrücken, Simmern, Mosbach, etc. This County Palatine on the Rhine finally received the Electoral dignity through the Golden Bull of 1356. In 1386 a further university (after Prague and Vienna) was established within the German Empire, at the residence of Heidelberg.

Rupert II, successor to his namesake uncle as Elector Palatine, obtained King Wenceslaus' approval of the so-called Rupertine Constitution, which stated that the Palatinate should be indivisible and inherited by the eldest son.

The Gulden illustrated here belongs to the issues of the third Electoral Rhenish coinage treaty, concluded by the Electors of Mainz, Trier, Cologne and the Palatinate on 26 January 1391 at Boppard on the Rhine. This treaty contained essentially the same provisions for the minting of gold and silver coins as the previous two of 1385 and 1386. The fineness of 23 carats (958/1000) and the design and legends were prescribed for all partners. Thus St. John the Baptist appears on one side as on the florins, and the eagle between his feet is a symbol of the treaty. The legend gives the name and title of Rupert II. On the reverse a trefoil contains the arms of the issuers. The three other partners are represented, unusually, by their family arms, instead of the more customary episcopal arms: top left, Archbishop Conrad of Weinsberg (Mainz); top right, Werner of Falkenstein (Trier, with the Münzenberg shield) and below, Frederick of Saarwerden (Cologne).





## PRINCE-BISHOPRIC OF UTRECHT

Prince-bishop Frederick of Blankenheim, 1393–1423

Gulden, n. d. (1415–1420)

Mint: Hasselt or Rhenen

*Obverse:* † DNS · FREDERIC · EPC · TRAIECTENS ·

(Dominus Fredericus episcopus Traiectensis)

Quatrefoil containing an eagle-shield in the centre and four small coats of arms in the corners

*Reverse:* · - S · IOHANNES - BAPTISTA

St. John the Baptist in a belted garment and cape. His right hand is raised and in his left hand he holds a cross-staff; between his bare feet there is a cross and at the end of the legend a lion

Weight: 3.37 g · ø 23.6 mm

Literature: v. d. Chijs, Utrecht p. 155, no. 1; pl. XIII, 1 – Delmonte 929



The bishopric of Utrecht, which was founded in 696, comprised in the main the present Netherlands provinces of Utrecht, Overijssel and Drenthe. It was divided, by the duchy of Guelders, into a larger upper bishopric and a smaller lower bishopric with the episcopal seat at Utrecht, which lay on the “Krummen” or Old Rhine and was a popular residence of the German emperors during the Middle Ages. The bishops struck pence as early as the eleventh century, which, with those of the counts and dukes of Guelders, were among the more important coin types of north Germany.

Under Prince-bishop Frederick, silver coinage was dominant; gold coins are not known until late in his reign. Whereas his predecessors had orientated themselves towards both French and Rhenish types – écus and Gulden – Frederick restricted himself to the issue of various types of Gulden. The piece illustrated here is a so-called “Dominus-Fredericus-Gulden”, which takes its name from the unusual title “dominus” (lord) at the beginning of the legend. Its direct prototype, copied in virtually all details, is a coin of Reinald IV, Duke of Guelders and Jülich, from his Guelders mint of Arnhem. Apart from the obverse legend, Frederick of Blankenheim has only altered the small right-hand coat of arms to the episcopal arms. This Gulden of Reinald, which circulated widely in both parts of the bishopric, was in its turn modelled on issues of the Rhenish Electors: obverse and reverse follow designs introduced in the Electoral Rhenish coinage treaty of 1399 – St. John the Baptist and the arms of the partners within a quatrefoil – including the cross as the symbol of the treaty (Appendix, R 14). While the Guelders Gulden were struck from 1409, the Utrecht coins may be dated (from surviving accounts) to the years 1415 to 1420.

Their fineness is about 610/1000 and is thus substantially lower than that of contemporary Rhenish Gulden.





KINGDOM OF FRANCE

King Charles VI, 1380-1422

Mouton d'or, n.d. (10 May - 20 October 1417)

Mint: Villeneuve-Saint-André-lès-Avignon

*Obverse:* ✠ ΛΓΝϞ DEI QVI TOLL PCCAT MVDI MIS NOB

(Agnus Dei qui tollis peccata mundi miserere nobis)

Within a tressure of nine arches, the Lamb with nimbate head turned back towards a cross-banner; below, the letters KFRX = Karolus Francorum Rex

*Reverse:* ✠ ΧΡC ★ VIHCIT ★ ΧΡC ★ ΡΕΓΝΑΤ ★ ΧΡC ★ ΙΠΕΡΑΤ

(Christus vincit, Christus regnat, Christus imperat)

Cross fleury in a quatrefoil with inserted spikes; lys in the angles of the cross and the outer angles of the border

Weight: 2.31 g · Ø 24.1 mm

Literature: Lafaurie 380 var.



Charles VI, who was only twelve when his father died, was at first under the guardianship of a number of feuding relatives. He became insane in 1392, a few years after his majority, whereupon two princes of the royal family, his uncle Philip the Bold of Burgundy (Plate 37) and his brother Louis II, Duke of Orléans, assumed power, which they exercised ruthlessly in their own political interests. The mouton d'or depicts on its obverse a lamb with a cross-banner as an emblem of Christ, who was sacrificed for mankind. The legend "O lamb of God, that takest away the sins of the world, have mercy upon us" is adapted from St. John's Gospel, chapter 1, verse 29, and is based on John the Baptist's description of Jesus. Moutons d'or had already been struck during the fourteenth century by Philippe IV and his successors, as well as Jean II. They were frequently copied in Flanders, Brabant, Guelders, Liège, Heinsberg and elsewhere.

The mouton d'or struck following the *ordonnance* of Charles VI of 10 May 1417 had a theoretical weight of 2.549 g. For the first issue the fineness was set at 23 carats (958/1000) and for the second, which was current as from 21 October of the same year, at 22 carats (916/1000). The fineness of this piece is about 940/1000. The system of mint identification by pellets in the legends was introduced in September 1389. This piece was struck at the mint of Villeneuve-Saint-André-lès-Avignon, opened in 1391, identified by a pellet beneath the 20th letter of each legend, i. e. beneath the V of MVDI on the obverse and under the P of the third XPC on the reverse.





KINGDOM OF GERMANY

King Sigmund, 1410–1437, Emperor from 1433

Gulden, n. d. (1415–1421?)

Mint: Nuremberg

*Obverse:* SIGISMUNDVS RO REX

(Sigismundus Romanorum rex)

Crowned half-length figure, holding in his right hand a sword, and in his left hand the orb (Reichsapfel)

*Reverse:* † MONETA NOVA NUREMBERG

Single-headed eagle, on its breast the arms of Hungary (double cross)

Weight: 3.49 g · ø 22.6 mm

Literature: Imhof p.53,12



Nuremberg developed quickly from a royal castle with a market and royal residence into an important city for the empire, whose crafts and trade embodied remarkable economic potential. The beginnings of a royal coinage in Nuremberg probably date from the eleventh century, although this is not proven. In the mid-fourteenth century the imperial mint was pawned to the Nuremberg merchant family of Gross, who possessed the mint for Hellers at Frankfurt am Main. In 1402 the pledge for the Nuremberg mint, now in the hands of Herdegen Valzner, was adjusted from 4000 pounds of Hellers to 4000 Gulden and at the same time the production of gold coins was permitted. But this did not take place until the lease had been reconfirmed in 1414 under King Sig(is)mund, since the Gulden bear his name. They are first mentioned in a Frankfurt coinage trial at the autumn fair of 1419, where they were certified to have a fineness above the prescribed 19 carats (791/1000), which is also true of this piece. The king received only half the profits of the coinage, with the other half going to Valzner. From the numerous die-varieties the output (and thus the profits) must have been considerable. The end of the coinage is as unclear as its beginning. In 1419 King Sigmund made over the imperial mint to the Nuremberg Burgrave Frederick of Hohenzollern, whom he had invested with the Mark of Brandenburg in 1415 for his services in various political missions. Frederick did not order new Gulden dies in Frankfurt until 1422, which may mean that he had at first continued to use the existing dies, which did not indicate anything that was untrue. However, we have no evidence of this. In order to evade control by the city, Frederick transferred production from Nuremberg to Wöhrd. But Nuremberg's efforts to gain control of the imperial mint itself had already succeeded by 1424. The royal gold coinage thereupon came to an end after less than a decade. The coins, unlike those of other imperial mints, are not of the Apfelgulden type (Plate 51 and Appendix, A).





## DUCHY OF JÜLICH

Duke Reinald, 1402–1423

Gulden, n. d. (1421)

Mint: Bergheim

*Obverse:* \*REIN\*DVX\*I - VLI GLEOR\*

(Reinaldus dux Iuliacensis Geldriae et comes Zutphaniae)

St. Peter standing wearing a broad cloak. He holds a key in his right hand and a closed book in his left. In front of his legs, a shield with the Guelders lion. By his right shoulder a cross and a pellet

*Reverse:* \*MON\* - \*NOV\* - \*BER\* - \*GhG\*

(Moneta nova Bergheimensis)

Within a quatrefoil, a lion-shield; in the corners the arms of Mainz (top), Cologne (left), Trier (right) and Bavaria for the Palatinate (bottom)

Weight: 3.42 g · ø 22.7 mm

Literature: Noss, Jülich 183 a-d



Reinald was the last duke of Jülich and Guelders, which had been united since 1393 and formed the largest secular territory on the lower Rhine, stretching westwards of the Cologne archbishopric between the Maas and the Rhine. When Reinald died in 1423 without a successor, Jülich passed to Duke Adolf of Berg. The monetary politics of Jülich were aligned with those of Cologne, and Reinald thus tried to join the Rhenish Monetary Union. In 1417 he was included in a treaty between Mainz, Trier and the Palatinate, and two years later was a partner in the eighth and in 1420 in the ninth Electoral Rhenish treaties, to which all four Electors and the city of Cologne subscribed. Since the Union now comprised five members with minting rights, the reverse design had to be altered from the existing trefoil to a quatrefoil, to accommodate all of the coats of arms. The Palatinate is represented here by the Bavarian arms (lozenges), since the Palatine lion could be confused with that of Jülich in the centre. The city of Cologne did not yet possess minting rights, and does not appear on the Gulden. The obverse of the treaty Gulden was also altered: St. Peter appears in place of St. John the Baptist, with the arms of the issuer at his feet, in accordance with the treaty. For this Reinald selected the Guelders lion, recognisable by its double tail, even though Guelders did not belong to the treaty area.

The obverse legend is highly abbreviated. The cross and pellet are marks which made a subsequent check possible: Gulden with these marks from other mints in the Union were listed in a Frankfurt trial report of 24 November 1421. The Jülich Gulden should therefore be contemporary. In the 1420 treaty, the fineness of the Gulden was fixed at 19 carats.





IMPERIAL CITY OF LÜBECK

Gulden, n.d. (15th century)

Mint: Lübeck

*Obverse:* MONETA ✠ - LVBICEN double-headed eagle

St. John the Baptist, nimbate, wearing a skin cloak, within an oval border; his right hand is raised and in his left hand he holds a cross-staff; the middle of the coin bears a subsequent countermark consisting of a double-headed eagle

*Reverse:* S·IOHANNES - BAPTIST double-headed eagle

Design as on the obverse

Weight: 3.54 g · Ø 23.0 mm

Literature: Behrens 67f var. Countermark: Krusy L 4,6



Lübeck occupied a special position amongst German cities, being one of the first to become a free city and receive minting rights from Frederick II in 1226. This is also true of the right to mint gold, granted by Louis IV in 1340.

Although we are well informed about the first Lübeck gold coinage, from the supply of material from Bruges and the appointment of an Italian mintmaster to the number of pieces struck, very little is known of the later fifteenth-century issues. The imitation of the florin (Appendix, F18) was replaced, probably at the beginning of the fifteenth century, by this type, which surprisingly depicts St. John the Baptist on both sides. The double-headed eagle privy-mark by St. John's head is taken over from the old Gulden, but now appears on both sides, probably to indicate its new status as the city coat of arms.

The engraver was not very skilful, otherwise he would have avoided numerous overlaps of different parts of the design, resulting from the oval frame around the figure of St. John, which looks as if it had been added as an afterthought. A third double-headed eagle has been subsequently stamped on the obverse at right angles to St. John's body; its impression shows on the reverse. Such countermarking was quite common in the Middle Ages, to inform the citizens of the different values, especially of foreign coins, and to protect them against loss. In this case, however, Lübeck marked its own coins, which unlike all other German Gulden had maintained their value, i.e. they should now be called ducats, even though they still bear the florin type of St. John the Baptist. Lack of documentary evidence prevents any precise statement about this stamping, or even its date. It must have taken place during the fifteenth century, but not before 1423, when the debased Netherlands Gulden came into circulation and even the Rhenish Gulden were repeatedly debased.





