

## CHAPTER 5

### THE PERIOD OF THE 'OLD-FRISIAN' PENNY (c.1000-c.1280)

In the previous chapter we saw how a Frisian economic institution, the unit of account, found itself caught between the influences of the Frankish culture and the North Sea culture, but after the dissolution of the Frankish realm and the exhaustion of Scandinavian piracy in the second half of the 10th century new challenges arose. The impetus for revival came from neighbouring Saxony: an economic impetus resulting from the finding of silver mines near Goslar and a political impetus resulting from the rise to royal power of a Saxon dynasty, the Liudolfinger. This chapter describes how the Frisians met the new challenges. They were able to restore and defend their independent way of life but unable to reform and extend their society into an organised state. The small-scale mercantile peasant farmer remained, but the large-scale international urban merchant did not emerge here. It is all reflected in the story of the Frisian money of account.

#### **The historical context**

In the second half of the 10th century the raids of the Northmen came gradually - though not completely - to an end. The still extant Frisian trade-network was revitalised and the old business between Scandinavia, England and the Rhine area was resumed.<sup>1</sup> But things had changed.

Outside Frisia the most significant economic change was perhaps the discovery and mining of silver in Saxony from the 960s onwards. It pushed the hitherto backward homeland of the Saxon kings of Germany into the forefront of economic expansion. It stimulated the development of trade routes within Saxony. The Elbe, the Weser, the Ems and the IJssel, with their tributaries, were connected by inland roads between these rivers and the Rhine, and gained in importance as market places and mints were established along those roads. An impressive increase in additional purchasing power was generated in Western Europe. A considerable part of this flowed through the hands of the Frisian merchants, but these now had to meet growing competition from the Saxons in their traditional Scandinavian markets. The balance of trade was in favour of the North because the value of the exported furs and other luxury materials greatly exceeded the value of the imports. Hence, an enormous stock of silver money was piled up in Scandinavia itself as well as in the neighbouring Baltic countries and Russia.

<sup>1</sup> Spufford, *Money*, 64; 87.

Here, thousands of silver coins have been discovered in hoards dating from the 10th to the 12th century. Frisian coins make up  $\frac{1}{3}$ rd of the total number of coins discovered, struck within the German empire.<sup>2</sup> However, the European monetary expansion came to an end after the exhaustion of the Saxon mines in the middle of the 11th century. This also marked the end of Frisian long-distance trade.<sup>3</sup>

There was another important change inside Frisia. The construction of dykes since about the end of the 10th century, to defend the Frisian sealands against floods, resulted in increased safety for the inhabitants and, above all, in an increase in the amount of arable land for the growing population. Also, the vast moors that lay between the Frisian sealands and the sandy soils of the continent became objects of energetic reclamation activity. This resulted simultaneously in less salty waters and less salty meadows, which may have led both to a reduction in shipping and trading challenges and to more farming and peatery interests (presumably from the 12th century onwards).<sup>4</sup> It may also have led to a reduction in the quality of Frisian sheep,<sup>5</sup> causing the famous Frisian woollens to lose their preponderant position in the international markets to those of Flanders (at the end of the 11th century<sup>6</sup>). Cattle, horses and dairy products replaced them.

The shift from international shipping to farming and peatery must have been further advanced by the emergence, at the end of the 12th century, of the big *kogge*, a freighter that was much larger than any of the previously used vessels but was unable to land in the shallow waters of Frisia.<sup>7</sup> By the 13th century only a few harbour-sites remained for overseas trade. In the succeeding centuries, some of these places became involved in the Hanseatic league.<sup>8</sup> Groningen was one of these. This centre, well situated at the junction of a natural land road from Westphalia through Drenthe and waterways to the surrounding polder areas and the North Sea, became one of the larger commercial towns in northern Europe, but its membership of the league had no great significance.<sup>9</sup>

<sup>2</sup> *Ibidem*, 86.

<sup>3</sup> *Ibidem*, 96-97.

<sup>4</sup> Van der Molen, *Turf*, 17-19.

<sup>5</sup> Knol, *De Noord-Nederlandse kustlanden*, 239: sheep flourish better in a brackish environment because a particular parasite, inimical to sheep, cannot thrive in that environment.

<sup>6</sup> Ammann, *Die Anfänge*, 276; the industry of cloth for export emerged in Flanders at the end of the 11th century.

<sup>7</sup> Jansen, "Een economisch contrast", 16-17.

<sup>8</sup> Jappe Alberts, *De Nederlandse Hanzesteden*, 22-31, mentions in Frisia Stavoren, Bolsward and Groningen, although the status of the relationship between these towns and the Hanse is mostly complicated and sometimes doubtful. In addition, Previté-Orton, *The shorter Cambridge medieval history* 2, 853, mentions Emden.

<sup>9</sup> Jansen, "Sociaal-economische geschiedenis". 144-145.

At the end of the period covered by the present chapter - that is, about the middle of the 13th century - Frisia was still a wealthy country, but it had lost its preponderant international trade position. To the east, the Hanseatic league, dominated by Saxon towns and merchants, had taken over the Frisian role. To the west, the towns and merchants of Flanders and subsequently Holland were heirs of the early medieval Frisian tradition.

The powerful economy of Frisia, based on a class of mercantile peasant farmers, did not apparently match with the feudal system that emerged after the dissolution of the Carolingian power in almost all parts of the former realm. Gradually, real political power slipped from the hands of the king, with his officers, into the hands of a number of feudal princes who were often only formally tied to their king. Frisia had belonged to the German kingdom since the end of the previous period. Little is known about the local and regional rulers in Frisia from the 10th to the end of the 12th century, but, with the exception of one part of Frisia, no feudal prince succeeded in gaining control of the country during the period under consideration. The resistance of the Frisians was based on their tradition of being bound in fidelity only and directly to the king, presumably founded on the privilege of 814.<sup>10</sup>

The exception was a part of West Frisia, a county bordering the Old Rhine.<sup>11</sup> After the expulsion of the last Danish prince from West Frisia in 885, the first Frisian count of this area was the founder of a dynasty - the House of Holland - claiming hereditary feudal rights in Frisia. The expansionist policy of this dynasty during the centuries that followed gradually resulted in the conquest of all of West Frisia south of the small river Rekere, near Alkmaar. From the 12th century onwards this southern part of West Frisia came to be called 'Holland'. It was not considered as belonging to Frisia any more. Only the most northern part retained the name West-Friesland, which has lasted to this day. The Counts of Holland tried vehemently to subdue this last region also but without success during the period under discussion. Moreover, they aspired to lordship over the whole of Frisia. All through the Middle Ages they tried persistently, but vainly, to realise their pretensions and establish a firm grip over the lands on the other side of the Fli by either diplomatic or military methods.

In Mid-Frisia and East Frisia however, no indigenous dynasties with hereditary feudal rights developed. Towards the end of the 10th century and during the 11th century the counties in these parts of Frisia had fallen into the hands of Saxon dynasties residing not in Frisia itself but at a considerable distance - in Brunswick, Werl and Luneburg for example. These dynasties seem to have had only little political authority in Frisia, and,

<sup>10</sup> Immink, "Remarques", 182; Algra, "Rechtshistorische aspecten", 100-101. See also Chapter 4, 'The historic context'.

<sup>11</sup> The county consisted of Holland and Kennemerland. Hol(t)land (= woodland) was situated between the mouth of the Meuse and Kennemerland.

after conflicts with the king, several of them were replaced by bishops. Drenthe, including the *villa* of Groningen, was granted to the Bishop of Utrecht in 1046,<sup>12</sup> while Frisia between Lauwers and Eems was given to the Bishop of Bremen in 1047, nominally for a few decades.<sup>13</sup> Mid-Frisia belonged to the Bishop of Utrecht after 1077,<sup>14</sup> possibly with interruptions between 1099 and about 1150,<sup>15</sup> but, from 1165<sup>16</sup> into the first half of the 13th century<sup>17</sup>, he ruled it in conjunction with the Count of Holland (a *condominium*). The rights in Emsingo were sold by the Countess of Ravensberg to the Bishop of Münster in 1252.<sup>18</sup> In the Yade area, the communities themselves bought out the Count of Oldenburg.<sup>19</sup> But as the bishops were not successful in gaining control either, they were often replaced by secular nobles with hereditary claims. There is a long list of the vain efforts of these nobles, sometimes supported by the German king, to impose their authority by means of military interventions against the resisting inhabitants of Frisia.<sup>20</sup>

So, in fact, the royal fiefs did not result in firm political control by the feudal lords.<sup>21</sup> In Mid-Frisia the Bishop of Utrecht and the Count of Holland were accepted as the king's representatives only so long as they abstained from performing the rights of a lord.<sup>22</sup> Their officers in Frisia - *franan* (their highest representatives) and *skeltan* (officers at

<sup>12</sup> OGD1: 21.

<sup>13</sup> Egbert III of Brunswick, Count in Mid-Frisia, claimed this county; his *de facto* exercise of the rights was finally accepted by the Bishop in 1057 in exchange for  $\frac{1}{3}$ th part of the rewards.

<sup>14</sup> Chbk1, 67-71: the county of Stavoren in 1077 and the counties of Oostergo and Westergo in 1086 and, after returning these to the Saxon count in betrayed confidence, once again in 1089. However, the Bishop of Utrecht was killed by a Frisian merchant in 1099 and his succession until 1138 is uncertain as these rights were claimed and after 1101 possibly *de facto* exercised or blocked by an heir of the Saxonian counts (Niermeyer, "Over het staatsgezag", 1-33; Janse, *Grenzen*, 34).

<sup>15</sup> Janse, *Grenzen*, 34-38.

<sup>16</sup> Chbk1, 78-80.

<sup>17</sup> See Algra, "De datearring", 11-13.

<sup>18</sup> OFU3: 38.

<sup>19</sup> Sello, *Östringen und Rüstingen*, 40-41.

