A history of African beer around Lake Chad

Christian Berger. November 2022

Fig. 1 : Dowayo woman brewing beer in the Poli prefecture (North Cameroon). Photo Gardi 1983 and comments by Gardi 1985.

> "The Moba woman, who still dresses in tree leaves and is thus considered to be one of the most primitive women in Africa, uses an empirical brewing technique that can be considered perfect. Indeed, with the exception of the isolation of the yeasts, all the phases of industrial processing are present, and the brewing method is very similar to the "cloudy wort brewing" used in the north of France, which includes both an infusion and a decoction mash." (Périsse & al. 1959, 5)

The study of African brewing traditions often confines the technology of African brewers to the straitjacket of "primitive" brewing. Julien Périsse and his team investigated brewing in North Togo (Moba ethnic group) in the 1950s. Their conclusion, quoted in the foreword, should be kept in mind. The African brewing techniques are complex, multifaceted and compare favourably with European traditions.

1 A history of African beer around Lake Chad

This study of beer focuses on an African area encompassing northern Nigeria, Cameroon and north-western Chad, i.e. the basin once filled by the gigantic Lake Chad or *mega-Chad*[1]. The beer under discussion has been brewed on African ground for several millennia[2], long before the industrial version that was introduced to Africa with European colonisation, the one we commonly drink today in this part of Africa. Traditional African beer has been for a very long time, and still is, part of the political economy of African societies in the Chadian basin.

This leads us to a second statement: the *traditional African brewing* has its own history. The phrase refers to all the technical knowledge, social and religious practices that specifically involve beer. The *traditional (or autochthonous) African beer* cannot be reduced to brewing skills, nor even to manners of drinking. It permeates vast areas of collective life: the religious sphere, the political field, the economic exchanges, the social structures, etc. African brewing traditions are as evolving and polymorphous as the other facets of African social history. African beer has as many credentials as Western beer and deserves to have its history written down: a formidable project undertaken by African specialists since the 1980s (bibliography in Beer-studies).

[1] Mega-Chad refers to the Middle Holocene period, during which Lake Chad flooded the entire region, before an increasing aridity between 5000 and 2000 BC slowly triggered its regression. The size of the lake then continued to decrease until the present residual lake.

[2] Notably in predynastic Egypt (3500-3200, Beer-studies), in Nubia (2nd millennium BC, Beer-studies) and in Meroe (4th-1st century BC). For the Sudanian region, the first writings date from the 10th and 11th centuries (Beer-studies).

Why the Chadian basin? From the point of view of African history, this region can be compared to the Niger Basin, to Eastern Africa (Ethiopia, Sudan) or to the Great Lakes (Uganda, Rwanda, Burundi, Northern Tanzania) (General history of Africa, IV). All these regions, where the ancestral presence of beer and a rich socio-political past are combined, call for a study of their brewing traditions. The Chadian basin has inherited a turbulent geopolitical history dating back to the 11th century, punctuated by the foundation of more or less perennial kingdoms, by the confrontation between pantheistic and Islamic populations, against a backdrop of far-reaching technical, social and political developments[3]. This historical depth has generated a rich documentation of African origin since the 16th century (Ahmed-Baba, Tarikh el-fettach, Tarikh es-Soudan, Ibn Furtu, Chronicles of Bornu, ...), in the 18-19th century (Usman dan Fodio, Bello, ...), then in colonial times (Denham, Barth, Clapperton, ...). Since the 20th century, it has given rise to an in-depth study of this African region, its history, geopolitics and ethnology.

Beer is one of the common themes linking the complex and very different societies of the Chadian basin over the long term. Its history raises pivotal issues: the evolution of cultivated plants, the geopolitics of this African area, the migration of peoples, techniques and ideas, and the thousand-year-old confrontation between pantheistic and Islamic African societies. The question of fermented beverages stands at the heart of these evolutions and age-old conflicts, especially the main beverage, beer. It crystallises critical political and economic issues for peoples who feed mainly on the cereals from which beer is brewed.

In Africa as elsewhere, beer embodies three major dimensions of human history: technological, socio-economic and religious. The brewing traditions of the Chadian basin are based upon these three fundamentals. No beer without starch. Cereal growing, brewing techniques and social organisations make up the backbone of an African beer civilisation. The social economy of beer cannot be understood without the omnipresence of cereals and other starchy sources, whether cultivated or wild (**3**), without food techniques (**4**), social structures (**5**), festive logics, and ultimately beliefs and one of their main material supports, namely beer (festive drunkenness, ritual libations, agrarian ceremonies linked to agricultural cycle of the grains, beer offering to the ancestors, etc.) (**6**, **7** and **8**).

The major political trends in this region since the 11th century have been marked by the structural confrontation between abstinent Islamic elites and beer-

[3] *Pantheistic* rather than pagan, idolatrous or animistic, all derogatory terms used and enforced by the monotheistic religions. 'Polytheistic' does not reflect the African systems of thought that unify the cosmos, conceive of a single divine entity and a world animated by spirits. *Islamised* kingdoms rather than Muslims, because the Islamic-governed African sultanates, emirates and caliphates brought together peoples of various beliefs, including pantheistic ones, who were fought against by Islam on a religious footing but treated as slave reservoirs or tributary ethnicities, and generally source of subservient labour (**5.3**).

brewing pantheistic peoples. Over the centuries, the issue of fermented beverages, mainly beer, has become a conflictual one. It sealed a more radical divorce between the productive economy of the pantheists and the predatory economy of the Muslims and its institutionalised slave system. The cleavage between beer and milk reflects the tragedy that has ravaged Africa for more than a millennium: the hunting of 'pagan' slaves. This study sheds light on the political economy that has had a lasting impact on the history of beer in Sudanic Africa since the 11th century.

An archaeology of beer in the Chadian basin is sketched out thanks to the studies of specialists of this region. They describe the social economy of beer among two groups of populations: those of the Mandara Mountains and those of the south-eastern floodplain (Diamaré) (Map 1). Both ecosystems have provided shelters from slave raids, and also a promised land for inventive farmers whose cultural beverage was - and still is - beer.

To conclude on a long-term historical phenomenon, migrants, most of whom were pantheists, fled in waves southwards to escape the slave raids carried out in the Sudanian zone by the Islamised kingdoms (**10**). They encountered new plants (maize, cassava, sweet potato), new brewing techniques, new ecosystems (the dry forest and then the tropical wet forest further south), and more stratified social organisations (Bamoun and Kwararafa kingdoms, Bamileke chiefdoms). To the south of the Chadian basin, these migrations have overturned or adopted local brewing traditions. On a wider scale, the geography of beer in a vast area encompassing Central Cameroon + Southern Chad + Central Africa has constantly been reconfigured between cereal beers and tuber beers to invent new brewing methods. These technical evolutions reflect the great social changes that have taken place over the last three centuries in this part of Africa.

Map 1: Chad basin, pantheistic and islamised ethnic groups (north-eastern Nigeria, northern Cameroon, western Chad). Minor ethnicities are not shown.

2 Why is beer brewed in the Chadian basin?

The history of beer merges three dynamics: food technologies subject to starchy plants, social organisations enacted by African peoples, and religious beliefs inspired by the psychotropic properties of a fermented beverage. Each of these phenomena has undergone profound historical changes in the Lake Chad region for more than a millennium. Beer has thus shown many faces over time, depending on the social contexts and ecosystems of the region.

We follow these three indigenous dynamics which have shaped the regional brewing traditions of the Chadian basin: nutritional, social and religious. We will describe beers made from cereals, and also from tubers and pulses, the other major food sources of the Chadian basin; brewing methods such as amylolytic ferments or sour hydrolysis, techniques at odds with Western brewing manuals; beer as a material vector of exchange for organising collective agricultural works; beer as a symbol of abundance brewed for communal celebrations; beer as a libation beverage offered to the ancestors or to protective spirits; beer as a divisive drink between pantheistic and Islamised populations; etc.

These three interlocking dynamics generate a virtuous circular logic. A regular source of starch is needed to brew beer throughout the year, to mark social hierarchies and power relationships by its differentiated consumption and, in the end, to periodically reactivate social cohesion. In turn, the beer offerings guarantee rain and abundant grain harvests that will replenish the granaries each year and fuel the rituals of thanksgiving addressed to the protective spirits and ancestors. The year's harvest augurs a good harvest the following year through the ritual offerings of beer, and the annual cycle recurs. From the fields to the granaries, from the granaries to the brewing huts, from the beer jars to the altars, the portion of grain converted into beer is regulated by these three functional complexes: the beer as drink to quench thirst, the beer as social medium, and the beer as ceremonial support. Each one reactivates and reinforces the social efficiency of the other two. These three functions of the beer unfold according to nested timings.

The *ceremonial beer* addresses the longest temporal logic, that which keeps the memory of generations of deceased, protective or sometimes malevolent ancestors. Their soul-pots are kept in the granaries, on which a libation of beer is poured periodically and for decades by several generations of family heads[4]. These rituals often resurrect old beers whose ingredients and brewing methods have disappeared from everyday life. These fossil beers, brewed in very small quantities in the secrecy of the family granaries, reveal the region's brewing past and its evolution over a period of three to four generations, approximately a century.

Beer as a social medium plays according to the rhythm of annual collective celebrations, sometimes multiannual with the sacrifice of the claustrated bull

[4] These soul-pots are no longer used for beer libations after two or three generations of ancestors, but are normally never destroyed. Their shapes and decorations have allowed the identification of ethnic groups of former inhabitants in the Mandara mountains (**5.1**).

performed by certain ethnic groups in the Mandara Mountains. The brews are then strongly correlated to the annual rotation of cereals and the plentiful harvest. This is the world of massively collective beer, the composition, taste and strength of which must suit the greatest number and vary from one ethnic group to another. This cultural marker beer has also crystallised the centuries-old struggle of pantheistic peoples against Islamic slavery policies.

The *beer-for-thirst*, the drink for biological needs, operates immediately and for everyone: men, women and children. This daily beer is more subject than the other two to the vagaries of the season (abundance or shortage of grain, famine, war, raids, epidemics). Mock- or ersatz-beers (barely fermented flour-milk or flour-fruit porridges, sometimes mixed with honey) or alternative beers (brewed from grain-tuber-vegetable starch) come to the rescue when the granaries are empty. These *beers-for-thirst* have the greatest variation in composition, brewing technique, taste and strength. Their commercial versions, brewed and sold by women, have been found in community markets since the 1950s.

These beers have continuously evolved with the slow pace of regional socio-economic changes after colonisation, and they could form a fourth category of beer with a supra-community logic. In 1970, Ch. Seignobos witnessed the creation of a market by Chief Bello in Minglia, a village in the heart of Mofu country (25km west of Maroua). At the first market, the local women invited to come and sell their products spontaneously organised a beer sale[5]. This beverage immediately became the mainstay of a first and lasting trade.