KINGDOM OF FRANCE

King Henry VI of England, 1422-1453

Salut d'or, n. d. (from 1423)

Mint: Saint-Lô

*Obverse:* ✠HENRICVS:DEI:GRA:FRANCORV:Z:AGLIG:REG

(Henricus dei gratia Francorum et Angliae rex)

On the left behind the French arms, the Virgin Mary with her hands raised; on the right behind the quartered arms of France and England, the archangel Gabriel, holding aloft a scroll with the word AVE

*Reverse:* ✠XPC✠VINCIT✠XPC✠REGNIAT✠XPC✠IMPERAT

(Christus vincit, Christus regnat, Christus imperat)

A simple cross in a tressure of ten arches; on its left the French lys and on its right the English leopard; below, h for Henry

Weight: 3.44 g · ø 26.3 mm

Literature: Lafaurie 447a



The English claim to the French throne was acknowledged by the treaty of Troyes in 1420 and ratified by the marriage of Catherine, daughter of the French king, to the English ruler (Henry V). The son produced by this union was barely nine months old when he inherited England and France through the deaths of both kings in 1422. During Henry VI's reign, the English gradually lost their possessions on the Continent; only Calais remained in their hands until the sixteenth century. The Hundred Years War between the two kingdoms, and with it English rule on the Continent, ended in 1453.

In 1421, Charles VI of France and Henry V of England issued, a few months apart, saluts d'or of a single type, depicting the Annunciation and differing only in the coat of arms between Mary and the archangel Gabriel. These pieces were interpreted as peace- and marriage-coins, referring to the treaty of Troyes and the marriage of Henry V and Catherine of France. The first issue of gold under Henry VI is a slightly modified version of these coins. Its design and legend refer to the personal union of the two kingdoms in 1422, with the French arms placed before Mary and those of England in front of the archangel. The legend names Henry as king of France and England.

The lys at the beginning of the legends is the mark of the mint of Saint-Lô in Normandy, active under Henry VI from 1422 to 1449.





KINGDOM OF FRANCE

King Charles VII, 1422-1461

Royal d'or, n. d. (from 1431)

Mint: Tours

*Obverse:* ΚΑΡΟΛΥΣ·ΔΕΙ·ΓΡ·-·ΦΡΑΝΚΟΡΥ·ΡΕΧ

(Karolus dei gratia Francorum rex)

The king standing, wearing a robe and a mantle whose edges are decorated with borders of lys; he holds lys-sceptres in both hands and the field is filled with lys

*Reverse:* ✠ ΧΡΣ·ΒΙΝΣΙΤ·ΧΡΣ·ΡΕΓΗΛΤ·ΧΡΣ·ΙΜΡΕΛΤ·✠

(Christus vincit, Christus regnat, Christus imperat)

Cross fleury in a quatrefoil; a crown in each outer angle

Weight: 3.74 g · Ø 29.6 mm

Literature: Lafaurie 459 c var.



The treaty of Troyes secured absolute supremacy in France for England, and excluded the Dauphin Charles VII from succession to the French throne. Following his father's death in 1422, Charles retained only the areas south of the Loire. The northern part, including the capital Paris, was in English hands. The turning point for France was the appearance of Joan of Domrémy, on the Lorraine border, better known as Joan of Arc. With the help of a French army, she succeeded in relieving Orléans, which was besieged by the English, and bringing Charles VII to Reims, where on 17 July 1429 he was solemnly crowned king of France.

These events were directly reflected in the coinage on the royal d'or, the first issue of which was ordered on 9 October 1429. The obverse depicts the new king in all his majesty, dressed in a splendid cloak and holding a lys-sceptre in each hand. The piece illustrated here belongs to the fourth issue of 4 December 1431. The mintmark under a given letter is no longer a pellet but a lys, here beneath the sixth letter, indicating the mint of Tours. As already repeatedly pointed out, and in spite of all political changes, the reverse bears the same type as before. A constant theoretical fineness of 1000/1000 was prescribed for all four issues.





COUNTY OF FLANDERS

Philip the Good, Duke of Burgundy, 1419–1467

Rider, n. d. (1434–1447)

Mint: Ghent

*Obverse:* PH·S·DEI·GR·A·DVX·BVRG·ET·COM·E·S·FL·ANDRI·E  
(Philippus dei gratia dux Burgundiae et comes Flandriae)

The duke in knight's armour and with a raised sword in his right hand, seated on a horse galloping to the right; below, the word xFLANDx

*Reverse:* ✠ SIT · NOMEN · DOMINI · BENEDICTVM · AMEN · ✠

The Burgundian arms, with a Flanders lion-shield inescutcheon, over a cross fleury; at the end of the legend, the Burgundian emblem, a briquet

Weight: 3.59 g · ø 27.7 mm

Literature: van Gelder and Hoc 1–2

Philip the Good came to power in 1419 at the age of 23, following the murder of his father John the Fearless by adherents of the successor to the French throne. During a long reign of nearly half a century, he proceeded to enlarge the Netherlands possessions of the House of Burgundy, single-mindedly and with skilful diplomacy. Through purchase, inheritance and political coercion, he acquired Namur, Brabant and Limburg, Hainaut, Holland and Zeeland, and finally Luxemburg. The bishoprics of Cambrai, Liège and Utrecht were occupied by members of his family, and thus stood under his patronage as well.

In 1433 the duke introduced a uniform coinage system, which prescribed a coinage of a single type and standard for the four provinces (Brabant, Flanders, Hainaut and Holland) into which the Netherlands had been divided. Each province was only allowed a single mint.

The new gold coin was the Philippus, which soon became better known as the rider, because of its obverse type. With this type, Philip continued a motif whose prototype is the franc d'or à cheval introduced in France in 1360 (Plate 31) and which had previously been adopted by Louis de Mâle in Flanders. Philip's type is altered from the French issue: on the one hand the duke rides to the right, and on the other his cloak and the caparison of his horse are not decorated with lys. The reverse still bears a cross fleury, but the centre is overlaid by the quartered arms of Burgundy. The county of Flanders is again named in an abbreviated form beneath the mounted duke. The coin was struck at Ghent.

According to surviving records, the Ghent mint struck 944,099 riders between 1433 and 1447, sometimes producing over 5,000 pieces in a day. Total output from all four mints was 1,559,264 pieces. The fineness of the rider, 992/1000, corresponded to that of the French salut d'or.





KINGDOM OF CASTILE

King John II, 1406–1454

Dobla de la Banda, n. d. (from 1442)

Mint: Seville

*Obverse:* † IOHANNES DEI GRA REX CASTELLE T

Shield bearing the ribbon of the Order of la Banda with a lion's head at each end

*Reverse:* † IOHANNES DEI GRA REX CASTELLE

The arms of Castile (a castle) and Leon (a lion) in a quartered field, with the letter S in the middle at the top as a mintmark

Weight: 4.50 g · ø 31.8 mm

Literature: Heiss – cf. p. 91, 2–3



John II was proclaimed king in Toledo when barely two years old, following the death of his 26-year-old father; the regency was controlled by his mother and uncle. The Cortes in Madrid, which had been the capital since 1405, declared the young king to be of age in 1419, and the following year he married his cousin Maria of Aragon. John's reign was characterised on the one hand by internal tensions arising from favouritism, and on the other by the first attempts to colonise West Africa, where the crown expressly claimed all mining royalties.

John introduced as a new coin type the dobla de la Banda, whose obverse bears a shield with the ribbon of the chivalric order of that name. The reverse shows the arms typical of Castilian coins and the same legend as the obverse, apart from the letter T, which perhaps signifies the mintmaster. The ordinance of 1442 which introduced this coin prescribed a fineness of 19 carats or 791/1000, representing a distinct debasement compared with earlier coins. In addition to these one-dobla pieces, John also had coins struck of 10 doblas (45 g) and 20 doblas (90 g). There are also 50-dobla coins of his successor, which are by far the largest medieval coins, weighing 229 g, and provide evidence of Spain's continuing wealth in gold. These pieces were far too valuable for normal transactions and must merely have been presentation-pieces.





KINGDOM OF FRANCE

King Charles VII, 1422–1461

Écu d'or à la couronne, n. d. (from 1449)

Mint: Saint-Lô

*Obverse:* ✠ KAROLVS DEI GRA FRANCORVM REX

(Karolus dei gratia Francorum rex)

A large crowned shield with three lys, with a lys below a small crown to either side

*Reverse:* ✠ XPC VINCIT XPC REGNAT XPC IMPERAT

(Christus vincit, Christus regnat, Christus imperat)

Simple cross fleury with a crown in each angle, within a quatrefoil

Weight: 3.41 g · ø 28.9 mm

Literature: Lafaurie 510 d



Charles VII succeeded progressively within 25 years in reconquering the areas occupied by the English king in southwestern and northern France (cf. Plates 44 and 45). In 1436 he ceremonially entered the liberated capital, Paris, and towards 1450 he regained the whole of Normandy. Finally, in 1453, even Aquitaine, the kernel of the English possessions, was in his hands.

One of Charles VII's fundamental internal reforms was the Pragmatic Sanction of Bourges, which gave the king decisive power over the Church; another was the setting up of a standing army.

The term écu d'or (golden shield) is a collective name for a series of French gold coins which are classified more precisely by supplementary details taken from their designs. Charles VII struck the écu d'or à la couronne, introduced by his father in 1385, to the same design but initially with a reduced fineness. The growing success of the king in the war with the English also stabilised the coinage from the mid-1430s. This was primarily due to the merchant Jacques Cœur, to whom the king had handed over the coinage and the whole financial administration. The sole gold coin type, apart from its associated half, is the écu d'or à la couronne, known in short as the "new" écu, recognisable from the crowned lys either side of the coat of arms.

Being a popular and stable coin, the écu was imitated outside France, and spread above all in the Netherlands as the "gouden Kroon". The example here has a *point-secret* beneath the nineteenth letter, which from 1449 was the mark of the mint of Saint-Lô.



KINGDOM OF NAPLES

King Alfonso I, 1442–1458

Ducatone (Alfonsino) d'oro, n. d.

Mint: Naples

*Obverse:* † ALFONSV · D · G · R · ARAGO · SICILI · CITR · VLTR ·

(Alfonsus dei gratia rex Aragoniae Siciliae citerioris ulteriorisque)

In the field upper right and lower left the arms of Aragon, with those of Hungary, Naples and Jerusalem in the other two quarters

*Reverse:* † DNS · M · ADIVTO · ET EGO · DESPICIA · INIMIC · M ·

(Dominus mihi adiutor et ego despiciam inimicos meos)

Knight in armour with lowered visor and raised sword on a galloping horse with flowing trappings

Weight: 5.23 g · ø 28.1 mm

Literature: CNI Vol. XIX, p. 57, 24 var.

During the Middle Ages, Naples and southern Italy experienced conquest and rule by foreigners on several occasions (Plates 17, 20). After the revolt against the rule of the French House of Anjou in 1282, known to history as the Sicilian Vespers, the island came into the hands of the Spanish House of Aragon. Alfonso V of Aragon also conquered Naples in 1442, being unable to assert his hereditary claims in any other way, and reigned there as Alfonso I. Thus the House of Aragon achieved a remarkable position in the western Mediterranean basin, which was reflected in their coinage, since their groats of Barcelona, Mallorca, Sardinia and Sicily played an important role during the fourteenth century. After Alfonso's death, the joint rule of Naples and Sicily came to an end.

Among his Italian possessions, Alfonso struck gold coinage only in Naples. He obtained the wherewithal for this by grain sales to north Africa during a famine. In its weight and fineness, the ducatone was equivalent to 1½ of the ducats which were meanwhile being struck in many parts of Italy, copying the Venetian prototype. The pattern for the reverse type was the French franc d'or à cheval (Plate 31) and the legend is taken from Psalm 118. The arms on the obverse fill the whole field, with the Aragonese arms especially prominent. The threefold arms go back to the House of Anjou, which through inheritance and marriage included the arms of Hungary and Jerusalem. Naples itself is not mentioned, but is embodied in the expression "Sicily here and beyond".





## COUNTY OF FLANDERS

Philip the Good, Duke of Burgundy, 1419–1467

Lion, n. d. (1454–1460)

Mint: Bruges or Ghent

*Obverse:* PHILIPPUS DEI GRATIA DUX BURGUNDIE COMES FLANDRIAE

(Philippus dei gratia dux Burgundiae comes Flandriae)

Lion seated beneath a Gothic baldachino; in the field left and right, briquets (the Burgundian emblem)

*Reverse:* SIT NOMEN DOMINI BENEDICTUM AMEN

The Burgundian arms bearing an inescutcheon with the arms of Flanders, over a cross fleury; at the end of the legend, a briquet

Weight: 4.22 g · Ø 30.4 mm

Literature: van Gelder and Hoc 3–2



Philip the Good's third wife was Isabella, daughter of John I of Portugal and Philippa of Lancaster, the sister of Henry IV of England. This alliance enlarged the sphere of influence of the Burgundian House still further. The order of the Golden Fleece was founded by Philip on the occasion of this wedding, which was magnificently celebrated at Bruges in Flanders at the beginning of 1430. Such chivalric orders, like for instance the English Order of the Garter, otherwise existed only at royal courts.

