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Food rules an status: Patterns of fish consumption in a monastic community (Ename, Belgium)

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ABSTRACT: Fish remains are reviewed in four contexts from the benedictine abbey of Ename. The abbey, which is located in a bend of the river Scheldt, was founded in the late 11th century and destroyed at the end of the 18th century. The assemblages presented date from the late 12th - early 13th centuries until about 1700 AD and are compared amongst each other. Attention is focussed on diachronic changes in the food rules in the monastery, the variety of species consumed, the proportion of marine versus freshwater fish, and on the introduction and breeding of carp. Relations between the status and the food of the different inhabitants of the abbey are explored.

KEYWORDS: MEDIEVAL AND POST-MEDIEVAL PERIOD, FLANDERS, MONASTERY, SEAFISH TRADE, FRESHWATER ECOLOGY

RESUMEN: Se estudian en este informe los restos de peces procedentes de cuatro contextos de la abadía benedictina de Ename. La abadía, situada en un recodo del río Scheldt, fué fundada en el siglo XI y destruída a finales del XVIII. Las colecciones presentadas proceden de finales del XII y principios del XIII hasta aproximadamente 1700 d.C. y se comparan entre sí. Especial atención se ha dedicado a los cambios diacrónicos ocurridos en las reglas monásticas referentes a la alimentación, la variedad de especies consumidas, la proporción entre peces marinos y dulceacuícolas así como a la introducción y cría de la carpa. Se investigan asimismo las conexiones entre el estatus social y el alimento de los diferentes habitantes de la abadía.

PALABRAS CLAVE: EPOCA MEDIEVAL Y POST-MEDIEVAL, FLANDES, MONASTERIO, COMERCIO DE PESCADO MARINO, ECOLOGÍA DE AGUAS DULCES

THE ABBEY OF ST. SALVATOR AT ENAME

The abbey of St. Salvator at Ename (town of Oudenaarde, East-Flanders, Belgium) was an important monastic site in Flanders (Milis, 1977). The abbey, belonging to the Benedictine order, was founded in the period 1063-1070 A.D. by Baldwin V, count of Flanders. It was erected near the right bank of the river Scheldt (Figure 1), on a location formerly occupied by a castle (*castrum*) and its dependent settlement. The latter is described in the written sources as a *portus*, a harbour with trading activities. From 974 until 1050 this site formed the centre of a margravate constructed to defend the frontier of the German Empire. Around the middle of the 11th century, war and territorial conflicts destroyed the castle and village, and an abbey was founded to demilitarize the zone (Milis & Callebaut, 1990; Callebaut, 1991). The original 11th century complex was gradually enlarged by successive building campaigns until the site was greatly damaged during the turmoil of the 16th century religious wars. The reconstruction of the abbey took place only slowly during the 17th century Political events following the French Revolution at the end of the 18th century caused the final abandonment of the site and its total demolition (Callebaut *et al.*, 1988; Berings, 1989). Buried remnants of the foundations now form the only surviving part of the former building complex.

FIGURE 1
Map drawn in 1661-1663 by Jan Bale, depicting the abbey of Ename with the river Scheldt, cut-off branches of the river and artificial ditches (University Library, Ghent).

The first excavations of the abbey were organised by A. Van de Walle and took place from 1941 to 1946. They concentrated on the remains of the Romanesque church building (Van de Walle, 1947); organic material was not collected. Archaeological research at the site was only resumed in 1982 by the 'National Service for Archaeology', under the coordination of D. Callebaut. Since the regionalisation of the service, the excavations are now organised by the Institute for the Archaeological Heritage of the Flemish Community. First accounts of the archaeology of the abbey have been published by Callebaut (1985, 1986, 1987, *et al.*, 1988). High priority has been given during the recent fieldwork campaigns to the sampling and recovery of organic material, a strategy which yielded, among other things, a vast amount of fish remains from a variety of contexts.

RESEARCH ON FISH REMAINS

Bulk samples were taken both from contexts that showed an obvious accumulation of small organic remains and from those that were expected to contain such an accumulation, e.g. cesspits, sewers, wells or ditches. The fills of so-called closed contexts, such as cesspits or wells were often wet sieved in their entirety, using a 0.5 mm mesh. Residues were hand sorted after drying. Due to the excellent preservation of bone on the site (water-logged conditions in a loamy soil that is rich in calcium), many contexts yielded a rich collection of archaeozoological remains. Four contexts have already been studied and some others are in the process of analysis. The ichthyological material from the four completely analysed collections is presented here. Three of the assemblages have already been published in Dutch (Ervynck & Van Neer, 1992; Cooremans *et al.*, 1993; Ervynck *et al.*, 1994) but this is the first time that an intra-site comparison is performed and that the results are evaluated against the wider frame of archaeoichthyological research. One context has already been incorporated in regional overviews (Van Neer & Ervynck, 1993, 1994a, b).