The indigenous beers of the Chadian basin show as many identities as brewing contexts and consumption calendars. The historical importance of the brewing traditions and their resilience cannot be understood if beer is reduced to its immediate biological function as a thirst-quencher or its psychotropic function as an alcoholic beverage[6].

In this study, the repeated use of the terms *pantheistic* and *Islamised* is required to shed light on a paradoxical historical situation. The links between the internal slave politics of Sudanese Africa and the brewing traditions are very close. The Chadian basin is an exemplary case. Sudanic Africa, the cradle of many brewing traditions, is also the one that has preserved them to the present day despite an ancient and conquering Islamisation. This paradox calls for a study covering the entire Sudanian zone (**11**).

[5] Christian Seignobos' personal communication November 2022.

[6] Alcohol studies rarely question the socio-political context, let alone the historical one, and put beer, distilled spirits, drugs in a same box. For about 150 years, colonial officers, then development agencies, NGOs and Christian missions have periodically reopened the 'African beer' file, its misdeeds (alcoholism, over-consumption of grain and wood) or its benefits (nourishing & vitamin-rich drink, sociability, women's economic empowerment).

3 The material base for brewing beer: cereals, tubers, pulses

No beer without starch! The protohistoric African sources of starch are cereals and other grasses, pulses, tubers, bulbs and starchy fruits, with which various kinds of beer have been brewed since antiquity. The Nile Valley is the oldest brewing area in Africa.

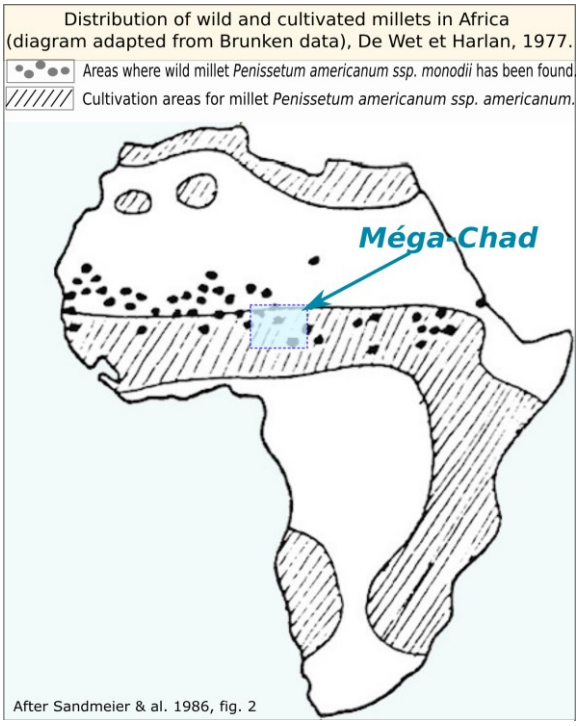
3.1 Cereal beers in the Chadian basin

The cereal beers around the Lake Chad are brewed, from their protohistory to the present day, with millet (*Pennisetum glaucum* or *Cenchrus americanus*), eleusine (*Eleusine coracana*), fonio (*Digitaria exilis*), and more recently sorghum (*Sorghum* spp.). Maize was the latest used cereal, adopted in the area towards the end of the 17th century. In the centre of the Sudanian zone[7], the Chad Basin is a crossroads between two axes of domestication of the main African grains, one from the East (sorghum, eleusine), and the other from the West (millet), superimposed by the diffuse Sahelian area of domestication of fonios. Wild African rice was collected before declining at the beginning of our era with the increasing aridification of the region and the regression of Lake Chad. Reconstructions of ancient agrosystems in the Mandara Mountains suggest that eleusine and millet are the oldest brewing cereals before the expansion of sorghums of more recent diffusion. This does not apply to the surrounding plains to the east and west of the Mandara Mountains. We follow this chronological order.

3.1.1 Eleusine, millet and fonios

The first cultivation of eleusine began around 3000 BC in the East African highlands (Sudan, Ethiopia, Uganda). At the same time, the cultivation of millet (pearl millet, *Pennisetum*) began in Mauritania and North Mali (Burgarella & al. 2018). Fonio cultivation covers a very large Sahelian area, indicating its ancient cultivation, but no center of its domestication has been found to date.

In the savannahs, sorghum, millet, eleusine and fonios are cultivated from the beginning of our era, sometimes earlier in some archaeological sites. Fossil grains and footprints of cultivated millet (*Pennisetum glaucum*) dated to the 1st millennium B.C. were found in large quantities at the site of Kursakata, south of Lake Chad in the Chari-Logon delta (Klee & al. 2003, 187-189, 192). This proto-



Map 2: after Sandmeier & al. 1986, fig. 2

[7] The Sudanian zone covers the savannahs between the Sahel and the tropical forests, a few hundred kilometres wide strip running from Senegal to present-day Sudan.

cereal farming is closely associated with cattle, sheep and goat breeding. The chronology of the spread of eleusine and millets from their primary or secondary foci of domestication remains conjectural.

The cultural significance of millet beers before the domination of sorghum beers is underlined by oral traditions. On the Mafa massif of Magoumaz (north-central Mandara), sorghum beer supplanted millet beer, an event that coincided with the arrival of the Shiler clan's civilising hero (Martin 1970, 33-34). He travels eastward from Sukur in the Nigerian plain, with *zlaraway* sorghum seeds in his quiver. A beer made from the false ears of small millet infected with smut (*gwadafa* in Mafa) is said to have decimated the indigenous farmers of finger millet and enabled the Shiler clan to take power in Magoumaz. Another myth tells of the Madambrum taking over the region by getting rid of the indigenous blacksmith groups who also succumbed to a brew of finger millet (Seignobos 2014a, 20).

A similar story concerns eleusine beer. The present Podokwo (Map 1) chased the Gelebda westwards from their mountain range into the Gwoza hills on the border with present-day Nigeria. They say that the Gelebda went mad after drinking eleusine beer (*mburtwa*). Mburtwa beer is stronger than sorghum beer. This cultural trait (uncontrolled drunkenness) has been retained in the narrative rather than the smallness of the eleusine grains, its low yields or a specific harmfulness (Seignobos 2014a, 20)[8].

Fig. 2: *Eleusine coracana plana* and *Pennisetum glaucum* (Seignobos 2014)

These accounts hide inter-ethnic conflicts or the domination of a group that is more prolific than its neighbours. The dating of these events is tricky: a century or more?

Ch. Seignobos has traced the history of eleusine and millet beers by scrutinising relict cultures, agrosystems, oral traditions and archaeological data. Before the 19th century, *small millet beer does not seem to have really existed, while eleusine beer, on the other hand, is stronger and sweeter, and included two beverages, one mash and another more liquid and clearer. Eleusine was later used to supplement the malting of sorghum. There were beers of a second category, a kind of ersatz, such as the cemcem of the Mafa; the remains of millet balls were mixed with water before adding the coarse flour of sprouted sorghum grains. Here again, funeral beers have preserved ancient recipes with, still among the Mafa, the mandaƀe, a beer served hot, or again, among the Fali, the bueru made with sprouted sorghum grains, roughly ground, and put to soak in water hermetically sealed in a buried pot. At least six months later it is exhumed, water is added and it is drunk at funerals* (Seignobos 2014a, 20).

[8] Counterbalanced by its advantages: the grain is not attacked by phytophagous insects, eleusine is stored as a security grain until recently. Since then, the market economy has taken over and ensures the circulation, trade and supply of grain. It has also promoted maize and Asian rice.

Ethnography cannot shed light on the distant past of beer in a region subject to major geopolitical upheavals that have deeply modified local and regional brewing traditions (**5**).

3.1.2 The African rice

The cultivation of African rice (*Oryza glaberrima*), domesticated in the Middle Niger Basin between Mauritania and Mali, appears to have spilled over from its primary cradle of domestication, the Senegal Basin and southern Mali, only during an ancient period before its cultivation retracted back to its original home around 2000 years ago (Cubry & al. 2018)[9]. The brewing of African rice is attested to during the first Portuguese explorations in the Senegal basin. Modern rice farming in the Logon-Chari basins uses Asian rice. However, wild rice varieties (*Oryza longistaminata* and *O. barthii*) were collected during the 1st millennium B.C. at the site of Kursakata, northeast Nigeria (Klee & al. 2000, 232 and Fig. 5). Wild rice is nowadays collected on the shores of Lake Chad and in the Mandara Mountains (Map 1). To our knowledge, its conversion into beer is not documented in the ethnography of the Chadian basin. The rice used to brew the cochette beer in Chad is of Asian origin and is a recent introduction.

Fig. 3: wild rice gathering on the shores of Lake Chad

3.1.3 The sorghums

Sorghum cultivation began with *sorghum bicolor* in East Africa (Ethiopia, Sudan) around 3000 BC, preceded by a long period of wild sorghum gathering in the same regions between 6000 and 4000 BC. During the first millennium, *sorghum caudatum*, already well differentiated in the Sudan-Uganda region, travelled westwards with the speakers of the Chari-Nil languages. Their slow spread tells of the push of pastoralist-farmer peoples in the same East to West direction (Stemler & al. 1975, 177-178). The site of Daima south of Lake Chad has yielded *sorghum caudatum* seeds dated to the 350s (Connah G. 1967).

The chronology of sorghum dissemination from their primary or secondary domestication sites, their varietal adaptations and their adoption by African protohistoric peoples are well understood. The occurrence of three varieties of sorghum (*caudatum*, *bicolor* and *durra*) in the foothills of the Mandara Mountains at the beginning of the first millennium implies a long local experience of cultural selections, being preceded by cereal cultivation in the surrounding plains (Marliac, Langlois 2000, 75).

These sorghums came to the Lake Chad area in waves, usually carried by people from the east. The caudatum farmers of the Bagirmi, the Sara and Gamba

[9] The brewing of African rice is attested to during the first Portuguese explorations in the Senegal basin. Modern rice farming in the Logon-Chari basins uses Asian rice.

peoples, have features in common with the Chari-Nil speaking peoples of the east. Their agriculture is based on sorghum, millet (*Pennisetum*), eleusine and sesame. They have livestock and fish, and are heavy drinkers of sorghum beer, as are the Kenga, Daju (Dadio) and Kuka (Bilala) living in the Guera mountains in central Chad (Créarc'h 1941, 150-178, quoted by Breuning & al. 2008, 173).

Fig. 4: various sorghum cultivars on Mafa threshing floor, in drying sheds and fields (Seignobos)

In the course of their East to West spread, sorghums have differentiated according to the various ecosystems and human selections. They are divided into five subspecies: *Sorghum bicolor*, morphologically the oldest and the most widely

distributed, from which the other four subspecies *caudatum*, *guinea*, *durra* and *kafir* are derived. Today there are more than 1,500 varieties of sorghum in the Chadian basin. This has a dual origin: the ethnic partitioning of agrosystems and the large-scale dissemination of new varieties by the conquerors of the great plains, mainly from the East but also from the Niger basin in the West (Seignobos 2000, 82)[10].