Like his father and above all his grandfather before him, the duke patronised artists, and in his accounts no less than 176 painters are listed by name. The university established at Louvain in 1425 became a centre of European jurisprudence, and attracted students from all Burgundian lands.

The rise in the price of gold caused Philip the Good to issue a new coin type, the lion, in 1454, which had a lower fineness of 958/1000. Here again the obverse type, as with the rider (Plate 46), is taken from a coin of Louis III de Mâle. The shield on the reverse bears in its first and fourth fields the lys of the Valois, and in the second and third fields the three bends of the Burgundian arms and the lion of Brabant.

The issue of the lion and its fractions ( $\frac{2}{3}$ - and  $\frac{1}{3}$ -lion) was abandoned in 1460. After a gap of six years, the Andrew Gulden appeared in 1466. This was the third and last of Philip's gold coins, and had a still lower fineness of 791/1000.

Attribution of the lion to a specific mint is impossible, since the mint was moved from Bruges to Ghent in 1459 and there are no mintmarks.





KINGDOM OF GERMANY

Emperor Frederick III, 1440–1493, Emperor from 1452

Apfelgulden, n. d. (1460–1490)

Mint: Frankfurt am Main

*Obverse:* ✠ FRIDRICVS • ROMAN • IMP •

(Fridericus Romanorum imperator)

Orb (Reichsapfel) with cross in a double trefoil with added spikes

*Reverse:* • MONET • NO - FRANCFD •

(Moneta nova Francofurtensis)

St. John the Baptist, nimbate, standing wearing a long cloak; on his left arm the Lamb of God, which he points at with his right hand. Between his feet, a shield with the Weinsberg family arms

Weight: 3.33 g · Ø 22.6 mm

Literature: Joseph and Fellner 121



The old Imperial election-, coronation- and fair-city of Frankfurt am Main was described in a pamphlet by Martin Luther as “a sink of silver and gold” on account of the precious-metal trade concentrated there at the time of the fairs. At the autumn fair of 1418, King Sig(is)mund made use of this fact for his own coinage, setting the royal mint to work to produce a gold coin with a new obverse design using the Reichsapfel (orb). However, the king soon lost direct control over the issue of these new “Apfelgulden” since, *inter alia*, his permanent shortage of cash forced him to pawn the Frankfurt imperial gold mint to his chancellor, Conrad of Weinsberg. On the latter’s death in 1448, his three children inherited the mint and during their majority they added the Weinsberg arms (three white shields on a red ground) to the design as a visible sign of this pledge.

An accurate chronological ordering of these Gulden is not possible, since there are no appropriate points of departure. Frederick III took the imperial title (shown here) in 1452, but precisely when the Weinsberg shield appeared cannot be determined. It could have been during the mid-1450s, but minting was by then no longer continuous. From 1491, the Gulden were dated, so those without dates must be placed earlier. The fineness of this piece has been found to be c. 775/1000, against the prescribed fineness of 791/1000.

The Reichsapfel in a trefoil is the most commonly used type in Germany; to judge from die varieties, it was also the most-used design in Frankfurt.

The Apfelgulden struck at Frankfurt from 1418 and those from other mints are illustrated and described in section A of the Appendix.





KINGDOM OF ENGLAND

King Edward IV, 1461-1483

Ryal, n. d. (1466/67)  
Mint: London

*Obverse:* ED - 4 4 WAR 4 DI 4 GR 4 REX 4 ANGL 4 4 4 FRAN 4 - 4 DNS 4 IB 4  
(Edwardus dei gratia rex Angliae et Franciae dominus Hiberniae)

The crowned king holding sword and shield, standing in a high-sided ship, whose side is decorated with a large five-petalled rose. The water is depicted by wavy lines. On the ship's flag, the letter E for Edward

*Reverse:* 4 IhD 4 AVT 4 TRANSIENS 4 PER 4 MEDIUM 4 ILLORV 4 IBAT 4  
(Jesus autem transiens per medium illorum ibat)

In a tressure of eight arches, a sun overlaid by a five-petalled rose, surrounded by alternating flowers and crowned leopards

Weight: 7.58 g · ø 37.1 mm  
Literature: Sutherland p.101



The second half of the fifteenth century in England was characterised by a thirty-year struggle for the throne between the Houses of Lancaster and York. This was known as the Wars of the Roses, following the adoption by one side (Lancaster) of a red rose and the other (York) of a white rose as badges.

Edward (IV) of York was crowned king at Westminster in 1461 in opposition to the reigning king Henry VI of Lancaster, and managed to establish himself. In 1470 he was forced to flee temporarily to the Burgundian court, to which he was related through the marriage of his sister Margaret. With the assistance of his brother-in-law Charles the Bold and the German Hanseatic cities, he returned to London, where he disposed of Henry VI in the Tower.

A coinage reform in 1464 introduced two new gold coins, the ryal and the angel. The name ryal was chosen from that of a French coin type, the royal d'or of Charles VI and Charles VII (Plate 45). It is also commonly known as the rose noble, from the roses on the side of the ship and in the centre of the reverse. The ryal is in part substantially altered in appearance from the old noble, which had been struck until 1464 (Plate 32). The characteristic cross of the reverse can only be made out in outline in the flowers which previously adorned the ends of the four arms. The titlature of the obverse still names Edward as king of France and the shield likewise quarters the English and French arms.

The ryal was worth 10 shillings or 120 pence, i. e. there were two ryals to the pound sterling. Its value was thus a third higher than that of the old noble, whose place was now taken by the angel, worth 6s 8d or 80 pence (Plate 66). The noble had spread widely on the Continent, being used above all as a trading coin in the Baltic area and as far away as Novgorod.



PRINCE-ARCHBISHOPRIC OF COLOGNE

Prince-archbishop Rupert, Count Palatine of the Rhine, 1463–1480

Gulden, n. d. (c. 1469)

Mint: Bonn

*Obverse:* ★ROPERTVS★ - ★ARCPI'CO'★

(Rupertus archiepiscopus Coloniensis)

Christ enthroned, his right hand raised in blessing and his left hand holding a closed book; beneath his feet a shield with the arms of Cologne and the Palatinate

*Reverse:* ✠★MONE'NOVA★AVREA★BVNDG★

(Moneta nova aurea Bunensis)

A cross fleury placed diagonally; in its angles the arms of the four Electors. From the top, clockwise: Cologne-Palatinate; Palatinate-Bavaria; Mainz; Trier-Baden

Weight: 3.38 g · Ø 23.1 mm

Literature: Noss, Köln 429 b-e

In 1463, Rupert, one of the sons of the Elector Palatine Louis III, took over from his predecessor Dietrich II of Mörs an archbishopric which was facing financial ruin following decades of aggressive expansionist politics aimed at predominance on the lower Rhine. Virtually all tolls and possessions were pawned; all that was left was the residence of Poppelsdorf Castle at Bonn and an annual income of about 2,000 Gulden. Rupert's reign was inauspicious. When he began to regain his pawned possessions by force, he soon had the Electoral Estates of Cologne against him: in 1473 the Cathedral Chapter declared him deposed. Charles the Bold, Duke of Burgundy, whom he called to his aid, vainly besieged the town of Neuss for eleven months in 1474/75. Rupert was imprisoned in 1478, forced to give up his office and titles, and died two years later.

The Gulden illustrated here was struck in accordance with the 18th Electoral Rhenish coinage treaty, concluded for 20 years in Boppard in 1464. The members were John II of Baden for Trier, Adolf II of Nassau for Mainz, and the brothers Rupert and Frederick I for Cologne and the Palatinate. The Gulden names as its mint Bonn, which in 1469 and 1470 was once again a mint of the Cologne Electors, after a break of thirty years. The designs are taken from those of the tenth treaty of 1425, which had only been used for a short while. The Mainz archbishop is conspicuous in being represented only by the coat of arms of his bishopric, while his other two clerical colleagues also show their personal coats of arms and thus their descent.







## IMPERIAL CITY OF NUREMBERG

Gulden, n. d. (c. 1469–1471)

Mint: Nuremberg

*Obverse:* \*MONET: COMMUNIS: D: NUREMBERG\*

(Moneta communis de Nurembergia)

Single-headed eagle with an N on its breast

*Reverse:* \*SANCTVS: LA-VRENCIVS - \*

In a decorated circle, St. Lawrence, nimbate, wearing the vestments of a deacon, standing holding a gridiron over his right shoulder and a book in his left hand

Weight: 3.38 g · ø 22.9 mm

Literature: Kellner 4



Nuremberg used its rapidly growing economic power to attract royal rights and the burgrave rights deriving from them to develop its independence into full imperial freedom. For the sake of having a regular system of currency the city was especially eager to gain control over coinage production. From the mid-fourteenth century it possessed supervisory rights over the royal mint. A few decades later the city had a say in the appointment of the mintmaster and also concluded coinage treaties, even though it did not yet possess the right to mint coins itself. This right was obtained from King Sigmund in 1422, and two years later the pawned imperial mint was acquired as well (Plate 41). Nuremberg could now influence the currency of the region for its own purposes through active monetary politics and its own issues.

The accounting of the city was based on a better city-currency Gulden and (particularly for external trade) a poorer land-currency Gulden, although the city itself did not produce a single Gulden until 1429. From that year, both sorts were struck, the city-Gulden (with an unusual fineness of 21 carats or 875/1000 fine) only briefly, since it rapidly returned to the melting-pot. The land-Gulden, which was only 19 carats or 791/1000 fine (corresponding to the common Rhenish Gulden), was produced for more than two centuries. Its characteristic reverse design shows St. Laurentius or Lawrence, recognisable from the gridiron which symbolises his martyrdom. The obverse bears the Nuremberg arms, a single-headed royal eagle with an N on its breast. The "communis" of the legend indicates the standard. This coin can be attributed to the years 1469–1471, firstly because the relevant Nuremberg annual registers mention an issue and secondly from its stylistic similarities to the contemporary Schwabach Gulden of the margraves of Brandenburg-Franconia. Even the poorer land-Gulden followed the prescribed fineness closely, since the city set great store by a stable currency.





## PRINCE-ARCHBISHOPRIC OF BREMEN

Prince-archbishop Henry II of Schwarzburg, 1463–1496

Gulden, n. d.

Mint: Bremen

*Obverse:* HINRICVS D - EI GR ARCHI B'

(Hinricus dei gratia archiepiscopus Bremensis)

Half-length portrait of St. Peter holding key and book, over the Schwarzburg arms

*Reverse:* MONETA - NOVA - BREMENSIS

(Moneta nova Bremensis)

On a long cross extending to the rim, a shield with the quartered arms of Bremen and Schwarzburg

Weight: 3.28 g · Ø 22.6 mm

Literature: Jungk 57 var.



Bremen was founded by Charlemagne in 787 as the first bishopric in Saxony. It was united with the archbishopric of Hamburg in the mid-ninth century and was the starting-point for the missionary work in northern Europe. Apart from a few smaller areas, its territory consisted of the area between the lower Weser and the lower Elbe. From the early thirteenth century the main residence was Bremer-vörde, which lay north of Bremen in the middle of this area.

From 1369 the archbishops repeatedly pawned their mint-right, originally granted in 966, to the Bremen town council. Coins are not known again until Henry II, among them the first gold coins.

The obverse depicts St. Peter, to whom Bremen cathedral was dedicated. The arms in front of the apostle, which reappear on the reverse, are those of the archbishop's family, the Thuringian counts of Schwarzburg. They consist of a rampant lion, crowned, with its head turned to face the onlooker. The diagonally crossed keys were the arms of the archbishopric of Bremen. There is only this single type; it is not known when, or for how long, it was issued. Numerous legend variants suggest, however, an extensive issue. Its fineness of c. 770/1000 follows the standard of the Rhenish issues (19 carats or 791/1000).

Henry II was also bishop of Münster from 1465 but this title is not mentioned on the Bremen coinage. The same applies to the Münster coinage regarding his Bremen title.





## PAPAL STATE

Pope Sixtus IV (Francesco della Rovere), 1471–1484

Fiorino di camera, n.d. (from 1475)

Mint: Rome

Mintmaster: Pier Paolo della Zecca

*Obverse:* ◦SIXTVS◦PP◦—◦◦QVARTVS:◦◦

In a quadrilobate oval enclosure, a shield with the arms of della Rovere (an oak tree), surmounted by crossed keys and tiara

*Reverse:* ◦SANCTVS◦PETRVS◦—◦◦ALMA◦ROMA

St. Peter fishing from a boat in a heavy sea

Weight: 3.36 g · Ø 21.3 mm

Literature: Muntoni Vol. I, p. 80, 12



Italy in the second half of the fifteenth century was in the early Renaissance, the dawn of a new epoch in which man became the measure of all things. Even the Papacy could not evade this pressure. With its new residence in the Vatican, it was finally once again firmly established in Rome. In keeping with the times, the following decades saw pastoral care overshadowed by considerations of power politics, characterised especially by the names Borgia and della Rovere, to which latter family belonged Sixtus IV (Francesco della Rovere). Rising from the position of General of the Franciscan Order to Cardinal and finally to the Head of the Church, he soon entangled himself in internal Italian power-struggles. His systematic nepotism played a disastrous part in this. During Sixtus' reign, there was a considerable increase in the abuse of the sale of ecclesiastical offices; it is said that up to 30,000 gold pieces were paid to obtain a Cardinal's hat. These sums served not least for magnificent display; Sixtus caused to be built, *inter alia*, the Vatican chapel which bears his name, and its walls were decorated by the most celebrated Florentine and Umbrian painters. For the administration of such large amounts the Vatican possessed an enormous financial office, which was also responsible for production of the coinage. Two types of gold coin were struck for Sixtus IV, the ducato papale and the fiorino di camera, of which the first was equal in value to the Venetian ducat and the second was only about 0.1 g lighter and of the same fineness.