<sup>20</sup> In 993: Arnulf, Count of Holland (slain) against West Friesland; in 1058, Adalbert, Archbishop of Bremen and Count Bernhard Billung against Riustringen; in 1092: Conrad, Count of Werl (slain) against Mormerland; in 1099: Conrad, Bishop of Utrecht and Count in Mid-Frisia, slain by Frisian merchant; in 1101: Henry the Fat, Count of Nordheim and just appointed Count in Mid-Frisia, slain by Frisians; in 1114, Henry V, King, against Mid-Frisia; in 1147 Otto I, Count of Kalvelage, against Emsingo; in 1153: Henry the Lion, King, against Riustringen; in 1153: Christian, Count of Oldenburg, against Oistringen (slain); in 1156: Henry the Lion, King, against Oistringen; in 1227: Otto II, Bishop of Utrecht (slain) against Drenthe and Groningen; in 1256: William II, King (slain), against West Friesland. See amongst other: Kerkmeyer-De Regt, *Geschiedenis*, 18-21; Janse, *Grenzen*, 29-45; Ehbrecht, *Landesherrschaft*, 43-56; Gosses, "Friesische Geschichte", 352; Gosses, "Rechtsbronnen", 188).

<sup>21</sup> De Langen, *Middeleeuws Friesland*, 276-277, assumes that a good organisation of the rewards of the minting by the counts does imply a firm incorporation of Frisia into the imperial political structures. He refers to a remark made by Van Gelder ("De Winsumer munt", 1) that the uniformity of the coins of the counts of the House of Brunswick was an indication of their well-organised authority over a large area. But Van Gelder admits that this uniformity would be not unusual if the system of mintage in England was applied. On this system see below.

<sup>22</sup> Mol, *De Friese huizen*, 60.

district level) - were presumably appointed from the local elite elected by the legal community but, we assume, sworn to the king.<sup>23</sup> With the counts having so little authority, Frisia between Fli and Weser was *de facto* almost independent and self-governed by its own authorities, who were charged with the administration of justice. The administration of justice was made by tribunals<sup>24</sup> at different levels, varying from one sealand to another,<sup>25</sup> and these were presided over by the local officers. These were formally acting on behalf of the count or bishop,<sup>26</sup> but their superiors were far away.<sup>27</sup> So these officers were often left to themselves and limited in power only by the law and the notable peasant farmers within their jurisdiction. Moreover, they were responsible only for the procedures, not for the decisions. The decisions were made by ‘the people’ within a given jurisdiction - that is, originally, the whole community of free Frisians (in fact the peasant farmers<sup>28</sup>), but for practical reasons the ‘whole community’ was gradually replaced by a jury, which represented it. The decisions were originally proposed by the *asega*, ‘a wise man’ with generally recognised knowledge of the law.<sup>29</sup> The *asega* disappeared in about 1200 when his function was gradually taken over by the board of judges.<sup>30</sup>

As a result, Frisia in the 13th century (Drenthe not included) consisted of about twenty-five *de facto* independent ‘peasant farmers’ republics’.<sup>31</sup> Though the lack of a supreme authority in Frisia must have been felt, the provincial communities did not have sufficient power to build a federation from the bottom up. Only after about 1200 did they begin co-operating in what was called the league of the ‘Upstallisbam’,<sup>32</sup> and even then co-operation was not always self-evident. There are many examples of bitter strife between districts and even between villages during this period. In this world of precarious

<sup>23</sup> Algra, “Rechtshistorische aspecten”, 200.

<sup>24</sup> Algra, “Hecks’ ‘Altfriesische Gerichtsverfassung’”, 37-40.

<sup>25</sup> The concepts of sealands, districts and sub-districts in this study are defined in Chapter 1, ‘The context: medieval Frisia’.

<sup>26</sup> Algra, “Rechtshistorische aspecten”, 148-153.

<sup>27</sup> Algra, “De datearring”, 8-9. The exception is Mid-Frisia. During the period when the Bishop of Utrecht and the Count of Holland held Mid-Frisia in fief together, the younger brother of the Count of Holland acquired Mid-Frisia in fief between 1196 and 1203, and was actually seated in the area.

<sup>28</sup> Algra, “Heck’s altfriesische Gerichtsverfassung”, 36. Originally the free Frisians were freeholders, loyal to the king. But in the course of time the oath of fidelity to the king came to be neglected.

<sup>29</sup> In ‘dooms’ the *asega* advised a community from his judicial experience and wisdom (Algra, “Rechtshistorische aspecten”, 165-166). He was bound to a sealand, travelling through the various districts (*ibidem*, 162-163). The *asega* is considered as an institution not of Frankish but of old Frisian origin (*ibidem*, 162).

<sup>30</sup> *Ibidem*, 167; De Vries, “That is riucht”, 170.

<sup>31</sup> Gosses, “Deensche heerschappijen”, 145; Slicher van Bath, *Herschreven historie*, 259-260 (I have added West-Friesland to his list); Schmidt, “Studien”, 35.

<sup>32</sup> Meijering, *De Willekeuren*, 288-289; it is assumed that the league originally concerned only the communities of East Frisia, *i.e.* between Lauwers and Weser.

internal balance the abbots of the many monasteries in Frisia played an important role on the basis of their knowledge and their authority.<sup>33</sup>

### **The history of the means of payment**

This singular economic and political development of Frisia during the 10th to 13th centuries obviously had an impact on the currency.

We shall begin with the 10th century. Although the ‘heavy’ Carolingian and post-Carolingian pennies - like the pennies of Cologne - have been found in Frisia and would have been used, the main currency in Frisia during the 10th century would have been the lighter, indigenous, imitative Carolingian and post-Carolingian coins. In the second half of the 10th century, a new generation of indigenous coins emerged. Many of these coins have been discovered in Scandinavia, the Baltic and Russia as well as in Frisia itself (where they are found in much smaller numbers).<sup>34</sup> Because these coins were of a typically Frisian design, I shall refer to them as ‘old-Frisian’ pennies. Like their forerunners - the Frisian imitative Carolingian pennies - the ‘old-Frisian’ pennies are characterised by their lower weight in relation to pennies struck elsewhere in the German empire at that time. The ‘old-Frisian’ pennies can be divided into three groups. The oldest and the youngest of these are possibly Frisian because of their likeness to the middle group, which is certainly Frisian.

The first group might be considered to be ‘possibly’ Frisian, not because of exterior characteristics but because of the weight of the coins concerned: c.1.2g - c.0.7g. The coins were struck at the end of the 10th and during the first decades of the 11th century. It is true that this group cannot be defined very clearly. It may be described as transitional between the Frisian imitative Carolingian coins and the ‘old-Frisian’ coins. It consists of two categories, one comprising relatively heavy coins (c.1.6g to c.0.9g)<sup>35</sup> and the other comprising relatively light coins (c.0.9g to c.0.7g).<sup>36</sup> Ilisch assumes the first category to have originated in the east of Frisia and the other to be from the west of

<sup>33</sup> Mulder-Bakker, “De vrede van de abten”, 3-17.

<sup>34</sup> Puister, “De 11e eeuwse munten”, 505.

<sup>35</sup> Types derived from the Ottonian pennies of Cologne (0.9g-1.6g), from pennies of Luneburg (0.9g-1.1g) (Ilisch, “Friesische Münzen”, 68; Ilisch, “Friesische Prägungen”, 14-16) and the ‘Fresonia’ pennies with the name of the Emperor Conrad II (1024-1039; 0.9g) (Suhle, *Deutsche Münz- und Geldgeschichte*, 62-63).

<sup>36</sup> Types derived from the ‘Christiana religio’ pennies (0.7g-0.9g), pennies from an unknown ecclesiastical mint (0.6g-0.9g), various pennies typologically related to the Frisian pennies of Count Egbert (0.6g-0.9g) and the so-called Wichman pennies (0.8g-0.9g). The last are found in considerable quantities in the Baltic area. They are sometimes mistakenly ascribed to Count Wichman of Hamaland (d.973). The only alternative would be Count Wichman III Billung (d.1016), although the rights of this count in Frisia are otherwise unknown (Ilisch, “Friesische Münzen”, 68-69; Ilisch, “Friesische Prägungen”, 8-18; Van Winter, “Die Hamaländer Grafen”, 16-46).

Frisia, though the exact borderline is not clear.<sup>37</sup> In his view, the coins between Ems and Scheldt differed in appearance in the 11th century but were uniform in weight and in fabric.<sup>38</sup>

The middle group is certainly Frisian because the coins of this group each bear the name of a Frisian market place: Stavoren, Bolsward, Leeuwarden, Dokkum, (Olde)Boorn, Winsum, Groningen, Garrelsweer,<sup>39</sup> Jemgum?,<sup>40</sup> Emden,<sup>41</sup> Leer and Jever. They also bear the name of a count, one of the Saxon counts in Frisia during the 11th century. The coins of this group have gross weights declining from c.0.9g to c.0.6g. They were struck during the second and third quarter of the century.

The last and youngest group is even lighter than the middle group: c.0.6g to c.0.05g. The coins of this group do not bear the names of market places or counts, but they do bear the images of anonymous bishops or *franan* and then have stripes and other symbols instead of letters. They were struck from the last quarter of the 11th century and into the second half of the 13th century.<sup>42</sup> Numismatists ascribe this last group to Frisia; they were probably struck after the Saxon counts had been replaced by ecclesiastics, and from then onwards. The numismatic evidence concerning this group is rather confusing. There seems to have been an accelerated decline in the weight of the 'old-Frisian' pennies in Mid-Frisia and in Groningen/Drenthe during roughly the last quarter of the 11th and the first quarter of the 12th century. In around 1100 the weight of these pennies was below 0.5g, and about 1125 it may even have been as low as c.0.3g.<sup>43</sup> It is not known whether this decline also occurred in East Frisia (including the Ommelanden). Although coins of this third group have also been discovered in East Frisia,

<sup>37</sup> Ilisch, "Friesische Prägungen", 10-13.

