

Cows, milk and religion: the use of dairy produce in early societies

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KEYWORDS

milk
cow
early religious practice

Finbar McCormick 2012. – Cows, milk and religion: the use of dairy produce in early societies. *Anthropozoologica* 47.2 : 101-113.

This review of documentary sources, particularly from Early Mesopotamia, Egypt, India and Europe seeks to show how the range of dairy products varied in different areas and to demonstrate that in many societies, cows and dairying played an important role in early religious practice. The range of dairy products consumed also varied greatly between different societies and the use of milk did not automatically imply that dairying technology was applied to its full potential. Also, in some cultures the consumption of milk was confined to certain sections of society.

RÉSUMÉ

Vaches, lait et religion : l'utilisation des produits laitiers dans les sociétés anciennes

Dans cette étude de sources documentaires, provenant, en particulier, de Mésopotamie ancienne, d'Égypte, d'Inde et d'Europe, on montrera comment la gamme des produits laitiers varie selon les aires géographiques et on démontrera que dans beaucoup de sociétés, les vaches et l'industrie laitière ont joué un rôle important dans le début des pratiques religieuses. La gamme des produits laitiers consommés a considérablement varié selon les différentes sociétés et l'utilisation du lait n'a pas automatiquement signifié que la technologie de l'industrie laitière ait été extrêmement performante. En outre, dans certaines cultures, la consommation du lait était réservée à des groupes sociaux particuliers.

MOTS CLÉS

lait
vache
pratiques religieuses
anciennes

INTRODUCTION

Evidence for early dairying can be derived from three main sources. Kill-off patterns can potentially be used for indentifying dairying on the basis of the assumption that a high rate of slaughter of very young animals can indicate that milk resources were being diverted for human consumption (Payne 1973). A more sophisticated model of identifying milk production from kill-off patterns has been utilised by Vigne and Helmer (2007) and the evidence allowed the identification of milk production at the earliest stages of animal domestication in the Near East (*ibid.*: Helmer *et al* 2007). Recently, isotopic analysis of pottery residues has allowed the differentiation between meat and dairy fats (e.g. Copley *et al* 2003; Evershed *et al* 2008) and has indicated that milk was being utilised since the early Neolithic. Additionally, variation in the nitrogen isotope ratios in Neolithic cattle teeth suggests that calves were weaned early (Balasse & Tresset 2002) thus allowing the cow's milk to become available for human consumption. A third strand of evidence comes from documentary, and to a lesser extent, iconographic sources and the present article seeks to present a broad overview of such material in an attempt to show how dairy produce was used in early societies.

The oldest documentary evidence for dairying dates to slightly before 3000BC. There are, however, many problems associated with early documentary sources, one primary issue being the difficulty of identifying the exact meaning of many of the linguistic terms used. For instance, early terms for cheese rarely tell us about the nature of a particular cheese. The same applies to modern cheeses where most names are derived from their geographical provenance. That said, the type of a cheese or butter can sometimes be inferred from other evidence. The fact that butter in Mesopotamia was stored in vessels that were otherwise used for storing liquids (Stol 1993: 103) indicates that the butter, rather than being a solid, was in a clarified and

liquid form. In early medieval Ireland, a cheese that is recorded as having been thrown at and injuring a person would suggest that it was a "hard" rather than a "soft" cheese. Thus, it can be assumed that the early Irish *tanach* cheese was hard because a piece of it was used as slingshot to kill a mythical queen (Kelly 1997: 239).

A second problem concerns the nature of the early documentary sources. Content varies greatly, and includes financial accounts of Early Mesopotamia, religious hymns of Vedic India, legal texts from Ireland, and Roman agricultural manuals. The Vedic texts, for instance, can tell us about very specific ritualistic use of dairy produce but we learn little about how it was consumed as a food generally throughout society. The survival of texts is haphazard and the information is generally partial and often difficult to interpret, but taken together these sources produce a body of information that serves as an important backdrop to recent advances made in the field of the study of early dairying based on faunal analysis and bio-archaeology. In particular, these sources can tell us about the various types of dairy produce consumed and sometimes show that the consumption of certain produce was restricted to particular sections of society, e.g. children. The sources also emphasise the religious importance of dairy produce in some early societies and show that in certain instances milk was seen to be a product of cow deities. The survey takes a chronological approach in an attempt to provide information on the development in use of different types of dairy produce.