The coins were distinguished from each other by their design, which on our piece is the first depiction of St. Peter fishing, a representation based on the Gospel of St. Matthew, chapter 4, verses 18–19, in which we are told that Jesus summoned the brothers Peter and Andrew, who were fishing, to be his disciples – to make them fishers of men.



COUNTY OF TYROL

Archduke Sigmund, 1439–1490 (d. 1496)

Gulden, n.d. (1478–1482)

Mint: Hall in the Inn valley

Engraver: Konrad Michelfelder

*Obverse:* ·SIGISM·ARCH·IDVX·AVSTRIG·

(Sigismundus archidux Austriae)

The archduke standing, wearing full armour, archducal hat and cloak, holding a long sceptre in his right hand and a sword in his left

*Reverse:* ✠MONETA·NOVA·AVREA·COMITIS·TIROL

Cross fleury; in its angles, clockwise, the arms of Habsburg, Carinthia, Styria and Tyrol

Weight: 3.34 g · Ø 22.2 mm

Literature: Moeser and Dworschak 5a

In 1363 the Habsburgs acquired the county of Tyrol, which in appearance resembles a triangle standing on its apex, and with it the east-west and north-south routes through the Alps. Under Duke Sigmund, who inherited the land at the age of 12 and was at first placed under the guardianship of the future Emperor Frederick III, Tyrol acquired additional importance through its silver and copper mines at Schwaz in the Inn valley. To shorten the distances over which the metal had to be transported, partly because of the Turkish threat, Sigmund moved his mint from Merano in the valley of the Adige to Hall in the Inn valley in 1477, and set in train a coinage reform which was to influence the currency of the whole world.

To produce the gold coinage struck in Hall under this reform from early 1478, it was necessary to buy in the metal from outside, a number of suppliers being known. The coinage standard was related to the Rhenish Gulden and not to the Hungarian ducat. The equivalence of the Gulden to 60 Kreuzer of silver coinage became a stable unit of account, which persisted in south Germany until the introduction of the mark system during the nineteenth century. The reverse design resembles that of the contemporary Gulden of the Rhenish Monetary Union (Appendix, R 27), while the standing figure of the issuer on the obverse probably goes back to Hungarian prototypes. A novelty is, however, that the depiction of the issuer, who had just been raised to archduke, shows personal features. In the first year more than 33,000 Gulden were struck, and in the second over 114,000. These coins were so popular that after Sigmund's abdication in 1490 they continued to be struck in his name until 1525.

Sigmund acquired his nickname "rich in coinage", however, on account of the silver coinage struck from the output of his extremely rich mines at Schwaz, amongst which were the first silver coins of the same value as the Gulden. These were initially called Guldiner, and became a universal coinage under the later name "Taler".





COUNTY OF HOLLAND

King Maximilian I, for Philip the Fair, Duke of Burgundy, during the latter's minority, 1482-1494

Broad reaal, 1487

Mint: Dordrecht

*Obverse:* † MAXIMILIANVS • DEI • GRA • ROMANORV • REX • SEP' • AVG  
(Maximilianus dei gratia Romanorum rex semper augustus)

The enthroned king holding sceptre and orb (Reichsapfel) in a seven-arched enclosure; below, a rosette as mintmark

*Reverse:* † ТЕИЕ • МЕИ SVRAM • ЕТ • RESPICE • ФИЕМ • МСССС • LXXXVII  
Coat of arms with eagle, crowned

Weight: 14.26 g · Ø 38.6 mm

Literature: van Gelder and Hoc 64-6



On the death of Charles the Bold in the battle of Nancy in June 1477, his daughter Maria inherited the Burgundian territories, amongst them the county of Holland. The same year she married Maximilian, archduke of Austria (later emperor) and in Bruges in 1478 gave birth to her only son, Philip the Fair. After his wife's early death, Maximilian with difficulty established a regency for his under-age son, since his marriage settlement provided him with no powers of government in the Burgundian lands. These years were marked by unrest in domestic and foreign politics. Flanders repeatedly rose against Maximilian, who was even captured at Bruges in 1488. In addition, war broke out in the south with Louis XI of France. The reaal illustrated here belongs to this regency period. It was struck in 1487 in the provinces of Guelders, Flanders and Holland, with a fineness of 992/1000. The output in Holland was only 5,931 pieces. The size and high weight are unusual, as are the designs and legends, which make no reference to the under-age Duke Philip. The coin refers to Maximilian alone, in both design and title, as German (joint-)king, crowned in Aachen the previous year (1486). The reverse shows his arms, a crowned single-headed royal eagle with an inescutcheon of Austria-Burgundy. The reverse legend chooses the following motto: Exercise moderation and consider the end. Design and size give the piece a distinctly imposing character.





## ELECTORATE OF SAXONY

Electors Frederick III the Wise,  
with Dukes Albrecht and John, 1486–1500

Apfelgulden, 1499

Mint: Leipzig

Mintmaster: Heinrich Stein

*Obverse:* FRI:GG:IO:D:-G·DVC:SXX

(Fridericus, Georgius, Johannes dei gratia duces Saxoniae)

St. John the Baptist with radiate nimbus and a long cloak, standing holding the Lamb of God in his left hand, within a decorated border; in front of his feet, two shields with the Saxon electoral and ducal arms

*Reverse:* ✠MONÆ:NOVA:AVR:LIPCENSIS:1499

(Moneta nova aurea Lipcensis)

Orb (Reichsapfel) in a quatrefoil, whose lower three lobes are decorated with smaller borders; lilies in the outer angles

Weight: 3.25 g · Ø 23.0 mm

Literature: Krug 2195–98 var.



Saxony was the classic land of silver and of silver coinage, fed by the rich yield of the Erzgebirge. By contrast, gold coins played no part in the monetary history of Saxony, even though they were repeatedly produced for foreign trade. This first occurred from 1455/6 to 1461 in Leipzig, whose fair and its coinage exchange probably yielded the necessary raw material. Saxon Gulden based their standard on the Rhenish Gulden rather than the Hungarian ducat. They were thus aimed at trade with the west, where the Rhenish Gulden was the most important trading coin. This also applies to the second Gulden issue of 1488–1500, for which the mintmaster Heinrich Stein was brought from Cassel. The choice of design, that of the Apfelgulden imitating imperial coins of Frankfurt, is rather surprising. As expressly confirmed by the terms of the privilege, the Elector of Saxony took as his model, of all coins, the Apfelgulden, which was so vehemently opposed by his Rhenish colleagues.

The princes of the Ernestine electoral line and the Albertine ducal line appear jointly as the issuers of this Gulden. Duke George, named on this coin, here represents his absent father Albrecht. In parallel with this joint coinage, Albrecht issued Apfelgulden in his own name alone, also from Leipzig and with the same mintmaster. On these the designs are swapped and the orb (Reichsapfel) appears on the obverse in a trefoil. To judge from the number of known dies, output must have been considerable. It ceased in the same year that the coinage of Saxon Talers began, and was later continued only sparingly.





## DUCHY OF POMERANIA

Duke Bogislaus X, 1474–1523

Gulden, 1499

Mint: Stettin

*Obverse:* •BOGSL- AVS •D:G -- •DVX •ST- ETING •

(Bogislaus dei gratia dux Stettinensis)

Shield with the arms of Pomerania-Stettin, Rügen, Gützkow and Usedom, on a long cross which extends to the outer border; above the shield, •99•

*Reverse:* CONSERVA • -NOS •DO •NA •

(Conserua nos domina)

The Virgin Mary as queen of heaven with the infant Jesus and a sceptre, in a circle of rays and standing on a crescent moon

Weight: 3.17 g · Ø 23.1 mm

Literature: Dannenberg 371 var.



The duchy of Pomerania, which stretched along about 350 km of the Baltic coast either side of the Oder estuary, was divided in the fifteenth century among several lines of the reigning house of Greifen. The most important member of the ducal house was Bogislaus X, who married first a Brandenburger and subsequently a Polish princess. He reunited the whole of Pomerania, and carried out fundamental reforms from his residence at Stettin, which turned the land into a modern territorial state. The university of Greifswald, founded in 1456, trained the necessary specialists for this work. The currency was reformed through a decree of 1489, which *inter alia* considerably reduced the minting rights of the Pomeranian cities and subordinated them to those of the local ruler. Bogislaus received the right to mint gold from Maximilian in 1498 and immediately made use of it. It prescribed the use of the designs and standard of the Rhenish Electors, as can be seen from the illustrated Gulden. The chosen depiction of Mary is probably connected with the duke's pilgrimage to Jerusalem in 1497: he received the privilege for this Gulden at Innsbruck during his return journey. Its rarity suggests a very small production, which must have been primarily intended for display purposes. Pomerania itself had no deposits of precious metal and had to acquire it from abroad. The gold for the first issue is said to have been taken from merchants who had declared it as spice.

As well as the 1499 gulden, there are also a few undated ones in the name of Bogislaus. After his death, minting was in abeyance in Pomerania for more than fifty years.





## REPUBLIC OF BOLOGNA

Signore Giovanni II Bentivoglio, 1463–1506

Doppio bolognino d'oro, n. d. (from 1476)

Mint: Bologna

*Obverse:* °BONONI - Λ°DOCET°

In a quadrilobate oval enclosure, a lion standing holding the city banner in its forepaws, with the arms of Bentivoglio between its fore- and hind-legs

*Reverse:* S - PETRONI - °DE° BONONIA

St. Petronius in double nimbus and mitre, sitting holding a crook in his left hand and a model of the city in his right

Weight: 6.90 g · Ø 34.0 mm

Literature: CNI Vol. X, p. 38, 9



An important reason for Bologna's relatively long independence was its geographical position between rival powers to north and south. But here too, as in other Italian city-states, internal conflicts repeatedly opened the door to outside influences, especially of the Papal state.

In 1401 the Bentivoglio family came to power and kept it for about a century, since Bologna's neighbours Venice, Milan, Florence and the Papacy wanted a stable government there. More than forty years of this period was under Giovanni II Bentivoglio alone, until he was overthrown in 1506 and the city came under the sovereignty of the Papacy once again.

The Emperor Henry VI had granted minting rights during a visit on his journey to Rome in 1191 and these were soon utilised. The small size of the territories led to agreements on the reciprocal circulation of coins, through which *inter alia* the small Bolognese grossi became widely distributed in Italy. From 1379, gold coins equal to ducats were struck.

Our piece is a double ducat from the second half of the fifteenth century, probably struck after 1476, and already shows distinct Renaissance influences. As on other Bolognese coins, the design shows a standing, human-faced(?) lion with the city banner and in the legend there is a reference to the university, the pride of the city, and Bologna's Latin name. Giovanni Bentivoglio is only represented by his family coat of arms. The reverse is given over to St. Petronius, who in the first half of the fifth century was the eighth bishop of Bologna and who was venerated as a saint there from the Middle Ages. He was responsible especially for the reconstruction of the city and is thus depicted with a model of it. Charles V was crowned emperor in 1530 in the church of St. Petronius.







COUNTY OF FLANDERS

Philip the Fair, Duke of Burgundy, 1494–1506

Florin Philip, n. d. (1499–1503)

Mint: Bruges

*Obverse:* ✠ PhS ✠ DEI ✠ GRA ✠ ARCHID ✠ AVST ✠ DVBG ✠ CO ✠ FL

(Philippus dei gratia archidux Austriae dux Burgundiae comes Flandriae)

Cross fleury, with lys in the centre, and alternate lys and crowns in the angles

*Reverse:* S-PhG ✠ INTCEDG ✠ - ✠ PRO ✠ NOBIS

(Sancte Philippe intercede pro nobis)

St. Philip above the crowned arms of Austria, Valois, Burgundy and Brabant, with the arms of Flanders on an inescutcheon. He holds in his right hand a cross and in his left hand a book

Weight: 3.26 g · Ø 25.2 mm

Literature: van Gelder and Hoc 115–5a



Philip the Fair reigned in the Burgundian Netherlands for a mere twelve years, dying at the early age of 28. There were two sons of his marriage with the Spanish king's daughter Johanna the Mad: the Emperor Charles V, born in 1500 at Ghent, and Ferdinand I, who reigned in the central European Habsburg possessions and later succeeded his brother as emperor.