Sorghum caudatum is the life-giving grain for many people between present-day Nigeria and Sudan, an area that receives only 400-1200mm rainfall per year. The Saw (Sao) peoples who lived around Lake Chad in the first millennium adopted this hardy, low-effort grain to engage in other activities such as fishing, livestock rearing and the building of fortified clay cities (*sao*/*saw* = wall).

Cultivars from the Nigerian plains have returned eastward to the Mandara Mountains. Seignobos mentions the case of *zlaraway* sorghums introduced at an uncertain date, which were responsible for intensifying the terraced cultivation of the Mandara Mountains by adapting to their 'skeletal soils' (Seignobos 2014a, 21).

In modern times, sorghum has become the dominant cereal for brewing beer throughout the Chadian basin. Eleusine, millet or fonios are used in case of shortages, poor sorghum harvests or to brew a beer faithful to those drank by the ancestors and intended for certain rituals. Sorghum and fonios are C4 plants well adapted to hot and dry climates, and are therefore more productive. Sorghums are low in protein, an advantage for stabilising and clarifying the beer. The local sale of beer since the 1950s has increased the brewers' preference for the more profitable and common white or red coarse-grained sorghum cultivars[11]. However, several poor sorghum years may bring the minor grains (eleusine, millet, fonios) back to the forefront of African brewing, provided a few safe fields have been maintained.

Fig. 5: sorghums from Mafa mountains (Seignobos 2014)

Sorghum caudatum provides bitter coloured flours (polyphenols) and is nowadays marginalised in the cuisine of lowland peoples who prefer sweet sorghum. However, these rustic sorghum caudatum are resistant to the worst climatic conditions, and to plant pests (*Striga asiatica* and *Striga hermonthica*,

[10] A variety of sorghum is banned by the neighbouring ethnic group or adopted after years of testing by the chief of the land who checks that it fits into the farming system, that it is not 'malignant' and that it is approved by the land spirits. From the 16th to the 18th century, the chiefdom of Goudour (eastern slope of the Mandara) controlled the millet cycle by controlling the rainfall and fighting locusts and other pests. A new seed is grown in the sacred area of the chief of Goudour, who examines the cultivation techniques and the qualities of the new grain. Seeds do not circulate freely (Seignobos 2000, 82).

[11] The sale of African sorghum beer on the markets is much earlier in the Niger Basin. In 1890, Monteil mentions the sale of *dolo* ten times when he travels through Macina and Mossi country (Monteil 1895, 30, 43, 48, 71, 100, 103, 120, 126, 128, 149).

witchweed). Their bitterness repels pilfering animals (locusts, birds, rodents, monkeys). Sorghum caudatum is the security crop of the Mandara highlanders

Ch. Seignobos has compared the distribution of sorghum in the Mandara Mountains and in the Chari-Logone plains: 'Among the Daba, a sorghum, voh, was sown along the plots of land, dissuading small livestock, whose death it could even cause because of its concentration in tannins. Its consumption by humans was preceded by boiling and soaking in water with potassium salt. This sorghum was only used for food in case of shortage, but it could, mixed with others, contribute to the production of good beer' (Seignobos 2000, 82). Tannins play a dual role here. Firstly, technical: the antimicrobial power of tannins during and after the fermentation of beverages has been demonstrated. And sensory: the bitterness they impart to the beer is enhanced, and the beer is better clarified because the tannins accelerate the hot and cold coagulation of proteins during the boiling of the wort and the fermentation.

There is nowadays a hierarchy among all grains converted into beer. Eleusine is preferred for ritual reasons, millet for taste or ritual reasons, and sorghum for the vast bulk of beers. A finer hierarchy separates the red sorghums. Brewers favour the *Sorghum bicolor bicolor* and *caudatum* varieties over the *guinea*, *durra* and *kafir*. In modern times, they have culinary uses other than brewing beer. The sweet stalks of sorghum are sucked as they grow at flowering (as is done with sugar cane). Its grains are used to make beer, its hulls and leaves to dye cloth or leather reddish-blue (anthocyanins), its tough, dry stalks to cover huts.

Fig. 6: women carrying millet, Garoua, North Cameroon around 1900

In Fulbe, cerge refers to *Sorghum caudatum* adapted to the lithosols of the Mandara Mountains. Some are picked from the fields, others are consumed roasted or boiled before they are ripe, during the hunger season. Cerge sorghum are used to prepare balls and porridges and to brew beers (Seignobos 2000, 82).

Sorghums transplanted during the dry season illustrate highly advanced agricultural knowledge. These varieties draw on the water reserves of the poor soils for their vegetative cycle without further water input. They are transplanted after the rainfed sorghum growing season. *Muskuwaari* in northern Cameroon, *masakwa* in Nigeria, *berbere* in Chad, have been developed since the mid-20th century. They are a response to the climatic deterioration combined with cotton cultivation, which is labour-intensive and requires agricultural lands during the rainy season (Raimond, 1999). The Fulbe (Fulani) grow *muskuwaari* and appreciate its white flour, showing their aversion to red sorghum. They justify their cultivation by claiming that they only sell them in the markets to pagans looking for beer sorghums (Seignobos 2000, 84). The red-grained rainfed sorghum *Djigari* came with the Massa, Mousgoum and Guiziga peoples from the Logone River area. These are hardy, early, drought-resistant sorghums grown for beer, food for pagans and horse food for Muslims. *Madesse* has a completely red grain used to

make millet beer. *Anguldja* and *burguri* are early varieties with red grains like the rainfed sorghums. Its red, bitter flour is not much affected by millet eaters and is used to make beer.

Ch. Seignobos traced the ancient history of another variety of *durra* sorghum with dark red grain dedicated to brewing beer: *wulaga*. Cultivated in the flooded areas of the Logone and Chari rivers until the 1940s, the roots of this sorghum can withstand immersion, like those of rice. Sown in December with a planter in soils enriched by burning grasses, it was harvested from one metre of water in a dugout canoe in July. *Wulaga* may have originated in the Fitri and Dekakire region, north of the Bagirmi (Chad). It then colonised the downstream system of the Chari-Logone, then reached the yaérés with the displacement of the peoples of the pre-Bagirmi cities of the Chari to the south-west (Seignobos 2000, 84). This cultural history spans several centuries.

The switch to sorghum and its progressive enrichment was made at the expense of the eleusine and penicillary millets. Free-range breeding has been replaced by cattle confined for ritual purposes. Part of the Mandara Mountains (Mofu, Zulgo, Uldeme, Podokwo, ...) then adopted the intensive cultivation of cerge, year after year, while the most isolated massifs, populated by Mafa, opted for a rotation of *cerge* and small millet. The year of the small millet (*lum may*, dearth year), because of its low yields, involves four varieties of penicillary millet, a little maize, Guinea sorrel, six varieties of Tiger nuts (see **3.2**), and a little potato pea, but above all cowpeas (*niebe* see **3.3**) are favoured (Seignobos 2000, 84). These changes in cultivation have thoroughly modified the brewing traditions of the region. They also paved the way for the adoption of maize.

3.1.4 The maize

Maize, introduced by the Portuguese around 1500 on the island of Sao Tome, quickly impacted on the brewing of African sorghum and millet beers on the shores of the Gulf of Guinea, then in the interior of the Guinean forest and in Sudanese Africa. The quick adoption of maize varieties by West African female brewers proves the maturity and indirectly the antiquity of their brewing techniques[12]. The maize varieties introduced in Seville by Columbus (1493) reached Egypt at the beginning of the 16th century (1517) and Ethiopia around 1623. From there, maize comes to *bilād al-sūdān* (*Black Africa*) by caravans from North Africa or Darfur. The impact of maize on brewing methods is documented in Egypt, Sudan and Darfur around 1800 (Tounsy 1845, 426-428).

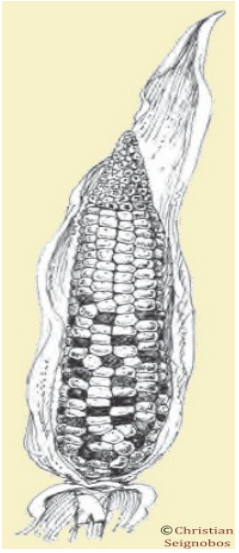


Fig. 7: upland maize

Did the median location of the Chadian basin favour the maize coming from the Gulf of Guinea? This hypothesis remains to be ascertained by

[12] In 1602, Pieter de Marees (1602, 113) reports that the millet-sorghum beer he calls *Pitouw* (*pito*) is also brewed with maize introduced by the Portuguese a century earlier. The brewing technique he describes is the malting process. The female brewers on the Guinean coast had mastered the germination of maize alongside that of millet and sorghum in less than a century (op. cit. 44).

archaeobotanists. Mofu informants know of two horned maize varieties originating in Egypt and spreading through Bornu. The older one arrived via the Saharan caravan route and western Bornu, the second via the eastern route (Darfur ➔ Waddaï ➔ Bagirmi?) (Seignobos 2014, n. 8). These two maize diffusion routes do not exclude the Gulf of Guinea route. Maize has been used to brew beer in Adamawa (eastern Nigeria) since the 19th century[13]. References are lacking for earlier periods. Brewing with maize is an almost unknown practice in the Mandara.

3.2 Beers from tubers and starchy roots of the Chadian basin

Tubers (yams *Dioscorea* spp, cassava *Manihot esculenta*, sweet potato *Ipomoea batatas* L.), corm plants and tuberous roots (nutsedge, *Cyperus esculentus*) are excellent sources of starch for the African brewery. Yams, nutsedge and various tubers native to Africa are the witness-plants of ancient tuber-dominated agrosystems before the supremacy of cereals [14] . Yellow nutsedge corms (Cyperus esculentus) are a popular food, especially in times of grain shortage.

Fig. 8 : yam in pit, *Dioscorea abyssinica* (Seignobos 2014, fig. 5)

The tarodieres of the Mandara Mountains, basins built near water run-offs to cultivate tubers (taros), keep the memory of these proto-agricultures. These starchy plants, along with fonios and eleusine, were the main sources of starch in the Mandara Mountains between the 11th and 18th centuries, before the domination of sorghum. They are still cultivated in the hut fields close to the dwellings, both as food security plants and as relict plants for pharmacopoeia or as a reminder of what the ancestors ate and drank (Seignobos 2014a).