<sup>38</sup> Information kindly supplied (1998) by Dr P.Ilisch of Münster.

<sup>39</sup> OGD1: 24 (A° 1057).

<sup>40</sup> The place name on the coins, Emnichem, is not yet determined. Puister, "De 11e eeuwse munten", 509, ascribes the coins to Westeremden in the Ommelanden as the type is unmistakably the same as the type of Winsum and of Garrelsweer. I guess, because Frisian place names ending on '-hem'/'-um' often have a man's name or patronymic in front (Gysseling, "De oudste Friese toponymie", 47), this could be the name Eme/Ieme/Jemme/Gemme or Eminga/Ieminga/Jemminga/Gemminga respectively (Van der Schaar, *Woordenboek*, sv. Jemme). Jemgum (or Jemmingen) is a seaport situated at the west bank of the Ems in Reiderland. Jemgum is known in 13th century sources as Gemmegum or Ghemgum (OFU1: 35 (1284); Houtrouw, *Ostfriesland*, 252-253).

<sup>41</sup> OFU1: 5 (A° 1062).

<sup>42</sup> Scholten, "De munten", 19-55; Jacobi, "Twee muntvondsten", 140-144.

<sup>43</sup> Information kindly supplied (1998) by Dr P.Ilisch of Münster, in advance of an article to be published in *Jaarboek voor Munt- en Penningkunde*, forthcoming. Ilisch, "Der Fund von Prag", 25-30, also mentions coins as light as c.0.2g, ascribed to Frisian origin (a type ascribed to the mint of Jever and an anonymous type) and buried in Prague after 1107. Ilisch is of the opinion, that these very light coins were not halfpennies, but if not, they seem too light to be placed intelligibly in the range of old-Frisian coins in the first quarter of the 12th century.

An illustration of the ‘old-Frisian’ coins that circulated in Frisia from the 10th to the 14th centuries is found in table B.

**Table B.**  
**Sample of discovered ‘old-Frisian’ pennies**

Period	Type	Weights	Av.wght	Source
<u>Frisia unspecified</u>				
-1016	Wichman III	1.00-0.65	0,85-0,80	a <sup>44</sup>
1024-1039	Conrad II	0.91??		b <sup>45</sup>
<u>Mid-Frisia (Stavoren, Bolsward, Leeuwarden, Dokkum, Oldeboorn)</u>				
1038-1057	Bruno III	0.92-0.48	0,67	d <sup>46</sup>
1057-1068	Egbert I	0.85-0.42	0,53	d
do.?	(Simon+Judas type)	0.85-0.53	0.65	d
1068-1089	Egbert II	0.78-0.50	0,67	d
1077-1099	Conrad’Swabia	0.53-0.40	0.51	d
1100-1125	a bishop <sup>47</sup>	0.48-0.30	0.40	d
1125-c.1150	Otto <sup>48</sup>	0.37-0.24	0.26	d + e <sup>49</sup>
1165-1178	Godfried?	0.43-0.29	0.34	f <sup>50</sup> + e
c.1190	a bishop		0,25	c <sup>51</sup>
1198-1212	Diederik	0.23		d
1st half 13th c.	bishops	0.18-0.21	0.20	d + e
<u>Ommelanden (Winsum, Garrelsweer, Emnighem)</u>				
1068-1090	Egbert II	0.78-0.50	0,67	d
<u>Groningen and Drenthe (Groningen)</u>				
1040-1054	Bernold	1.23-0.72	1.02	g <sup>52</sup>
<u>Emsingo (Emden, Leer)</u>				
1047-1050	Herman’Werl <sup>53</sup>	0.97-0.64	0,72	h <sup>54</sup>
b.1057	Godfried II		0,64	h
1057-1066	Adalbert		0,64	h
<u>Oistringen (Jever)</u>				
1011-1059	Bernard II	0,89		h
a.1110?	Ordulf’Saxony?	0,20		i <sup>55</sup>



numismatists can only guess their date and place of minting.<sup>56</sup>

Regulations regarding this deviating, massive and varied minting in Frisia are hardly known. Although we have seen in the previous chapters that minting in Frisia without royal charter was not unusual, part of the minting of ‘old-Frisian’ pennies was based on royal charters. Before the bishops became involved with fiefs in Frisia, only one charter granting mintage is known. In 985 King Otto III granted a Count Ansfried the right to mint in Medemblik.<sup>57</sup> Ansfried had counties in Brabant and was later, in 995, appointed by the Emperor to be Bishop of Utrecht.<sup>58</sup> But no coins of Medemblik have been found so far.<sup>59</sup> There are no known charters granting mintage to the Saxon counts in Frisia. The charters that are known concern the Bishop of Utrecht (1040 in Groningen<sup>60</sup>) and the Bishop of Bremen (1057 in Winsum and in Garrelswear,<sup>61</sup> 1062 in Emden<sup>62</sup>).

How were the minting rights executed by the ‘absentee’ counts? There was a 12th century general Frisian law against coiners,<sup>63</sup> which presupposes the existence of legal

<sup>44</sup> Ilisch, *Friesische Prägungen*, 12-13.

<sup>45</sup> Suhle, *Deutsche Münz- und Geldgeschichte*, 63; Linssen, *Historische Opstellen*, 2-3.

<sup>46</sup> Scholten, “De munten van Friesland”, 13-55.

<sup>47</sup> Scholten no.5, 6a,7 and 8.

<sup>48</sup> Scholten, “De munten”, 29-36, nos.9-16, ascribes these Otto-coins hypothetically to Otto of Zutphen (d.1113) and, after that date, to Otto of Gelre (c.1150-a.1206) (*ibidem*, 36-50), both as *advocatus ecclesiae* of the Bishop of Utrecht. But I think it more likely that the imprint on the coins refers to Otto of Rheineck, married 1113 to the heiress of the Frisian rights of the Brunswick dynasty and contesting these rights with the Bishop of Utrecht. He may have exercised these rights *de facto* in 1125-1151/1154, although they were formally returned by the Emperor to the Bishop of Utrecht in 1145 (Janse, *Grenzen*, 34-38).

<sup>49</sup> Jacobi, “Twee muntvondsten”, 133-144.

<sup>50</sup> Discovered in Avendorp, West Friesland and Arnhem, Guelders. Van der Chijs, *Utrecht*, 49; the attribution of the coins to Bishop Herman (1150-1156) is uncertain; Hävernick, *Der kölnner Pfennig*, 100; Scholten, “De munten van Friesland”, 43-44, attributes these coins to a Mid-Frisian mint, struck under Bishop Godfried (1156-1178).

<sup>51</sup> Van Gelder, “Munten in muntvondsten”, 43-46.

<sup>52</sup> Gosses, “Utrechts- en Friesch-Gronings geld”, 158-176.

<sup>53</sup> Van Lengen, *Geschiedenis des Emsigerlandes*, 25, note 1.

<sup>54</sup> Kennepohl, “Geldumlauf in Ostfriesland”, 9-17.

<sup>55</sup> Ilisch, “Der Fund”, 28-29.

<sup>56</sup> Kennepohl, “Geldumlauf”, 14.

<sup>57</sup> OHZ1: 54.

<sup>58</sup> Post, *Geschiedenis*, 12.

<sup>59</sup> Boeles, “Medemblik”, 93-94.

<sup>60</sup> OGD1: 17. The minting rights belonged to the *villa* Groningen, given to the Bishop of Utrecht and situated in the county of Drenthe; the count at that time was the Duke of Upper Lotharingia. In 1046 the Bishop of Utrecht also acquired the county of Drenthe in fief (Blok, *De vroege middeleeuwen*, 150-151).

<sup>61</sup> OGD1: 24.

<sup>62</sup> OFU1: 5.

<sup>63</sup> Buma, *Westerlauwersches Recht I*, 20 (dating); 200-201 (additions to the *XVII Kesten*).

standards for minting. Elsewhere in the empire these standards were set by the counts (more or less on behalf of the king), but about Frisia there is hardly any information. If the standards were put in writing at all they have not survived - with one exception; we do have the rules of the Bishop of Utrecht for mintage in Groningen, Stavoren, Bolsward, Leeuwarden and Dokkum in around 1200.<sup>64</sup> However, even these rules must have been neglected because the real weight of the pennies concerned at that time was already much lower than the rules required.<sup>65</sup> It seems that either the counts did not interfere with minting standards at all or their interference had little or no effect. It is most likely that *de facto* the local authorities in Frisia itself determined what coins were false and what were not.<sup>66</sup>

From numismatic evidence, it appears that the minting actually occurred in the market places mentioned above. On numismatic grounds, Puister has argued that in Mid-Frisia the minting of the 11th century coins was carried out by moneyers, travelling between the market-places with centrally made dies - made, he suggests, in Dokkum.<sup>67</sup> Travelling moneyers may reflect a system that had been long in existence. This system would resemble the system in England, where the dies were sold to moneyers by the king.<sup>68</sup> As the 11th century 'old-Frisian' coins of the Counts of Brunswick do not resemble Saxon coins either in weight or in physical appearance,<sup>69</sup> the dies must have been made especially for, and perhaps even in, Frisia. One can imagine that the counts (or their representatives in Frisia - the *franan* or *skeltan*) sold these dies to a few moneyers in Frisia who had been granted a probably non-hereditary right to operate a mint. In any case, this system would have been an effective means by which the absentee counts could realise the seignorial rewards of their rights. From the standpoint of the moneyers it would also be profitable because this seignorage was in fact an investment in protection against criminals having a longing for gold and silver, to be warranted by local *skeltan*. What proportion of this seignorage was actually remitted by the *skeltan* to the distant counts is something we can only guess at. The relation of minting to the market places can also be inferred from historic sources. The 13th century general Mid-Frisian market statutes<sup>70</sup> regulated a few crimes of the market which were allowed to be judged directly by the *skelta* in charge, among which was the crime of enfeebling coins, usually to be punished by cutting off the right hand. But if a moneyer was found with false money

<sup>64</sup> Muller, *Het rechtboek*, 274; see also Gosses, "Utrechts en Friesch-Gronings geld", 21-23.