MESOPOTAMIA AND EGYPT

The earliest documentary evidence for details of dairy produce comes from Mesopotamia in the centuries before 3000BC. The evidence for this derives from late Uruk proto-cuneiform administrative texts. Englund (1995a: 33) notes that references to dairy fats and cheeses are virtually absent from Uruk IV (3200-3100 BC) texts but

become plentiful during the Uruk III period (3100-3000BC). This may indicate an expansion in the use of dairy produce at this particular time. In Mesopotamia, cattle and goat were the main dairying animals but there is less evidence that sheep milk was processed to the same extent (Englund 1995b: 382). Records of dairy produce tend to decline from the Old Babylonian period (2000-1600BC) onwards and are rare in Babylonian or Assyrian sources. Cattle, however, were not kept primarily for their milk and their main role appears to be the provision of traction. This is reflected in their monetary value as old Babylonian texts record a price of $7 \frac{2}{3}$ shekels for a fully grown milking cow, compared with 12 shekels for a draft ox (Stol 1995: 177, 1186). Milk quickly turned sour in the hot climate of Early Mesopotamia and as a consequence appears not to have been consumed to any great extent by adults. It was fed to young babies and presented in religious ceremonies as offerings to gods (Stol 1993: 100), but was mainly processed to make butter and cheese. The early texts indicate that Sumerian butter and cheese were made from soured milk (Stol 1993: 101). The butter was churned in earthenware vessels (Stol 1993: 102); the skin bags used in modern traditional Iranian butter making (Abdalla 1994: 32-33) are rarely mentioned in the early Sumerian texts. As noted above, the fact that the early sources note that the butter was poured and stored in similar vessels to other liquids indicates that butter was clarified to form "ghee" (Abdalla 1994: 32-33). Butter would first have been produced in solid form and then boiled in order to remove the water content. It is the water in solid butter that causes it to turn rancid but conversion to ghee increases its life for up to a year (Englund 1995a, 380). Ghee would have had similar uses to olive oil, the latter being little used in early Mesopotamia (Limet 1987: 135). Ghee was used as an ingredient in cooking (Bottéro 2004: 33) as well as being poured onto bread (Stol 1993: 103). It also had non-culinary uses. One Ur III (2112-2004 BC) text

indicates that it was used for sealing the hulls of boats (Englund 1995b: 409).

Early Sumerian cheese was made from the buttermilk left over from churning butter. Stol (1993, 105-108) has concluded that the cheese was not true cheese using animal rennet but the equivalent to modern *kašk*. These are dried out balls of buttermilk that could be crushed to a powder and mixed with water to produce 'instant milk'. In modern times this can be made by allowing salted buttermilk, perhaps mixed with vegetable matter to add flavour, to stand in a cloth bag for several days. The liquid is poured off, leaving a solid residue which is rolled into small balls and dried further in the sun (Curtis 2001: 237). According to Englund (1995: 380b) this powdered-milk type cheese can be kept for years or even decades.

Ur III texts indicate that a cow should 'deliver' an annual 5 *silà* of butter and $7\frac{1}{2}$ *silà* of cheese in a year, a *silà* being roughly equal to a litre (Englund 1995b: 382-3, 387; Gelb 1967: 67). Such an amount could have been produced from about 100-200 litres of milk (Englund 1995b: 427). Gomi (1980: 3) believes that this represents the actual annual production of a Sumerian cow which would be extremely low. Englund (*ibid.*: 427-8), however, notes that this does not include the milk necessary to feed the cow's calf, and probably also excludes a proportion of the milk kept by the herder for his private use in payment for labour and providing fodder for the animal.

