

‘Cheese-scapes’: An Ethnoarchaeological Study of the Traditional Production of Halloumi in Cyprus

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Abstract

Since the introduction of the ‘Secondary Products Revolution’ by Sherratt in 1981, the importance of secondary products in the development of past societies has been discussed in numerous studies. The large-scale focus of these scholarly works overlooks the role of the secondary products in everyday life. Researchers have approached dairy products based on material culture, iconography, faunal remains, texts and recently, through lipids analysis and paleo-genetics. Nevertheless, the practice of using milk for making by-products has rarely been approached in terms of the associated primary activities. Consequently, this paper introduces the concept of ‘cheese-scape’ (the ‘knowledge-scape’ of cheese production) for further developing some of the implications of secondary products in past communities. Using ethnoarchaeology, the ‘cheese-scape’ unfolds in the traditional production of halloumi in Cyprus and provides a framework for the investigation of past societies where dairying was practised.

Introduction

Since the introduction of the ‘Secondary Products Revolution’ (henceforward SPR) by Sherratt (1981, 1983), the importance of secondary products in the development of past societies has been discussed in numerous studies (cf. Greenfield 2010; Marciniak 2011; Vigne and Helmer 2007). Over time, dairying has been investigated based on material culture, iconography, faunal remains, texts and more recently, the study of lipids and paleo-genetics (e.g. Bogucki 1982, 1984; Burger et al. 2007; Dudd and Evershed 1998; Greenfield 2010; Leonardi et al. 2012; Marciniak 2011; Sherratt 1981, 1983; Vigne and Helmer 2007). Nevertheless, dairying, the practice of using milk for making different by-products, has rarely been archaeologically approached in terms of the associated primary activities (for some material evidence see Bogucki 1984), mainly due to the fact that few archaeologists are aware of how such a production can be observed in the archaeological record.

This paper aims to approach the dairy-related activities for discussing the role of secondary products in past societies. For this reason, the concept of ‘cheese-scape’ is introduced. ‘Cheese-scape’ is defined as the ‘knowledge-scape’ linked to the production of cheese. Using the tools offered by ethnoarchaeology, this ‘knowledge-scape’ is described through the case study of the traditional production of halloumi in Cyprus in order to provide a framework for the investigation of past communities where dairying was practised. In other words, halloumi production is heuristically used to provide an insight into how a ‘cheese-scape’ operates.

The story of dairy: Perspectives, limitations and the Secondary Products Revolution

The story of dairy in archaeology should be sourced back to the work of the zooarchaeologist Bökönyi (1974: 201) who divided the animal-related produce into primary and secondary products. Soon afterwards, Sherratt (1981, 1983) introduced the socio-economic model of the SPR. Based on processual and evolutionary approaches, he argued for the introduction and intensification of the secondary-product exploitation of domesticated animals during the fourth and third millennium BC in the Near East and Europe respectively. These secondary products consisted of dairy, wool and animal power (e.g. for ploughing and as beasts of burden). According to the model, such a change triggered a systemic alteration in society, “adapting early forms of farming into new environments” (Sherratt 1983: 100) which led to greater productivity, mobility and eventually complex and hierarchical settlement and mortuary patterns (Sherratt 1981, 1983; see also Greenfield 2010: 43; Sherratt 1996). Numerous scholars reacted in different ways, with the most prominent critique coming from Chapman (1982). He argued that the systemic and universal nature of this model missed all the evidence suggesting regionality associated with its newly introduced traits. He proposed that rather than approaching these new traits as a reaction to the downfall of the “Neolithic-climax”, it would be better to investigate their role and utilization in the making of these societies (Chapman 1982: 110).