<sup>65</sup> Gosses, "Utrechtsch en Friesch-Groningsch geld", 38.

<sup>66</sup> Lebecq, *Marchands I*, 258-263, suggests the existence of merchant guilds in Frisian trade centres, perhaps as early as the 8th century. If he is right, the existence of merchant guilds in the high medieval, regional market places seems possible, and I would imagine that such merchant guilds played an advisory role to the local authorities where money standards were concerned.

<sup>67</sup> Puister, "Statistische gegevens", 55-57.

<sup>68</sup> Brooke, *English Coins*, 79-80.

<sup>69</sup> Van der Chijs, *Friesland, Groningen en Drenthe*, 279-280, note 2.

<sup>70</sup> Buma, *Westerlauwersches Recht I*, 22-23; 242-243.

outside his smithy, he had the right to be tried by ordeal (in single combat). Perhaps this picture of the moneyers in Mid-Frisia may be more generally applied to other Frisian regions, implying that the tradition of minting by private moneyers, known from previous centuries, was continued in Frisia. This system would have been compatible with a possibly 13th century Mid-Frisian formula for peace preservation mandates by *skeltan* that mentions a *skelta*-ban commanding ‘peace’ to protect all those who have received a *haudmonta* from court and count;<sup>71</sup> that is, probably, an official mint. Notice that the formula suggests the existence of a number of moneyers in Mid-Frisia having received a *haudmonta*. It also implies the existence of other moneyers, not having a *haudmonta* and by consequence not minting under protection of the count’s representatives although apparently not declared illegal. The formula might refer to mintage rights under the Mid-Frisian *condominium* treaty (1165). When this treaty was reconfirmed in 1204, it was stated that moneyers, toll-collectors, *skeltan*, farmers and officers would receive their fief or office from the Bishop as well as from the Count of Holland.<sup>72</sup> The measures might reflect an attempt of the *condominium* count to re-establish control of the remittance of seignorage, perhaps neglected since the 11th century.

It is most likely, then, that minting in high medieval Frisia remained a private enterprise, with or without protection in the name of the count. In the 11th century texts the moneyer still uses a royal mint-house for his operations,<sup>73</sup> but in the 13th century texts we find him operating in his smithy, perhaps as the local goldsmith.<sup>74</sup> The hallmarks of the king in the previous ‘Carolingian’ period had been substituted by the hallmarks of the counts, but there was probably no real supervision over the quality of the coins. After the counts had disappeared, even nominally, the protection of the mints was in the hands of the communities, as appears from 13th century instances in Brokmerland,<sup>75</sup> Norden<sup>76</sup> and Jever.<sup>77</sup> The quality of the coins was checked by the community itself. We can assume that the international merchants ordering coinage at the mints would have been keen on that point. The fineness of the ‘old-Frisian’ coins remained high according to most scholars.<sup>78</sup>

<sup>71</sup> *Ibidem*, 204-205 (§ 9); 21 (dating); Bodleian Library, Oxford: ms. ‘Unia’ = Junius 49, II-28 (*mandatum pacis servando*); see for the dating also Algra, “Rechtshistorische aspecten”, 184 and “The Relation”, 75.

<sup>72</sup> Chbk1, 80-86.

<sup>73</sup> Mentioned in Additions to the *XVII Kesten* (a.o.: Buma, *Westerlauwersches Recht I*, 200-201 (*ibidem*, *Das Fivelgoer Recht*, 38-39 (§17e)).

<sup>74</sup> A few sources refer to moneyers and ‘their smithy’ (Buma, *Das Emsiger Recht*, 48-49 (§14); *ibidem*, *Das Brokmer Recht*, 90-91 (§149); *ibidem*, *Das Westerlauwersches Recht I*, 242-243 (§8); a 14th century Frisian coin made by a goldsmith has been discovered (Jacobi, “Een munt”, 19-20).

<sup>75</sup> Buma, *Das Brokmer Recht*, 90-91 (§149: has a *mena mentre* = communal minthouse).

<sup>76</sup> Beninga, *Cronica*, 205: in 1264 the community conveyed the previous minthouse and its stead to a new monastery.

<sup>77</sup> OUB6: 16.

<sup>78</sup> Scholten, “De munten”, 22. However, according to information kindly supplied by Dr P. Ilisch of Münster, the high quality of the ‘old-Frisian’ coins is questionable.

## The history of the measure of value

At the end of the 10th century the official pennies of Cologne had weighed about 1.3g-1.2g.<sup>79</sup> The ‘old-Frisian’ pennies were already lighter, about 0.9g-0.8g by the beginning of the 11th century. The decrease in their weight continued during this and the next two centuries, as we have seen. How can these findings be related to the development of the unit of account in Frisia during that period?

Our dealings with the previous period ended with the supposition that during the 9th and 10th centuries the silver equivalence of the unit of account in Frisia north of the Rhine was based on imitative Carolingian and post-Carolingian silver pennies. As we have seen, this was confirmed by an addition to a clause in the 10th century Mid-Frisian synodal statutes which told us that, for paying penalties, it was not the money of Cologne but, according to an old favour, money from a nearby mint that was valid as legal unit of account. This addition was most probably a 10th century transformation of a late 8th century Carolingian coercive measure (to pay fines for capital crimes with new money, obviously meaning new Carolingian money) into a Frisian prerogative (legal money is new money; that is, the money of a nearby mint and therefore indigenous money).<sup>80</sup> This transformation becomes conceivable after comparison with two texts in later sources. In a copy of the synodal statutes just mentioned, made for Fivelingo, the prerogative refers to ‘current money’.<sup>81</sup> The second of the general Frisian *XVII Kesten*, dating from the 11th century,<sup>82</sup> also deals with the same penalty, and now an addition in this *kest* tells us that to pay this ‘the people’ chose another, lighter penny ‘because the mint of Cologne is too far away and its penny is too heavy’. Apparently this was the sting: the Frisians wanted to pay penalties using their own, lighter money. Hence, some time in the 10th century, the penny of Cologne (1.6g to 1.3g of silver<sup>83</sup>) was too heavy to be the standard for the Frisian legal unit of account. So, when the penny of Cologne was beginning to establish itself as the official post-Carolingian money standard, the Frisian unit of account already had a lower silver equivalence based on the indigenous pennies mentioned in the previous section. The Frisian legal unit of account was based on a penny with a silver weight below the penny of Cologne, which was the penny representing the Carolingian monetary tradition in this part of Europe. As there are indications that money was struck in Frisia north of the Rhine during these centuries,

<sup>79</sup> Spufford, *Money*, 102: weight penny of Cologne in the 980s 1.18g, in the first half of the 11th century 1.3g and c.1050-1075 1.2g-1.4g.

<sup>80</sup> See chapter 4, ‘The history of the measure of value’.

<sup>81</sup> Buma, *Das Fivelgoer Recht*, 72-73, §29. Fivelingo is a part of the Ommelanden, also not a part of Mid-Frisia. Mid-Frisia belonged to the bishopric of Utrecht, the Ommelanden to the bishopric of Münster. The synodal statutes of Mid-Frisia have been more-or-less adapted to make them applicable to Fivelingo (*ibidem*, 15).

<sup>82</sup> Buma, *Westerlauwersches Recht I*, 15, has c.1080; Excursus 5.1: ‘On the genesis of the wergeld in ‘old-Frisian’ money in the 11th century’.

<sup>83</sup> Dannenberg, *Die deutschen Münzen*, 12.

we may assume that it was in fact indigenous Frisian money that was referred to in the synodal statutes.

As I have just mentioned, in addition to the 10th century Mid-Frisian synodal statutes, the second of the general Frisian *XVII Kesten*, first recorded in the 11th century, refers to this legal money of account. But whereas the clause concerned in the synodal statutes deals with sacrilege on holy days, the second *Kest* deals with an apparently less serious crime, a simple breach of the peace of the church. Nevertheless it has the same penalty - initially 72 pounds money of Cologne.<sup>84</sup> Hence this *Kest* apparently refers to the same event mentioned in the Mid-Frisian synodal statutes. So, the text of the synodal statutes was restricted to justify the diverging measure of value, but the text in the second *Kest* defines what should be the unit of account in Frisia. The ‘own money’ of Frisia, it tells us, was the money struck by Rednath and Canka, ‘the first moneyers in Frisia’. Unfortunately, the precise meaning of ‘money minted by Rednath and Canka’<sup>85</sup> is not recorded. Many conjectures have been made.<sup>86</sup> In the previous chapter we have already seen that Rednath is mentioned as a moneyer of the 9th-century gold *solidi* of Louis the Pious as well as of silver pennies, presumably the indigenous Frisian imitations of Carolingian pennies. Hence the second *Kest*, although written down in the 11th century, refers to money of account originating as early as the 9th century. Yet the meaning must have been clear in medieval Frisia: money of Rednath and Canka was indigenous Frisian money. Rednath had already been dead for centuries, but by verbal tradition in the 9th and 10th centuries and by written tradition to our own days, his name was still a symbol for a particular kind of money: indigenous money. In the high Middle Ages, however, the pennies involved are no longer to be viewed as imitative Carolingian or post-Carolingian pennies. That is why I have called this kind of money ‘old-Frisian’. However, there appears to have been an imperceptible transition from indigenous Frisian imitative pennies to indigenous Frisian pennies with their own design as standard for the money of account.

