

## Keata Kule Lorien: Finding the Ideal Balance Within the Smoke-Cured Fresh and Fermented Milk of Northern Kenya's Samburu

*William Rubel, Jane Levi and Elly Loldepe*

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This paper is based on extensive field research amongst the Samburu in northern Kenya, working with a network of Samburu friends built up by William Rubel over nearly two decades of repeated visits to the district, and more recently with the assistance of local Samburu anthropologist Elly Loldepe. It offers a first description of a complex cuisine of fresh and fermented milk products produced by storing milk in calabashes – wooden or gourd containers – previously charred and smoked with burning aromatic woods. While both the cooking implements and raw ingredients are apparently simple, the palate the typical Samburu brings to milk is as refined as that of a wine connoisseur. The woman who prepares the calabash for milk with burning sticks strives to create milk that expresses a fundamental balance between bitter and sweet: she is seeking *keata kule lorien*, a milk-centred analogue for finding a perfect balance in the world at large (*keata nkop lorien*). Young girls, to suggest the intimacy and sweetness they feel for their best friend say *kule-enkutuk*, literally, mouth-milk. While this paper focuses on the complexity of the Samburu milk cuisine and offers a first glimpse of the techniques of smoke-curing milk and the Samburu's culinary aesthetic system, our talk will attempt to convey a broader picture of milk in the context of Maa-speaking Samburu culture.<sup>1</sup> We will supplement our talk with milk related songs, prayers, photographs and artefacts.

### Background

The smoke-cured fresh and fermented milk of the Samburu, a tribe of nomadic pastoralists living in northern Kenya, has long been recognized by anthropologists as being one of their staple foods, alongside blood and meat. However, Samburu milk is unlike most other culinary staples: as a beverage it offers the additional dimension of aroma to the consumer. More importantly, while outsiders have tended not to recognize the sophisticated complexity of its preparation, it is in fact one of the world's most manipulated staples in terms of taste and, in some sense, texture: in many ways it makes more sense to see Samburu milk as a staple *ingredient* than as a staple food. This paper is the first look at Samburu milk as a cuisine or an ingredient within a more complex process and, we hope, breaks new ground in the study of tribal foodways. It asks questions that anthropologists tend not to ask, such as, what does this milk taste like to the Samburu, and what do they think of the taste? In demonstrating that there is actually a complex philosophy of taste within east African pastoralist foodways where

a general observer might notice none, this research challenged us to think more deeply about cuisines of the past, and in particular, about cuisines of poverty.

While the Samburu do seem to be on the cusp of a radical break with the past and are now likely to assimilate rapidly into mainstream Kenyan culture, Samburu District is still a place where the vast majority of people live far away from modern urban culture. The Samburu live by nomadic pastoralism: they move their *manyattas* (villages) every few years, and even now most live outside modern life, existing largely without money, with few personal possessions besides dairy animals, and a minimum of household effects. They have still not entirely adopted Western dress. Within Kenya, beaded and painted young Samburu warriors symbolize cultural integrity, while for the industrialized world they stand for the last representatives of a people living before the age of steel (their steel knives, spears, Kalashnikovs, and veterinary medicine notwithstanding).

### Experiencing Samburu milk

When we asked Haile Leselassie Leseeto, a Samburu Rastafarian friend, what the Samburu do first when taking a cup of milk he replied, 'We take the cup in our right hand, smell, and then drink, like you do with whisky or wine.' Smell, then taste. This is essential to keep in mind when considering the Samburu milk cuisine, as our own cultural bias is in favor of milk's taste, not its smell. We tend not to find the smell of milk particularly enticing, and consciously smell it usually only to see whether it has gone bad, but the Samburu always smell first. As Ali Lekudere explained, 'when the Samburu smell milk they want more and more of it because the smell is like an appetizer.' An English friend of ours who grew up on a farm in England remembers from her childhood the taste of the milk when the cows were eating wild garlic. A Samburu would explain the memory in terms of the milk *smelling* of garlic.