In this dialectical framework, dairy seems to be the most well-investigated component of the SPR model, with early datasets addressing its materiality (Bogucki 1984; Sherratt 1981, 1983) and its implications on faunal remains (Bogucki 1982; Davis 1984; Greenfield 1984, 1988, 2005; Harrison 1985; Payne 1973; Sherratt 1981, 1983; for more recent approaches see Greenfield and Arnold 2015; for ethnoarchaeological studies addressing dairying and faunal remains see Balasse 2003; Halstead 1998; Halstead and

Isaakidou 2017). More recently, scholars have also approached dairying by utilizing archaeological science techniques like bio-chemical residue analysis (e.g. Craig et al. 2005; Dudd and Evershed 1998; Evershed et al. 2008; Kotsakis et al. 2008; Vigne and Helmer 2007), isotope analysis (see Vigne and Helmer 2007) and paleo-genetics (Burger et al. 2007; Leonardi et al. 2012). Despite the elaboration and diversification in approaches to dairying using archaeological science, most of the emphasis in these studies seems to be on the timing of its introduction rather than its social implications.

The above brief overview of the development of dairy investigation in archaeology indicates a bias towards large-scale approaches. Firstly, as Chapman (1982) pointed out, the SPR's processual and systemic assumptions provided a vague top-down image of the developments in the Near East and Europe. Secondly, the early focus on material culture and iconography was put aside in the later studies which focused primarily on animal mortality profiles. Such approaches enriched our understanding of the early communities practising dairying. Nonetheless, they barely provided an insight into the intra-communal dynamics played within them, since this was not their primary interest. Finally, even with the application of archaeological science-based techniques to dairying, a strong focus upon large-scale investigations was maintained, with the primary emphasis being on the timing of its introduction in the Near East and Europe.

Introducing the 'cheese-scape'

Soon after Sherratt's introduction of the SPR, scholars switched their focus on dairying from its social implications to the timing of its introduction. Moreover, despite the changes that have occurred in archaeological thinking since the early investigations of dairying (see Trigger 2006: 386–483), it seems that the large-scale perspective has been maintained in the different approaches. Therefore, this article's aim is to revert interest to the role of dairying in society by adopting a bottom-up, small-scale approach. For this reason, the concept of 'cheese-scape', as the 'knowledge-scape' associated with cheese-making, is introduced.

Dwelling into a landscape which encompasses the lives of past generations, individuals engage with places which embody actions, experiences, relationships and social roles (Ingold 1993). This embodiment is the product of repeated 'tasks', defined as "any practical operation, carried out by a skilled agent in an environment [...] [which acquires] meaning from its position within an ensemble of tasks [...]" (Ingold 1993: 158). Therefore, a

‘cheese-scape’ is conceived here as the ‘task’ of making cheese enmeshed in the physical and social landscape, transmission of knowledge, body memory and the modes of product-distribution, contextualized in a given socio-cultural framework of action or, what Ingold (1993) calls the ‘taskscape’.

The skills associated with this ‘knowledge-scape’ are embodied by the individuals through the process of ‘understanding in practice’, which refers to the process of learning by doing (Ingold 2000: 416). Through repeating of the ‘task’ in a specific social environment, “the body *hexis* (or ‘way of being’) speaks directly to the motor function, in the form of a pattern of postures that is both individual and systemic [...]” (Bourdieu 1977: 87). In this ‘task habitus’, skilled individuals are those that can adjust their movements based upon alterations occurring in the environment without affecting the overall ‘task’ outcome (Ingold 2011: 94; see also Bourdieu 1977: 81). In other words, they have a “heightened sense of awareness” while undertaking the ‘task’ (Ingold 2000: 413). Nevertheless, the actions and perceptions of the skilled individual are not only determined by cheese-making but also from the general ‘meshwork of tasks’ which the individual is a part of (Ingold 2011: 91–92). Consequently, none of the steps in the *chaîne opératoire* of cheese-making (from retrieving the raw materials to the distribution of products) should be investigated detached from the rest of the relationships which individuals build through their participation in various other ‘tasks’ (Ingold 1993: 158). Among others, these relationships can be social, referring to the various strategies undertaken for negotiating their place in society, as well as cosmological, indicating the role that a set of beliefs has on their actions. In other words, for unfolding the practical knowledge of a ‘task’, it is important to investigate the “social [and cultural] situatedness” of the individual (Kohring 2012: 107). For this reason, approaching ‘cheese-scapes’ through a ‘taskscape’ perspective provides the opportunity for an investigation of cheese-making that takes into account the dialogue of this production with the wider socio-cultural world in which individuals dwell.