The biennial rotation, when practised, affects terraces cultivated one year out of two with millet and eleusine, and also with tubers and cowpeas. This is the year of relative scarcity, of 'white beer' brewed with small grains, and also of beers brewed with tubers or ground grains + tubers, when the stocks of

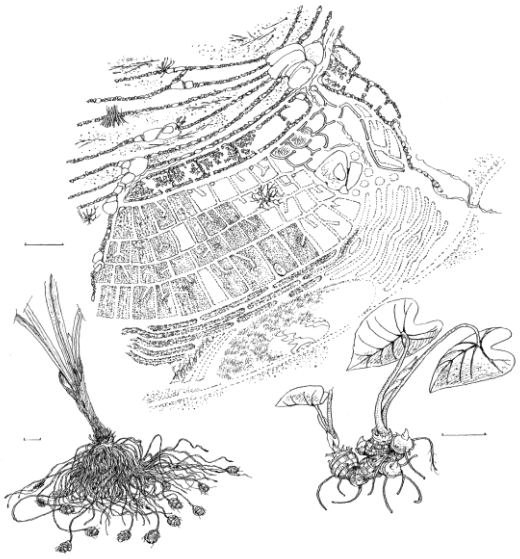


Fig. 9: tarodieres plot. Bottom left nutsedge (scale 1cm). Bottom right taro (scale 5cm). Seignobos 2014, f. 4

[13] "The chief sent me a sheep, a Muscovy duck, a quantity of yams, and some beer made from Indian corn". "… the chief, who was delighted to see me, and gave me a sheep, some fowls, and a jar of gear [giya] (a beer made from Indian corn)" (Clapperton 1829, 308, 309). Clapperton's and Lander's texts do not confuse millet, sorghum (*Doura/Guinea corn*) and maize (*Indian corn*).

[14] The African yam (*Dioscorea rotundata*) was domesticated in the southern Niger basin, south-eastern Nigeria (see Igbo) (Scarcelli & al. 2019); Coursey, *The origins and domestication of Yams in Africa*, in Harlan, De Wet, Stemler (Eds) 1976, pp. 383-408.

red sorghum harvested the previous year are at their lowest.

Can we retrace the taste and appearance of these beers, which are very different from modern sorghum beers? Thick, sour, halfway between a clarified drink and a fermented porridge, between cassava beer and sorghum beer?

On the banks of the Logone, the Masa added flour from a yam (*Dioscorea dumetorum*) and arrowroot (*Tacca leontopetaloides*) to their sorghum flour to give it flavour. One tuber, *Tacca leontopetaloides*, is still highly valued and sold in the markets. This is also the case for nutsedge (*Cyperus esculentus*) and water lily (*Nymphaea lotus*) bulbs (Garine 2005).

Seignobos (2014a, 11-12) described a staple food from the Mandara Mountains: "*Zamak* (among the Northern Mafa) is a mixture of sorghum and nutsedge flour, eleusine (*mbretək*) and sesame (*gogom*); *Mehewed* (Northern Mafa) is composed of sorghum flour with macerated fruits : tamarinds, *Ximenia americana*, *Diospyros mespiliformis* ... However, the simple mixture of water and *zlaraway* sorghum flour is a restorative even for fighters during neighbourhood conflicts. Among the mountain people, there is a category of food known as 'drinking flour'. Sorghum is roasted and then mashed with groundnut paste, and the flour is heated with water to make a porridge. The same is done with sorghum flour mixed with nutsedge, jujube... A light porridge made from zlaraway flour and groundnut paste, immersed in boiling water, can be eaten morning and evening."

These drinkable flours are not porridges but genuine beverages consumed outside of meals.

At the time of European invasion, Lamiaceae tubers were in decline everywhere. Their regression seems to be less related to low productivity than to their cultural link with ethnic groups considered primitive (Seignobos 2014a, 49 n. 25).

Cassava, introduced to Africa in the 16th century (≈1558) by the Portuguese on the coasts of the Loango and Kongo kingdoms, did not arrive in the southern Sudanian region until the 17th century. Brazilian cassava adapted to the African biotopes and know-how in the tropical forests of the Congolese basin. Due to the lack of rainfall, cassava cultivation does not extend northwards beyond the 9th or 10th parallels (beer-studies).

On the contrary, human groups originating from North Cameroon and Chad migrated southwards and met people like the Gbaya who had adopted cassava by the 18th century and modified their brewing methods accordingly, abandoning malting for amylolytic ferments (chap. **10**).

3.3 Beers from pulses in Sudanese Africa

Have starchy pulses such as cowpea (*Vigna unguiculata* (L.) Walp.), or bambara groundnut (*Vigna*/*Voandzeia subterranea*), both native to West Africa, been used to brew beer as partial substitutes for cereals in times of famine or lean periods?

In the Mandara Mountains, cowpea is combined with sorghum and millet as a staple in the biennial crop rotation. Cowpeas are grown alongside other pulses and taro on the terrace fields or home gardens, usually with a one-year fallow period because cowpeas are susceptible to pests. Cowpea roots fix atmospheric nitrogen in the soil to nourish sorghum during the following year (Seignobos 2000, 84). Cowpea cultivation is systematic among protein-deficient cereal farmers in the mountains, and optional among herders and fishermen on the plains (Pasquet, Fotso 2000, 88).

The meal of Mandara sorghum eaters and drinkers always includes both a millet ball and a cowpea ball. The dietary and cultural advantages of cowpeas are tremendous[15].

Fig. 10: cowpea cultivars from Cameroon

What about a potential beer brewed with cowpea, which contains about 60% starch? A round trip to Northern Nigeria is required.

Very diluted *furah* (*ogi*) is used to feed children, a common practice in Northern Nigeria. The low protein content of cereals has promoted the addition of cowpea to the ogi (Oyeleke 1985). Diluted *furah* (*ogi*) becomes a beer-like brew if one omits the cooking of the fermented mash, which evaporates the ethanol. This option is related to the question of cowpea beers in the Chadian basin. If they existed, their composition was half cereal/half cowpea. The high protein content of cowpea offers a dietary advantage but a drawback for the stability of a 100% cowpea beer, a disadvantage that is of no consequence if the beer is drunk quickly. In the Chadian basin, one should not look for a beer brewed exclusively with cowpea flour, but for a beer-like made from mixed flours, including cowpea flour, consumed during the hunger season (June-September).

The preparation of *furah* (*ogi*) has varied over the centuries and according to the regions of the Sudanic zone: optional addition of honey or milk, different origins of the flours (cereals, tubers, pulses such as cowpea). The *furah* (*ogi*) of Northern Nigeria has many equivalents in Northern Cameroon and Chad in the guise of more or less fermented drinks.

Recent studies show that malts made from the malting of Bambara groundnut (*Vigna subterranea*) are enriched with beneficial amino acids and phenolic compounds (Adetokunboh et al. 2022). These laboratory experiments do not prove that these qualities were perceived by the people of Chadian basin in the past or in recent times, or even that they malted the peas to make their beer. Spontaneous or triggered germination of the Bambara groundnuts may have led to this, without these pea-beers entering as valued

[15] Cowpeas provide the protein and lysine that cereals lack. Its protein content (17-28% dry matter) is comparable to that of meat products.

fermented beverages in the cultural heritage of the ethnic groups of Chadian basin. Historical studies are lacking. We can only raise this question for cowpeas, Bambara groundnut and all pulses.

3.4 The beer-like beverages of the Chadian area

We classify, under this category "beer-like", beverages that are technically beers (starch + saccharification + fermentations), even if usage, cultural classifications, or religious prohibitions do not regard them as such. A few examples: the *daknu* (songhai *dakno*) (milk + sorghum flour + honey) from the Niger region drunk by Ibn Baṭṭūṭa in 1353 and René Caillé in 1828 between Jenné and Timbuktu, the *furá* (milk + sorghum flour + honey) so enjoyed by Heinrich Barth during his entire journey (1849-1855). No malt, therefore no beer for the first European explorers and then the majority of ethnologists who stick to a conventional and western definition of beer[16]. These beer-likes are:

- The barely fermented starch beverages of beer-drinking peoples.
- The cold or hot fermented porridges of beer-drinking peoples.
- The beverages made from grain+honey or barely fermented flour+milk porridges that Muslims do not consider alcoholic beverages, rightly or wrongly.

In Africa, beer can display unexpected textures: gruels, porridges, fermented starchy juices. One typical example is the *furah* porridge-drink commonly found throughout northern Cameroon and Nigeria (infra).

The beer-likes of drinkers around the lake Chad.

The descriptive list provided by Henry Tourneux in 2005 served as the source for our inventory. It cannot be exhaustive given the multitude of culinary preparations, their names and linguistic variants. Cf. **4.1**, **4.2** and **4.3** for the beers stricto sensu (*bilbil*, *kpata, …*).

Cem-cem: word of Chadic origin (mafa *cem-cem*) denoting a "beverage obtained by diluting in water the remains of a millet ball and adding sprouted millet flour". (Barreteau et Le Bleis, 1990, p. 104).

Doldu: a kind of millet beer (Noye, 1989, p. 85b). The word may come from the Bambara *dolo*, a millet beer attested in the 19th century. In Cameroonian vernacular French, *dolo* refers to a non-alcoholic beverage prepared by Muslim or Protestant women (Seignobos et Tourneux, 2002, 93). A modern Islamic-influenced usage to differentiate *dolo ḥalāl* and *bilbil ḥarām*.

[16] This issue affects all continents and the description of their traditional fermented beverages. When nutritionists and biotechnologists started to work on this issue, the list of fermented beverages grew considerably and the boundary between fermented beverages and fermented foods became permeable (Steinkraus 1995).

Furah: or *ogi* as it is now generically known, is a Nigerian fermented porridge made from sorghum or millet, or more recently maize, obtained by lactic acid and alcoholic fermentation. Lactic acid bacteria grow on grains soaked for 1 to 3 days, which are then crushed and sieved. The supernatant is kept for the subsequent cooking of the mash. The solid parts are discarded. The mash is fermented again for 1 to 3 days and then cooked with the supernatant from the sieving and consumed.

Fig. 11: a modern Nigerian version of furah or ogi

The role of acidic fermentations to saccharify the starch (pH<4), caused by a rather complex flora of lactic acid bacteria (mainly *L. plantarum* and *L. brevis*), yeasts (*S. cerevisiae*) and fungi (*Rhizopus*, ...), should be remembered here (Steinkraus 1996, 212-222). *Furah* (*ogi*) is a starch mash that undergoes saccharification in an acidic medium and alcoholic fermentation. It is a thick and sour beer-like product (cf. the furah described by the 19th century explorers).

Furdu: a very thick millet beer, similar to an alcoholic porridge, sometimes drunk hot during some celebrations, or during collective work in the rainy season. This whitish coloured beer is sometimes called "white wine". *Furdu* is an ancient form of millet beer, predating the current beers known as bilbil according to Ch. Seignobos. Both are still found in the same population. The ethnic groups of North Cameroon know furdu under various names: [*mbazla*] among the Mofou-Goudour, [*mbazla babara*] 'white beer' among the Guiziga, [*mazla*] among the Mousgoum, [*mandaynguum*] among the Tupuri, etc. (see below the generic **Mbal**).