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Samburu smoke-cured milk has three layers of complexity: one pertains to the tastes, smells and triggered memories of the milk itself; one pertains to the tastes and smells infused into the milk through the smoking of the calabash; and one pertains to the tastes and textures introduced by the degree to which the milk is fermented. All three layers are part of what a Samburu experiences as the taste of the milk. Additionally, though outside the scope of this paper, are many aspects of culinary culture pertaining to service and the social aspects of milk consumption.

### Types of milk

When, in early 2010, we met with a group of college-educated Samburu in the town of Maralal to ask about milk, one member of the group began by telling us that one could not just speak about 'milk'. There is milk from cows, goats, sheep, and camels, and each milk's taste changes during the lactation period and so must be divided into three parts: colostrum (*manang*); milk up to about the fifth month of lactation; and milk towards the end of the lactation period. He suggested we draw a matrix showing these twelve

types of milk. When we subsequently tried out this formulation, everyone agreed. While of course Samburu have a general word for milk, *kule*, they taste in specifics. They taste goat milk from a goat during the last months of lactation, not 'milk' in the abstract. This, we think, is one of the ways in which the language of outside observers simplified their observations. They conceptualized all milk as essentially fungible, while to the Samburu there are literally dozens of different milks that they can recognize at a whiff and a sip in the same way as a wine connoisseur recognizes wines.

To further suggest how complex the milk inputs are there is a seasonal component to the quality of milk. Seasonal changes affect both the taste and viscosity of the milk, which has a bearing on mouthfeel, an aspect of taste that is important to qualitative judgments. Thick and fatty (*keirusha*) is always better than thin and watery (*kebebek*) and is one basis for the hierarchy of milks with camel always on the bottom and cow and sheep vying for top place. The Samburu District is subject to two rainy seasons, a short rain in the late fall and a longer rain in the spring. In between, the pasture dries up. There is a Maa expression, *kemelok ana kule enkolong*, 'as sweet as the milk of the dry season'. Dry-season milk is fatter than rainy-season milk, and thus thicker, just as the milk from European cows used to be noticeably fatter during the winter than in the spring or summer. As the wine-taster assesses mouthfeel with each different wine, so the Samburu assess mouthfeel with each calabash of milk.

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Another layer, one that further enriches for the Samburu the pleasure of a sip of milk, is that they know their herds, they know the land, and they can smell through to the forage the animals are eating. Thus, milk itself offers a narrative of the state of the herd, the owner's economic condition and, if a distinctively flavored forage plant is detected, it can even trigger a memory of place. For the Samburu, all of these perceptions are then merged into a far more complex evaluation of the aesthetics of the milk once it is smoke-cured and fermenting.

### The dynamics of milk preparation

Samburu only drink milk that is stored in calabashes that were previously prepared by women for this purpose.<sup>2</sup> There is no refrigeration and limited water resources, so the wooden containers are made sterile between uses with burning sticks. These burning sticks leave a residue of resins that serve the practical function of curing the milk – of significantly slowing down fermentation – and of imparting desirable tastes and aromas. The Samburu do not like to drink milk straight from animals – it 'smells like cow' a friend told us – which is also their way of saying, in the academic dichotomy between the raw and the cooked, that they don't drink raw milk.

Manipulation of the milk's taste is achieved through the woods used, their degree of curing, the length of time taken to smoke and burn the calabash interior, and the material, time, and pressure employed in wiping the sides and lid of the smoked calabash. Once the milk is in the calabash there is no further manipulation by the preparer. This is the point where an infusion of compounds put down through smoking

enters the milk and where the chemistry of the milk is shifted by the natural process of lactic fermentation.

Samburu readily differentiate between taste and aroma and so the calabash preparer is working to blend them to achieve an optimum balance, given the woods available to her and the type and condition of the milk. The mechanics of the smoke-curing and fermentation processes dynamically blends taste – sweet, salty, sour, and bitter – with aroma. The burnt aromatic woods introduce bitterness; the place of the lactating animal in its lactation cycle introduces saltiness; the extent of fermentation increases the perception of saltiness and introduces sourness; while sweetness in the sense of sugar is tied to the milk itself and the activity of lactic fermentation. There are concepts of ideal flavour defining the perfect cup of milk that entail balancing the opposites of sweet and bitter and sweet and sour; of finding the bitter within the sweet.