Ethnoarchaeology, halloumi-making and its history

Why this case study

Due to the insufficient corpus of archaeological material providing contextualized evidence of dairying, this paper turns to the tools offered by ethnoarchaeology (see London 1989, 2000) for unfolding the concept of ‘cheese-scape’ and providing a framework for thinking about the role of this

production in past communities. Firstly, it is important to explain why this case study consists of a valid framework for addressing issues associated with the early communities practising dairying in the past. Since the introduction of the SPR model, Sherratt (1983: 90, 100) associated dairying with changes occurring in rural communities that triggered the rise of more complex societies and ways of life. In other words, these rural communities have been seen as less complex, and therefore simple and egalitarian (for an overview see Fowles 2018). Regardless of the work done in compiling the chronology of the introduction of dairying, which likely dated back to the Neolithic, the characterization of these early communities practising it has not changed. Despite the poor definition of the terminology used for describing the diversity of these rural communities (see Fowles 2018), their mutual characteristics are the lack of hereditary inequalities and decentralized character (Flanagan 1989: 245–246). Nonetheless, egalitarian ideologies are not simply non-hierarchical. They often incorporate complex social relationships and symbolic connotations ensuring a set of rules that govern interaction (Chapman 2003: 76; DeMarrais 2016).

Based on the above general description, the following case study clearly indicates that up until half a century ago (the time at which the halloumi workshop under investigation was founded), some rural communities in Cyprus practising dairying can be characterized as simple and egalitarian (household-centred). Therefore, despite the variability observed in such communities, the ethnographic example described below consists of a valuable case study which provides potential insights into ancient 'cheese-scapes'.

Halloumi-making and its history

According to the official statement of the Republic of Cyprus (Ministry of Agriculture, Rural Development and Environment 2010), halloumi is considered a cheese made following a specific procedure using milk of sheep and/or goat sometimes mixed with cow's milk. Its earliest references are found in the chronicles of Florio Bustron (1554), Venetian administrator of Cyprus, in which it is referred to as *calumi*. Since then, numerous references reveal the continuity of this production up until today, like the ones by Elias di Pesaro (1563), Richard Pococke (1738) and the Archimandrite Kyprianos (1788), in addition to a theatrical play by Demetrios Byzantios (*Babylonia*, 1836) and a poem by George Vizyinos (*To ptochon tis Kyprou*, 1877) (with references in Rizopoulou-Egoumenidou 2008). According to the information facilitated by the halloumi makers on which this paper is based, today, there is regional

variability in the production of this cheese, with most of the island producing and consuming the 'white' folded or unfolded versions, while the Kokkinochoria region in the southeastern part of the island favours the 'red' unfolded one.¹

Despite the longevity of this production, the associated activities for halloumi-making never detached from the household. An exception might be the mass production and export of this cheese observed in the last few decades. Nevertheless, the mode of household production still survives, with several halloumi workshops present around the island. The case study described below focuses on one of these workshops, located in the village of Avgorou in the Kokkinochoria region and run by the married couple Kyriakos and Panagiota. All the information recorded is based on interviews with Kyriakos and Panagiota, and on recording and participating in a session of halloumi-making.

Contextualizing the halloumi workshop in Avgorou

Panagiota, from the village of Agios Ioannis (Troodos mountain), and Kyriakos, from the village of Avgorou (Kokkinochoria), founded a workshop inside their house in 1970, after their marriage (fig. 1). Despite the great distance between the two villages (80km; fig. 2), a priest known by the two families arranged the marriage and relocated 17-year-old Panagiota to Avgorou. Gradually, the couple grew into a family of seven, with two boys and three girls. They based their economic subsistence on a mixed agro-pastoral economy combining a herd of 50 sheep, five goats and three to five cows, with a potato plantation of about one hectare. The herd provided the family with some new-borns and older animals for selling, usually for meat. Cows' milk was also sold, together with the milk from sheep and goats that was used for producing and vending halloumi. The herd was looked after by the men of the family, while potato agriculture involved the entire family plus some daily-paid workers during harvest. Both Kyriakos and Panagiota agree that no single activity was considered primary in the survival of their household.