The oldest context studied is the filling of a cesspit, belonging to a part of the abbey commonly designated as 'the abbot's dwelling' (Figure 2A: AL). This building and its cesspit were built in the 11th century as part of the first abbey (Figure 2A), but the contents excavated from the pit date to the late 12th - early 13th centuries (De Groote & Lemay, 1993). The functional interpretation of this part of the site as a house for the abbot and maybe also for his guests, which is based on the eccentric location outside the cloister and the presence of a

cesspit, indicates that we are dealing here with an elite, high status part of the medieval abbey. Unfortunately, only a small bulk sample was taken from the fill of the cesspit and the sieved fish remains were mixed with the hand-collected material. The archaeozoological finds can be taphonomically (*sensu* Gautier, 1987) be identified as table refuse. The faunal analysis of this context has been published by Ervynck *et al.* (1994).

A second context belongs to a younger building phase of the abbey (Figure 2B) and consists of the filling of a refuse pit (Figure 2B, WW) situated in the centre of the west wing, in a part of the 14th - 15th centuries abbey that must have served as guest quarters. All fish remains from this context were collected from sieved bulk samples. Taphonomically, they presumably represent table leftovers (unpubl. data). Preservation conditions for bone were not as good in this context as in the other assemblages studied.

The third context analized previously was found in a kitchen and dates to around 1500 A.D. (Figure 2B: KF). In the kitchen, a loose sandy layer with a high density of fish remains was excavated and sieved in its entirety. Analysis of the stratigraphy, the nature of the sediment, the presence of tiny fish bones and some special finds lead to the conclusion that the material must have accumulated under a wooden floor (Ervynck & Van Neer, 1992). Clearly, we are dealing with an assemblage comprising kitchen refuse, with some possible admixture of table refuse.

The youngest context, dating to around 1700 A.D. (De Groote & Lemay, 1993), is the cesspit of the prior's residence (Figure 2B: CP). This priory was installed early in the 17th century in a former chapel that had been severely damaged during the 16th century religious wars. The conversion from chapel to priory included construction of a cesspit connected to the building. A later rebuilding and extension of the prior's residence meant this cesspit was abandoned in the early 18th century. The contents of the cesspit were completely sieved and, given that there was no kitchen in the prior's residence, have been taphonomically classified as table refuse (Cooremans *et al.*, 1993).

The four contexts described are the first of a long series that we hope will elucidate the food supply and consumption patterns within the abbey. The aim of the Ename research project is not only to reconstruct the way that cultural and economic factors influenced the food supply and consumption. It will also investigate whether there are any diachronic trends in the consumption patterns and whether these can be linked to changes in the economy of the site or in the ecology of the surrounding landscape. Moreover, it will be possible to perform intra-site analyses within limited time periods. These could reveal differences between contemporaneous assemblages which may be explained in terms of taphonomy, social context or function of the feature investigated.

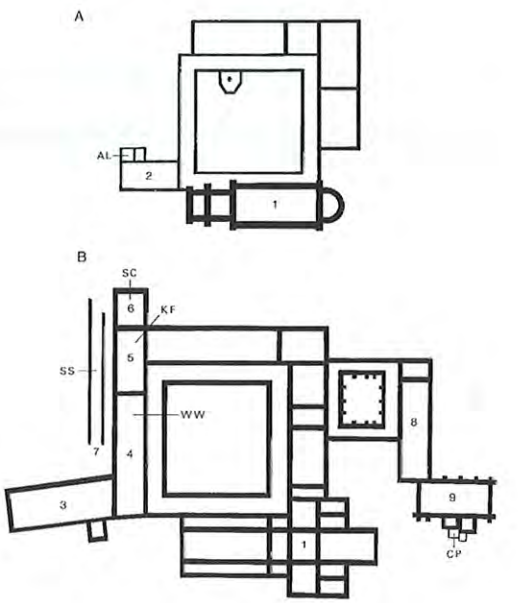

FIGURE 2

Plan of the abbey at Ename with main functional units of the 11th century building phase (A): St. Salvator's church (1), abbot's dwelling / guest quarters (2) and of the late and post-medieval building phase (B): abbot's house (3), guest quarters (4), kitchen (5), scullery (6), sewage system (7), infirmary (8) and prior's residence (9). Archaeozoological contexts mentioned in this study are a cesspit of the abbot's dwelling (AL), a rubbish pit in the west wing (WW), a kitchen floor (KF), the floor of the scullery (SC), the sewage system (SS) and the cesspit of the prior's residence (CP).