Maa provides a far richer vocabulary of taste and smell than we have at our disposal in English, and many words can only be translated descriptively. When discussing milk Samburu distinguish between *kemelok* or a sweet taste (like honey, sugar or good meat) and *koropili* or a pleasingly sweet aroma (like the smell of grass, frying onions or a well-prepared calabash). When they discuss sour or bitter flavours and smells, the concept works by degrees, beginning with *keisukut* (salty) as the milk first turns, progressing through *keisuicho* (slightly bitter) at the stage of very light fermentation, to *kedua* (bitter) when the milk is completely soured. Compound words describe well-balanced milk: *kemeloknodua* when it is both sweet and bitter; *kemeloknesuicho* when it is both sweet and salty. All of these are positive words for stages of milk that are appreciated for their aroma and flavour. Once the milk becomes *kedukulan* (salty with a taste of urine) it is beginning to go too far. As it deteriorates further it might be described as *kongu* (having a bad odour), *keisamis* (a very bad smell) or *kongu* (really stinky). The concept of *kedukalan* can also describe a particular mouthfeel, beyond the desirable *keirucha* (thick) stage. Milk that is light or watery has a mouthfeel that is *kebebek* (light) and *kekare* (like water) and a taste that is *memeloknomodua*, neither sweet or bitter. Milk that is *nkarer* is dilute, while *kemaga* is sticky. In blessings, the idea of *naishiokule* or honey and milk describes the sweet and happy life the conferrer of the blessing hopes you will lead.<sup>3</sup>

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It is worth noting that while strangers to the Samburu tradition first taste or smell smoke within the milk, the Samburu never mention smoke or smokiness as a quality the milk possesses. Rather, they taste (smell) through to the underlying wood used to prepare the calabash in the same way that in our culinary tradition we say Laphroaig whisky tastes of peat, although the Samburu palate distinguishes between dozens of different woods, not simply 'wood'. Mouthfeel, which is both animal and season dependent, as well as affected by the degree of fermentation that has taken place in the calabash, also influences taste perceptions.

The way in which the woman has prepared the calabash determines the quality of the milk as it ferments in the calabash. A thorough preparation deposits fresh resins

deep into the pores of the calabash offering a more complex taste and aroma profile in the finished product. The way in which the calabash was wiped clean after the smoking also affects tonal range. The milk of a woman who has scrubbed the calabash interior for a long time with a plastic scrubber produces a flatter end-product than a woman who has been more gentle with less abrasive materials like a cow tail brush or a fine cloth. Further research is necessary to associate cleaning styles with a heightening or lessening of the finished milk's underlying taste structure.

### Collecting wood

The preparation of the calabash begins with the selection of the wood. Wamba, where much of our research took place, is geographically transitional between the Samburu lowlands and highlands and so wood from the mountains as well as lowlands are available to women there. Of course the wider district covers a wide range of habitats so what is used varies according to where one lives. Women rarely go out to collect wood alone, but seem to use wood-collecting trips as opportunities to spend time with friends. In this sense, they are luxuries. For some, wood-collecting and singing sexually explicit songs goes together. The *kakisha* is one such song. It can only be sung away from the *manyatta*, out of earshot of children and men. Collecting aromatic wood seems to be an activity in which play and work are combined.

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Woods are roughly divided between bitter and sweet with the sweet woods generally being considered the best. But generalizations must be tempered with the caveat that personal taste is at work within the broader cultural tastes. *Sarai* is always categorized as a bitter wood (every wood is described as either bitter or sweet) but although we were often told that it is the worst as it is both bitter and may give the milk a greenish color, others told us it is the best wood. We tasted milk made from *sarai* and found it delicious. We suspect that as with experienced tasters of any beverage – tea, coffee, wine, whisky – the connoisseurs have more refined palates and can perceive fine gradations of taste and aroma that outsiders cannot. Those who consider *sarai* best may love the taste of bitter. It is our sense that within the aesthetic framework of Samburu smoke-cured and fermented milk that there are ideal combinations of taste (sweet, sour, salty, bitter) and aroma. Since our palates are not refined enough to taste what our hosts tasted we were not able really to understand subtleties of their system.