Panagiota was the driving force undertaking the making of the halloumi. She operated primarily on a need-based commission, mainly from the village. Their social relations and their hospitality, coupled with the good quality of their products, help them to maintain a constant demand for halloumi throughout the years. Although originally from the Troodos, Panagiota admits that her

¹ The two versions look different and have a different texture, with the 'red' one being harder and having a yellowish-red colour while the 'white' one is softer and, as the name suggests, white in colour. The differences in the production of the 'white' and 'red' halloumi are described below.



Figure 1 The halloumi workshop of Panagiota and Kyriakos (photograph by Rafael Laoutari).

mother never taught her how to make the local 'white' halloumi because, as Panagiota notes, "she was always the most efficient daughter doing the house chores". Nevertheless, since they had a constant supply of milk, she first experimented by herself. Later on, one of Kyriakos' aunts taught her the technique of making the regional 'red' unfolded halloumi by making halloumi together a couple of times. Nonetheless, due to her interest in her family tradition, having watched her mother, she was also aware of how the 'white' one was produced.

Halloumi in the making

The recording of halloumi-making took place on 18th March 2020, from 6.00AM to 10.00AM, as it is normally scheduled by Panagiota and Kyriakos, occurring twice a week since 1970. For this session, 60kg of mixed sheep and goat milk were produced and supplied by the family herd. According to the couple, the percentage of sheep and goat milk used does not affect the quality of the product but if the sheep content is greater, then more halloumi is produced.²

² Based on their experience, 5kg of sheep milk produces 1kg of halloumi, while 8kg of goat milk and 10kg of cow milk also produce 1kg.



Figure 2 Panagiota's and Kyriakos' villages of origin (map by Rafael Laoutari).

The other essential raw materials were a powder called *pithkia*³ and salt mixed with spearmint. Regarding the essential tools used, these can mainly be found in a household: a gas stove, knives, bowls, beakers, teaspoons and a scale. The more specialized tools included a metallic basin, a long ladle, a long skimmer, a long piece of reed, different sized *talaria*⁴ and a *tyroscamni*⁵ (fig. 3). Table 1 describes the different steps involved in the halloumi-making while Table 2 provides the time frame associated with the production of 'white' and 'red' halloumi.

For step one, warming the milk, Kyriakos poured 40kg of milk into a 60l metal basin and 20kg into a 30l one. Based on the demand, they had to produce 8kg of 'white' unfolded halloumi and 4kg of the 'red' unfolded one. Both of these basins were placed on the stove for approximately 10 minutes. By testing with her finger, Panagiota turned the stove off when she felt that the milk was ready. She noted: "milk should be at 38°C for the *pithkia* to work optimally

3 *Pithkia* is the dried and salted stomach of a new-born ovicaprid or pig which was fed solely on milk. (Rizopoulou-Igoumenidou 2008). The enzymes present in it cause the curdling of the milk. According to Panagiota, before the powder was available, the producers of halloumi used the intact stomach of piglets, while Kyriakos argued for the use of lamb stomach. They both agreed that the stomach had to be carefully cleaned with water and then stored in salt. Before using it on the whole quantity of milk, it had to be cleaned and then tested on a small quantity of warm milk.

4 *Talari* (pl. *talaria*) is a small deep basket or perforated bowl.

5 *Tyroscamni* is an oblong installation (wooden or metallic) sloping towards one pointy end with a small opening. It is usually where the squeezing and then the placement of curds occur. Its shape facilitates the collection of the excreted whey, usually in a bucket/basin placed below the pointy opening.