Dairy produce was offered to the gods (Stol 1993: 100), forming a minor part of a much larger range of daily food offerings. This is in contrast to the central role it played in Vedic religious ceremonies (below). Nevertheless, the fact that the earliest depiction of a dairy scene appears in an ED III period (2650-2370 BC) temple indicates that dairying must have been of some specific religious significance to the early Mesopotamians. The renowned frieze from the temple of Nin-hur-sag depicts cows being milked in the presence of their calves on one side and butter being churned

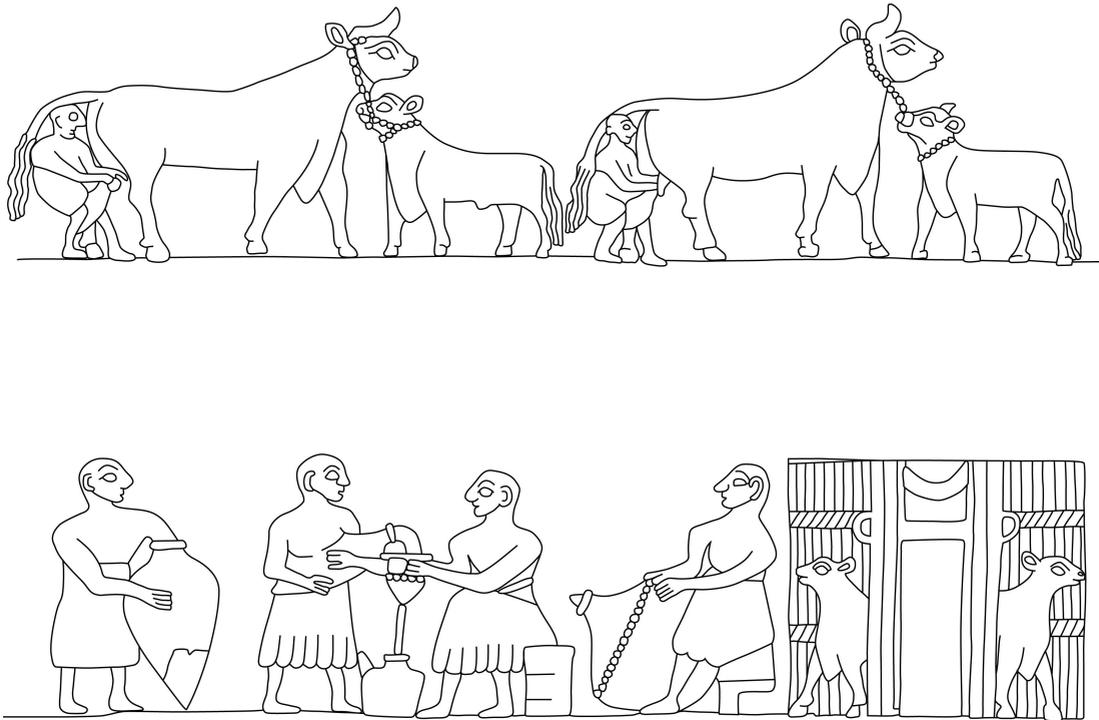


Fig. 1.— Dairy scene from temple of Ninhursag, Mesopotamia.

and strained on the other (Fig. 1). Unusually, the cows are depicted as being milked from behind, as is usual for goats and sheep rather than cattle, and may suggest that caprovines were exploited for their milk prior to the exploitation of cows for this purpose. Alternatively, the temple frieze may represent the practice of insufflations to initiate the milk ejection reflex in the cow (Le Quellec 2011).

Ninhursag, also known as Nintu, was an “Earth mother” being referred to in the myth of Enki and Ninhursag as “the mother of the land” (Kramer & Albright 1945: 13). In this myth she is a “curious blend of mother and midwife” (Dickson 2007: 30). The name Nintu literally means ‘birth lady’ and epithets to her include “womb-goddess”, “mother of the gods” and “mother of all children” (Dalley 1989: 326). Records imply that she was regarded as the mother of early Sumerian kings (Stol 2000: 88). For instance, Lugal-zagesi, king of Uruk is

stated to have “sucked on the breast of Ninhursag” (Postgate 1992: 35). Although none of the texts represent Ninhursag as a cow it cannot be mere coincidence that an elaborate dairying scene was depicted in a temple dedicated to her.