Fig. 12: market of *furdu*-type beer consumed hot, Roumsiki, Kapsiki country, 1995 (Seignobos 2017)

Giya (gia): generic name for millet beer attested in Fulfulde and Hausa, borrowed from Arabic *ji'a* 'beer' (Richardson 1853, vol. 2, 91 and 105; *gíya* in Barth 1857, vol. II, 25).

Kalla: light sorghum porridge that is left to ferment with the addition of sugar and chilli among the Masa and Muzey (Garine 2001, 54).

Kochett: sorghum porridge fermented overnight with or without yeast. The same slightly fermented beverage is brewed with rice by the Masa and Muzey (Garine 2001, 54). In Chad, **cochette** refers to a beer made partly from Asian rice in the rice-growing Logone valley (Magrin & Mbayhoudel 2005).

Kundurku: slightly acidic beer from flour mixtures. M.J. Eguchi describes the making of this beverage as follows: "gruel-like drink made by mixing millet meal with wheat and malt and leaving to stand until sour (about two days), then heating

with water (and peanut paste?), mixing, and squeezing out the liquid; drunk with red pepper and sugar (or sugar may be added to the millet meal from the beginning) [...]" (Eguchi 1975, 165).

Kunu (Hausa): "a kind of porridge made of sorghum flour, millet or rice, flavoured with peanuts, potash, tamarind juice or the mealy pulp of carob pods." (Bargery, 1934, 647a). Has given *kunuuri* in Nigerian Fulfulde "millet flour gruel (usually), taken with curdled milk and tamarind juice" (De St. Croix, 1998, 271a). *Kunu* is said to be the unfermented version of *kundurku*. *Kwondurkwa* refers to unfermented millet beer in the Mafa language (Barreteau and Le Bleis 1990, 204).

Mbal: Chadic generic word for millet beer. The Giziga call their sorghum beer *mbalza*. The word is attested in Nigeria.

Sufa: The Mofu of the Durum massif drink *sufa* at harvest time, a water in which sprouted grains of the new sorghum have been macerated (Seignobos 2000, 82). This *sufa* is technically no more than a low-alcohol sorghum beer, which cannot be categorised as such when drunk by young girls.

The beer-like beverages of 'abstinent' Muslims

This provocative subtitle describes the use of starch-based beverages by Islamised populations, taking into account several historical facts:

1) In the Lake Chad region, Islam has imposed itself very slowly since the 11th century (**5**). Fermented beverages were not dropped by the converted peoples as quickly as Arab sources claim. The economic dependence of the sultanates on the pantheistic ethnic groups (grain, iron, forced labour) has preserved the habits and customs of the beer-drinking peoples for centuries. Moreover, the power of the Muslim kingdoms was based on a quasi-permanent military force. Cavalry and infantrymen were not inclined to deprive themselves of alcoholic beverages.

2) The acid hydrolysis of starch described above is a chemical transformation (**4.2**). It does not require any specific ingredients such as malt or amylolytic ferments. A Muslim can only be alerted to this by the sweet and sour taste, the sharp smell, or his eating habits. The transition from lactic ferment to alcoholic ferment takes place within a few hours. Any infusion of millet or sorghum flour is potentially a beer if one waits one or two days for its spontaneous fermentation. In Africa, time technically separates the porridge of the Muslims and the beer cherished by traditional religions.

3) From the 1890s onwards, English, German and French colonial staff gave the example of beer and wine drinkers. The morals of these representatives of the new supreme political power weakened Muslim discipline and the prestige of the old Islamic authorities.

Between the Wadai in the east and the Songhai country in the west, the Lake Chad region is also the land of the beer-like beverages drunk by Islamic populations who refer to them by various names (furah/ghussub, etc.). In the 19th century, Nachtigal describes this particular category of beer encountered in the Wadai (between Darfur and Bagirmi):

"Drinks are made from corn (*dukhn*, *durra*, etc.) as well as from honey, dates, etc. with the addition of water ; they are left standing until fermentation begins, and drunk under the names *merissa khabsha*, *merissa ambilbil*, *merissa korde*, *merissa khall*, *merissa geringa*. I know of three kinds of permitted non-intoxicating drinks, which, made of water and corn or meal (or *aish* [a millet ball or patty]), are distinguished from those above mentioned only by the shorter process of fermentation, from which they get a sweet-sour taste." (Nachtigal 1971-1987, vol. IV, 199-200).

Nachtigal explains how spontaneous and continuous alcoholic and lactic fermentations turn a common grain porridge into beer (merissa). The Islamic culture of the Wadai gives these porridges different names to demarcate them from the more or less forbidden beers, but in practice one switches from one to the other when the fermentations last one or two days. Nachtigal also explains that the beers are brewed with corn, meal or ready-made millet balls (aish) and soaked in water to make beverages of varying thickness and sweetness (sweet-sour). We are dealing here with brewing by acid hydrolysis (no malting, no beer-starters).

In West Africa, in the Songhay country along the banks of the Niger, Barth noted in 1854 near Bamba, between Timbuktu and Gao, that the rejire, "the favourite drink made with cheese and dates, which is very acceptable in the desert country" (Barth 1957, vol. V, 229), is superseded by the *dakno*:

"The famous 'rejire' had been supplanted, from want of cheese, by the less tasteful 'dakno', seasoned, in the absence of honey, with the fruit of the baobab or monkey-bread tree." (Barth 1957, vol. V, 77).

René Caillé encountered this beer substitute in 1828 during his journey to reach the mythical city of Timbuktu:

"The dokhnou is, as I said above, a mixture of millet flour and honey that is diluted and then drunk." (Caillié T. 2, 236. See beer-studies).

This beer-like beverage is ancient. In 1354, Ibn Baṭṭūṭa returned to Fez from the banks of the Niger River. Between Gao and Takkeda, he notes:

"A beverage of theirs called daknu was then brought, which is a water containing crushed sorghum, mixed with a little honey or sour milk. They drink this instead of water because, for them, drinking pure water hurts them." (beer-studies with references)

T. Lewicki has made clear that the Arabic word *daqnū* (*daqnō*) is a transcription of the Songhai *dakno* (Lewicki 1974, 128 note 163), thus a native beverage and not an innovation of Muslims from North Africa.

The *furah* (in Hausa) or *ghussub* (in Kanuri): Furah is a beverage made from millet or sorghum (or any other cereal) patties mixed in sour milk, with the optional addition of honey and flavouring with fruits or spices (tamarind, red pepper, cloves, etc.). The flour dumplings are first cooked in water, diluted and then drunk.

Furah from the Chad basin and dakno from the Niger basin belong to the same family of beer-like beverages. *Furah* is also a very common beverage of the Tuareg in Sahel. It was described and praised by Barth when he crossed the Aïr in 1857. It is a perfect recipe for home brewing. In the town of Agadez, Barth described the ways of drinking furah which he called *ghussub-water*:

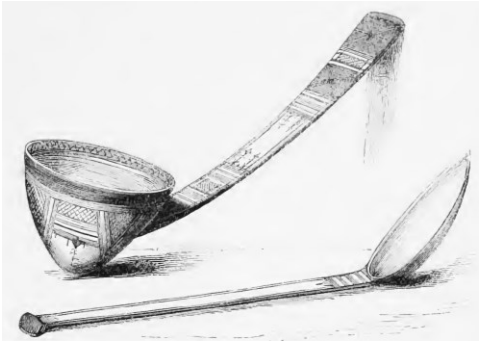


Fig. 13: carved wooden spoons for drinking *furah* (Barth 1857)

"As to the fura, people who eat, or rather drink it, together, squat down round the bowl, where a large spoon, the 'lúdde' sometimes very neatly worked, goes round, everybody taking a spoonful and passing the spoon to his neighbour. Subjoined is a drawing of this drinking-spoon as well as of the common spoon, both of ordinary workmanship." (Barth 1857, vol. I, 414).

Barth states that: "Many of the Tawarek, from Bornu as far as Timbuktu, subsist more or less upon the seeds of the *Pennisetum distichum* which they call 'úzak'. The drink made of it is certainly not bad, resembling in coolness the fúra or ghussub-water." (Barth 1857, vol. I, 390).

Denham drank *furah* throughout his journey in the early 19th century:

"When my friend Maramy supplied me with a drink made from parched corn, bruised, and steeped in water, a grateful beverage." (Denham & al. 1826, vol. 1, 190). "… when, after a repast of milk, and a kind of thick drink, made of a paste from the gussub flour, with honey and pepper, …" (op. cit. 233)

Beer-like beverages have not disappeared from African lands. They are brewed by Islamised social groups. Beyond the Red Sea, *sobia*, a traditional barley beer, is brewed in Saudi Arabia, the heart of Sunni Islam (beer-studies). This is only half a surprise given the predatory Muslim economies highlighted by the history of the Chadian basin (**5.3**). Slavery is its foundation. This past does not fade away. The old sobia-drinking servile social groups bear witness to this. In Egypt and Sudan, traditional beers have never quite disappeared, despite the efforts of religious authorities and political powers to ban them since the Mamluk Sultanate. In 1822, Burckhardt described the beers prepared by caravaners in the Nubian desert, far from the cities. In 1845, El-Tounsy described three types of grain beer in Egypt, Sudan and Darfur (**5.3.1**).

To the modern traveller, these beers are almost invisible. They exist among little-visited ethnic groups or in suburbs hosting migrants driven from their ancestral lands. At the beginning of the 20th century, the German, British and French colonial industries introduced Western beer into Africa, brewed for the colonists and the African elites with a lot of costly malts, hops, yeasts, brewing and distribution equipment (barrels, bottles, cans) imported from their respective metropolises. This European beer, soon to be Africanised with the political independence of African countries, created a second divide between 'modern' beer and indigenous beers. It was superimposed on the old divide between the 'beer-drinking pantheist' and the 'Islamised abstainer'. But above all, it has rejected indigenous beers on the side of the archaic Africans, the peasants or the mountain dwellers from whom the evolved Africans of the cities want to distance themselves by all means.

3.5 The famine fermented beverages in the Chadian basin

Fig. 14: cloud of locusts on the banks of the Chari (Bruel 1905)

In the Chadian basin, food shortages and famines have several causes: lack of rainfall, locust invasions, and slave raids which are the recurrent cause of famines with the attendant massacres, looting, burnt villages, lost harvests.