The wood consistently rated the best is *Ingeriyoi*. As one woman, Noolpulsi Leparlero, put it, it makes milk taste sweet, like sugar, and makes a pleasant-smelling (sweet) smoke. As the women are often enveloped in a cloud of smoke when they smoke the calabash the smell of the smoke must be well known and important to them. Our first taste of *Ingeriyoi*-infused milk reminded us of vanilla ice-cream. From a utilitarian standpoint *Ingeriyoi* also preserves milk longer than most other woods – up to four days without refrigeration at average temperatures in the range of 22–33°C. *Sarai* and other bitter woods reduced butter production thus the use of bitter woods would then

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presumably be more common during times of milk scarcity since butter production is only associated with surplus.

The aromatic woods are harvested as branches of at least a few centimeters in diameter and often are thick enough that they must be split to be used. The wood is aged but used before being fully seasoned since one is looking for a smoky burn. Around Wamba we encountered a range of woods, by no means an exhaustive list, some sweet and some bitter:

Maa name	Botanical Name <sup>4</sup>	Quality
<i>ldumei</i>	<i>Maerua crassifolia</i>	sweet
<i>lgilai</i>	<i>Teclea nobilus</i>	sweet (medium)
<i>lgilai orok</i>	<i>Teclea simplicifolia</i>	
<i>lkukulai</i>	<i>Rhamnus staddo</i>	sweet (less than <i>masei</i> or <i>Ingeriyoi</i> )
<i>lmasei</i>	<i>Tarenna graveolens</i>	bitter (the most bitter)
<i>Ingeriyoi</i>	<i>Olea africana/europaea</i>	sweet
<i>loisu(g)i</i>	<i>Zanthoxylum usambarence</i>	sweet
<i>sarai</i>	<i>Balanites orbicularis</i>	bitter
<i>serishoi</i>	<i>Boscia coriacea</i>	sweet

### Preparing the calabash

Samburu culture is highly structured and rule-bound. As calabashes are at the center of the most important Samburu food and as food is at the center of so many rules it is important to mention that there are many differently shaped milk containers each of which serves a specific function, or is designated for individuals of a particular sex who are at recognized, named stages of life. Thus, for example, there is the *nkilip* for boys, the *naitu* for older men, the *njonkor* for young girls, the *lkantir* for older women, etc. Calabash shape is a complex area deserving an entirely separate paper.

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We did our best to clarify the English used to describe the preparation of the calabash. The Maa expression *airr mala* translates as preparing the calabash. Some referred to it in English as *cleaning* the calabash. As cleaning is a central function of the smoking and heating it is a reasonable word to use to describe at least part of what is being done. We feel that the distance between cleaning and preparing is a fruitful one for further research: it is in what is done beyond what is strictly necessary to sterilize the calabash and cure the milk that one finds both the personality of the preparer being expressed as well as the expression of larger cultural aesthetic preferences. Since the only person we found who had traveled outside the Samburu District to visit other neighboring pastoralists was co-author Loldepe we found it difficult to get a sense as to what degree the preparation processes that we describe reflect Samburu aesthetic values as opposed to values more widely shared by pastoralists in the region. However, Loldepe's experience with the Kipsigis, a sub-tribe within the larger Kalenjin

community, is suggestive. The milk served by his Kipsigis hosts was speckled with ash and included grit from small pieces of embers. Samburu milk is never ashy or gritty. A clear white color is highly prized, as is a smooth mouthfeel.

All Samburu fresh and fermented milk products are infused with the aroma of smoke from aromatic woods. Thus, when 'fresh' calabash milk is added to tea the rich tonalities of its smokiness blend with the tea and sugar to create an unusually warm and satisfying drink. The extent of curing and quality and degree of flavoring introduced through smoking is determined by how the calabash is prepared. There are women who have reputations as good preparers and some who are known as bad preparers, and a woman's personality is deemed to be reflected in the quality of her calabash preparation – there are the careful, the lazy, the gifted and the mediocre. The preparation of the calabash determines whether the milk stored in it might smell sweet and taste sublime or will quickly smell stinky, a condition of rottenness with such negative connotations that a woman who consistently produces stinky milk does so at great social risk.