	<i>Description</i>	<i>Fire</i>	<i>Product</i>
Step one (warming up the milk)	Before starting, Kyriakos makes the sign of the cross over the milk, that is in a basin. ^a The milk is warmed up while frequently stirred with the ladle to avoid milk by-products to be attached to the container.	Medium	Warm milk, approximately at 38°C
Step two (adding the <i>pithkia</i>)	The <i>pithkia</i> is poured making the sign of the cross. Then, the content of the basin is stirred with the ladle and covered with a piece of cloth for the curdling of the milk to take place. ^b	NA	Curd on the surface of the whey
Step three (forming the curd lump)	The layer of curd on the surface is disturbed by hand. Then, by manually stirring and pushing the pieces of curd towards the wall of the basin, a big lump of curd is formed.	NA	Mass of curd
Step four (squeezing the curd)	The lump of curd is placed inside a talari on the <i>tyroscamni</i> . It is firstly squeezed as a single piece and after cutting it down using a knife, the two resulting pieces are squeezed again in the talari. Afterwards, these two pieces are cut into smaller ones, which are individually squeezed without using the talari. Then, they are immerse for a few seconds in the whey and placed on the <i>tyroscamni</i> .	NA	Curd pieces of approximately 250g
Step five (<i>anari</i> making)	The whey is heated to the boiling point to produce <i>anari</i> . As the whey is warmed up, it is stirred with the ladle. By the time the first pieces of curd appear, the stirring speed is decreased and the fire is lowered.	High and then low	<i>Anari</i> dispersed on the surface of the whey

	Description	Fire	Product
Step six (collecting <i>anari</i>)	<i>Anari</i> is collected using a skimmer and placed in a <i>talari</i> . Then, salt is added. <i>Anari</i> is not squeezed, as this will turn it “hard and unpleasant”, but just placed on the <i>tyroscamni</i> to gradually dry out.	Low	<i>Anari</i>
Step seven (cooking of halloumi)	The pieces of curd are grouped and placed together into small plastic bags which then are sunk in the whey to be cooked. The bags are held by a long piece of reed or the ladle. ^c	Low to medium	Curd pieces “cooked” into halloumi
Step eight A (cooling of the whey). This step is only associated to ‘white’ halloumi production	The fire is turned off and the halloumi is kept inside the whey until it cools down, which subsequently makes the halloumi to sink in the whey.	NA	‘White’ cooked halloumi
Step eight B (cooling of the whey). This step is only associated to ‘red’ halloumi production	The fire is turned off and the basin is covered with a piece of cloth. The content is frequently stirred with the ladle until the whey cools down and the halloumi sinks in the whey.	NA	‘Red’ cooked halloumi
Step nine (salting)	The numerous pieces of halloumi are collected from the whey using the skimmer and they are placed on the <i>tyroscamni</i> . Then, each piece is individually covered with a mixture of salt and spearmint and placed back on the <i>tyroscamni</i> .	NA	Fresh halloumi that needs to cool down

Table 1 Steps in the production of halloumi. a) When asked about it, Kyriakos noted that “we ask for the blessing of God before any activity, so that it will reward us with a good product”. b) For Panagiota, “one teaspoon of *pithkia* is enough for curdling 20kg of milk”. c) Panagiota explained that this is primarily happening so that the various pieces of curd are not dispersed into the basin and also for the plastic bag not to be touching any of the basin-walls and consequently melting down. NA: Not applicable.

Time AM	White	Red	Time AM	White	Red	Time AM	White	Red	Time AM	White	Red
6.00-6.09	S.1	S.1	7.00-7.09	S.5	S.6	8.00-8.09			9.00-9.09	S.8 A	S.8 B
6.10-6.19			7.10-7.19			8.10-8.19	S.7		9.10-9.19		
6.20-6.29	S.2	S.2	7.20-7.29			8.20-8.29		S.7	9.20-9.29		
6.30-6.39	S.3	S.3	7.30-7.39	S.7	S.7	8.30-8.39			9.30-9.39		
6.40-6.49	S.4	S.4	7.40-7.49			8.40-8.49	S.8 A		9.40-9.49		
6.50-6.59	S.5	S.6	7.50-7.59			8.50-8.59		S.8 B	9.50-9.59		
		S.7									

Table 2 Time frame of ‘white’ and ‘red’ halloumi production. The times recorded correspond to the use of 40kg and 20kg of milk for the ‘white’ and ‘red’ halloumi respectively. (S = production step).



Figure 3 Tools and raw materials involved in the halloumi-making: a) piece of reed b) long ladle c) long skimmer d) knife e) skimmer f) teaspoon g) mixture of salt and spearmint h) tyroskammi i) bottle j) pithkia k) beaker l) water-glass m) talaria n) metal basins (photograph by Rafael Laoutari).