The mostly pantheistic populations adopt several strategies to protect themselves. Some flee to refuge areas where they exploit the agricultural potential of the Mandara Mountains (**6**) and the Diamaré floodplain (**7**). At the foot of the mountains and in the plains exposed to Muslim raids, they maintain ecosystems of edible plants (palmyra palm groves, tree parks). On the outskirts of the villages, they propagate the so-called "wild" plants: tuberous root plants, wild grasses, fruits, berries, etc. The boundary between domesticated and wild plants, between agriculture and gathering, is becoming blurred. The famous cram-cram (Cenchrus biflorus), a thorny grass adapted to dry tropical areas and sandy soils, is an emblematic food of the entire Sahelian region. The northern limit of this grass, classified as a *krebs*, marks the border between the Sahel and the Sahara, running roughly from Nouakchott to Khartoum. Cram-cram seeds are picked, crushed and eaten raw, or cooked as patties, porridges and beverages. The burgu-millet (*Echinochloa stagnina*), a wild grass with a sweet stem, grows in marshes and flood plains. The stems of this food and fodder plant are dried, crushed and then soaked to filter out the sweet juice. If left to ferment, the resulting beverage is halfway between a wine and a beer.

Further south, the survival plants of the Chadian basin include a wide range of starchy plants for food and beverage, a meaningless distinction when famine is rife. Some liquid foods are fermented, deliberately or spontaneously. These 'shortage beers' or 'second choice beers' are not sold in the markets or in the bil-bil concessions in the towns of North Cameroon. As the wild edible plants that are the source of these beers have disappeared from the landscape in the course of the 20th century[17], these beers have ceased to be brewed for several decades, erased from the collective memory and seldom documented. Their traces are nevertheless deciphered by archaeobotanists and archaeologists of plant ecosystems.

Christian Seignobos has studied the interdependencies between plant landscape, food practice and social history in North Cameroon (Seignobos 1989, 355-373) and describes the main food strategies that have governed the survival of pantheistic lowland peoples. The Mousgoum on the banks of the Logone collected the rhizomes of Nymphaeaceae in the ponds. The Marba in the plains of

[17] The disappearance of survival ecosystems in the 20th century has a double cause. Colonial cash crops in the plains (cotton, rice, groundnuts) have cleared palmyra groves and wooded parklands. The effective end of the slave raids freed the Mandara ethnic groups who migrated to the plains and forsook their mountain ecosystems.

the middle Logone and the Tandjile used the tuberous root of Cochlospermum tinctorium, which provides a starch with a long shelf life. The Kapsiki of the Mandara Mountains used the swollen, edible and starchy stump of a dwarf ensat banana tree (*Ensete homblei*), prepared like a tuber by double boiling with added vegetable salt.

Have these starches been turned into beer?

The dense palmyra palms groves in the Logone-Chari interfluve provide an example of historical value. They served both as plant protection against the slave-hunting Muslim horsemen and as food reserves. The palmyra palm tree (Borassus aethiopum) is the famine tree par excellence. Its spindle-shaped sprouts grow in abundance all year round at the foot of each female tree and, after retting and boiling, provide a good quality starch. It is used to prepare an equivalent of millet balls and to brew an equivalent of millet beer. Nowadays,

Fig. 15: palmyra palms grove, defensive landscape against slave hunting (Seignobos 1989 fig. 2)

> "The meal from these starchy sprouts is only extracted in the form of flour - which is retted - during periods of millet deficiency, allowing 'balls' to be made. The embryos, pounded and mixed with millet, can also be used for the artisanal distillation of an 'argue' (a term used in Chad and North Cameroon to describe a low-quality alcohol distilled in rudimentary stills)" (Seignobos 1989, 358).

To distil this alcohol, a beer must first be brewed half with millet and half with a starchy meal from palm tree sprouts. Historically, the distillation of indigenous beers has occurred in African lands only when a relative abundance of starch could guarantee food survival, hence after the introduction of maize, cassava, sweet potato, ... [18]. It remains to be proven that in times of famine, survival starch was used to brew beer, to fuel religious ceremonies for instance.

To protect themselves from slave raids by the Bagirmi kingdom (**5.3.4**), the Tobanga moved into the forested hills on the banks of the Logone, which are relatively plentiful in wild tubers easy to harvest all year round. These tubers grow in moist sandy soils below the 11th parallel. *Curculigo pilosa* once rolled, pounded

[18] Indigenous distillation developed in Africa in the 18th century on the basis of long-established skills, first on the Atlantic coast with palm wines, competing with European rums, gins and distilled wines (Curto 2003, 89-128). The extension of maize cultivation into inland Africa provided the decisive surplus of nutritious grain to enable the distillation of indigenous beers and palm wines. Seignobos notes that between Chad and southern Adamawa in Cameroon, palm trees (Palmyra, Elaeis or Raphia) were not used to produce palm wine. Their role as a survival food source was favoured before colonisation: 'Bleeding is incompatible with good fruit production, and therefore germplasm, and regeneration is therefore poorly assured. The choice is clear and agrarian discipline seems to have played a role in this direction since the genesis of these palmyra palms groves.' (Seignobos 1989, 359). On the history of European distilled spirits traded in Cameroon, see Diduk 1993.

and dried is preserved as a starch reserve. *Cochlospermum tinctorium* offers large tuberous roots, which are pounded in a mortar. The product is sieved and then repeatedly washed until it loses its bright saffron colour and becomes whitish. The fine part is used for porridges, the remainder for compact 'balls'. Once dried, this flour can be kept from one year to the next. Other tubers and tuberous roots, bush yams such as *Dioscorea abyssinica* or *Tacca leontopetaloides* provide a starch called tapioca in Chad. Like bitter cassava, some toxic tubers must be carefully washed in alkaline water with vegetable potassium salt and eaten with leaves or alternating with cereals. In short, the starch in these tubers and tuberous roots is relatively abundant and could be converted into beer.

Among other tubers, *Curculigo pilosa* is used in West Africa to accelerate the liquefaction of sorghum mash in beer brewing. Its amylolytic power comes from a very high level of β-amylase, one of the starch saccharifying enzymes. The β-amylase of Curculigo pilosa is effective for all starches, whether from cereals, rice, tubers and even potatoes (Dicko & al. 1999). The tubers of Curculigo pilosa are a combined source of starch and saccharifying enzymes with which brewing beer does not raise any hassles.

Was this type of beer culturally appropriate in times of famine or hunger? Was its starch mixed with millet or sorghum? Here again, there is a lack of evidence from the Chad Basin.

Fig. 16: tubers grown in Mandara Mountains. 1: *Curculigo pilosa*. 2: *Amorphophallus aphyllus*. 3: Wild *Dioscorea bulbifera*. 4: *Stylochiton hypogaeus*. 5: *Dioscorea dumetorum*. 6: *Cochlospermum tinctorium*. 7: *Burnatia enneandra*. 8: *Braschystelma phyteumoides*

4 Sources of starch and brewing methods around Lake Chad

We know nothing about the brewing methods in Central Africa region before the 19th century. In 1872 Nachtigal describes scenes of drying sorghum or germinated millet to make malt in the Bagirmi Sultanate (**4.1**). European explorers easily spotted this technique in the field, legitimately identified with the malting practised in their home countries (Great Britain, Germany, France). Technical descriptions dating from the 17th and 18th centuries concern the coast of West Africa or the Kongo Kingdom. These are given by Portuguese, French, Dutch and Danish authors. In 1826, Clapperton describes the brewing of *bouza* (or pito?) during his second voyage from the Gulf of Guinea to the city of Sokoto, but does not mention malting. Arab sources are silent on the techniques for making beer, a beverage condemned by the Islamic religion, systematically attributed to 'idolatrous peoples' and as such unworthy of description. African archaeology has

not yet analysed old residues or remains of starch in the pottery exhumed, a regrettable shortcoming since the dry Sudanese climate favours their long-term preservation.

Ethnohistory broadly traces the evolution of brewing techniques – there is always one – but cannot go back more than a century or two. Its investigations cover a vast geographical area: Northern Nigeria, Cameroon, Chad and Central Africa. The settlement movements it reconstructs led to the spread of the malting technique southwards and of the amylolytic ferment technique northwards (**10**). The history of brewing techniques has several driving forces: the evolution of pantheistic societies, the migration southwards of ethnic groups fleeing the slave raids of the Sudanian region, climatic constraints, the introduction of new starchy plants since the 16th century (maize, manioc, sweet potato, Asian rice), and its corollary, the influence of Europeans on African societies on the Atlantic coast, followed by their colonisation.

The history of African brewing methods is a complex issue for several reasons:

1) There is not one but six different brewing methods. Which ones were implemented in the Chadian basin, taking into account the historical migration of people southwards?
2) In addition to cereals, starch can come from tubers (yams, nutsedge, cassava, sweet potato) or pulses (cowpea) and involve specific brewing methods. Beer can be obtained by liquefying (saccharifying) the starch in an acidic medium, without malt or ferment.
3) Beer takes on unusual forms (for Europeans) which are not classified as fermented beverages. Patties, millet balls and gruel, when diluted and spontaneously fermented, become a thick beer with little alcohol before complete acidification. The foodways of the Chadian basin peoples regard these beverages as refreshments, nourishing porridges or exhilarating beverages, depending on the context and the moment. We classify all them as "beer", from a technical point of view.
4) Beer can be hidden in a harmless flour-milk-honey cocktail, a question that overlaps with the previous point. The hydrolysis of starch in the presence of lactic acid generates fermentable sugars. This technique concerns agro-pastoralists [19]. These beer-like beverages are also drunk by Islamised populations when the flour + milk infusion has not yet fermented.

Chevassus-Agnes' team analysed the traditional beers of Central and North Cameroon at a time when development programmes hoped to integrate traditional African brewing into the post-colonial market economy, with some technical improvements (Chevassus-Agnes 1979). This valuable study mapped 3 different

[19] We are not talking about fermented alcoholic milk of the Central Asian koumis type, which does not seem to exist in Africa, even among the pastoralist Fulani. It is the starch (not the lactose) saccharified by lactic acid that generates an alcoholic fermentation, preceded by a required lactic fermentation. The acidifying action of berries or vegetable juices achieves the same result while the sweet sap ferments and turns into ethanol and then acetic acid.

brewing methods: grain malting, sour hydrolysis of starch, making of amylolytic ferments. We are not aware of three other brewing techniques in the Chad basin: insalivation of cooked starch, amylolytic plants (found in Senegal and Zambia/South Congo), and over-maturation of starchy fruits (e.g. plantain, *Ensete*), which is the dominant technique in the Great Lakes region (Eastern Africa).

The geography of the three brewing techniques and their North-South distribution for a wider region are the issues addressed in chapter **10**.

Our historical approach through brewing techniques is justified. Beer is a 'technological' beverage that has become specific and autonomous. Protohistoric fermented beverages were mixed, beer-wine-hydromel occurring at the same time. The predominance of cereals and tubers in the diet has favoured the family of beverages that we call "beers" but does not imply the disappearance of mixed fermented beverages. In the lack of analysis of archaeological drinking residues for the Chadian basin, it is not known when beer emerged as an autonomous beverage family. Seignobos reported that fruit wines and beer coexisted. "Extra-ceremonial alcoholic beverages were made mainly from the fruits of *Ficus sycomorus* and *F. dicranostyla*, and even earlier from the berries of *Syzygium guineense*. In the foothills, plums of *Sclerocarya birrea* were obtained and the pulp was kneaded and fermented (Schnell 1957: 172)." (Seignobos 2014a, 28).