So the silver equivalence of the legal unit of account in Frisia during the 11th century, when the second *Kest* was set down in writing, was based on the silver content of the

<sup>84</sup> Algra, *Zeventien keuren*, 290-293, points out that this fine was absurd in comparison with the fine for breaching the peace of the church in the 12th *Kest*, there being 32 *hreilmerka* (= 32 cloth marks æ 128 shillings = 6 pounds 8 shillings ‘old-Frisian’ money); so it ought to be lowered anyway, regardless of the change-over to lighter money.

<sup>85</sup> Canka is called Cawing in the versions of this law in Fivelingo, Emsingo and Riustringen.

<sup>86</sup> Conjectures are made by, among others, Van der Chijs, *De munten van Friesland, Groningen en Drenthe*, 14; 279 (Rednath and Cawing were English moneyers); Dirks, “Bijdragen”, 347 (Rednath was a moneyer, a member of the Reynalda-family); Jaekel, *Die Grafen*, 62-63 (Rednath was a count of Mid-Frisia in around 1000); Scholten, “De munten”, 2-5, followed by Boeles, *Friesland*, 446-447 (Rednath = RENVAD is retrograde of DAVNTER = Deventer in Overijssel). Slicher van Bath, *Herschreven historie*, 267 (the names are corrupted forms of Aethelred II and Knut, the English kings from whose reign so many coins have been found in Scandinavia and Russia).

‘old-Frisian’ penny. What was the value of this? The second *Kest* itself formulates the fine in terms of money of Cologne as well as ‘old-Frisian’ money. The formulation of the fine in ‘old-Frisian’ money is enigmatic<sup>87</sup> - probably corrupted during the copying process<sup>88</sup> - and accessible only by conjecture. But even if it were well-interpreted, it could not furnish the answer because all it says is that this fine must be less than 72 pounds money of Cologne; it does not say how much less. So, unfortunately, we cannot derive the silver equivalence of the ‘old-Frisian’ penny of account from this *Kest*.

Other sources that can be dated from the last quarter of the 11th century give some information regarding wergeld amounts. This is discussed in detail in Excursus 5.1. A genuine wergeld amount is recorded in an addition to the Mid-Frisian *Landriocht/Skel-tariocht*. It is possible that a wergeld amount is also referred to in the 15th of the *XVII Kesten* and the 23rd of the *XXIIIJ Landriochten*. These sources are not dated. As Algra<sup>89</sup> postulates, the Frisians - for safety’s sake - put their rights and privileges in writing on occasions when their *status aparte* might be infringed. He locates the first recording of the *XVII Kesten* in Mid-Frisia, and he dates these at c.1080, when the Bishop of Utrecht became the king’s representative in Mid-Frisia. These wergeld amounts were  $8\frac{8}{9}$  pounds. If we assume that the wergeld hypothesis is correct and that the first recorded wergeld amounts were determined in ‘old-Frisian’ money of account, the unit of account had a silver equivalence of c.0.78g. This silver equivalence corresponds roughly to the average weights of the ‘old-Frisian’ coins during the first half of the 11th century. About 1080, however, the silver content of the ‘old-Frisian’ penny, must already have been lower (c.0.6g), as we have seen in the previous section. This may seem curious, but it will be found in the course of this study that legal wergeld amounts were not adapted continuously; there were large intervals of time and big leaps in amount. I would suggest that they were adapted in cases of verdicts - often referred to as ‘dooms’ - with a sensational, revolutionary purport, resulting in a wide and penetrating spread of information in a world of mainly verbal communication. So the first recorded wergeld amounts might have been stated at the beginning of the 11th century and remained so for a long

<sup>87</sup> The version in the Mid-Frisian incunabulum ‘Druk’ (RQ 3-5), translated as closely as possible is as follows: ‘This is the other *kest*: all churches all priests [shall have] peace at LXXII pounds; and the pound will be seven pennies, agrippinian pennies, that are pennies of Cologne [*colensche penningen*], for Cologne was in the old days named Agrippina all over the world, after the king that has established the castle, his right name was Agrippa. As the mint-house was too far and the penny too heavy, the people chose a nearer minthouse and the people determined a lighter penny; instead of the two and seventy pounds was theirs determined at lxxii shillings of Rednath’s minting or Canka’s minting. - And [when someone breaks the peace he has to pay] three pounds to the *frana*, that is XXI shillings; this is as many shillings as the royal ban.’

<sup>88</sup> All versions of the *kest* set the fine at 72 pounds. Most of them have this pound valued at 7 pennies of Cologne, but the Mid-Frisian ms. *Jus* (Buma, *Westerlauwersches Recht I*, 136-137) has the pound valued at 72 pennies of Cologne and the Riustringer ms. Oelrich (‘R2’, Buma, *Das Rüstringer Recht*, 134-135) has the pound valued at 7 shillings *cona*.

<sup>89</sup> Algra, “Een datering”, 58.

time, in verbal transmission as well as in the written law, thereafter. If that is so, the first recording of a law was no sufficient reason to adapt current, though antiquated, tariffs.<sup>90</sup>

How did this unit of account, based (at the beginning of the 11th century) on the ‘old-Frisian’ penny of c.0.9g-c.0.8g silver equivalence, develop further? The history of this unit is partly reflected in a few recorded traditions about the history of wergeld in the judges’ books of Hunsingo and of Fivelingo. Traditions such as these should always be considered with prudence, yet I found in these traditions not only a credible course of events but also coherence with other sources. As these traditions are singular, one might wonder why they were written down at all. One reason might be an attempt by one of the copiers of these books - whilst compiling several models - to bring order to the confusing differences in wergeld amounts that he found in different models stemming from different periods. It might offer ‘background information’ to the judges. By being taught the history of the wergeld, a judge could be made aware of the relative meanings of fossilised wergeld records, including the way they reflected the development of money as measure of value. The Hunsingo tradition is found in the (so called) second register with compensation tariffs of Hunsingo.<sup>91</sup> It states:

‘When our Lord was born he was born to purify all criminals. Then he gave a new law by which the wergeld was determined at 12 marks unless one could clear oneself with 12 oaths. Then the kinsmen received 6 marks to the 12 marks, the set wergeld. This law existed a long time. Then it was tempted by the kinsmen. A long struggle followed, until the wergeld was set at 40 marks. To that 40 marks the kinsmen received 6 marks.’ [It continues with the division of these 6 marks amongst the kinsmen.]

This tradition confirms that the first recorded wergeld amount was 12 marks and, interestingly, it tells us that this remained the amount for a long time. Furthermore, it confirms the still more informative recorded tradition of Fivelingo.<sup>92</sup> For the sake of brevity I shall call this ‘the Fivelingo wergeld-tradition’.<sup>93</sup> In the following translation<sup>94</sup> I have numbered the stages for easy reference:

- 1 ‘Therefore, that all crimes could be atoned by money, the people determined the wergeld at first at 12 marks. Next the kinsmen received 6 marks, to divide amongst themselves.’

<sup>90</sup> Excursus 5.1: ‘On the genesis of the wergeld in ‘old-Frisian’ money in the 11th century’.

<sup>91</sup> Buma, *Hunsingoer Recht*, 66-69 (§20).

<sup>92</sup> Buma, *Das Fivelgoer Recht*, 170-171, §70. The Hunsingo and the Fivelingo wergeld traditions may of course be interdependent.

<sup>93</sup> Original text in Excursus 5.3: ‘On the analysis of the Fivelingo wergeld tradition’.

<sup>94</sup> After the translation in German by Buma.

- 2 'Afterwards the wergeld was increased to 24 marks',  
 3 'thereafter to 36 marks'.  
 4 'In proportion to 40 marks the compensation for wounds was determined, before  
 one decided to establish the peace of God. So half the wergeld was fixed at 20  
 marks, the  $\frac{1}{3}$ rd wergeld at  $13\frac{1}{3}$  marks'.  
 5 'As thereafter the people made bold to manslaughter and other crimes and the  
 penny got worse, one decided to establish the peace of God and fixed the wergeld  
 at 100 pounds and each compensation for wounds was doubled.'  
 6 'Thereafter one set the wergeld to 200 marks and the compensations for wounds  
 accordingly.'  
 7 'Thereafter at 300 marks.'  
 8 'Thereafter at 20 'highest' marks, each mark at 12 Groningen pounds [i.e. in pen-  
 nies of Groningen]. Those 20 marks are [equivalent to] 16 mark English. The  
 compensation for wounds is determined in proportion to this wergeld.'  
 9 'Now our wergeld amounts 20 marks English.'

The first part of the story (stages 1 to 7) runs in pounds and marks without mentioning the kind of money of account. If this had been changed in between it would have been mentioned. So only one kind of money was used, which must have been the indigenous Frisian penny throughout<sup>95</sup> - until the English penny enters the story.

How reliable is this tradition? To answer this question the story has been compared with known data and with reconstructed information based on the wergeld hypothesis.<sup>96</sup> From these facts and on this assumption we may conclude that the story is indeed history, even though the wergeld amount of stage 1 is not clear. Stage 4 apparently refers to the wergeld found in the general Frisian compensation register, and in this register the wergeld is 40 *ieldmerka*.<sup>97</sup> Stage 5 reveals the institution of a so-called 'peace of God' in Frisia, which otherwise is not mentioned explicitly in the sources.<sup>98</sup> After stage 8 the decline of the silver equivalence apparently continued; in 1288 a commercial rate in Drenthe of  $33\frac{1}{3}$  Groningen pennies (*grenskins*) for 1 English penny would imply a silver equivalence of the Groningen penny of c.0.04g.<sup>99</sup> A rate of 40 Groningen pennies for 1 English penny, rendering a silver equivalence of only 0.033g, seems to occur in

<sup>95</sup> It could not have been 'agrippinian' money. The penny of Cologne had a very stable silver weight from the 10th and into the 13th century. If in this tradition the money of account had been the penny of Cologne then the wergeld would have increased from 2,550g to 63,840g of silver or thereabout. This in itself would be absurd. It would moreover be contrary to the statement that the penny got worse.