From 1482 to 1494, while Maximilian was regent in the Netherlands during his son's minority, there were six issues of gold coins in quick succession, which not only changed the appearance of the coinage, but mostly brought a devaluation as well. The profits from the coinage financed in part the wars which were waged during these years (Plate 58).

It was not until Philip was established as ruler in his own right that the currency was stabilised and new types introduced, following the decree of 14 May 1496. The florin Philip, so called from the depiction of Philip's namesake saint on the reverse, was one of these. The name and titles of the duke are moved to the side bearing the cross. The lys at the beginning of the legend is the symbol of the county of Flanders, in whose mint at Bruges 814,464 florins and halves were struck between 1499 and 1506. Their fineness was a mere 663/1000.





PRINCE-ARCHBISHOPRIC OF SALZBURG

Prince-archbishop Leonhard of Keutschach, 1495–1519

Gulden, 1500

Mint: Salzburg

Mintmaster: Hans Thenn

*Obverse:* ✠ LEONARD⁹ x ARCHIEPI x SALCBEB

(Leonardus archiepiscopus Salceburgensis)

Beneath the date, a shield with the arms of Salzburg (lion, barred shield) and the Keutschach turnip

*Reverse:* ☸ - SANCT⁹ RV - DBERT⁹ EPVS ☸

(Sanctus Rudbertus episcopus)

St. Rudbertus in episcopal vestments holding a salt-cellar in his right hand and a crook in his left, with the Keutschach arms beneath

Weight: 3.33 g · ø 23.2 mm

Literature: Bernhart and Roll 45



The origins of Salzburg go back to the Frankish nobleman Rupert (Rudbertus) of Worms, who around 700 founded an episcopal church and several monasteries, including the earliest German nunnery at Nonnberg. Charlemagne raised Salzburg to an archbishopric and placed under it the Bavarian bishoprics of Passau, Regensburg, Freising and Brixen. From here, Carinthia and Styria were evangelised and colonised.

Leonhard of Keutschach's name is associated with a reform of the coinage and currency of the archbishopric of Salzburg which was begun five years after he took office. As well as the first large silver Guldiner, this involved the introduction of the first gold coin, apart from an insignificant fourteenth-century issue copying Florentine types. The basis of the numerous and varied issues was Salzburg's own gold and silver deposits (for instance at Gastein and Rauris [Tauern]). As the adviser for this reform, the archbishop brought the mintmaster Hans Thenn from Schwabach in Franconia. Two sorts of gold coin were struck: Gulden (or rather ducats) of Hungarian type and Gulden of the Rhenish standard. The former were worth 420 pence, the latter 288.

The example illustrated here corresponds in weight and fineness to the Rhenish Gulden. The arms of Salzburg consist of a rampant lion and the Austrian barred shield. In the other two fields appear the arms of Keutschach, a Carinthian noble family: a white turnip with green leaves on a black field. This also appears on the reverse in front of Bishop Rudbertus, founder and greatly venerated patron saint of the archbishopric. The salt-cellar in his right hand alludes to the salt which formed the real riches of the Salzburg mountains.





## DUCHY OF WÜRTTEMBERG

Duke Ulrich, 1498–1519 and 1534–1550

Gulden, n. d. (1503–1519)

Mint: Stuttgart

Mintmaster: Albrecht Scholderer?

*Obverse:* VLRICVS DV-X-WIRTEMBER-G

(Ulricus dux Wirtembergensis)

The duke standing in armour with his legs apart, within an arched border. He holds a shouldered sword in his right hand and grasps his scabbard, which is pointing downward, with his left

*Reverse:* †MONETA NOVA AVREA STVGARDIAE

(Moneta nova aurea Stutgardiae)

Within an arched border a shield with the arms of Württemberg, Teck, Mömpelgard and the imperial battle-standard

Weight: 3.27 g · Ø 22.2 mm

Literature: Binder and Ebner 57



The counts (from 1495 dukes) of Württemberg, who took their name from their family castle of Wirtemberg near Stuttgart, originated in the Rems valley and the Neckar region. Systematic enlargements made the county into the largest and most important territory in this region. During the reign of Duke Ulrich, who inherited the duchy at the age of eleven and was at first under a regency, Württemberg was in 1519 conquered by the Swabian League, who sold it to the Emperor Charles V for 220,000 Gulden. Ulrich returned to his duchy fifteen years later with the help of his cousin Philip, landgrave of Hesse, and initiated the Reformation there in 1534.

Elevation to the ducal title in 1495 also gave the Württembergers the right to strike gold coins, but these first appear under Ulrich, the third duke, probably simultaneously with those of Baden in 1503. Primarily they served the needs of the court. These undated Gulden were of a single type and were produced in large numbers at Stuttgart until 1519, to judge from the variants which survive. The procurement of the necessary noble metal turned out to be difficult. The die-engraver has placed the duke's figure on the obverse in a skilful and pleasing manner, with his head and legs breaking the inner border. The round face, short curly hair and slender figure reflect individual traits and hint at the youth of Ulrich, who at the beginning of this coinage was about sixteen years old. The quartered arms on the reverse bear the antlers of Württemberg, the lozenges of Teck, the fish of Mömpelgard and the imperial battle-standard.

Like the contemporary issues of Salzburg (Plate 63) and Bavaria (Plate 65), the Württemberg Gulden followed those of the Rhenish Electors in weight and in their fineness of 18½ carats (770/1000).





## DUCHY OF BAVARIA

Duke Albrecht IV, 1467–1508

Gulden, 1506

Mint: Munich

Mintmaster: Conrad Ebner

Engraver: Georg Wegmacher

*Obverse:* •ALBERTI•AVRVM•BAVARIE DVCIS

(Alberti aurum Bavariae ducis)

Beneath the date, the quartered arms of Palatinate-Bavaria; to left and right, the letters H and A (Herzog [Duke] Albrecht)

*Reverse:* O MARIA ★—★ORA•PRO•ME•

The duke kneeling before the seated Virgin Mary, who holds the infant Jesus on her left arm

Weight: 3.26 g · Ø 23.6 mm

Literature: Beierlein 188 c



On the death of George the Rich of Bavaria-Landshut, Albrecht IV of Bavaria-Munich obtained most of his lands, so that in 1505 his territory consisted of roughly the present administrative districts of Upper and Lower Bavaria. One year later he established primogeniture and the indivisibility of the united duchies.

In 1506, following the examples of his immediate neighbours Tyrol (Plate 57) and Salzburg (Plate 63), Albrecht IV reformed the Bavarian currency, which was still based on the medieval penny. The mintmaster recruited as technical director was Conrad Ebner, previously (with his brother-in-law Hans Thenn) lessee of the Salzburg archiepiscopal mint and thus equipped with appropriate experience. The first coins he had to strike were Gulden of the Rhenish standard. The dies for these were cut by Georg Wegmacher, who was likewise newly recruited and who had been living and working in Solothurn around 1500. The designs were prescribed for him, and he succeeded brilliantly in the difficult task of fitting three persons on to the small round area of the reverse. The Latin legend of the obverse “gold (coin) of Albrecht, Duke of Bavaria” refers to the importance of this first issue of Gulden.

As well as the type with the Virgin Mary seated, she is also depicted standing on a probably posthumous issue for the duke, who died in March 1508.

It is evident from written sources that the “gold” Gulden served amongst other things for the purchase of the Tyrolean metal necessary for the silver coinage, either directly or through the Fuggers, a task with which the above-mentioned engraver Georg Wegmacher was entrusted from time to time.



KINGDOM OF ENGLAND

King Henry VII, 1485–1509

Angel, n. d. (1507–1509)

Mint: London

*Obverse:* †HENRIC⁹ DI GRATIA REX ANGLIE Z FRANCIE

(Henricus dei gratia rex Angliae et Franciae)

The archangel Michael killing the dragon with a long lance

*Reverse:* †PER CRUCEM TVAM SALVA NOS CHRISTE REDDE

(Per crucem tuam salva nos Christe redemptor)

A high-sided ship bearing the quartered royal shield, on which a cross is placed as a mast; to the left the letter h for Henry and to the right a rose; the water is depicted by wavy lines

Weight: 5.20 g · Ø 28.7 mm

Literature: North 1698

The Wars of the Roses ended in 1485 with the defeat of the third and last Yorkist king, Richard III. The throne was occupied by Henry Tudor (Henry VII), who belonged on his mother's side to a collateral line of Lancaster. His marriage with Elizabeth, the eldest daughter of Edward IV, who died in 1483, reconciled and moreover united the two opposing Houses of York and Lancaster (Plate 52).

The angel illustrated here, which took its name from the archangel depicted on it, was introduced about 1465. The design of St. Michael slaying the dragon symbolised the defeat of the House of Lancaster by the accession of Edward IV of York in 1461. The ship on the reverse recalls the old noble, which had the same value as the angel. But instead of the king, there is a shield with the arms of England and France, surmounted by a cross, which replaces the mast. The legend refers to this cross: Save us by your cross, O Christ our redeemer.

Gold coins were only struck at London. The arrow at the beginning of the obverse and reverse legends must be the mark of the last issue under Henry VII, since it is also found on the first issues of his successor Henry VIII.

In addition to the angel, which was worth one-third of a pound, its half (the angelet) was also produced. In 1489 Henry VII introduced a new gold coin, the sovereign, worth 20 shillings of 12 pence and thus equal to the pound sterling of 240 pence. Maximilian's gold reaal, struck two years earlier (Plate 58), served as the model for the sovereign.





## LANDGRAVIATE OF HESSE

Landgrave William II, the Middle, 1493–1509

Gulden, 1506

Mint: Cassel

*Obverse:* WIL·D·G·L·H·S

(Wilhelmus dei gratia landgravius Hassiae)

Within a four-arched tressure five shields, with the arms of Hesse in the centre and (clockwise from the top) those of Katzenelnbogen, Nidda, Diez and Ziegenhain in the four arches

*Reverse:* DEVM·SOLV·ADORABIS·1506

(Deum solum adorabis 1506)

In a tressure St. Elizabeth with crown, nimbus and veil, holding a model of the church dedicated to her in Marburg; at her feet a half-naked beggar with his hands outstretched towards her

Weight: 3.26 g ·  $\phi$  22.9 mm

Literature: Hoffmeister – cf. 231



The focus of the landgraviate of Hesse shifted during the course of the fifteenth century to the west, both through territorial expansion, including finally the county of Katzenelnbogen on the Rhine and Main, and as a result of the uniting of the two separate lines of the Hessian House, Cassel and Marburg, under Landgrave William II, known as the Middle, in 1500. This necessitated a realignment of monetary relations, since Hesse, which had hitherto looked to the east, had to accede to the Rhenish monetary system, with Gulden comprising 27 Albus of 12 Heller. Lacking the privilege of coining gold, the landgraviate was not permitted to strike Gulden and thus produced the denomination as a silver coin, the Elisabethtaler of 1502.

The coveted privilege was granted by Maximilian I in Antwerp on 17 March 1503; as in other cases, the coinage standard had to conform to that of the Rhenish Electors. The design of one side, with a depiction of St. Elizabeth, was likewise prescribed, perhaps at the wish of the landgrave. Elizabeth, daughter of King Andrew II of Hungary and landgravine of Thuringia by marriage, died aged 24 in Marburg in 1231 and was canonised in 1235. The Emperor Frederick II attended the solemn raising of her remains on 1 May 1236. Landgrave William II created an enduring memorial of her early veneration by representing St. Elizabeth on all of his coins. For the gold coinage, whose engraver is not known to us, a particularly appealing depiction was chosen, featuring a beggar, referring to her concern for the poor and sick. Unlike the silver Guldiner, of which only 164 examples were struck, the gold coins were evidently struck in fairly large numbers.



## APPENDIX

### *Introductory notes*

All coins on the following pages are illustrated actual size and labelled, but not described in full. Thus for the florin-imitations in section F, only the obverse legend and the reverse privy-mark are given, since the design of the coins remained the same. The same also applies to the Apfelgulden of section A: apart from the privy-marks on either side, the legends and designs are only given where they differ from those of the imperial coins of Frankfurt and Nördlingen, which are described in the introduction to that section. For the Rhenish Gulden (section R), the coin designs laid down for all signatories to the individual treaties are given.