FOOD RULES IN A BENEDICTINE MONASTERY

Except for the cesspit of the abbot's dwelling, all contexts studied contained only small proportions of mammal bones; fish remains dominated the bone assemblages, comprising from 80% to

more than 90% of the NISP of vertebrate remains (Ervynck & Van Neer, 1992; Cooremans *et al.*, 1993; Ervynck *et al.*, 1994; unpubl. data). This pattern must be linked to the food rules that were followed within a Benedictine monastic community. The *Regula Sancti Benedicti* promoted a moderate way of life, including dietary habits, but was only a set of theoretical principles. These were translated into *consuetudines*, practical guidelines for daily life within each community (Callebaut *et al.*, 1988). Unfortunately, written evidence of these *consuetudines* is not preserved for the abbey of Ename, making it impossible to determine specific nutritional practices within that community. Generally, one can suppose that dietary rules were rather strict in the 11th century abbey, but that their application became more and more relaxed through time. It is possible that the monks originally followed a vegetarian diet (L. Milis, *pers. comm.*), but archaeological contexts from the earliest occupation phase, thus far unpublished, suggest that this diet was not strictly followed or that the rules were soon applied in a more flexible way. Perhaps the monks lived on a diet of fruits, vegetables and fish, which excluded the meat of quadrupeds and birds. In late medieval or post-medieval times, however, meat was gradually more and more included in the diet, although the consumption of animal products during special periods of the year such as Lent or the Advent remained restricted to fish.

This hypothesis about the evolution of the consumption pattern within the abbey will be further tested by the archaeozoological analysis of more contexts with consumption refuse but even now, it can be stated that the abundance of fish remains in most contexts accords with the food rules described. That the 12th - 13th centuries cesspit of the abbot's house had an exceptional high frequency of mammal remains can perhaps be explained by the fact that the high status guests who dined with the abbot did not have to follow the dietary rules. Later guests staying in the west wing of the 14th - 15th century abbey, who were perhaps of lower status than those residing in the abbot's house, seem to have observed the dietary rules. The kitchen floor context and the cesspit of the prior's residence also point to fish as the main animal (i.e. meat) product, although it is possible that the consumption of meat without bones attached left no traces in the latter context which consisted only of table refuse.

All contexts together show a spectrum of at least 25 fish species (Table 1). Ten of them are freshwater species, three are anodromous taxa and twelve are marine. This diversity is high for sites from northwestern Europe and, in fact, the Ename site has yielded more fish species than any other Belgian archaeological site (cf. Van Neer & Ervynck, 1994a). This suggests that the abbey had enough means to achieve a varied diet and also that, when food is limited by dietary rules, this need not necessarily result in a monotonous consumption pattern.

FISH OF THE SCHELDT BASIN

From the fauna that occurred naturally in the inland waters of Flanders, cyprinids (Cyprinidae), pike (*Esox lucius*) and eel (*Anguilla anguilla*) were the species most commonly eaten at Ename (Table 1). The domestic carp is excluded in this survey of freshwater fish, because it was introduced by man into our regions (see below). Many of the cyprinid remains from the three contexts that were completely sieved (WW, KF, CP) were not identified beyond family level but it is clear that they formed the greater part of the freshwater fishes consumed (Figure 3). The finds from the same three contexts suggest that eel was still important for the food supply around 1350-1450 A.D. diminishing in more recent periods. At present there is no clear explanation for this pattern; a link to changes in the ecology of the waters surrounding the site cannot be proven. Remains of pike reached the highest frequency in the cesspit of the prior's residence (CP) but whether this difference is meaningful or has any underlying cause remains to be investigated by comparison to more contexts.