<sup>96</sup> Excursus 5.3: 'On the analysis of the Fivelingo wergeld-tradition'.

<sup>97</sup> Excursus 5.2: 'On the silver equivalence of the wergeld in Frisia in the general register of compensation tariffs'.

<sup>98</sup> Excursus 5.4: 'On the peace of God in Frisia'.

<sup>99</sup> OGD1: 177. See Excursus 5.3: 'On the analysis of the Fivelingo wergeld-tradition'.



the Dyke laws of Humsterland,<sup>100</sup> which in that case might be dated around 1300. And probably a little later, a rate of 54 ‘old-Frisian’ pennies for 1 English penny (æ c.1.3g of silver) is found in the statutes of Fivelingo, giving a silver equivalence of an ‘old-Frisian’ penny of only c.0.024g.<sup>101</sup> A rough record of the ‘old-Frisian’ money of account in East Frisia west of the Ems, in terms of silver equivalence from c.1000 to c.1300, based on the Fivelingo wergild-tradition and the wergild-hypothesis, supplied by the documents just mentioned, is given below :

stage 1	c.1000?	: 0.87g
stage 2	c.1100?	: 0.43g
stage 3	c.1150?	: 0.29g
stage 4	c.1160?	: 0.29g
stage 5	c.1220/1250	: 0.14g
stage 6	c.1250/1260	: 0.12g
stage 7	c.1260/1270	: 0.08g
stage 8	c.1270/1280	: 0.06g
	1288	: 0.04g
	c.1300?	: 0.03g
	c.1305?	: 0.02g

The history concerns Fivelingo and, perhaps, all of East Frisia west of the Ems (Groningen included); it certainly concerns the whole of that part of East Frisia after stage 8. The developments in Mid-Frisia and East Frisia east of the Ems may have been similar,<sup>102</sup> but there are too few data either to confirm or to reject this supposition with any certainty.

The survey shows a continuing depreciation of the unit of account. From what we know about the legal unit of account it appears to have been adapted periodically, with big leaps in the 11th and 12th centuries, but more frequently in the 13th century. Yet the real development must have been more gradual, even though the speed seems to have var-

<sup>100</sup> Johnston, *Codex Hummercensis*, 348, has a fine for not responding the first summons of 4 ounces, for the second of 1 pound and for the third of 1 shilling; this would be inconceivable if English money was not used alongside Groningen money in these statutes. The last amount is clearly quoted in English money, whereas both the first amounts refer to Groningen money. Following the rule at another place in these statutes, a fine of 2 Groningen pounds might be expected instead of 1 shilling English. It would imply that 40 Groningen pennies were equivalent to 1 English shilling.

<sup>101</sup> *Ibidem*, 297-303. A fine for breaching the peace of 600 marks in the Latin text, 11 English marks in the Low Saxon text, and another fine of 100 marks in the Latin text, 22 English shillings in the Low Saxon text, both result in a rate of 1 English penny for over 54 ‘old-Frisian’ pennies. As (100 x 144 ‘old-Frisian’ pennies) : (22 x 12 English pennies) = 54.5, so 1 ‘old-Frisian’ penny æ c.1.3g : 54 = c.0.024g.

<sup>102</sup> A confirmation might be found in Emsingo. See Excursus 5.3: ‘On the analysis of the Fivelingo wergeld tradition’, sub stage (3).

ied. This gradual decrease in the silver equivalence of the unit of account over a number of centuries continued until it was almost zero at the end of the 13th century. During the period under discussion this development also provoked a number of innovations in the system of money of account.

In the first place new multiple units emerged. The silver based system of account has so far had the penny, the shilling (12 pennies), the ounce (20 pennies) and the pound (240 pennies) as multiple units. These were units of account as well as units of weight.<sup>103</sup> The weight of pennies was derived from the pound of weight, 240 pennies having been ordered to be struck from one pound of weight (plus a few extra as cost of minting). In addition to the pound and its subdivisions, another unit of weight had emerged. This was the mark, which weighed  $\frac{2}{3}$ rd of a pound and was subdivided into 4 *verdings*, 16 *lots*, and beyond. Like the pound, the mark had been used to determine the weight of pennies: 160 pennies, plus a few extra for the minting cost, had to be struck from a mark of weight. But as soon as the Frisian lighter pennies were struck, the weight of 160 of these pennies did not match the mark of weight minus the cost of minting. So, in the 11th century, next to the extant mark of weight, the mark of account (with a lower weight of pure silver) emerged.<sup>104</sup> The mark of account seems to have been imported by merchants from England,<sup>105</sup> where it was already common in the 11th century, having been mentioned in the Domesday Book (1087).<sup>106</sup> The first charter in Germany mentioning marks of account is dated 1045.<sup>107</sup> In Frisia, a mark was originally  $\frac{2}{3}$ rd of a pound, or 160 pennies (=  $13\frac{1}{3}$  shillings), like the English mark. Soon, however, a mark of 12 shillings, or 144 pennies - known to have been from Cologne - came into use, first mentioned in 1166.<sup>108</sup> Furthermore, a mark of 192 pennies (= 16 shillings, called *gratera merk*, known to have been from Lübeck<sup>109</sup>), a mark of 120 pennies (= 10 shillings, known to have been from Flanders and Artois<sup>110</sup>) and a mark of 48 pennies (= 4 shillings, called *liudmerk*) were used. The use of a number of marks of account of different sizes is confusing for us, particularly since in many cases the size is not indicated. For contemporaries this was apparently not so confusing, probably because the size was a generally known convention. Next to the *lot*, as a unit of weight, the name *bult* is found

<sup>103</sup> Morrison, *Numismatics*, 417-418: the Roman and pre-reform Carolingian standard pound of weight is assumed to have been c.320g, and the post-reform Carolingian standard pound of weight is assumed to have been c.425g, though this is still being discussed.

<sup>104</sup> Jesse, *Der wendische Münzverein*, 44.

<sup>105</sup> Schrötter, *Wörterbuch*, 371 (sv. mark); about the Frisian trade with England: Spufford, *Money*, 86-87.

<sup>106</sup> Brooke, *English Coins*, 81.

<sup>107</sup> Suhle, *Deutsche Münz- und Geldgeschichte*, 73.

<sup>108</sup> Hävernick, *Der Kölner Pfennig*, 41. The mention regards an imperial ordinance for the mint in Aken to strike a mark of 24 shillings equivalent to 12 shillings of Cologne. This may refer to a mark of Cologne of 12 shillings, though the expression is equivocal.

<sup>109</sup> Sprandel, *Das mittelalterliche Zahlungssystem*, 196.

<sup>110</sup> Spufford, *Handbook*, 213.

in Frisia,<sup>111</sup> denoting 1/16th of the original mark of account,<sup>112</sup> and hence probably a unit of 10 pennies.<sup>113</sup> Sums of these new developments had already appeared in the *XVII Kesten* (c.1080), in which the mark of account was used at a value (silver equivalence) that matched the weight of 160 pennies at the beginning of the 11th century, but we cannot place too much reliance on this as the mention of marks in the *XVII Kesten* may be ascribed to a conversion made by a copyist later on (for instance, a wergeld of 12 marks converted from 8 pounds<sup>114</sup>). The first use of the mark in Frisia in a dated document occurred in 1137,<sup>115</sup> but we also find signs of it in 11th century amounts quoted in marks or in *bults* in the registers of the monastery of Werden, regarding possessions in Frisia.<sup>116</sup> So the mark of account mentioned in the *XVII Kesten* may already have been in use before the first recording of these *Kesten* in about 1080.

A second new element in the texts is the use of standardised pieces of cloth (Old Frisian: *weda*) as money unit of account next to the silver based unit of account. It is found in the judges' books, particularly in the 4th, 11th and 13th *Kesten*.<sup>117</sup> At some time the *weda* was considered to be equivalent to 12 pennies. Its multiple units were:

- a *lekin* (= a cloth) of 2 *wedum*, only found in Mid-Frisia;
- a *hreilmerk* (= a woolmark) of 4 *wedum*<sup>118</sup>;
- a *wedmerk* of 14 *wedum*.<sup>119</sup>

Whether this was indeed an innovation is open to doubt. It is more likely to have been a throwback to an already archaic system of account.<sup>120</sup> The emergence or regeneration

<sup>111</sup> Kötzschke, *Rheinische Urbare II*, 50; 123-124.

<sup>112</sup> Van Helten, *Zur Lexicologie*, sv *buld*.

<sup>113</sup> The supposition that 1 *bult* = 10 pennies = 1/16 mark of 160 pennies is not confirmed; it could also be 1 *bult* = 9 pennies = 1/16 of a mark of 144 pennies.

<sup>114</sup> Excursus 5.1: 'On the genesis of the wergeld in 'old-Frisian' money in the 11th century'.

<sup>115</sup> OFU1: 8.

<sup>116</sup> Kötzschke, *Rheinische Urkunden II*, 50: in a 9th century text an addition made by an 11th century hand mentions in Othestorpe (lower Ems region): *de unaquaque uirga VII bolt et duo modii auene*.

<sup>117</sup> Sytsema, *De 17 Keuren*, 128; 138: the 12th *kest* in the more recent short version. Buma, *Das Westerlauwersches Recht I*, 136-137 (§4); 142-143 (§12); *Das Hunsingoer Recht*, 24-25 (§4); 28-29 (§13); *Das Fivelingoer Recht*, 30-31 (§4); 34-35 (§13); *Das Emsinger Recht*, 20-21 (§4); 24-25 (§13); *Das Rüstinger Recht*, 34 (§4); 38-39 (§13).