Figure 4 'The breaking of glass' (photograph by Rafael Laoutari).

but I never use a thermometer. I always decide after testing it with my finger". For step two, adding the *pithkia*, she got a teaspoon of *pithkia*, dissolved it into a glass of cold water and poured it into the milk forming the shape of a cross. She repeated the same procedure for the 40kg of milk but with double the dose.

After 20 minutes, the curdling of the milk occurred and a thick layer formed on the surface. Each of them took a basin and undertook step three, forming the curd-lump, which began with what Kyriakos called "the breaking of the glass" (fig. 4). Once more, the first movement followed the shape of a cross. Both of them finished this step by placing the lump into a *talari* positioned on the *tyroscamni*, triggering step four: squeezing the curd (fig. 5).

Returning back to the basins and the remaining whey, the stove was turned on high fire for producing *anari*,⁶ the fifth step. As the right temperature was reached, identified by Panagiota through the bubbles emerging, the content was stirred and a white curd appeared on the surface initiating step six, collecting *anari* (fig. 6).⁷

By the time *anari* was collected, the stove was stabilized on low-to-medium fire for step seven, cooking of halloumi, to occur (fig. 7). This step distinguishes 'white' from 'red' halloumi. The 30l basin was left on the fire

6 *Anari* is a cypriot soft white cheese, a by-product of the halloumi-making process.

7 Panagiota noted that 20kg of milk produce 1.5kg of *anari*.



Figure 5 Squeezing the curd (step four) (photograph by Rafael Laoutari).



Figure 6 Collecting *anari* (step six) (photograph by Rafael Laoutari).



Figure 7 Cooking of halloumi (step seven) (photograph by Rafael Laoutari).



Figure 8 Salting the halloumi (step nine) (photograph by Rafael Laoutari).

for one hour and 45 minutes ('red') while the 60l one was left for one hour and 20 minutes ('white'). During this time, Kyriakos left to go and help his son with the herd, while Panagiota turned to the house chores, leaving the basins unattended. Step eight A, cooling of the whey, was initiated first with Panagiota turning off the fire of the basin with the 'white' halloumi. The time associated with this depends primarily on the quantity of the milk processed and the time it takes for the whey to cool down. In this case, it took approximately 40 minutes. Regarding the 'red' halloumi, step eight B, cooling of the whey, was initiated later but it only lasted 30 minutes.

When both types of halloumi were "cooked", step nine, salting, was undertaken (fig. 8). Panagiota covered each piece of halloumi with the mixture of salt and spearmint by performing repeatedly the same fast and precise gestures. When all of the pieces were salted, she left them to cool down on the *tyroscamni* (fig. 9) before placing them in bottles. The cooling of the fresh halloumi lasts between five and seven hours. The remaining whey was collected in buckets. It would be either thrown away in a pit behind the house or given to farmers for feeding pigs. Some of the whey would also be used for filling up the bottles with the halloumi for preservation. According to Panagiota, one water-glass of salt needs to be added to every seven water-glasses of whey for achieving the ideal environment in which halloumi can be preserved for an entire year.



Figure 9 8kg of 'white' halloumi and 1.5kg of *anari* cooling down on the *tyroscamni* (photograph by Rafael Laoutari).

The halloumi 'cheese-scape' unfolded

Despite the limitations of approaching 'cheese-scapes' in archaeology due to the diverse nature of the so called simple and egalitarian societies, the ethnoarchaeological approach of a halloumi 'cheese-scape' offers a framework for thinking about the role of dairying in past societies.

Starting from a socio-economic point of view, it is clear that halloumi production is part of a mixed agro-pastoral strategy that maintains the survival of a household. The workshop is established and maintained inside the physical and social boundaries of the household and remains independent and self-sufficient throughout the years, while the distribution of the product extends to the community. Halloumi production and distribution, coupled with pastoralism and agriculture operates in a complementary fashion, offering variability and flexibility in economic strategies (see Halstead 2014: 349–353). The 'tasks' should be approached as enmeshed rather than individually, since changes in one of them affect the choices made in the others (for example, less milk obtained from the family herd affects the production, distribution and storage of halloumi). Delving deeper into the halloumi-making, it can further be noted that the whole procedure consists of only a few steps that demand exclusive attention by the producers, i.e. steps one to six (partly) and step nine, which lasts approximately 40 minutes. During the procedure, gestures and movement occur as motor actions ('task habitus' and 'body *hexis*' in the squeezing of the

lumps, the salting of fresh halloumi and so on). The remaining steps, i.e. seven and eight, can be fulfilled while the producers are involved in other activities.