Calabashes tend to be in constant use. They are rinsed with water after the milk within them is consumed, and are then cleaned within a few hours. A very small amount of water is deliberately left in the container when it is rinsed. When the woman is ready to clean the containers, those needing cleaning are assembled by the household fire along with a selection of sticks of aromatic woods. Most women use sticks all of one variety, but some women, (co-author Loldepe's wife, Lina Nterini Loldepe, for example), may combine sticks from two different trees in order to achieve a desirable taste profile. Burning sticks are usually small enough to fit entirely within larger calabashes. The tips of one or two sticks are placed in the fire until they are burning strongly. They are then popped into the calabash, the lid is replaced, and the calabash is shaken for a minute or so. The lid is then removed, the stick tipped out, the lid replaced and the sticks replaced in the fire to reach the desired heat again, and the action repeated many times until the preparer judges the calabash to have been sufficiently smoked and heated, a process that may take as much as twenty minutes. Cues to it being ready include the sounds given off by the heating water, by the production of steam building pressure under the lid, and by the temperature of the outside of the calabash. In addition to placing burning sticks into the container and closing it, longer burning sticks are also ground around the open belly, sides, and calabash cap. This grinding breaks embers off inside the calabash so that, as the preparation progresses, the sounds of the shaking of the calabash includes not just the sticks, but also these pieces of embers.

The final processing steps once the calabash has cooled are to pour out onto the ground any loose embers – these are mostly sand-sized but for larger calabashes include pebble-sized pieces. The calabash interior is then wiped. We observed three methods. The interior is wiped with a cow tail (the traditional system) or a clump of white plastic threads unwoven from a plastic sack (the most recent innovation) tied to the end of a stick, or with a piece of fine fabric. Several women told us that they felt the plastic threads led to over-scrubbing of the calabash and thus the removal of material that one

had so carefully placed there through smoking and burning the interior. Several minutes can be spent wiping out the interior of the calabash leading us to believe that this is a process which marks the care of the preparer and stamps her particular aesthetic on the final milk product. Once the interior of the calabash (and the lid) are wiped and put back together, they are then again ready for milk. Animals are milked directly into a calabash held in one hand (usually the left), and calabashes have leather straps that facilitate holding the calabash firmly while milking. It is common practice to allow the baby animals the use of half the available teats, leaving the remaining half for human use.<sup>5</sup>

### Milk products

As we have said, milk is rarely drunk straight from an animal. A minimum of several hours is allotted for the milk to absorb flavor and aroma from the prepared calabash. When there is a surplus, milk is churned into *ngorno* (butter) which is processed into *lkisiich* (ghee). Children drink the *kamanang* (buttermilk) and milk and blood are also sometimes mixed as a food for them. The historically unprecedented widespread shortage of milk means that today, even now there is no drought, most milk is consumed within a few hours of milking diluted with water in hot sugared tea.

### Smoke-cured fermented milk

Until recent widespread milk shortages, most milk was consumed fermented. Fresh milk, *kule naairewua*, is left to ferment in the calabash. Flavors and aromas from the smoking soon leach into the milk and after approximately four hours one begins to smell and taste a well-balanced product.<sup>6</sup> Four to twelve hours is the stage when milk from a well-prepared calabash gives the most satisfaction when used to make tea or drunk fresh. The Samburu recognize distinct stages within the fermentation process and they experience fermented milk as a continuum from fresh to spoiled, consuming it at every point in between. Samburu milk is unpasteurized and bacteriologically alive. It is also never refrigerated. It is thus always changing. From *kule naairewua*, fresh milk, it begins to ferment and as it does the whole palate of aromas, tastes, and textures shift and realign themselves. The first shift in taste is to *kule naisukutan*, where the milk loses its freshness and turns salty. Cream rises to the top and although it is not yet sour, if boiled, the curds separate from the whey. This is not an esteemed state because, as one friend put it, 'it just tastes salty.' As the milk begins to ferment further it enters a stage called *aaiviro* which is recognizable because the milk has thickened slightly. It is neither fresh nor fully fermented. This state lasts for at most half a day and is referred to as *kule naisukutan naairirete*. At this point the taste changes, it loses some saltiness but is also not sweet.