<sup>118</sup> This rate is only known from the sources of Riustringen; the source from Mid-Frisia has, probably mistakenly,  $65 \frac{5}{11}$  or  $54 \frac{6}{11}$  or  $49 \frac{1}{11}$  pennies (depending on the definition of *gratera merka*), whereas in Hunsingo, Fivelingo and Emsingo a *hreilmerk* not of 48 pennies (= 4 shillings) but of 45 pennies is found. But the 4th and the 13th *Kest* in Fivelingo has a *liudmerk* instead of a *hreilmerk*. This was equivalent to 4 *wedum*, or 48 pennies.

<sup>119</sup> Only found in Riustringen and quoted not as 14 *wedum* but as 14 shillings (*skillinga cona*). Buma, *Das Rüstinger Recht*, 106-107; 140-141.

<sup>120</sup> Jaekel, "Die friesische Wede", 184-201, refers to payments of rents from Frisian possessions to the abbeys of Fulda and Werden in the 10th century, partly with *denarios*, partly with *pallia*. He relates the word *wede* to the Old Norwegian word *wadmal*, also a woollen cloth of given length, which was a means of payment in Scandinavia. The name *wede* might have come into use in East Frisia during the Danish rule over Riustringen in the 9th century. Its use as means of payment would have been older.

of this system would be obvious in the 13th century as a substitute for the system of account based on the ‘old-Frisian’ silver penny, which by then had depreciated and become unreliable. It is true that mention of the multiple units of this webbing-based system had already been made in the 11th century *XVII Kesten*, but again, these texts might be amendments or additions from later centuries. All *Kesten* that use the *wede* as unit of account are concerned with breach of the peace, a subject that may have been inserted into the *XVII Kesten* in the 13th century when the movement for internal peace was apparently an issue in Frisia.<sup>121</sup>

Another innovation was a new way of accounting. As a consequence of the continued decline in the value of the unit of account, the amounts quoted in this unit had risen to hundreds of pounds, marks and shillings. Accounting in these large numbers must have been inconvenient for medieval men, bearing in mind their limited knowledge of calculation techniques.<sup>122</sup> Instead of accounting in the usual multiple units they began to calculate in bundles of multiple units. The Fivelingo *wergeld* tradition shows how. The *wergeld* was set at 20 ‘highest marks’, a highest mark at that time being a unit of account equivalent to 12 pounds Groningen pennies.<sup>123</sup> This formula suggests that this highest mark counted 12 highest shillings; so 1 ‘highest shilling’ would be 1 pound Groningen money and hence 1 ‘highest penny’ would be equivalent to 20 Groningen pennies - in other words, a score (Old Frisian: *sneza*, Low Saxon *stige*) of Groningen pennies. The expression ‘highest mark’ is used not only in this Fivelingo text but also explicitly in the judges’ books of Emsingo,<sup>124</sup> Brokmerland<sup>125</sup> and Riustringen.<sup>126</sup> In Brokmerland the expression ‘highest shilling’ is also found.<sup>127</sup> In Wursten the *wergeld* was 10 score Frisian marks until 1508;<sup>128</sup> this seems to have been an antiquated *wergeld* amount dating from the 13th century because a ‘highest old-Frisian mark’ would be a score of ‘old-Frisian’ marks.<sup>129</sup> From these examples it follows that the highest mark

<sup>121</sup> Excursus 5.4: ‘On the peace of god in Frisia’.

<sup>122</sup> The number ‘100’ was apparently an inconvenient concept. In 1427 - about 150 years later - in an arbitration verdict made by representatives of Bremen, Butyadingen and Wursten between the parties of the Tom Broke’s and of the Ukena’s (OFU1: 351/ OUB2: 702), this concept had to be explained by using the expression *twintichhundert Arnensch gulden, dat hondert by vijff stigen to rekende* (= twenty hundred *arnse* guilders, the hundred reckoned at five score). Even in 1471: *hondert grase, vijff stige voor dat hondert gerekent* (RAG FARMSUMER ZIJLVEST: 12 f.29’.

<sup>123</sup> Buma, *Das Rüstringer Recht*, 106; 140: at a probably earlier stage of the ‘old-Frisian’ money history the *skilling wicht goldis* was also called the highest mark. The meaning of the expression ‘highest mark’ was obviously depending on the current state of the system of account. See Excursus 5.5: ‘On the *skilling (wicht) goldis* in the judge’s books of Riustringen’.

<sup>124</sup> Buma, *Das Emsiger Recht*, 184-187 (§§ 193, 197).

<sup>125</sup> Buma, *Das Brokmer Recht*, *passim*.

<sup>126</sup> Buma, *Das Rüstringer Recht*, 106; 140.

<sup>127</sup> Buma, *Das Brokmer Recht*, 50-51 (§58).

<sup>128</sup> Borchling, *Die niederdeutschen Rechtsquellen*, 196-200.

<sup>129</sup> 1 highest mark = 12 pounds ‘old-Frisian’ money = 12 x 240 = 2,880 ‘old-Frisian’ pennies = 2,880 : 144 = 20 ‘old-Frisian’ marks of 144 pennies.

cannot have been confined to 12 pounds Groningen pennies or, in other words, to a score of Groningen marks, because Groningen money is unlikely to have been current in Emsingo, Brokmerland or Riustringen. The highest penny must have been a score of ‘old-Frisian’ pennies and the highest mark a score of ‘old-Frisian’ marks. More generally, these expressions may have been used in cases where two alternative systems of money of account were in operation.

So, it seems that the highest mark was a new multiple unit of account. How was it valued? The Fivelingo wergeld tradition rates a wergeld of 20 highest marks as equivalent to a wergeld of 16 English marks; this English mark was a mark of 160 English pennies. It is possible that this rate was, in the wergeld tradition, an indication that the 20 highest marks could be paid with 16 marks English. Anyway  $20 \times 144 = 2,880$  highest pennies were equivalent to  $16 \times 160 = 2,560$  English pennies, or 9 highest pennies were equivalent to 8 English pennies. As an English penny was equivalent to c.1.3g of silver, it follows that a highest penny was equivalent to c.1.2g of silver.<sup>130</sup> Jaekel denotes the highest mark as a mark Münster pennies. His opinion is shared by His.<sup>131</sup> Jaekel’s arguments have not been published; his opinion must be doubted, since the Münster penny (also called *sware*) was considered to be equivalent to the penny of Cologne and to the genuine English penny, whereas the highest penny in the wergeld tradition was rated at  $\frac{8}{9}$ th of the English penny. The equivalence of the Münster penny and the English penny seems to have lasted at least until 1276 or shortly before.<sup>132</sup> The new Münster penny (*nye penning*) after 1276 (or shortly before), with a silver weight of c.1.0g,<sup>133</sup> was too light to be identical to the highest penny.

A few special developments supplement this general picture. In the most eastern part of Frisia - in Riustringen, Wursten and Wiurden - units of account named *skilling wicht*

<sup>130</sup> Spufford, *Money*, 402: English pennies until 1279 weight 1.46g, fineness 0.925, hence silver content  $1.46g \times 0.925 = 1.35g$ , so  $\frac{8}{9} \times c.1.35g = 1.2g$ ; from 1279 onwards weight 1.44g, fineness 0.925, hence silver content  $1.44g \times 0.925 = 1.33g$ , so  $\frac{8}{9} \times 1.33g = 1.18g$ .

<sup>131</sup> His, “Untersuchungen”, 61.

<sup>132</sup> Ilich, *Die mittelalterliche Münzprägung*, 11, publishes a list of gross-weight of the Münster pennies from 1050 to 1385. The gross weight of these pennies in the 13th century approximates to 1.3g until 1295. But the new Münster pennies were mentioned as early as 1276 (OUB1: 150 and OFU1: 31) in a treaty between the Bishop of Münster and the communities of Emsingo and Brokmerland, dated the 24th of October 1276, settling a dispute between the Bishop and these communities, together with those of Reiderland and Oldambt, by a payment of *septingentas et triginta marcas nove monasteriensis monete, duodecim solidis pro marca qualibet computatis* (= 730 marks new money of Münster, each mark reckoned at 12 shillings). (See also OUB1: 149). So, if the value of the Münster pennies in or before 1276 was lowered, this must have been caused by diminishing fineness.

<sup>133</sup> Kappelhoff, “Das friesische Geldwesen”, 67; Meijering, *De willekeuren*, 59: In the treaty of the Upstallisbame of 1323 a Westphalian penny was rated at  $\frac{3}{4}$ r of a new English penny or  $\frac{4}{5}$ th of an old English penny, which was itself valued at  $\frac{15}{16}$  x a new English penny. Hence the value of a Westphalian penny was  $\frac{3}{4} \times \frac{15}{16} \times 1.33g = 1.0g$ ,  $\frac{4}{5} \times \frac{15}{16} \times 1.33g = 1.0g$ . See Excursus 6.1: ‘On the monetary regulation in the treaty of the Upstallisbam of 1323’.

*goldis* and *skilling cona* are found.<sup>134</sup> Ingots also seem to have been used, as amounts in units of account are sometimes qualified with an equivalence in lots, which may have referred to ingots of Bremen silver. The *skilling wicht goldis* or *skilling goldis* was a quantity of gold with the weight of 12 ‘old-Frisian’ silver pennies.<sup>135</sup> If we can rely on a few of expressions in the old judges’ books of Riustringen, it can be inferred that, in the 12th century, these silver pennies had a fineness of about 0.7; that is, similar to that of Bremen silver.<sup>136</sup> So far, however, I have no numismatic evidence regarding these pieces. The other unit, the *skilling cona*, was probably valid in around 1250 and since, and originally equivalent to a shilling ‘old-Frisian’ pennies. It has not yet been numismatically or etymologically identified. It appears to have been a multiple unit of the ‘old-Frisian’ unit of account, and hence, valued at 12 ‘old-Frisian’ pennies, it had a decreasing silver equivalence, but the denotation ‘*cona*’ would be pointless if it was not also a means of payment. Whether it was represented by a length of woollen cloth, a fur or a coin is unknown.<sup>137</sup>

The history of the measure of value in this chapter is summarised in the following survey, but I have not included a few curious but marginal phenomena such as the occasional use of the *wede* as standard of account and the use of the *skilling wicht goldis* and the *skilling cona* as multiple units in Riustringen.