Stol (1993: 100) notes the references in early texts to the “eating” of fresh milk by newborn children. He speculates that this may have been the particularly rich colostrum milk, but concedes that he cannot with certainty identify a term for colostrum in the texts. The practice is common in traditional communities in modern Assyria. Adballa (1994: 30) observes that “after a cow has calves, parents try and ensure that beestings [colostrums] from the first milking is equitably distributed between the newly born calf and their own children”.

While the association between Ninhursag and dairying is unclear, there is no such ambiguity in the case of the early Egyptian goddess

Hathor. She was often imagined as a “gigantic cow which straddled the earth, her legs at the four cardinal points” (Watterson 1999: 113). She “held the sun between her horns, her belly was the sky, her hide and udder the stars and planets” (*ibid.*). Hathor’s various roles included that of mystical mother to the living monarch. In this capacity she assisted with the royal birth and provided the new child with milk, a task of crucial importance because “it was only through this divine mother-milk that the young prince became a true king” (Bleeker 1973: 52). The young king is sometimes depicted as suckling directly from Hathor portrayed in the form of a cow, as in the case of Thutmose III in the temple of Hatshepsut (Fig. 2). As in Mesopotamia, fresh milk was frequently fed to young children. An eighteenth dynasty source (c. 1550-c. 1292 BC) records that sixty children consumed the milk of three cows, fifty-two goats and nine she-asses (Darby *et al* 1977: 764).

What is less clear is whether or not fresh milk was a routine part of the adult Egyptian’s diet, for there are only occasional references to its possible consumption. A mid-eighteenth dynasty letter records that Senūffe, the Mayor of Thebes, when requesting the items he wished to have ready for him on a visit to He-sekhem, gave “command to the herdsmen in order to cause them to have milk made ready in new jars in anticipation of my coming” (Caminos 1963: 31). Caminos (1963: 37), however, finds the request unusual and speculates that the milk might have been for children or was to be used as an offering. Alternatively, he suggests that Senūffe may have been ill.

There are many references to milk being used for medicinal purposes in early Egypt either on its own or mixed with other substances (Darby *et al.* 1977: 771-2). Milk appears to have also been used as an offering in religious ceremonies. Milk, along with large quantities of oxen, geese, wine, beer and incense are frequently recorded on stelae as offerings to gods during the Ptolemaic Period while an inscription in the tomb of King

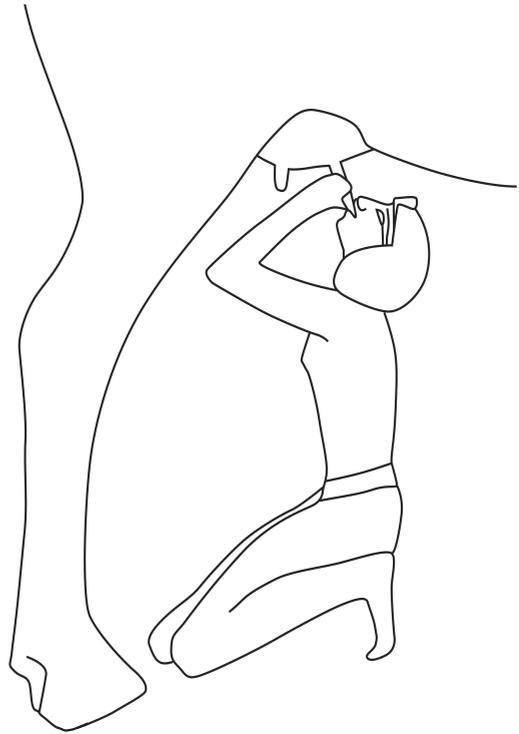


Fig. 2.— The young Thutmose III suckling Hathor in the temple of Hatshepsut, Egypt.