*Kule naawoto*, fermented milk, divides between the sweet and sour. The initial stage is *kule naawoto leleru*. This is the state the milk is in after approximately one day in the calabash. Saltiness has receded. It is the most esteemed stage for milk. It is white and has an exceedingly soft curd, much softer than for yoghurt. There is a small amount of yellowish whey and a smooth sweet taste with no obvious sourness. For the Samburu



this is the stage of perfection in milk where saltiness has receded and another element of sweetness with a distant background 'of sweet salt' is recognizable.

As fermenting bacteria continue to consume the lactose in the milk the taste shifts to sour and the milk becomes *kule nawoto naaisichete*. The longer the milk ferments the more sour it becomes until one reaches the stage where it has gone bad, *kule naawoto naataroitie (torrok?)*. At this end stage the milk is *kongu* or *keisamis*, stinky. Milk in this kind of state separates into the liquid part called *taar* (whey) which is very sour and the solid part called *nganayioi* (curds) which is sweet. *Taar* is usually colorless, like water, but depending on the time spent in the calabash might have a greenish tint. In this final state no amount of shaking will make the milk drinkable.

### Conclusion

Our preliminary look at the smoke-cured fresh and fermented milk of the Samburu demonstrates a sophisticated but heretofore unrecognized culinary culture within what amounts to an elision in the anthropological literature. This has significant implications for culinary historical research of all kinds, in particular study of groups and civilizations who utilized what have usually been described as primitive tools with a limited range of culinary inputs. We feel that the Samburu milk offers possible insights into sophisticated foodways going back to the earliest periods of pastoralism.

Much more research needs to be done with the Samburu, and quickly, as their pastoralist system is in crisis. Women who are known to produce the best milk need interviewing, as do the elders most noted for their ability to correlate the taste of milk with the health of the herd and foraging locations. A Maa lexicon of taste, texture, and smells pertaining to milk processing could form the core of a Maa culinary dictionary.

Maa is likely to survive as a language longer than the smoke-cured milk that we describe in this paper. With thoughts of the electric pylons being installed a few miles from where we were talking, we asked the mother of a friend whether she would continue to prepare milk in the calabash if she could preserve fresh milk in a box made cold with electricity for two weeks. She did not hesitate: no. In her case, the question was already moot since all of her cows had died in the drought and she is now living mostly by trading in cornmeal. While ultra-pasteurized milk in boxes was widely thought to taste bad and be impure (Samburu seemed to interpret the lower butterfat-content and flattened taste as being adulteration with chemicals), the cartons are now sold in all shops. Samburu smoke-cured and fermented milk will soon be lost to the world. We believe that the world's cultures will benefit from a detailed record of this cuisine but, more importantly, we think that as the Samburu move into a new phase they may find that their smoke-cured fermented milk can provide them a long-lasting touchstone that will help them to maintain their own cultural identity while integrated into mainstream Kenyan life. But before the tradition can be reinterpreted in the light of what is likely to be a mostly urban lifestyle it must first be written down.

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### Notes

1. Maa is the language of the Samburu and their related tribe, the Maasai. A draft dictionary can be found at: <http://darkwing.uoregon.edu/~dlpayne/Maa%20Lexicon/index-english/main.htm>
2. Our study focused on milk preparation in *manyattas*. The *murrans* (warriors) live segregated lives and their milk preparation practices may differ from those described in this paper.
3. Most of the flavour and aroma words are used exclusively for milk. *Kemelok* and *kedua* (sweet and bitter) are used in other food contexts. Only women singing about their smallest children and *murrans* singing about their sweethearts use *kemelok* in a non-food context.
4. Botanical names provided by Elly Loldepe.
5. Cows and camels have four nipples. Goats and sheep two.
6. Within the first hour that milk is in the calabash its flavor is perceived as flat. Taste and mouthfeel begin to develop after three to four hours.

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