<sup>134</sup> Buma, *Das Rüstinger Recht*, see index; Borchling, *Die niederdeutschen Rechtsquellen*, 149-234.

<sup>135</sup> The term *buldes wicht goldis* is found in a section dealing with various judgments in the second manuscript of Riustringen, dated before 1327 (see for instance Buma, *Das Rüstinger Recht*, 148 (§1e); 152 (§6c)). A *buld* in Old Frisian had the meaning of 10 pennies (see above).

<sup>136</sup> Excursus 5.5: ‘On the *skilling (wicht) goldis* in the judge’s books of Riustringen’.

<sup>137</sup> Excursus 5.6: ‘On the meaning of the *skilling cona* in the judges’ books’, item 4.

## Survey of the evolution of the Frisian money of account system

c.1000-c.1250

Period	Standard coin	Equivalence	Unit of acc./multiple units
c.1000- c.1075?	‘old-Frisian’ penny	c.0.9g/c.0.7g of silver	1 d. = 1 standard 1 bult = 10 d. 1 <i>shilling</i> = 12 d.
c.1075?- c.1125?	“	c.0.7g/c.0.3g of silver	1 ounce = 20 d. 1 mark = 160 d. 1 mark (of Cologne ) = 144 d.
c.1125?- c.1270?	“	c.0.3g/c.0.08g of silver	1 pound = 240 d.
c.1270?- c.1280?	“	c.0.08g/c.0.06g of silver	as above and moreover: 1 highest d. = 20 standard 1 highest sh = 12 highest d. 1 highest mk = 144 highest d.

### **Economic analysis**

From the above survey the following changes in the history of the system of money of account in Frisia between c.1000 and c.1280 need to be explained:

- The succession of the Frisian imitative Carolingian penny by the ‘old-Frisian’ penny as standard for the unit of account.
- The emergence of the mark of 160 pennies and the mark of 144 pennies as new multiple units of account.
- The decline of the silver equivalence of the standard for the unit of account between c.1000 and c.1280.
- The acceleration of this decline between c.1075 and c.1125.
- The emergence of substitutes such as the *wede*, the *skilling wicht goldis* and the *skilling cona* as standards.
- The emergence of an alternative system of account based on the highest penny.

The succession of the Frisian imitative Carolingian penny by the ‘old-Frisian’ penny as standard for the unit of account was almost imperceptible since these were in fact only various specimens of indigenous money. The explicit mention of the substitution of the penny of Cologne by the indigenous penny may have been the formal sealing of a situation that had actually obtained since the first half of the 9th century. This was dealt with in the previous chapter. Here we may suffice with the continuation of the use of the indigenous Frisian penny as standard for the money of account system. This continuation was certainly not the result of a policy of the counts in Frisia. It is unlikely that the

absentee counts had sufficient authority or power to control the Frisian merchants, and the coins bore no apparent relationship to the ones struck by those counts in their homelands. As I see it, in the 11th and early 12th century, the indigenous minting in Frisia was a profitable deal between the Frisian merchants and moneyers, and those counts who could offer legality and local protection in exchange for seignorage. Hence, the production and marketing of indigenous currency must have been worth the cost of this seignorage and the cost of minting imported silver. During the 11th century the demand for coins, and hence the coinage requirements, must have been determined to a substantial degree by the export of coins to the Baltic and Russia. Keeping the 'old-Frisian' coins attractive for export presupposes a wide acceptance of their trustworthiness and convenience abroad. The explanation is obvious: once a system of money of account is established, it is social inertia that keeps it going until counterbalancing forces make a change inevitable. It is a clear example of path dependent evolution.

The emergence of the mark of 160 pennies and the mark of 144 pennies as new multiple units was a relatively small alteration of the system in response to changing circumstances. Apparently convenient multiple units used by foreign trade partners - the English, the Scandinavians, the Westphalians - could be inserted into the Frisian system of account, gradually ousting the less convenient multiple units. These events typify the open character of the Frisian system. Its openness to improvements resulting from foreign trade was a major factor in its evolution.

The decline of the silver equivalence of the standard for the unit of account between c.1000 and c.1280 was about 0.3g per century on average, but if the acceleration of the decline between c.1075 and 1125 is left out of this account (to be discussed in the next paragraph) the average decline was c.0.2g per century; that is, only c.0.06g per generation. If this decline had been constant it would have been the normal decrease of a market-controlled currency even though the velocity of circulation was still low and, hence, deterioration by use of the coins almost imperceptible.<sup>138</sup> In Frisia, the existence of money that was gradually getting lighter was clearly no hindrance during the 11th and 12th centuries. Yearly contributions of *quadraginta librae argenti frisicae monetae levioris* (Gozeke, 1053<sup>139</sup>) or of *quinque libras census levi moneta quae est in Frisia* ('Frisia', 1132)<sup>140</sup> did not take the gradual loss of silver equivalence into account. The 'old-Frisian' light money was established as a quite normal measure of value. The economy could apparently do well with this kind of money depreciation. According to Jesse, this process in Frisia would have induced the decrease of the weight of pennies outside Frisia in the German empire.<sup>141</sup> Frisia was indeed ahead, but I believe this is

<sup>138</sup> Information kindly supplied by Dr P. Ilisch of Münster.

<sup>139</sup> Colmjon, *Register*, 5 (§22).

<sup>140</sup> SAM UEBERWASSER: XIII x I, 007.

<sup>141</sup> Jesse, *Der wendische Münzverein*, 45.



more likely to have been caused by the earlier monetisation of the Frisian economy. The process had already started in Frisia in the 9th century, if not earlier. In this phenomenon the difference from countries with a politically controlled money system, found almost everywhere else in Europe, becomes apparent. In some areas the silver content of coins could be maintained because of an effective policy of withdrawal of old coins and conversion into new coins by the lords.<sup>142</sup> However, extorted conversions were, in fact, made because of the fiscal intentions of the owners of the mints. There are examples in north-western Europe of considerable taxes being levied upon the owners of money that had to be converted.<sup>143</sup> Apparently this was the high price to be paid for maintaining the stability of the silver content in those areas.<sup>144</sup>

However, this is not the complete picture. Acceleration in the speed of silver decrease of the pennies is found during the last quarter of the 11th and the first quarter of the 12th century. It may have concerned the whole of Frisia, but the data are from Mid-Frisia. Numismatic evidence shows a drastic decline in the weight of the coins during that period.<sup>145</sup> Whereas in about 1075 the weight of the 'old-Frisian' pennies struck by the Saxon counts was still c.0.7g, it decreased to below c.0.5g before the end of the century and to c.0.3g in the first quarter of the 12th century. So, a considerable part of the total decrease during the period under consideration occurred during this short time. It was a general phenomenon in Western Europe,<sup>146</sup> the obvious result of the exhaustion of the Saxon silver mines and the resulting dearth of silver expressed in the declining silver:gold ratio.<sup>147</sup> The given purchasing power of a penny could be represented by less silver - in other words, by coins with a lower face value.

At last, in the 13th century, the picture changed in Frisia. The resulting percentage increase of prices accelerated as the coins became steadily lighter. A decrease of 0.1g in the 'old-Frisian' penny, - c.0.9g of silver - in the decades around AD 1000 would imply a theoretical rise in the price level of 12.5%, but about 2 centuries later, when the 'old-Frisian' penny contained, say, c.0.2g of silver, the same decrease would imply a rise in the price level of 100%! This is more or less confirmed in the last stages of the 'old-Frisian' pennies in the 13th century since the wergeld had to be enhanced with increas-

<sup>142</sup> Coins such as the penny of Cologne, widely used in the lower Rhinlands, had a relatively stable silver content of c.1.3g between the first half of the 11th century and the last quarter of the 13th century (Hävernich, *Der kölnner Pfennig*, 40; 139; 216-217).

<sup>143</sup> Hävernich, "Münzverrufungen", 129-141.

<sup>144</sup> This high price would have been the main reason for the protest by the town of Cologne against the archbishop of Cologne, in 1252, in order to reduce the frequency of his money conversions (Hävernich, *Der kölnner Pfennig*, 28-29).

<sup>145</sup> Ilich, "Die Münsprägung I", forthcoming in *Jaarboek voor Munt- en Penningkunde*.

<sup>146</sup> Spufford, *Money*, 95-97. He mentions the pennies of Tiel, but it will hold as well for the pennies struck north of the Rhine.

<sup>147</sup> Watson, "Back to Gold", 23. The silver:gold ratio in 'Germany' was as low as 8 at the beginning of the 12th century.

ing speed. The still smaller size and lower weight of the pennies in circulation must also have affected the old system of account. The emergence of the *wede* and the *skilling wicht goldis* as temporary substitutes for the usual standard for the unit of account in cases of long term pricing (legal tariffs) would have been expressions of uncertainty about the future value of that standard.<sup>148</sup> Amounts that should preserve a given value were linked with gold or cloth. But such endeavours, inspired by entrepreneurial creativity, had no lasting success. It is unlikely that these standards were widely understood in trade communications.

The final hour of the 'old-Frisian' system of money of account was approaching when, alongside the traditional system based on the penny as standard, alternative systems of account - based on the *skilling cona*, presumably equivalent to 12 'old-Frisian' pennies, or based on the highest penny, equivalent to 20 'old-Frisian' pennies (in a few known cases) - came into existence. These developments were clearly expressions of the inconvenience of communication in trade with amounts too large to be handled by medieval methods of calculation. The time was ripe for a new system of money of account.

<sup>148</sup> Spufford, *Money*, 98, mentions similar phenomena in Italy.