A fineness determined from the specific gravity is also given for every illustrated coin. On account of the uncertainties associated with the method, results are only expressed in percentages, not as usual in *pro mille*. A further uncertainty concerns the composition of the coins whose main components are gold, silver and copper: from the density a fineness may be ascertained for a gold-silver alloy or for a gold-copper alloy. The relationship between the two alloying metals is as a rule not known, but in the Electoral Rhenish coinage treaty of 1490 a composition of  $18\frac{1}{2}$  carats of gold,  $3\frac{1}{2}$  carats of silver and 2 carats of copper was prescribed. This ratio of silver to copper (1.75 : 1) was used as the basis for the determination of the fineness of all coins, and any consequent inaccuracies for individual pieces were accepted. For coins with a high proportion of gold (between 90 and 99%), such as the florins and the early Rhenish Gulden, they are of the order of 1%. However, the lower the gold content, the higher the difference becomes between finenesses based on the different alloying metals. Thus a density of  $16.0 \text{ g/cm}^3$  implies a fineness of 75% if the gold is alloyed with silver, but 82% if alloyed with copper. The figure adopted, based on the above-mentioned ratio, is 79%, for example for the Gulden A 12. The lowest density of all the illustrated coins is the  $14.0 \text{ g/cm}^3$  of the florin F 5 of the duchy of Bar, which with silver as alloy gives a gold content of 55% and with copper 68%. From its colour, the coin is predominantly alloyed with silver, so its gold content should lie not far above 55%. Likewise, the florin of King Louis of Bavaria (F 6) should from its colour have a gold content of 77–79% and not higher.

From the foregoing examples, it emerges that the fineness figures should be treated with caution and not generalised, the more so since only a single example was examined in each case.

GULDEN ISSUED IN IMITATION OF FLORENTINE FLORINS

The following three pages illustrate and label those Gulden and florins in the Deutsche Bundesbank collection which imitate in their design the fiorino d'oro which was struck at Florence from 1252 (Plate 21). This group is purely random and thus incomplete. The copies differ from their prototype in the obverse legend: instead of the word "Florentia", the name and title of the issuer are given, usually in abbreviated form, and less often the mint. On the reverse, by the head of St. John the Baptist, there is, instead of the symbol of the Florentine official responsible, a mark which may have various meanings, for instance as a coat of arms (F3, 4, 8, 14, 20) or perhaps the mark of a mint (F1, 5, 13). The legend S·JOHANNES·B remains unaltered. A series of German florins has as its mark a single- or double-headed eagle (F6, 7, 9-12, 15-19). The eagle is the "imperial mark", the division between single-headed (royal) and double-headed (imperial) apparently not being entirely clear-cut in the fourteenth century; this was not finally established until the fifteenth century under the Emperor Sigmund. However, the fact that it was understood as the imperial eagle may be seen from the associated arms (for instance on F10, 12, 15). Whether the eagle invariably denotes the award of the mint right cannot be determined from the sources, since there are some issuers who possessed such a right but did not use the eagle. In each case, however, it expresses a relationship between the issuing authority and the Empire and thus supplies the coinage with better credentials. The florins marked with the eagle were nevertheless so common that the "floreni ad aquilam de Alemannia" are named as a special group in Papal accounts of the second half of the fourteenth century.

The attribution of the florin imitations to issuer and mint and their chronological sequence cannot always be determined exactly on the basis of legends, marks, written sources and coin-finds. Two of these uncertain coins bear the names and titles of German kings. The first (F6) names as issuer LODOVICI REX and bears as mark a single-headed eagle. In this period, this can only mean Louis of Bavaria, who was German king from 1314 to 1327 and emperor until 1328. One may assume, if the title REX is used correctly, that this piece must have been struck before the imperial coronation in January 1328. Speyer has been suggested as the mint, since in a letter in 1324 Louis thanked the townsmen there for the production of gold coinage. But the very early date of 1323/4 speaks against this attribution, since at this time the imitation of florins was only just starting in Hungary and southern France (F1, 2); so does the low weight (3.06 g) and the reduced fineness (c. 790/1000) of this Gulden. The fourteenth-century florins weighed c. 3.5 g until the 1380s and were of virtually pure gold, i. e. over 23½ carats or 979/1000. Such an undervalued gold coin, especially since issued by the German king, is very unlikely at this time; the coin would surely have been refused in the exchanges, as was later the case for the florin of the duchy of Bar. Moreover, this piece (incidentally the only example known at present) bears a great stylistic similarity to the middle Rhenish Gulden from the middle of the century (F10, 15, 16), so that it is tempting to date it to this period. A possible mint is the royal one at Frankfurt am Main, since Louis ordered gold coinage to be struck there in 1340. The authenticity of the document is however contested. By that time, Louis had been emperor for

twelve years, so coins with the title "king" would be totally inaccurate, especially since they were being produced elsewhere with the imperial title (Plate 23). Naturally, dishonest manipulations by a mintmaster are also a possibility; this would explain the poor quality of the coin as well. However, whether gold coinage was actually produced at Frankfurt under Louis is very doubtful. The second uncertain piece (F7) bears the legend KAROLV REX and similarly a single-headed eagle. By analogy with the florin of Louis this coin should be attributed to Charles IV as king, i. e. from 1346/7 to 1355. Once again the imperial mint at Frankfurt am Main springs to mind, and this is where the coin is placed in the literature. However, at this time only Hellers were being struck at Frankfurt, and gold coinage from the reign of Charles IV is not known. But in November 1346 the king allowed his great-uncle Baldwin of Luxemburg, the archbishop of Trier, to whose help he was indebted for his recent election as German king, to strike gold and silver coinage with his (the king's) name and title. Two years later, Baldwin arranged with the archbishop of Cologne and the margrave of Jülich to produce gold and silver coins with the "imperial mark" on one side. Coins of this type with a single-headed eagle are known in silver, but not in gold. In 1352 Baldwin again received express permission to mint imperial coins. Apart from Frankfurt, our coin could thus have come from a Trier or Luxemburg mint during the period 1347 to 1354. However, if one compares the style - especially the figure of St. John, the fingers of his right hand and the eagle - with the foregoing Gulden of Louis and the other Rhenish Gulden, a considerable difference becomes apparent. Hence, one might consider whether this florin comes from an eastern mint, perhaps Prague, as a continuation of the gold coinage begun by Charles's father King John in 1325, and therefore that it belongs to the period before the Gulden in Plate 28. At any rate, the weight and fineness (unlike the coin of Louis) are correct.

From the mid-1360s the designs of the Rhenish florins were altered, with the straight copies gradually giving way to individual designs (R1-6). The first steps in this direction are visible in the added coats of arms on F10 and F15. There were also sporadic issues of half- and quarter-florins, such as that of the archbishopric of Cologne (F14).



F 1 *Kingdom of Hungary*  
King Charles Robert, 1308-1342  
Mint: Buda?, n. d. (from 1325)  
Obv: ✠KAROLV·REX Rev: crown  
3.56 g · Fineness 98% · Pohl A 1



F 2 *Comtat Venaissin*  
Pope John XXII - Pope Urban V, 1316-1370  
Mint: Pont de Sorgues or Avignon, n. d. (from 1322)  
Obv: crossed keys СЛѢД·ПЕТРИ Rev: tiara  
3.53 g · Fineness 99% · Berghaus, Limburg 52 a



F 3 *Dauphiné*  
Dauphin Humbert II de Viennois, 1333-1349  
Mint: ?, n. d.  
Obv: ✠HV·DPH - VIENS Rev: dolphin  
3.31 g · Fineness 98% · Poey d'Avant 4868



F 4 *Principality of Orange*  
Prince Raimund IV, 1340-1393  
Mint: Orange?, n. d. (from 1350/55)  
Obv: \*RDI·G· - P·TURX Rev: helmet  
3.49 g · Fineness 99% · Poey d'Avant 4521



F 5 *Duchy of Bar*  
Duke Robert, 1354-1411  
Mint: Bar-le-Duc, n. d. (1360-1375)  
Obv: ✠ROBER·TVS·DVX Rev: crown  
3.44 g · Fineness 59% · Wendling F/XI/19



F 6 *Kingdom of Germany*  
King Louis of Bavaria, 1314-1347, Emperor from 1328  
Mint: Speyer?, Frankfurt?, n. d.  
Obv: +LODOV·ICIREX Rev: single-headed eagle  
3.06 g · Fineness 79% · Schulten, Goldgulden Ludwigs p.5f.



F 7 *Kingdom of Germany*  
King Charles IV, 1346-1378, Emperor from 1355  
Mint: ?, n. d. (1346-1354)  
Obv: ✠KAROLV·REX Rev: single-headed eagle  
3.50 g · Fineness 100% · Weiller 113





F 8 *Rhenish Palatinate*  
*Elector Rupert I, 1353-1390*  
 Mint: Heidelberg, n. d. (before 1365)  
 Obv: +RVPE-RT DVX Rev: lion  
 3.50 g · Fineness 95% · Noss, Ruprechtsguldgen 52



F 9 *Rhenish Palatinate*  
*Elector Rupert I, 1353-1390*  
 Mint: Bacharach, n. d. (before 1365)  
 Obv: ✠RVPE-RT DVX Rev: double-headed eagle  
 3.52 g · Fineness 97% · Noss, Ruprechtsguldgen 3 ff.



F 10 *Prince-archbishopric of Mainz*  
*Prince-archbishop Gerlach of Nassau, 1346-1371*  
 Mint: Eltville, n. d. (1354-1365)  
 Obv: ✠GGRL-TRGPS Rev: single-headed eagle, wheel and lion  
 3.51 g · Fineness 98% · Walther collection 70



F 11 *Prince-archbishopric of Trier*  
*Prince-archbishop Boemund of Warsberg, 1354-1362*  
 Mint: Coblenz, n. d.  
 Obv: BOEHD' - AREPVS Rev: single-headed eagle  
 3.49 g · Fineness 98% · Noss, Trier 33



F 12 *Prince-archbishopric of Trier*  
*Prince-archbishop Cuno II of Falkenstein, 1362-1388*  
 Mint: Coblenz, n. d. (1362-1364)  
 Obv: ✠CONOΛ - REPS-TR'  
 Rev: double-headed eagle with episcopal arms  
 3.52 g · Fineness 99% · Noss, Trier 58 var.



F 13 *Duchy of Luxemburg*  
*Duke Wenceslaus I, 1353-1383*  
 Mint: Luxemburg, n. d. (c.1360)  
 Obv: ✠WINC - EL DVX Rev: crown  
 3.47 g · Fineness 96% · Weiller 124



F 14 *Prince-archbishopric of Cologne*  
*Prince-archbishop William of Genep, 1349-1362*  
 Quarter Gulden, n. d. (c.1350?), Mint: Bonn?  
 Obv: WILhΛ - REPVS Rev: sheep-shears  
 0.82 g · Fineness 95% · Noss, Köln 114 a



F 15 *Lordship of Eppstein*  
*Lord Eberhard I, 1342-1391*  
 Mint: Steinheim?, n. d. (c.1350/60)  
 Obv: ✠GBERh - TRD:DO Rev: double-headed eagle and chevrons  
 3.51 g · Fineness 97% · Helbing, Cat. 76/1934, 874



F 16 *Burgraviate of Hammerstein*  
*Burgrave Louis V, 1335-1374*  
 Mint: Hammerstein?, n. d. (c.1350/60)  
 Obv: DN':LODE - VICVS:h Rev: single-headed eagle  
 3.52 g · Fineness 91% · Delmonte 233 (Horn)



F 17 *Lordship of Heid*  
*Lord Gothard of Bongard, 1342-1373*  
 Mint: Bleierheide?, n. d. (1350-1365)  
 Obv: ✠GOED - hGIDE Rev: double-headed eagle  
 3.45 g · Fineness 91% · Delmonte 231



F 18 *Imperial city of Lübeck*  
 Mint: Lübeck, n. d. (from 1341)  
 Obv: ✠FLOG - LVBIC Rev: double-headed eagle  
 3.53 g · Fineness 98% · Behrens 66 var.



F 19 *Duchy of Liegnitz*  
*Duke Wenceslaus I, 1342-1364*  
 Mint: Liegnitz, n. d.  
 Obv: WENCES - L DVX P Rev: single-headed eagle  
 3.52 g · Fineness 99% · Friedensburg 582 d



F 20 *Duchy of Schweidnitz*  
*Duke Bolko II, 1326-1368*  
 Mint: Schweidnitz, n. d. (c.1350/60)  
 Obv: BOLCO - DVX SLE Rev: helmet  
 3.52 g · Fineness 98% · Friedensburg 701 var.



F 21 *Duchy of Austria*  
*Duke Albrecht II, 1330-1358*  
 Mint: Judenburg, n. d. (1340/50)  
 Obv: DVX AB-ERTVS Rev: barred shield  
 3.52 g · Fineness 98% · Probszt, Judenburg 14

From 1365, the traditional designs of the Rhenish florins were altered on one or both sides. The page opposite illustrates six examples of these issues, now to be designated as Gulden, struck before 1385. The arms of the issuer replaced the lily. At first St. John the Baptist was retained as the reverse type; additional marks may still be discerned beside his head (R1, 4). Where he was replaced by the archbishop (R2, 5) or by St. Peter (R3, 6), this design moved to the obverse, with the other side occupied by the episcopal arms (R5), which would occasionally be combined with the personal arms of the issuer (R2, 6). The framing of the arms by a trefoil with added spikes originated at Mainz, and was adopted by the other Electors. The personal union of Cologne and Trier for a time under Cuno II of Falkenstein was reflected in a joint coinage (R3). The legends name the issuers and frequently also the mint, apart from the Gulden of the Palatinate, which gives only the name of the mint.