Horeneheb (c. 1323-1295 BC) calls for grants of milk to be made to the gods for the deceased (Allan 1936: 44-70). On balance, the evidence from Egypt indicates that milk was rarely consumed by adults but, as in the case of early Mesopotamia, was drunk only by children or used in religious ceremonies. Whether or not this was related to lactose-intolerance in adults is unclear. In contrast to Mesopotamia, there is relatively little evidence that the Egyptians processed milk to make butter or cheese. There have been occasional claims that fatty material found in jars is cheese and some suggestions of possible identification of cheese based on the iconographic evidence (Curtis 2001: 173; Darby *et al.* 1977: 733, fig. 19.7) but this evidence is equivocal. Furthermore, there are no known words designating cheese or butter from the Pharaonic period, the earliest unequivocal evidence for the



Fig. 3.—Milking scene on the sarcophagus of Queen Kawit, Egypt.

processing of cheese being from a third century BC Greek source (Darby *et. al.*, *ibid.*). Perhaps because the Egyptians used a wide range of oils (*ibid.*: 780-6) they did not feel it necessary to process dairy fats. The small size of the receptacle in contrast to the size of the cow's udder in the milking scene on the sarcophagus of Queen Kawit (c. 2055-2004 BC) might support the suggestion that milk was only exploited sparingly in early Egypt (Fig. 3); the jars held between the legs of the milkers in the temple of Ninhur-sag are comparatively much larger (Fig. 1). On a note of caution, however, the scale of the cow at Kawit may be exaggerated.

VEDIC INDIA

In contrast to Mesopotamia and Egypt, cows played a central role in both the economy and religion of Vedic India. Wealth was based on the ownership of cattle (Tarpar 1984: 24) and

it is clear that the main purpose of the herd was to produce milk. In the oldest Vedic source, the Rig Veda (c. 1700-1100 BC), there are recurring images of cows pouring out their milk; “rays of light stream like milk, cosmic waters are like lowing cows which flow with milk, rain is shed as milk, poetic vision is like a cow flowing with a thousand streams of milk, the breasts of a goddess are like a cow's udder” (Srinavasan 1979: 4). Milk, in short, was central to both economic and religious life. The hymns of the Rig Veda (1.134.6) articulate its economic importance with “the nectar-yielding Cow pours all rich treasures forth as milk” and a hymn to the god Indra implores that the “the great Cow may, with exhaustless udder, pouring a thousand streams, give milk to feed us” (10.133.7).

There is little evidence for the widespread use of the milk of other domesticates although goat's milk is occasionally referred to in the Rig Veda (8.59.15) and the *Śatapatha Brāhmaṇa* (Eggleling 1900, 477), dating approximately to 800-600 BC. It may well be that goats were milked

on a regular basis but not having the same religious significance as the cow did not merit inclusion in the texts.

The various Vedic texts indicate that cow's milk was consumed in a range of unprocessed and processed forms, including drunk "warm as it came from the cow" (Macdonnell & Keith 1912: 209), although there is no specific reference to who drank it, children or adults. The full range of dairy products of the time is summarized in the *Śatapatha Brāhmana*: "From the cow [comes] milk, from her boiled milk, from her cream, from her sour curds, from her sour cream, from the curdled milk, from her butter, from her ghee, from her clotted curds, from her clotted whey" (Eggeling 1885: 69). There is no evidence for the making of hard cheeses using rennet.

Dairy produce was a vital component of the religious rituals of the Vedic people. The *Śatapatha Brāhmana*, which describes Vedic rituals, continually refers to offerings and libations of dairy foods used in varied ways. The "sour curds" for example "from last night's milking they use for coagulating the sacrificial food" (Eggeling 1900: 8). Elsewhere are mentioned "libations of hot [fresh] milk mixed with sour milk" (Eggeling 1885: 336) and a "dish of curds are [the] essence of cattle in a sacrifice" (Eggeling 1894: 105). Especially important in many aspects of the rituals was the pouring of ghee. Poured on the ritual slaughtering posts "it repels the evil spirits by means of a thunderbolt" (*ibid.* 1885: 165), poured on the bricks of the fire altars, it purified them (Eggeling 1894: 356), and on the flames of the sacrificial fires, it invigorated them (Macdonnell and Keith 1912, 250). Both milk and ghee were regarded as the "sap" of life (Eggeling 1895: 328; 1900: 431) and were especially associated with the fire god Agni. The relationship between milk and Agni is explained in the *Śatapatha Brāhmana*:

"Now, Agni [the fire god] coveted her: 'May I pair with her', he thought. He unites with her, and his seed becomes that milk of hers: hence while the cow

is raw, that milk in her is cooked [warm]; for it is Agni's seed; and therefore also, whether it be in a black or in a red [cow], it is ever white and shining like fire, it being Agni's seed. Hence it is warm when first milked; for it is Agni's milk" (Eggeling 1882: 336).