4.1 Germination of cereal grains (sorghum, millet, eleusine) = malting

This brewing technique makes use of the amylases generated by the embryo during the germination of the cereal grains. Soaking the grains triggers their germination (after their dormancy period). It develops for 5 to 6 days under cover from light, in a container or under a cloth on the ground, regularly moistened. Germination is stopped by drying the grains in the sun or, more rarely, by moderate heating on a hot perforated plate or in an oven.

Malt is obtained after complete desiccation of the germinated grains, from which the rootlets are separated by rubbing between the hands. As this technique can be applied to all cereals (except rice), African brewers make malt from sorghum, millet, eleusine, and more recently maize. Dry malt keeps well (it no longer germinates!). A small stock of malt is used to produce brews over time. The proper brewing process begins with the crushing of the friable malt grains and a fractional boiling in water, with or without decanting. After filtration, a wort is left to ferment (overall diagram of brewing by malting).

In 1872, Nachtigal observed the drying of malt in the sun as he approached the military camp of Abu Sekkin, Sultan of Bagirmi (south-western Chad today):

> "In the courtyard, naked women spread out in the sun the germinated durra, intended for the favourite merissa." (Nachtigal 1971-1987, vol. III, 310). "In their wooden mortars women were pounding corn into flour, which was then sifted through loosely woven cylindrical baskets, or spreading out in the sun thoroughly soaked sorghum ears to be used later for making merissa" (op. cit. 338).

Durra refers to sorghum, merissa to beer. Nachtigal describes here the work of women-slaves captured among the ethnic groups of Logone-Chari or the southern forests. A few days after seeing these malster (malt-maker) and brewer women, he joins in the bloody attack on a village of 'pagans'.

In 1937-39, Paul Créarc'h studied the diet of the people of Chad and described in detail the brewing technique with malt:

> "It is made from red millet (krougnagna or doura). For two days, the millet seeds are macerated in an earthen jar (bourma). At the end of this time, the water is decanted and the grains are carefully spread out on an old mat. They are watered frequently until they germinate. After 3 days, when the germ has reached a few millimetres in length, watering is stopped and the millet is placed in a jar, where it will remain for one day without being watered.
> Then it is spread out on a mat for two days in the shade and one or two days in the sun to dry. After drying, it is crushed roughly on a millstone (mourraka). This malted millet is then mixed with water in the approximate proportion of 1/4 flour to 3/4 water by volume.
> The mixture is made in a large jar that is put on the fire. The boiling process should last about six hours, during which time evaporation is compensated for by adding water. The preparation is then left to cool and rest overnight. The next day it is boiled again, keeping the volume constant, until it takes on a reddish hue.
> After cooling, the yeast is added and left to work for 24 hours. Once the fermentation is complete, the yeast is skimmed off and saved for future use. The preparation is then filtered on a cotton cloth or in a salt jar (1, fig. 16) whose filtering system is made up of a straw mat interposed between two fragments of matting. The filtrate constitutes the bilbil, which must be consumed during the day, otherwise the parasitic fermentations that develop risk giving it an execrable taste." (Créarc'h 1993, 138).

An important technical alternative exists. The sprouted grains are not dried in the sun but ground while still wet into a paste that is left to macerate in a container. It ferments (amylases + malt sugars + yeast) and acidifies (lactic acid bacteria). After dilution and filtration, the resulting beverage is a sour and bitter beer. The bitterness comes from the rootlets and germ crushed with the wet kernel of the grain (no bittering herbs added). This variant satisfies a strong taste for bitterness and acidity, regardless of the optional aromatics. This technical variant is close to or complementary to the sour hydrolysis brewing (**4.2**).

In Africa, traditional malting rarely uses the kilning of sprouted grains. It would consume a lot of wood to colour the malts ranging from pale, caramelised grain to roasted grain, the classic colours conferred on industrial beer (blonde, amber, brown). The gentle and slow drying under the sun gives the malt little colour. African beer takes its colours from the cereals themselves: the pale colour of eleusine, the red colour of some sorghum, the light colour of millet or fonio cultivars.

Most of the sorghum beers from the Mandara Mountains (North Cameroon), the Alantika Mountains and Mount Poli (Central Cameroon) are brewed using this technique (Fig. 17). Its brewing diagram has been published (Chevassus-Agnes 1979, 85).

These malt beers are called *bili-bili* or *bil-bil*, a vernacular term of Sara origin, one of the majority ethnic groups living in Western Chad. However, each ethnic group designates its beverages in its own language: *mbal* by the Giziga (borrowed by the Fulani to designate all fermented beverages), *zom* or *zoom* by Mofu and Mafa, *amgba* by the Baya, *mgba* by Laki, *soum* by the Lame, *himi* by the Mundang, *koumoui* by the Tupuri, *mouzoum* also by the Giziga, *kass* among the Sara ... (Chevassus-Agnes 1979, 86), and so on for all the ethnic groups of North Cameroon (**6** and **7**). Other words refer to special beers: *valawa* brewed with the bark of the African mahogany (cailcedrat *Khaya senegalensis*); *cochette*, a rice beer in Chad or in Yagoua and Gobo (Cameroon); *furdu*, 'alcoholic porridge consumed hot during the rainy season' (Seignobos & Tourneux 2021, 37 sub. Bilb-bil). Besides *furdu*, many semi-fermented beverages are rarely listed under the category 'beer'. Their compositions are reminiscent of the archaic mixed fermented beverages (flour + honey + berries + milk) common to farmer-pastoralists.

Fig. 17: drying of germinated sorghum spread out in the sun (foreground), brewing equipment on the right

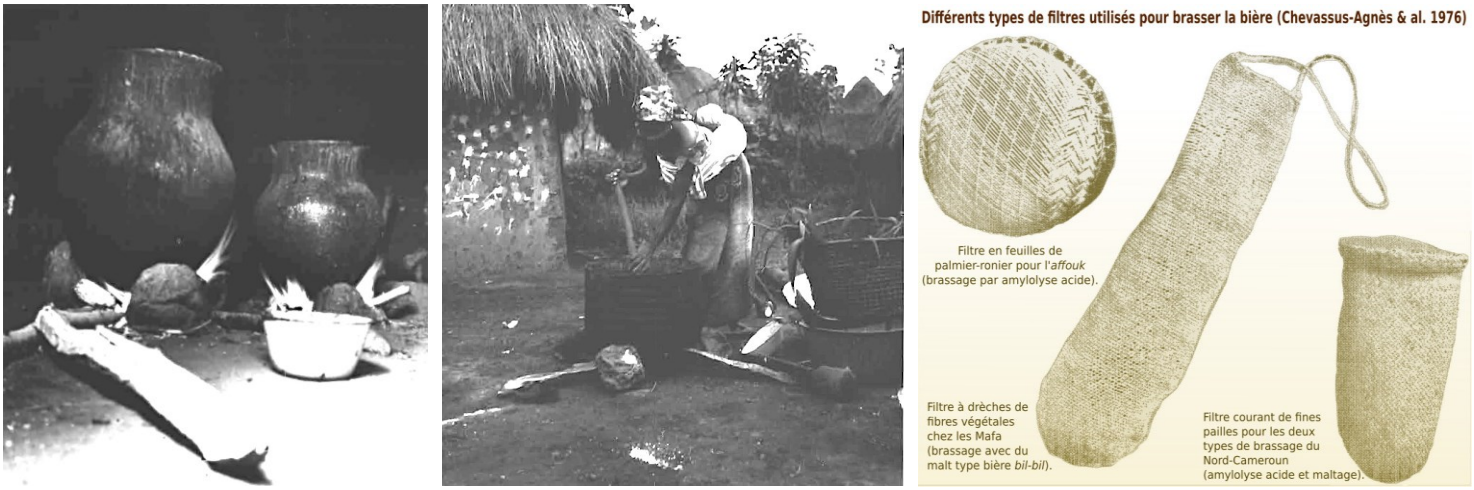


Fig. 18: Left: wort boiling in Giziga country. Centre: a mash decoction and spent grain filter. Right: different filters for brewing beer (Chevassus-Agnès & al. 1976)

While sharing the same technical core (malting + wort + boiling), the brewing of malt-based beers offers many variants:

- The proportion between malted and raw grains. Mafa brewers (central Mandara Mountains) often mix mouskouari sorghum malt (varieties grown on flood plains) and fonio malt or raw grains, depending on what is available in their granaries.

- The more or less prolonged cooking of the wort affects the taste, the concentration of fermentable sugars and their caramelisation, the colour, and the clarification (hot breaking of coagulated proteins).
- Acidifying pre-fermentation of the wort after cooling and before filtering the spent grains (Mafa, Giziga, Mundang).
- The use of okra (*Abelmoschus esculentus*) or mucilaginous sap (*Triumfetta* sp.) to clarify the wort.
- The texture of the beer depends on the degree of filtration, i.e. on the more or less tight braiding of the baskets or sock filters made of wicker or vegetable fibres (Fig. 18).
- Fermentation time: 12 to 24 hours, but longer for beers dedicated to festivities.
- Since the 1970s, the brewing of traditional beers sold on markets or in the urban *bilbil* beer compounds has led to an evolution in their organoleptic profile and consequently in certain technical details. For example, the double boiling of the wort with intermediate cooling, clarification and acidification. These technical improvements were widespread in the Niger basin for brewing *dolo*. They spread to the Chadian area in the 20th century.

Bil-bil malted beers are similar to African industrial beers as they are based on the same brewing method. To activate the amylases within the dried and crushed malt, a liquid medium and a given temperature (50° to 70°) are required. Hence the wort preparation phase. In the course of the 20th century, the women brewers in the Chadian basin changed their techniques only slightly in order to brew a beer comparable to Western bottled beer. They improved the cooking of the wort, its clarification using mucilaginous plants, and favoured bitter sorghum.

They brewed well-clarified, pungent and bitter beers close to the sparkling and hoppy beers that came out of the beer factories. Only the control of fermentation remained problematic, as Périsse reported for Togo (1959). The technique used by the female brewers of Maroua, a multi-ethnic town in the far north of Cameroon, is sophisticated. They select several varieties of sorghum for malting to balance taste, strength and colour: "The most common proportion, although it varies according to the periods of the year, is one third *njigaari* to two thirds *muskuwaari*. The *njigaari* imparts the desired colour and flavour, while the *muskuwaari* gives body." (Seignobos 2000, 167 index *bilbil*).

Mafa and Mofu peoples only know *bil-bil* beer. In the south-eastern area of Poli, among Dowayo, Voko and Duru peoples, only the *affouk* type of beer is brewed (below). But elsewhere, non-Islamised ethnic groups make their beers with at least two different brewing methods, although only one kind of beer is widely consumed (Chevassus-Agnes 1979, 84).