Perch (*Perca fluviatilis*), ruffe (*Acerina cernua*) and burbot (*Lota lota*) were poorly represented among the freshwater species in the contexts studied (Table 1). The latter species is now extinct in the Scheldt basin (Bruylants *et al.*, 1989) but the finds from Ename prove that the species survived until the beginning of the 18th century in this part of the Scheldt basin. According to old fisheries literature, the burbot was still rather common in the Scheldt in the mid-19th century (De Selys-Longchamps, 1842).

Remains of fish that migrated from the sea into the river Scheldt to spawn, are found only in very small numbers in the context deposited around 1500 A.D. under a kitchen floor (KF) (Table 1).

Three species are present: sturgeon (*Acipenser sturio*), a whitefish species (*Coregonus* sp.) and a salmonid (*Salmo* sp.). The salmonid finds could represent the Atlantic salmon (*Salmo salar*) or the sea trout (*Salmo trutta*). The one *Coregonus* vertebra comes from an animal of 30 to 40 cm SL. It is supposed that three species –*Coregonus oxyrinchus*, *C. lavaretus* and *C. albula*– must be taken into account for the North Sea (Nijssen & de Groot, 1987: 103), but the diagnostic characters on the skeleton that distinguish them are not known.

None of the anadromous species found at Ename presently survive in the Scheldt basin. Ho-

	AL	WW	KF	CP
Thornback ray (*Raja clavata*)	-	1	13	4
Herring (*Clupea harengus*)	4	59	234	590
Cod (*Gadus morhua*)	2	-	8	76
Whiting (*Merlangius merlangus*)	-	-	10	31
Haddock (*Melanogrammus aeglefinus*)	-	4	14	13
Gadids (Gadidae sp.)	2	7	59	68
Gurnards (Triglidae sp.)	-	2	-	-
Turbot (*Scophthalmus maximus*)	-	-	1	2
Plaice (*Pleuronectes platessa*)	-	-	8	-
Flounder (*Platichthys flesus*)	-	-	1	-
Plaice / flounder / dab (Pleuronectidae sp.)	-	9	149	36
Sole (*Solea* sp.)	-	15	17	8
Sturgeon (*Acipenser sturio*)	-	-	1	-
Houting (*Coregonus* sp.)	-	-	1	-
Salmonid (*Salmo* sp.)	-	-	2	-
Eel (*Anguilla anguilla*)	5	39	175	50
Bream (*Abramis brama*)	-	1	-	16
Barbel (*Barbus barbus*)	-	-	-	2
Silver bream (*Blicca bjoerkna*)	-	1	-	-
Orfe (*Leuciscus idus*)	-	-	-	15
Roach (*Rutilus rutilus*)	-	2	11	14
Rudd (*Scardinius erythrophthalmus*)	-	1	2	3
Common carp (*Cyprinus carpio* f. domestica)	-	35	267	344
Cyprinids (Cyprinidae sp.)	7	27	379	535
Pike (*Esox lucius*)	-	4	20	86
Burbot (*Lota lota*)	-	1	2	2
Ruffe (*Grymnocephalus cernuus*)	-	-	5	2
Perch (*Perca fluviatilis*)	3	2	9	15
Percid (Percidae sp.)	-	-	-	7
Total identified	23	210	1388	1919
Total unidentified	96	566	2360	2180

TABLE 1

Fish remains from the Abbey of St. Salvator: AL, cesspit of the abbot's dwelling (late 12th-early 13th centuries); WW, refuse pit west wing (1350-1450 AD); KF, kitchen floor (*ca.* 1500 AD); CP, cesspit of the prior's residence (*ca.* 1700 AD).

wever, the limited numbers in which the remains of these species were found at the abbey site suggest that their presence in the region may already have been sporadic in medieval times. For sturgeon, this interpretation is in accord with the data from the historical records, in which captures of this species were often noted as remarkable events (G. Tack, *pers. comm.*). For the salmonids, interpretations on former abundance are more difficult due to the apparently poor likelihood of their skeleton being preserved. Throughout the archaeozoological record in Belgium we noted very few salmonid bones, even in sites dated to periods when the impact of man on the ichthyofauna must have been minor (Van Neer & Ervynck, 1994b). The absence of migrating species in contexts AL and WW (Table 1) can be due to the small sample size in both contexts. Whether the complete absence of bones from anadromous fish in the large collection from the cesspit of the prior's residence is to be linked to a gradual extinction of these species in post-medieval times remains hypothetical.