EUROPE

The earliest documentary reference to dairy produce in Europe comes from classical sources and the Mediterranean world. The earliest reference to the presence of true cheese is in Homer's *Iliad* which is generally dated to c. 700 BC. The reference to the "grated cheese of goat's milk" (xi. 641) can only refer to a hard cheese. Elsewhere (v. 902), it is noted that the milk was curdled with vegetable rennet "the juice of the fig speedily makes to grow thick the white milk that is liquid". Later Roman commentators indicate that a range of animal and vegetable rennets were used at the time. Columella (c. AD 4-70) suggests that the rennet of lambs and kids were the best (VI, vii, 1), while Varro (116-27 BC) recommends rennet from a hare or kid (II, xi, 4). Palladius, who lived in the fourth century AD, recommends also the use of calf rennet (VI, 142). Vegetable rennets include vinegar and fig juice, suggested by Varro (II, xi, 4), wild thistle and safflower, suggested by Columella (VII, viii, 1) and the wild teasel and chicken[?] crop suggested by Palladius (VI, 143-5). Columella states that only the freshest of milk can be used for cheese making. After adding the rennet, the milk is heated and when the liquid has coagulated, it is transferred to "wicker vessels or baskets or moulds" (Columella VII, viii, 3) to drain the whey from the curds. Weights were then put on top to ensure all the whey was removed. The cheeses now formed were placed on dry boards in a cool place and sprinkled with salt. After nine days, the cheeses were washed in fresh water and set out in the shade on wicker-work trays until moderately dry. Finally, they

were put on shelving in an enclosed space not exposed to the wind (Columella VII, viii. 4-5). Cheeses made in that way “can even be exported beyond the sea” (Columella VII, viii. 6).

Pliny records that “the city of Rome consumed not only Italian cheeses, particularly those from Liguria, Umbria, Tuscany and Latium, but also imported special cheeses from as far away as Gaul, especially from the area around Nemausus (Nîmes)” (Curtis 2001: 400). Long distance trade in cheese also occurred in ancient Greece. Curtis (2001, 315) notes that “Athenians could not only buy local cheeses but varieties imported from as far away as Sicily, and the Thracian Chersonese or as close as the Cycladic islands of Cythnus, Boeotia, and particularly Tromileia, a city in Achaea”. Cheeses were flavoured in a variety of different ways. Columella (VI. vii, 6-7) mentions adding crushed green pine-kernels and thyme, also that cheese can be smoked with apple-tree wood. Palladius (VI, 168) talks of flavouring with pepper.

Curd cheeses, “soft and fresh” (Varro II, xi, 3), were also produced, largely for the local market for Columella (VII, viii, 1) states that soft cheese “of thin consistency ... must be sold as quickly as possible while it is still fresh and retains its moisture”. Columella (VII. vii, 6) describes how this soft cheese was made; “it [the curds] was taken out of the wicker baskets and dipped into salt and brine and dried a little in the sun”. Virgil (Georgics III, 400-5) notes that a shepherd will milk a sheep in the morning, then “press into cheese at night” and sell in the town the next day. Such industry was not always rewarded however with Virgil complaining elsewhere that “many a rich cheese was pressed for the thankless town, never my hand come home money laden” (Eclogues I: 33-35). Varro (II, xi.3) comments that cheese made from cow’s milk is more nutritious than that made from sheep and goats. Butter was also produced but since olive oil served as a culinary substitute, it was used mainly for medicinal purposes (Curtis 2001: 400).

While the general impression given by the early sources is that the Greeks and Romans did not drink large amounts of milk (Curtis 2001: 399), there is evidence that it was traded. Columella (VI, vii, 1), notes, for instance, that cheese should be made “especially in distant parts of the country, where it is not convenient to take milk to the market in pails”. Varro (II, xi.1) notes that “of all the liquids which we take for sustenance, milk is the most nourishing -, first sheep’s milk and next goat’s milk”. Cow’s milk is not rated in his “nourishment” category and only rates third place as a “purgative” after that of the mare and the ass (Varro II, xi.1). In contrast to other societies already discussed, there is little evidence that milk or dairy produce played any significant religious role.