The production of halloumi on demand is primarily based on a network constructed through the social relations of the producers. These are maintained and negotiated through their face-to-face daily interactions (other ‘tasks’) with the rest of the community. The key social strategy in this interplay is hospitality, which takes endless forms, including simple things like treating somebody to a coffee at the local *kafenio*, providing some extra halloumi complimentary, or some whey for the pigs and more elaborate instances like donations at local festivals. In other words, each choice made in each step of the *chaîne opératoire* of halloumi-making (from retrieving the raw materials [see above] to the distribution of products) can potentially affect or be affected by the numerous other ‘tasks’ in which, consciously or not, Kyriakos and Panagiota are participating.

Turning to the transmission of knowledge, despite the fact that Panagiota was never taught halloumi-making by her mother, the economic survival of the newly founded household, the constant supply of milk coupled with the internal structure of Kyriakos’ extended family, and her open but insistent character, granted her the skill to start and maintain the household halloumi production. Kyriakos’ aunt facilitated the learning of the technique by assisting Panagiota in a couple of sessions of halloumi-making but it was only through the reiteration of the practice that Panagiota became a skilled practitioner. This may be noted in the “heightened sense of awareness” (Ingold 2000: 413) when she checks the temperature of milk before adding *pithkia*, when she inspects the bubbles and controls the fire for *anari* to emerge and so on. Furthermore, despite the fact that Panagiota and Kyriakos clearly know the “proper” way of halloumi-making (e.g. “milk should be on 38°C for *pithkia* to work optimally”), it was difficult for them to list all the steps of the procedure without actively materializing them, a clear illustration of the embodied component of the process and the role of body memory.

Finally, in order to provide a more holistic image of the meshwork of which halloumi-making is part, cosmology is also important. The sign of a cross appears in a number of steps of the production without any functional need. For the producers, however, reiterating this symbol is part of their ‘body *hexis*’ and ‘task *habitus*’. In other words, it is an integral component of the *chaîne opératoire* of halloumi-making, as crucial as putting the ingredients or keeping the right temperatures. A review of their lives shows the important

role that religion has played in their decision making (e.g. arranged marriage by a priest). Thus, based on their comments during halloumi making, omitting the shape of the cross could potentially lead to numerous different choices made during the procedure (e.g. the dumping of the product).

Conclusion: 'Cheese-scapes' and the secondary products

Approximately 40 years since the introduction of the SPR concept, a lot of work has been done in terms of refining, modifying or even refuting it. Despite the model's sophistication, past societies are more complex and dynamic and they can take various different pathways of development to the ones imagined by Sherratt. Greatly influenced by this model and primarily focused on the timing of its introduction, the study of dairying has merely focused on the large-scale over time. Consequently, this has produced gaps in our understanding of the small scale and the role of dairy in everyday life. For this reason, an ethnoarchaeological approach to halloumi-making for introducing the concept of 'cheese-scape' provides a new way of engaging with the secondary products and their role in past societies. The 'cheese-scape', seen as the 'knowledge-scape' of making cheese, focuses on cheese production at ground level, enmeshed in the wider socio-cultural framework. It delves into cheese-making and tracks down the various links which could potentially affect or get affected by the choices of the people involved in the production. Moreover, the individuals producing the cheese are approached within a social and cultural framework which does not prioritize any facet of their lives. The economic strategies are investigated with the same weight as the social and cosmological ones, revealing a much more complex and dynamic nature in these so-called simple and egalitarian societies. Furthermore, the halloumi 'cheese-scape' confirms that dairying, as a secondary product, is not always associated with intensification and social change, as the SPR suggested. It can equally be used for the survival of a household and for maintaining the stability in the social relationships of a community. Consequently, a turn towards the 'cheese-scape' offers a new bottom-up approach to the role of secondary products in society which incorporates dynamic individuals fully embedded into their socio-cultural landscape.

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