IMPORT OF MARINE FISH

The abbey at Ename did not only rely on the capture of fish in freshwater for its supply of animal products. The importance of fish imported from the coast is illustrated by the three contexts with sufficiently large sample sizes (WW, KF, CP) in which marine fish formed almost half of the identified remains (Figure 4). The oldest context

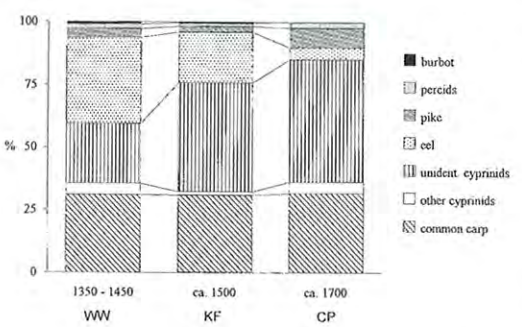

FIGURE 3

Relative frequency of freshwater species at Ename: data from contexts WW (1350-1450 A.D., n = 113), KF (*ca.* 1500 A.D., n = 870) and CP (*ca.* 1700 A.D., n = 1084). «Percids» include perch and ruffe, «other cyprinids» include bream, barbel, silver bream, orfe, roach and rudd.

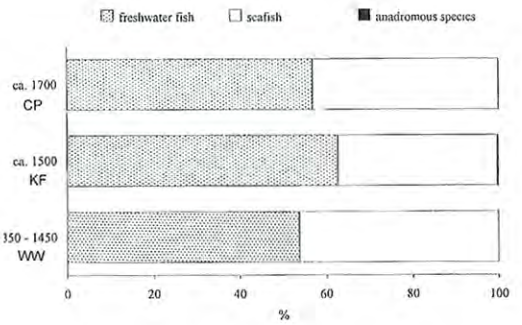

FIGURE 4

Relative frequency of freshwater fish, seafish and anadromous species in contexts WW (1350-1450 A.D., n = 210), KF (*ca.* 1500 A.D., n = 1388) and CP (*ca.* 1700 A.D., n = 1919).

(AL) cannot be used in this comparison, because of its restricted sample size and the inadequate sampling strategy. Surprisingly, the analysis of the three younger contexts does not reveal any trend in the relative importance of marine fish for the food supply (Figure 4). As a working hypothesis, it was supposed that the import of marine fish into Flanders originated in medieval times as a response to a decrease in the availability of freshwater fish, due to damaging factors such as overfishing, water pollution and destruction of freshwater habitats (Van Neer & Ervynck, 1993, 1994b). The effects of these factors must have been more pronounced in and around densely populated centres. The working hypothesis is corroborated by comparative archaeozoological research that reveals that along the river Scheldt the frequency of consumption of freshwater fishes in the late medieval towns of Antwerp and Ghent was significantly lower than the frequencies observed in contemporaneous sites located in the countryside, such as the abbey at Ename and the castle at Londerzeel (Van Neer & Ervynck, 1993, 1994b). It was also hypothesized that the consumption of marine fish in medieval Flanders may have become more important through time, synchronous with the increasing deterioration of the riverine ecosystem. This hypothesized trend, however, is not yet illustrated by archaeozoological data from Flanders. The contexts from Ename studied thus far do not show any increase in marine fish consumption through time, nor do they throw light on the origin of the marine fish trade on the river Scheldt.

Herring (*Clupea harengus*), gadids (Gadidae) and flatfish (Pleuronectidae) were the most important seafish for the food supply of the abbey (Table 1). The gadids comprise cod (*Gadus morhua*), haddock (*Melanogrammus aeglefinus*) and whiting (*Merlangius merlangus*). Within the flatfish, identification problems arise when trying to discriminate plaice (*Pleuronectes platessa*), flounder (*Platichthys flesus*) and dab (*Limanda limanda*), although the presence of the first two species could be proven conclusively by some finds. A soleid species is also present but it remains unclear whether we are dealing with sole (*Solea vulgaris*) or French sole (*Solea lascaris*). Given the rarity of this last species off the Belgian coast (Poll, 1947), an identification as *Solea vulgaris* seems most likely. A rarer find among the flatfish remains are some bones of turbot (*Scophthalmus maximus*), present in the two younger contexts (KF and CP). Other marine species that were more scarcely represented amongst the consumption remains comprise thornback ray (*Raja clavata*) and gurnards (Triglidae).