Our understanding of the role of dairying outside Rome and Greece is extremely limited. In southern Europe, sheep and goat were the main dairy animals but in the temperate north it is more likely that the cow dominated. Unsurprisingly, one observer noted that the Gauls preferred butter to olive oil (Garnsey 1999: 67). Garnsey (*ibid.* 65) notes that “authors of all periods of antiquity exploit the dichotomy between civilised, sedentary farmers who live off the land and domesticated plants, and uncivilised, pastoral nomads who are ‘eaters of meat and drinkers of milk’”. Their observations, therefore can often be biased. Thus Caesar (100-44 BC) states of the Germans that they “were not interested in agriculture: their diet consists of milk, cheese and meat” (VI.21). Of the British, he states that “most of the tribes living in the interior do not grow corn; they live on milk and meat and wear skins” (V.14). The third century author Solinus states of the inhabitants of the Hebrides that they had “no knowledge of crops [*fruges*] and live only on milk and fish” (Agnant 1847: 182). It is interesting that Caesar records the German habit of cheese production and consumption, but omits it from his description of the British diet. Strabo (c. 63 BC-AD 24) appears to confirm this when he states

that “although well supplied with milk, they [the Britons] make no cheese” (IV. 5). Whether or not this is factually true is another question, but it is interesting to note that the generic term used for cheese (*caise*) in the early medieval Irish literature is derived from the Latin *caseus* which might suggest that cheesemaking may have developed because of Roman influence.

In early medieval Ireland cows and milk were regarded as the basis of wealth (McCormick 2008). An early *triad* emphasizes the importance of dairy produce when it identifies the “three renovators of the world” as “the womb of a woman, a cow’s udder, a smith’s moulding-block” (Meyer 1906: 21). The early medieval Irish sources describe a large range of milk and milk derived products (Kelly 1997: 324-330) with cows being the main providers. It was drunk fresh and in a thickened coagulated form made by the addition of rennet. Cream was consumed having been allowed to settle and separate from the milk for three days. The resultant skim milk, that is “milk without cream” was considered a penitential food (Kelly 1997: 325). Cream was churned into butter which was regarded as a high-status food. There are references to a wide variety of cheeses, but the exact meanings of many of the terms used to describe them are unclear. They ranged, however, from soft curds (*gruth*) to the hard *tanach* which, as mentioned in the introduction, was hard enough to be used as slingshot. Another hard cheese, referred to as *mulach*, appears to have been produced in large rounded form as a giant in one early myth is described as having “buttocks which were the size of a *mulach*” (quoted in Kelly 1997: 329).

Milk seems to have had a very limited role in classical religious practices. It was occasionally used as a libation in purification rites, and a vessel of milk was included along with other goods when Vestal Virgins were buried alive as punishment for engaging in sexual relationships (Wildfang 2006: 60). None of the classical writers of antiquity attach any religious significance to the use of dairy products among

the “barbarians” of north-west Europe. In Ireland and Scotland, however, votive deposits of butter were being placed in wetland places from the Early Iron Age onwards, the earliest dating to the 4th century BC (Downey *et al.* 2006: 34). Many of the deposits were buried in churns (Earwood 1997, 36-42). The practice continued in “folk religion” until post-medieval times; the majority of such deposits date to the four centuries BC but the latest have been dated to the 16th/18th centuries AD (Downey *et al.* 2006: 34). There is also documentary evidence for the survival of dairy offerings into early modern times in Scotland. On the Isle of Valley, in the Outer Hebrides, Martin (1703: 137) records that the inhabitants “offered a cow’s milk every Sunday” on a flat stone near an old church while parish records for Dingwall, in north-east Scotland, note that in 1656, persons were accused of “abominations and heathenish practices” which included the “pouring of milk on the hills as oblations” (quoted in Evans 1947: 62).