The four following pages illustrate respectively on the right-hand sides a selection of Gulden from the total of 25 treaties of the Rhenish Monetary Union founded in 1385 and on the left-hand pages coins struck by the same territories outside these agreements. For the place of the Electoral Rhenish Monetary Union in coinage and economic history, see the Introduction.

The partners in the treaties were always the four Rhenish Electors: the prince-archbishops of Mainz, Trier and Cologne and the Count Palatine of the Rhine. A treaty concluded by, say, only three of the Electors is referred to here as an accord (R16). Occasionally, above all in the final treaties, neighbouring rulers were also included (R18, 29, 30).

The agreements were intended on average to last for ten to twelve years, the shortest being arranged for six and the longest for twenty years, but these periods were not kept, since for example a member might die, or the weight and fineness of the Gulden need adjustment, or a new member be admitted (R18). The duration envisaged for some treaties could not be determined.

The designs of the Gulden were laid down compulsorily for the partners in the treaties. From 1417 to 1502 there was only a single common die-engraver at a time, but afterwards there were again several, working only for the partners. On one side the arms of the partners were arranged in triangles or quatrefoils, in a cross or a trefoil. The clerical princes could be represented by their personal and/or their episcopal arms: for Mainz a red wheel on silver, for Trier a red cross and for Cologne a black cross on silver, and for the Palatinate six rows of lozenges in silver and blue, alone or combined with a rampant gold lion on black. In the trefoils and quatrefoils, the shield of the coin-issuer was placed conspicuously in the middle, surrounded by the small shields of the three or four other partners, of whom the lowest-ranking was always at the bottom. On R14, the archbishop of Cologne is represented by his episcopal as well as his family arms, since the quatrefoil encloses space for five coats of arms. If the arms are depicted at a single size, those of the issuer of the coin occupy the uppermost position (R24, 27). If a treaty had more than five signatories, this cannot be seen on the coins (R29, 30). In the broadening of the Union in 1509, the Electors retained their trefoil border, whereas for the other issuers a quatrefoil was prescribed, enclosing the issuer's own arms, with those of

the four Electors in the corners. For the Gulden of the sixth and eleventh treaties, no common design was arranged (R15, 25).

The other side, originally the reverse but from now on the obverse, at first bore St. John the Baptist, taken over from the florins, together with changing symbols of the treaties (R13, 14), but later he was superseded by St. Peter over the arms of the issuer (R15). The design of Christ chosen for the tenth treaty in 1425 was again adopted in the second half of the fifteenth century and retained until the end of the Union. For the non-Electoral partners, excluding the city of Cologne (R30), the local patron saint was prescribed in his stead (R29). The twelfth treaty introduced Gulden with coats of arms on both sides, which remained unaltered in design for 27 years (R26). The legends were likewise prescribed: they gave the name and title of the issuer on one side and the mint on the other. This was replaced in the late fifteenth century by a common legend: *Moneta nova aurea renensis* (new gold coin of the Rhine) (R28–30). The Gulden of the twelfth treaty of 1437 (R26) and from the late 1480s onwards were dated.

Besides the joint issues, each territory also issued its own coins. These arose if an Elector died, or if the treaty was dissolved before the agreed date for some other reason. Frequently the Gulden are of the same design as the coins of the Union, insofar as the obverse design was either retained or only slightly altered (R9), or recourse was had to earlier motifs. In each case only the issuer's arms appeared on the reverse. The trefoil was mostly retained, and instead of the arms of the now absent partners the corners were filled with rosettes, episcopal crosses or other emblems (R11). Neighbouring issuers, such as the duke of Jülich, occasionally copied the issues of the treaties to which they did not belong (R22) or used virtually identical designs (R23). The fineness of such Gulden was mostly well below that of the Gulden of the Union.



R 1 *Prince-archbishopric of Trier*  
*Prince-archbishop Cuno II of Falkenstein, 1362–1388*  
Mint: Coblenz, n. d. (1366–1368)  
3.49 g · Fineness 95% · Noss, Trier 68 h–k var.



R 2 *Prince-archbishopric of Mainz*  
*Prince-archbishop Gerlach of Nassau, 1346–1371*  
Mint: Bingen, n. d. (1365–1371)  
3.51 g · Fineness 97% · Diepenbach, Bingen p.10, pl. A,1



R 3 *Prince-archbishopric of Cologne*  
*Prince-archbishop Cuno II of Falkenstein (Trier) as Coadiutor of Cologne, 1366–1368*  
Mint: Deutz, n. d. (c.1368)  
3.46 g · Fineness 98% · Noss, Köln 134a



R 4 *Rhenish Palatinate*  
*Elector Rupert I, 1353–1390*  
Mint: Oppenheim, n. d. (1379–1385)  
3.51 g · Fineness 95% · Noss, Ruprechtsgoldgulden 72



R 5 *Prince-archbishopric of Mainz*  
*Prince-archbishop Adolf I of Nassau, 1373/81–1390*  
Mint: Höchst, n. d. (1379–1385)  
3.53 g · Fineness 93% · Pr. Alex. 112



R 6 *Prince-archbishopric of Trier*  
*Prince-archbishop Cuno II of Falkenstein, 1362–1388*  
Mint: Coblenz, n. d. (1382–1385)  
3.52 g · Fineness 94% · Noss, Trier 121f



R 7 *Prince-archbishopric of Cologne*  
*Prince-archbishop Frederick III of Saarwerden, 1371-1414*  
 Mint: Bonn, n. d. (c.1397)  
 3.45 g · Fineness 90% · Noss, Köln 224



R 8 *Prince-archbishopric of Mainz*  
*Prince-archbishop John II of Nassau, 1397-1419*  
 Mint: Höchst, n. d. (1397-1399)  
 3.50 g · Fineness 90% · Pr. Alex. 100



R 9 *Prince-archbishopric of Trier*  
*Prince-archbishop Werner of Falkenstein, 1388-1418*  
 Mint: Oberwesel, n. d. (1407-1409)  
 3.53 g · Fineness 83% · Noss, Trier 339 a-m



R 10 *Prince-archbishopric of Mainz*  
*Prince-archbishop John II of Nassau, 1397-1419*  
 Mint: Bingen, n. d. (1414-1417)  
 3.48 g · Fineness 77% · Pr. Alex. 128 var.



R 11 *Prince-archbishopric of Cologne*  
*Prince-archbishop Dietrich II of Mörs, 1414-1463*  
 Mint: Bonn, n. d. (1418)  
 3.43 g · Fineness 78% · Noss, Köln 278 a-f



R 12 *2nd Treaty, 8 June 1386*  
*Partners: Prince-archbishops of Mainz, Trier, Cologne; Elector Palatine*  
*Duration: 10 years*  
*Designs: St. John - Trefoil with arms of partners*  
*Weight: 3.54 g · Fineness: 23 carats = 958/1000*

Mainz: Höchst mint, n. d. (1386-1390) · 3.50 g · Fineness 95%



R 13 *3rd Treaty, 26 January 1391 - Boppard*  
*Partners: Prince-archbishops of Mainz, Trier, Cologne; Elector Palatine*  
*Duration: until 1396*  
*Designs: St. John with eagle - Trefoil with arms of partners*  
*Weight: 3.54 g · Fineness: 23 carats = 958/1000*

Palatinate: Oppenheim mint, n. d. (1391-c.1393) · 3.50 g · Fineness 95%



R 14 *4th Treaty, 19 September 1399 - Mainz*  
*Partners: Prince-archbishops of Mainz, Trier, Cologne; Elector Palatine*  
*Duration: 10 years*  
*Designs: St. John with cross - Quatrefoil with arms of partners*  
*Weight: 3.54 g · Fineness: 22½ carats = 937/1000*

Cologne: Bonn mint, n. d. (c.1400) · 3.45 g · Fineness 92%



R 15 *6th Treaty, 5 March 1404 - Boppard*  
*Partners: Prince-archbishops of Mainz, Trier, Cologne; Elector Palatine*  
*Duration: 10 years*  
*Designs: St. Peter or St. Martin - Arms of the issuer*  
*Weight: 3.54 g · Fineness: 22½ carats = 937/1000*

Trier: Coblenz mint, n. d. (1404-1407) · 3.49 g · Fineness 86%



R 16 *Accord, 15 August 1409*  
*Partners: Prince-archbishops of Mainz, Trier, Cologne*  
*Duration: 2 years*  
*Designs: St. John - Trefoil with arms of partners*  
*Weight: 3.54 g · Fineness: 22 carats = 916/1000*

Trier: Oberwesel mint, n. d. (1410-1414) · 3.52 g · Fineness 84%



R 17 *7th Treaty, 8 March 1417 - Boppard*  
*Partners: Prince-archbishops of Mainz, Trier, Cologne; Elector Palatine*  
*Duration: 20 years*  
*Designs: St. Peter - Trefoil with arms of partners*  
*Weight: 3.54 g · Fineness: 20 carats = 833/1000*

Palatinate: Bacharach mint, n. d. (1417) · 3.37 g · Fineness 80%



R 18 *9th Treaty, 19 May 1420*  
*Partners: Prince-archbishops of Mainz, Trier, Cologne; Elector Palatine;*  
*duke of Jülich; city of Cologne*  
*Duration: 12 years*  
*Designs: St. Peter - Quatrefoil with arms of partners*  
*Weight: 3.50 g · Fineness: 19 carats = 791/1000*

Jülich: Bergheim mint, n. d. (1421) · 3.42 g · Fineness 80%

RHENISH GULDEN OUTSIDE THE TREATIES



R 19 *Prince-archbishopric of Trier*  
*Prince-archbishop Ulrich of Manderscheid, 1430-1436*  
 Mint: Coblenz, n. d. (1430-1435)  
 3.49 g · Fineness 80% · Noss, Trier 453 b



R 20 *Rhenish Palatinate*  
*Elector Frederick I, 1449-1476*  
 Mint: Bacharach, n. d.  
 3.37 g · Fineness 80%



R 21 *Prince-archbishopric of Cologne*  
*Prince-archbishop Rupert of the Palatinate, 1463-1480*  
 Mint: Riehl, n. d. (1464)  
 3.34 g · Fineness 76% · Noss, Köln 407 b-g



R 22 *Duchy of Jülich-Berg*  
*Duke Gerhard II, 1437-1475*  
 Mint: Düren, n. d. (1464-1475)  
 3.32 g · Fineness 79% · Noss, Jülich-Berg -



R 23 *Duchy of Jülich-Berg*  
*Duke William IV, 1475-1511*  
 Mint: Mülheim, n. d. (c.1489)  
 3.26 g · Fineness 76% · Noss, Jülich-Berg 185 a

RHENISH TREATY GULDEN



R 24 *10th Treaty, 12 June 1425*  
*Partners: Prince-archbishops of Mainz, Trier, Cologne; Elector Palatine*  
*Duration: 12 years*  
*Designs: Christ - Cross fleury with arms of partners*  
*Weight: 3.50 g · Fineness: 19 carats = 791/1000*

Cologne: Riehl mint, n. d. (1426) · 3.42 g · Fineness 80%



R 25 *11th Treaty, 1426*  
*Partners: Prince-archbishops of Mainz, Trier, Cologne; Elector Palatine*  
*Duration: unknown*  
*Designs: Archbishop or Count Palatine - Arms of issuer*  
*Weight: 3.50 g · Fineness: 19 carats = 791/1000*

Palatinate: Bacharach mint, n. d. (from 1426) · 3.44 g · Fineness 80%



R 26 *12th Treaty, 17 September 1437 - Coblenz*  
*Partners: Prince-archbishops of Mainz, Trier, Cologne; Elector Palatine*  
*Duration: 6 years*  
*Designs: Arms of issuer on a cross - Arms of partners*  
*Weight: 3.50 g · Fineness: 19 carats = 791/1000*

Mainz: Bingen mint, 1437 · 3.46 g · Fineness 76%



R 27 *18th Treaty, 11 October 1464 - Boppard*  
*Partners: Prince-archbishops of Mainz, Trier, Cologne; Elector Palatine*  
*Duration: 20 years*  
*Designs: Christ - Cross fleury with arms of partners*  
*Weight: 3.40 g · Fineness: 19 carats = 791/1000*

Cologne: Bonn mint, n. d. (c.1469) · 3.38 g · Fineness 76%



R 28 *20th Treaty, 7 June 1502 - Mainz*  
*Partners: Prince-archbishops of Mainz, Trier, Cologne; Elector Palatine*  
*Designs: Trefoil with arms of partners - Christ*  
*Weight: 3.28 g · Fineness: 18½ carats = 770/1000*

Trier: Coblenz mint, 1502 · 3.24 g · Fineness 77%



R 29 *24th Treaty, 26 July 1511*  
*Partners: Prince-archbishops of Mainz, Trier, Cologne; Elector Palatine; dukes of Jülich-Berg and Cleves-Mark; landgrave of Hesse; city of Cologne*  
*Designs: St. Hubert - Quatrefoil with arms*  
*Weight: 3.28 g · Fineness: 18½ carats = 770/1000*