Traces on the bones and the intraskeletal distribution patterns indicate that a substantial portion of the marine fish arrived at the site in a processed form. The large collections of herring bones from contexts KF and CP indicate the import of animals mostly between 15 and 25 cm SL (standard length). Since bones of the shoulder girdle, i.e. supracleithrum, coracoid and cleithrum, are heavily underrepresented (Ervynck & Van Neer, 1992; Cooremans *et al.*, 1993), most of these herrings probably were not bought fresh but arrived as gutted specimens (see also Seeman, 1986). It is known from the historical sources that the consumption of gutted herring became very frequent in Flanders from the 14th century onwards (Degryse, 1938). Unfortunately, the small number of herring bones from the older contexts from the Ename abbey precludes the use of intra-skeletal distribution for inferences about processing.

Considering cod, again only the younger contexts from the abbey (KF and CP) yielded enough material to evaluate the condition in which the animals arrived at the site. Length reconstructions indicate animals from 60 up to 110 cm SL. No underrepresentation of cranial bones, which could have been an indication for stockfish (dried, beheaded cod, Heinrich, 1987), was noticed from these large contexts (Ervynck & Van Neer, 1992; Cooremans *et al.*, 1993). However, the underrepresentation of precaudal vertebrae and the presence of characteristic longitudinal cutting traces on some cod bones from the cesspit of the prior's residence (Cooremans *et al.*, 1993) prove that some stockfish was consumed at the site (cf. Brinkhuizen, 1994). No archaeozoological evidence is available thus far for the import of processed flatfish or ray at the site, although 16th century historical sources describe the economic importance of this trade for the Low Countries (F. Egmond, *pers. comm.*).

THE INTRODUCTION OF DOMESTIC CARP

Historical and archaeozoological data reveal that carp spread from its original distribution area - the lower reaches of rivers running into the Black Sea –to northwestern Europe from the early Middle Ages onwards. Contrary to common belief, the earliest distribution wave, from east to west within Europe, may not be connected with the activities of early medieval monasteries (Hoffmann, 1994). However, in the absence of contradicting evidence, the apparent late arrival of carp in Flanders during the late medieval period must be linked to the activities of the abbeys in the region. Despite the presence of some late 13th-early 14th centuries finds in the castles at Laarne and Londerzeel, Ename is still the only late medieval site from Flanders where a significant number of carp remains have been found (Van Neer & Ervynck, 1994a). Fish ponds associated with the abbey indicate that carp was locally reared. It must also be underlined that the abbey at Ename is thus far the only monastic site from Flanders where excavations comprise the detailed sampling and recovery of fish remains (Van Neer & Ervynck, *ibid.*).

The oldest carp remains from the Ename excavations derive from context WW, dated between 1350 and 1450 A.D. The older context AL (late 12th-early 13th C.) does not contain domestic carp remains but it is also the only context in this survey that has not been adequately sampled. The present stage of research thus does not allow us to place the origins of carp breeding before the late medieval period. Surprisingly, the relative frequency of carp, which attains 31% of freshwater fish in context WW, does not change through time (Figure 3). A comparison of the standard lengths of the animals consumed shows that the carp eaten around 1700 A.D. in the prior's residence

were, on average, significantly larger than those from the older contexts WW and KF (Figure 5). However, whether this difference is due to an improved management of the carp ponds in post-medieval times, or whether the prior had access to the larger animals from the catch, remains to be investigated.

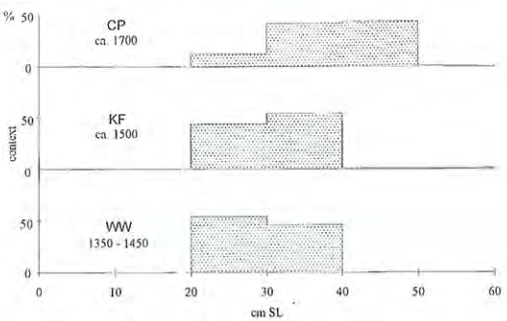

FIGURE 5
Comparison of the distributions of the standard lengths of domestic carp from contexts WW (1350-1450 A.D., n = 26), KF (*ca.* 1500 A.D., n = 206) and CP (*ca.* 1700 A.D., n = 282).