DISCUSSION AND CONCLUSIONS

This short review of the manufacture and consumption of dairy produce in early societies on the basis of the documentary evidence indicates that the types of dairy produce consumed varied greatly between societies. In India and Ireland a wide range of dairy products were consumed while in Egypt consumption seems to have been confined to raw milk, and this generally confined to infants. Similarly, if Strabo is to be believed, the Early British may not have made cheese. The use of other fats, such as olive oil, seems often to have restricted the use of dairy produce. A religious role for cows and dairy produce is a recurring feature of many societies, the most extreme case being in the Vedic people of India. The Indian sources are essentially confined to religious texts and the degree to which the religious obsession with cows and milk impacted on wider Vedic society is unclear.

Some appreciation of social complexity of such a society can, however, be appreciated by considering the case of the recent Toda people of southern India. Regarding milk as sacred, and with dairying at the core of their religious beliefs and social system (Rivers 1906), these people had both sacred and secular dairy buffalo herds as well as secular and sacred dairies which were regarded as temples. Rivers notes that “Among the buffaloes held by the Toda to be sacred there are varying degrees of sanctity, and each kind of buffalo is tended at its own kind or grade of dairy by its own special grade of priesthood” (*ibid.*, 38). Complex rituals were associated with the different grades of dairies, and the consumption of milk and other produce of particular dairies was generally restricted to the priest and the dairymen. Only the milk of the non-sacred buffalo could be consumed by all sections of society (*ibid.*, 231-246). Perhaps the keeping of secular and sacred cattle herds was a feature of Neolithic husbandry in north-western Europe. At the English ceremonial causewayed enclosure of Hambledon Hill the great majority of the cattle killed were semi-mature cows. (Legge 2008: 540, 543). McCormick (in press) also noted a similar slaughter pattern in an early Neolithic ceremonial site at Kilshane in Ireland. These animals were clearly selected by their gender and age and do not represent an economically sustainable slaughter regime. Could these animals have been chosen from “sacred” dairy herds?

Lipid analysis of pottery has shown that milk was being exploited since the early part of the Neolithic in Europe and the Near East but, as the documentary evidence shows, the consumption of milk and the range of dairy products used was often restricted in societies after they had begun to regularly milk cows and other live-stock. Perhaps the presence of dairy fats in pottery shards overestimates the degree of consumption of milk in early societies. A method of pottery production used in early modern Scotland demonstrates how this might occur as milk fats were

used for sealing the pottery thus reducing its porosity. A late eighteenth century description of pottery manufacture in the Scottish island of Coll records the following.

“In some parts of the Island, there are pits of a reddish Clay, which the Inhabitants manufacture into different kinds of Earthen Vessels which they call Crokans. This sort of ware, the most rude and simple that can be anywhere made, they frame in the following manner. The clay, without any mixture, they form by the Hand, into the Shape of the Vessel required, and then place them in the Sun, till they are thoroughly dry. After this, they are filled with Milk and set upon a strong Fire, where they are kept till the milk be entirely boiled away, which finishes the Operation” (McKay 1980: 171).

It is likely that some documentary sources may not accurately reflect the true role of dairy produce in early societies. There is, for instance, a bias towards religious texts in some early cultures. Furthermore, knowledge of writing ... Furthermore, knowledge of writing was generally the prerogative of the elite and the information that documentary sources reveal are liable to be biased towards the perspective and realities of that section of society. Occasionally we get a glimpse of the diet of the lower classes which suggest that in some cases dairy produce may have been regarded as a low status food. For example, cheese is an almost universal ingredient in the recipes for the meals of lowly Roman estate workers recorded by Cato (1935: 75-86). Dairy produce, however, is virtually absent from the recipes of Apicius (Flower and Rosenbaus 1958), food that was presumably confined to the tables of the wealthy. Despite these limitations, however, it is clear that only by using the three strands of evidence, documentary, bio-archaeological and zooarchaeological, can we arrive at greater understanding of the role of dairying in early societies.

Acknowledgements

I would like to thank Libby Mulqueeny of Queens University Belfast for preparing the drawings. I would also like to thank Emily Murray for her comments on the text.

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*Submitted on April 7, 2011;
accepted on February 1st 2012*