Jülich-Berg: Mülheim mint, 1511 · 3.24 g · Fineness 78%



R 30 *25th Treaty, 1 October 1515*  
*Partners: As above (24th Treaty); prince-bishop of Speyer*  
*Duration: for the lifetime of the prince-bishop of Speyer*  
*Designs: Christ - Quatrefoil with arms*  
*Weight: 3.28 g · Fineness: 18½ carats = 770/1000*

City of Cologne: Cologne mint, 1515 · 3.25 g · Fineness 77%

## APFELGULDEN

On the following three pages we illustrate a series of coins from those mints represented in our coin collection which issued Apfelgulden, providing a survey of this coin-type. Its origins and importance for German coinage history are set out in the Introduction. The distinctive feature of these Gulden is the eponymous Reichsapfel (orb), which usually appears on the obverse but occasionally on the reverse. It is surrounded by a border of varying complexity, whose form altered frequently in the passage of time. At first it took the shape of a six-arched enclosure (A1, 9, 15) and then occasionally a quatrefoil (A2); eventually it took the form of three circular arches alternating with spikes and this was the most frequently used border. At the beginning of the sixteenth century the quatrefoil was used again, or other forms were adopted (A8, 14, 22). This development may best be seen on the Frankfurt Gulden, which are illustrated opposite. Their legends give the name and title of the reigning king in an abbreviated form, for instance SIGISMVD·RO·MORVM REX = Sigismundus Romanorum rex, or FRIDRICVS·ROMAN·IMP·ERATOR = Fridericus Romanorum imperator. Altogether, the following German kings are encountered in the legends of the coins illustrated:

Sigmund	King (Rex) A1, 2, 9, 15
	Emperor (Imperator) A12
Albrecht II	King (Rex) A3
Frederick III	King (Rex) A18, 19
	Emperor (Imperator) A4, 5, 10, 13, 17, 21
Maximilian I	King (Rex) A6, 7, 11, 23
Charles V	Emperor (Imperator) A8, 14

Where the head of the Empire is not named, the complete legends are given (A16, 20, 22).

On the other side the central figure is usually that of St. John the Baptist, taken over from the florins: at first he is depicted holding a cross-staff and subsequently with the Lamb of God on his left arm. The legend on this side names the mint, beginning with the words MONETA NOVA (AVREA): new or current (gold) coin. The symbol between St. John's feet, which interrupts the legend, refers either to the mintmaster or to the pledge-holder. Thus the crescent moon is the mark of the Rhenish mintmaster- and entrepreneur-family of Winterbach, who for a time were responsible for the mints of Frankfurt and Nördlingen, amongst others (A1, 9). The meaning of the double-headed eagle on A2 is not altogether clear: it could well serve to emphasise the king as issuer and was added following the breakdown in 1425 of negotiations with the Electors aimed at a common coinage design. The letter F on the Gulden A4 is likewise unexplained; the coin belongs to the time when the children of Conrad of Weinsberg, who possessed the mint, were still minors. The other marks on the Frankfurt and Nördlingen pieces as well as on those of Augsburg (whither the imperial mint of Basle was transferred in 1509) relate to the pledge-holder of the three imperial mints, the hereditary chancellor Conrad of Weinsberg and his children (A3-6, 10, 11), as well as their successors from the House of Eppstein-Münzenberg, whose arms appeared on the coins following the extinction of the Weinsberg family (A7, 8, 14). The jointly-administered (and subsequently also pawned) imperial mints from time to time

employed the same die-engraver, as may be seen from a comparison of A1 and A9; sometimes an Electoral employee was also enlisted.

The design prescribed for the imperial mint at Basle was not St. John the Baptist, but the patron of the city, the Virgin Mary with the infant Jesus, perhaps in the light of the Church Council that started at the same time as the mint was established (A12, 13). At Dortmund the Reichsapfel was moved to the reverse, with the name of the mint in the legend, since the obverse bore the standing king, which Conrad of Weinsberg would have liked to place on all royal Gulden (A15). On the later Augsburg Apfelgulden the city came to occupy a more important place in the design than on other imperial coins, through its arms and the depiction of St. Ulrich (A14).

On Apfelgulden produced by non-royal mints, the designs are varied, apart from the common symbol of the Reichsapfel. Besides St. John the Baptist, local patron saints appear more frequently, as well as the issuers' own coats of arms. Divergences in design and legend, as well as privy-marks and coats of arms, are given in the descriptions accompanying the illustrations.

The weights and finenesses of the Apfelgulden illustrated here can make no claim to be a generally valid statement, since they are based on single pieces, and in addition the fineness figures are subject to the qualifications made in the introductory notes. They show, however, no significant difference from the Gulden of the Rhenish Electors. One coin that is out of place with respect to weight and fineness is the East Frisian Gulden (A17), which matched Netherlands coins and in view of its light colour may have an even lower fineness than that quoted, because it may be fairly heavily alloyed with silver, as is known for Netherlands gold coins. Another is the Gulden of the city of Strassburg (A22), whose fineness is inexplicably low.

### Imperial mint of Frankfurt am Main

- |   |  |
|---|--|
|    | <i>A 1 King Sigmund, 1410-1437, Emperor from 1433</i><br>n. d. (1418-1423)<br>Rev: crescent moon with face<br>3.45 g · Fineness 78% · Joseph and Fellner 103 |
|    | <i>A 2 King Sigmund, 1410-1437, Emperor from 1433</i><br>n. d. (1426-1430?)<br>Rev: double-headed eagle<br>3.40 g · Fineness 80% · Joseph and Fellner 105 a  |
|    | <i>A 3 King Albrecht II, 1438/39</i><br>n. d.<br>Rev: C = Conrad<br>3.17 g · Fineness 79% · Joseph and Fellner 111 i   |
|    | <i>A 4 King Frederick III, 1440-1493, Emperor from 1452</i><br>n. d. (1452-1456?)<br>Rev: F<br>3.33 g · Fineness 79% · Joseph and Fellner 117 h              |
|  | <i>A 5 King Frederick III, 1440-1493, Emperor from 1452</i><br>n. d. (1460-1490?)<br>Rev: Weinsberg arms<br>3.32 g · Fineness 77% · Joseph and Fellner 121   |
|  | <i>A 6 King Maximilian I, 1493-1519, Emperor from 1508</i><br>1494<br>Rev: Weinsberg arms<br>3.26 g · Fineness 78% · Joseph and Fellner 128                  |
|  | <i>A 7 King Maximilian I, 1493-1519, Emperor from 1508</i><br>1508<br>Rev: Eppstein-Münzenberg arms<br>3.27 g · Fineness 77% · Joseph and Fellner 142        |
|  | <i>A 8 Emperor Charles V, 1519-1556</i><br>1529<br>Rev: Eppstein-Münzenberg arms<br>3.11 g · Fineness 77% · Weschke, Frankfurter Goldgulden p. 37 ff.        |



*Imperial mint of Nördlingen*  
 A 9 King Sigmund, 1410-1437, Emperor from 1433  
 n. d. (1418-1423)  
 Rev: crescent moon with face  
 3.40 g · Fineness 78% · Herzfelder 1



A 10 King Frederick III, 1440-1493, Emperor from 1452  
 n. d. (1469-1487)  
 Rev: Weinsberg arms  
 3.23 g · Fineness 76% · Herzfelder 7



A 11 King Maximilian I, 1493-1519, Emperor from 1508  
 1497  
 Rev: Weinsberg arms  
 3.26 g · Fineness 76% · Herzfelder 18 var.



*Imperial mint of Basle*  
 A 12 King Sigmund, 1410-1437, Emperor from 1433  
 n. d. (1433-1437)  
 Rev: Mary with the infant Jesus  
 3.42 g · Fineness 79% · Winterstein 53



A 13 King Frederick III, 1440-1493, Emperor from 1452  
 n. d. (1452-1478)  
 Rev: Mary with the infant Jesus  
 3.29 g · Fineness 76% · Winterstein 157



*Imperial mint of Augsburg*  
 A 14 Emperor Charles V, 1519-1556  
 1520  
 Obv: Reichsapfel in quatrefoil, Augsburg arms  
 Rev: AVGVSTA · VI · NDELICORVM, St. Ulrich, arms as A 7, 8  
 3.25 g · Fineness 77% · Herzfelder 124



*Imperial mint of Dortmund*  
 A 15 King Sigmund, 1410-1437, Emperor from 1433  
 n. d. (1428-1433)  
 Obv: standing king, rosette Rev: Reichsapfel in six-lobed border  
 3.35 g · Fineness 79% · Berghaus 108 c



A 16 Duchy of Saxony  
 Duke Albrecht, 1485-1500  
 Mint: Leipzig, n. d. (1488-1500)  
 Obv: ✠ALBERTVS · D · G · DVX · SAXONIAE Rev: ducal arms of Saxony  
 3.26 g · Fineness 76% · Krug 1664 ff.



A 17 County of East Friesland  
 Count Enno I, 1483-1491  
 Mint: Emden, n. d.  
 Rev: MO · E · NO · CO · I · T · FISIG · O · PE, harpy  
 3.08 g · Fineness 71% · Tergast and Meier 6 var.



A 18 Hanseatic city of Hamburg  
 Frederick III as King, 1440-1452  
 n. d. (1440-1452/93?)  
 Rev: St. Peter over nettle-leaf arms  
 3.32 g · Fineness 79% · Gaedechens 266



A 19 City of Lüneburg  
 Frederick III as King, 1440-1452  
 n. d. (1440-1452)  
 Rev: lion arms  
 3.31 g · Fineness 78% · Bahrfeldt, Lüneburg col. 471 a/c



A 20 Imperial city of Cologne  
 n. d. (1475-1493)  
 Obv: seated Christ over city arms  
 Rev: ✠ I · A · S · P · A · R · ✠ M · E · L · C · H · I · O · R · ✠ B · A · L · T · H · A · S · ✠, Reichsapfel in trefoil  
 3.03 g · Fineness 76% · Noss, Köln 21



A 21 Imperial city of Zwolle  
 Frederick III as Emperor, 1452-1493  
 n. d. (1488-1493)  
 Rev: St. Michael over city arms  
 3.23 g · Fineness 76% · Delmonte 1123 var.



A 22 Imperial city of Strassburg  
 n. d. (1508-1528)  
 Obv: ✠ AUREUS · URBIS · ARGENTINE · NUMUS  
 Rev: URB · G · M · VIRGO · TUA · M · S · ER · UA, Mary over city arms  
 3.15 g · Fineness 65% · Engel and Lehr 417 var.



A 23 Imperial city of Constance  
 Maximilian I as King, 1493-1508  
 n. d. (1507-1515)  
 Rev: eagle over city arms  
 3.26 g · Fineness 76% · Nau 83 var.

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## KEY TO THE MAP

The mints of the coins illustrated in Plates 1 - 67 and in the Appendix are marked on the map, as far as they can be identified. To make matters clearer, the regions and duration of the individual Islamic dynasties are also marked.

### Key to Mint-symbols

- 
- ▲ Byzantine coins

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  - △ Islamic coins and those of Islamic influence

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  - ◇ Gold coins imitating ancient prototypes (Plates 15, 20)

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  - Gold coins imitating Florentine prototypes:
    - Mint certain
    - ◐ Mint uncertain

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  - Gulden of Rhenish Monetary Union and issues influenced by it

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  - ⊕ Apfelgulden

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  - ⊙ Gold coins influenced by the Venetian ducat

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  - Other gold coins with a diameter of over 25 mm
- 
-



Atlantic Ocean

Empire of the

Almoravids  
c. 1056 - 1147

Almohads  
1147 - 1269

Abbasid Caliphate

Empire  
1169 - 1250  
1250 - 1517

749 - 1258

London  
Thames  
St-Lô  
Paris  
Seine  
Tours  
Strassburg  
Stuttgärt  
Nuremberg  
Prague  
Leipzig  
Lüneburg  
Hamburg  
Lubeck  
Stettin  
Liegnitz  
Schweidnitz  
Bar-le-Duc  
Basle  
Constance  
Augsburg  
Munich  
Salzburg  
Hall  
Judenburg  
Buda  
Kremnitz

Braga  
Burgos  
Orange  
Avignon  
Milan  
Genoa  
Bologna  
Florence  
Rome  
Naples  
Messina  
Clarentia  
Magnaesia  
Constantinople  
Black Sea  
Caspian Sea

Hasselt  
Zwolle  
Rhenen  
Dordrecht

Bruges  
Antwerp  
Ghent  
Louvain  
Bleierheide  
Riehl  
Mülheim  
Cologne  
Deutz  
Aachen  
Düren  
Bonn  
Hammerstein  
Coblenz  
Höchst  
Frankfurt  
Steinheim  
Oberwesel  
Bacharach  
Eltville  
Bingen  
Oppenheim  
Luxemburg  
Speyer  
Heidelberg

Danube

Dnieper

Don

Volga

Tigris

Euphrates

1111 - 906

Cairo

Damascus  
Acre

Baghdad

Kanauj

San'a

Red Sea