STATUS AND CONSUMPTION PATTERNS

The abbey at Ename was a rich community with extensive land ownership and most of its monks were recruited from the noble families of the time (L. Milis, *pers. comm.*). Hence it is no surprise that the food supply of the abbey, albeit originally limited by food rules, was varied and included expensive fishes such as turbot, sole and sturgeon. On a more detailed level, it is worth investigating whether possible differences in status within the abbey are illustrated by the archaeozoological dataset. It is not yet possible to compare different contexts within the same time period but one can investigate whether the consumption refuse found in the abbot's dwellings (context AL) and in the prior's residence (context CP) shows characteristics that indicate a higher status than the other material excavated within the abbey. It has already been demonstrated that the less stringent application of the food rules, which allowed the consumption of mammals in the abbot's house, can be seen as a sign of status. Restricting the analysis to the fish remains, the picture is less clear. It has been stated that the size of domestic carp consumed could discriminate context CP from the other contexts with carp remains (Figure 5). On the other hand, no significant differences regarding the proportion of marine fish in the total fish consumption could be demonstrated between the contexts. For the freshwater species, the relative frequency of consumption of eel seems to decrease through time (contexts WW, KF and CP) (Figure 3), a trend that can hardly be linked to differences in status. Pike remains are more frequently found in the prior's residence than elsewhere in the abbey (Figure 3) but whether this suggests that the species could be used as an indicator of wealth remains to be investigated. Pike is absent from the cesspit of the abbot's house but, as has previously been stated, this context yielded only a small fish bone collection that was inadequately sampled.

It has been previously suggested that the relative frequency of cod versus haddock could serve as an indication of status for archaeozoological collections from medieval sites. Historical sources do indicate that cod was more expensive than haddock (Ervynck & Van Neer, 1994). Comparing the relative frequency of cod in the contexts from Ename, it becomes clear that the species is most abundant in the cesspits from the abbot's house and the prior's residence (Figure 6). However, the collections from contexts AL and WW are too small to draw any conclusions. The high proportion of cod bones in the post-medieval prior's residence, compared to the lower percentage of cod bones found under the kitchen floor, is perhaps the only real indicator in the fish remains of intra-site differences in status within the former abbey. This conclusion, however, remains entirely hypothetical because the contexts KF and CP were deposited in different chronological periods.

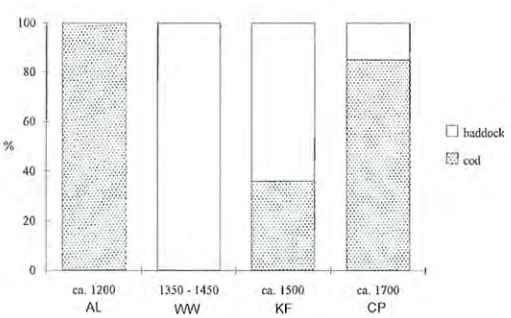

FIGURE 6
Relative frequency of cod and haddock in contexts AL (late 12th - early 13th century, n = 2), WW (1350-1450 A.D., n = 4), KF (ca. 1500 A.D., n = 22) and CP (*ca.* 1700 A.D., n = 89).

CONCLUSIONS AND FUTURE PROSPECTS

The fish supply of the Ename abbey was based partly on the purchase of marine fish on the inland market and partly on the exploitation of the local freshwaters. One third of the freshwater fish, i.e., domestic carp, was derived from specimens bred in ponds on the territory of the abbey. Except for the introduction of carp breeding in the late medieval period, it is not yet possible, in this preliminary stage of archaeozoological research on the site, to establish trends in the consumption pattern. Chronological differences, social stratification or the evolution of the environment around the abbey through time do not seem to have caused dramatic alterations in fish consumption at the site. However, the analysis of the material from Ename has just started and the majority of contexts is still unanalyzed. Moreover, the excavations are still under way. In the future it would be interesting to incorporate material from contexts that predate the presumed introduction date of the carp. Material from the earliest occupation phase of the abbey would not only allow a reconstruction of the consumption pattern of a community that did not benefit from fish breeding, it would also throw light on the original application of the food rules. The future analysis of more contemporaneous contexts will evaluate more profoundly possible intra-site differences. Finally, certain structures within the building complex show specific taphonomic characteristics. Examples are the recently excavated floor layers within the so-called scullery, a room adjacent to the kitchen (Figure 2B, SC), and the contents of the sewage system running along the guest quarters, the kitchen and the scullery (Figure 2B, SS). The analysis of these assemblages may illustrate how the monastic community dealt with consumption refuse and provide more detailed information on the food supply of the site.

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