The profile of the beers brewed with the other two methods is quite different (below). They retain their indigenous character unaltered: sourness, harshness, thickness, strong fermentation aromas, ... Beers deemed undrinkable for most European palates.

4.2 The sour hydrolysis of sorghum or millet grains

The process is straightforward: a very sour liquid or semi-liquid medium (pH 4 to 3) almost completely saccharifies the cooked starch granules. Simultaneous alcoholic fermentation transforms the sweet medium into beer. This purely chemical process does not involve any amylase, neither from the malt nor from amylolytic fungi. How is it done? Lactic acid fermentation of milk or alcoholic-acetic fermentations of sugar juices produce an acidic liquid medium. The latter is also obtained by acidification of a cooked starch paste or a sweet wort through the action of residual lactobacilli on the walls of earthenware or wooden containers. The symbiotic microorganisms of the fruit, apart from yeast, also cause this acidification. In the presence of alcohol, acetic acid dominates.

Affouk or *kpàtà*, a sorghum beer from Central Cameroon, is brewed by sour hydrolysis, as follows: soaking and wet milling of raw sorghum grains, then cold mashing to obtain a paste that is deliberately left to acidify (lactic/acetic fermentation) for 2 to 3 days until a sour taste is obtained, which is used as a test to move on to the next stage. When brewing, this sour paste is diluted in water with the eventual addition of roasted sorghum dough (lowering the pH, reducing sugars, protein coagulating tannins). After sieving, the wort is fermented in special clay pots. This thick beer is usually drunk warm or hot (Chevassus-Agnes 1979, 98-101).

This method is simpler than the malting adopted for *bil-bil* beer. It saves on the preparation of malt. Its brewing diagram has been published (Chevassus-Agnes 1979, 99). As with *bil-bil*, the *affouk* or *kpata* beer has a unique name in each ethnic group: *affouk* among the Baya, *affoukou* or *poukou* or *vone* among the Mboum, *do* or *do'di* among the Dourou (Dii), *bouerou* among the Dowayo and the Voko, *tidéré* among the Mundang, *balda-babaran* among the Gizig, and so on (Chevassus-Agnes 1979, 90).

Like malting, this technique has many variants. The Dowayo, the Voko, the Mundang and the Giziga pound or crush the dry sorghum directly, while others moisten the grains or prepare balls with sorghum or millet flour similar to the millet balls used for meals. The paste obtained sours for 1 to 4 days. Among the Mundang and Giziga, dry sorghum flour is added 24 to 36 hours after the start of the operation, with a larger quantity of water, and the supernatant is then removed. At the last moment, the Gbaya and Mboum heat the dough while stirring constantly to obtain toasted pieces (*hanadon* of the Gbaya). Some ethnic groups cook the dough until it forms a ball of millet which is left to cool before fermentation.

The savannah populations have fruits and berries to acidify infusions or decoctions of cereals. Tamarind pods (*Tamarindus indica*), *Hymenocardia acida*, and African sorrel (*Hibiscus sabdariffa*) provide the acidic principle (*çede*) for beverages among the Muzey and Masa in the Logone-Chari basin (de Garine 2005, 51).

Nowadays, the term 'red wine' in Cameroon refers to *bilbil* beer and 'white wine' to *furdu* beer, an alcoholic porridge consumed hot during the rainy season. Like *affouk*, *furdu* is brewed by sour hydrolysis. *Furdu* is an older type of beer than

bilbil among the lowland populations of North Cameroon (Diamaré). *Furdu* is the beverage that replenishes the body during hard agricultural work in the rainy season, and is drunk in the fields or on their return (Seignobos 2005; Seignobos 2000, 167). This beer is a cousin of *furah*.

Furah is a cereal porridge with milk or honey added, often mentioned and enjoyed by H. Barth between 1849 and 1855, when he travelled through the Bornu, Wandala and Sokoto territories: "my friend Módibo 'Ali sent me, every day, a large basin of furá, the favourite drink of ghussub water [a beverage from millet, *Pennisetum*], two dishes of hasty pudding, and two bowls of milk." (Barth 1857, vol. IV, 182). Neither Denham, Barth, Nachtigal nor any other 19th century explorer mentions the fermented, let alone alcoholic, nature of the cereal porridges they consume every day. They are not fermented in the early hours, but quickly become so. Sour milk produces a sour lactic medium that saccharifies and liquefies starch. The fermentable sugars from the starch and the optionally added honey ferment spontaneously. The *furah* illustrates the continuous transformation (1 to 2 days depending on the temperature) by sour hydrolysis of a cereal infusion with added honey and milk: first a slightly acidic and refreshing food porridge, then an alcoholic beverage = beer, and finally a vinegary barley after 2 or 3 days.

In the 19th century, as today, Muslims in the Sudanian zone consume *furah* fresh, free of fermentation. Waiting a few hours is risky. It is not a dietary risk but a religious one. For a Muslim, the line between a *halal* porridge and a *haram* beer is fast crossed.

Créarc'h describes the brewing of the *ar'habèche* beer, which the nomadic or sedentary Arabs living along the shores of Lake Chad brew with ¼ millet malt and ¾ millet paste called '*acidé*'. The latter is made in the same way as food millet balls (millet grinds without the bran cooked with water in an earthen pot, Créarc'h 1993, 147). Specificity: no cooking, brewing with cold water, no addition of ferment (dried leaven recovered from the scum of a previous brew), spontaneous fermentation.

This type of brewing characterises the sour hydrolysis method (the phonetised Arabic *acidé* does not mean acidic!). This method is similar to the *affouk* or *kpàtà* brewing done by the Baya, Mboum, Dourou (Dii), and Dowayo of central Cameroon.

"This beverage can be made from any kind of millet, but it is most popular when brewed from small millet (doukhoun).
To begin with, the malt is prepared using the same technique as that used to make bilbil.
The desired amount of millet is then ground in a mortar to make a flour from which the bran should be removed. This flour will be cooked and used to make a ball of sourdough (see p. 147).
The ground malt is then mixed with the acidé by manual kneading, the approximate proportions of the components being one part malt (zoura) to three parts acidé. The thick paste thus obtained is then diluted in cold water which fills a jar and is left to

Fig. 19: *acidé* (millet cake) on the Lake Chad shore - Lancrenon 1905

> rest overnight. The next day, the content of the jar is filtered in the same way as for the bilbil.
> At no time during the preparation was yeast added. It was the yeast that was suspended in the air and probably other micro-organisms that caused the fermentation of the ar'habèche.
> Like bilbil, this beverage must be consumed as soon as possible, otherwise its taste spoils." (Créarc'h 1993, 138)

One notes the involvement of malt which makes *ar'habèche* an exemplary beer of mixed brewing methods: sour hydrolysis combined with malting. Chapter **10** deals with this issue, which concerns a region encompassing Northern Cameroon and Central Africa.

Sour hydrolysis is a common brewing method in Sudanese Africa as it is derived from basic cooking: porridges, pastes and millet balls. It coexists with malting and amylolytic ferments (below). It owes its survival to its archaic character, its simplicity (no malting, no ferments) and its resurgence during the times of dearth. Its existence as an authentic brewing method has been overshadowed by the standardisation of traditional African beers in the 20th century when confronted with colonial beers made using Western technology.

Ch. Seignobos has tentatively reconstructed the profile of the beers from Mandara Mountains before the 18th century: boiled rather than clarified or filtered beverages, acidic decoctions rather than sweetened beers, fermented "liquid breads" rather than specialised alcoholic beverages:

> "The alcoholic beverages prior to the XVIIIth century are more likely to be alcoholic porridges consumed hot, mainly for ceremonial use. Oil was added, as is still practised by the Jimi and Gude with new brews. The cucurbit or sesame oil limited the acidity of the beverage and its shine coloured the porridge and gave the drinker's upper lip that same shine, thus expressing abundance and well-being." (Seignobos 2014a, 28)

This examination abolishes the borderline between fermented beverages and porridges, anachronistic categories for the African past. It is noted, however, that a heated fermented porridge does not remain alcoholic for very long.

A third method of brewing, however, requires more time-consuming and complex operations. This is the technique of the cake-ferment made with amylolytic fungi grown on a cooked starch substrate and then dried, also called the beer-starter in English literature (not to be confused with yeast or leaven).

4.3 The amylolytic ferments or fungi (beer-starters)

The amylolytic ferments are a third brewing method. The mycelium of some fungi rich in amylases converts cooked starch into fermentable sugars, regardless of the origin of the starch (grains, tubers, …). To make these ferments, moulds are grown on a substrate of cooked starch. After 7 to 15 days, these starch pellets are covered with mycelium. They are dried in the sun or over a fire and can be stored for several months. When the time comes to brew, they are crumbled and mixed in a jar with cooked sorghum, maize, cassava or any other starch source.

Amylases produced by the mycelium trigger the saccharification of the starch. The cooked dough liquefies (hydrolysis) and ferments rapidly in the presence of yeast.

This is what Dowayo, Mboum and Duru (Dii) do in central Cameroon:

> "Sorghum malt is pounded with a mortar or crushed with a millstone in a process similar to that previously described for the *amgba* beer. In many ethnic groups, the malt is also tested for mould growth by keeping it sufficiently moist for ten to fifteen days. It is then stored carefully. The Namchi [the Dowayo; Namchi is a derogatory name coined by the Fulani], the Dourou and the Mboum, who particularly insist on the importance of moulds to obtain a "good wine", look for greyish-green malts." (Chevassus-Agnes 1979, 101).

GBaya, Mboum, Dourou (Dii), Dowayo, … live in the dry forest of today's Central Cameroon (Adamaoua province) and Central African Republic. This explains the cassava-based beers on the one hand, and the amylolytic ferment technique on the other. Are they holders and witnesses of ancient brewing traditions that disappeared around Lake Chad a few centuries ago?

The Gbaya of the Central African Republic, on the border with central Cameroon, brew their cassava beer using amylolytic ferments grown on a sprouted maize substrate. The brewing of this beer has nowadays become a step before distillation. The Gbaya had been brewing their cassava or millet beer (kpàtà) for centuries before they learned to distil it, in imitation of the rum and gin introduced by the Europeans:

> "This alcohol is made from maize and cassava. The dry maize grains are dehulled and put in cold water where they are left for three days. They are then removed from the water and fermented [sic! germinated] in a basket lined with leaves. The 'sprouted grains' hàò are pounded and then put into a container 'for mould to grow' há mɔ́-dò ɓùkí ?é (for that/rot/mould/already). Cassava is then prepared and 'brewed into a porridge' éí pátí dɔ̀ɔ́ (one/to brew/alcohol). Water is added to it and then the already prepared corn." (Roulon-Doko 2001, 197)[20].

The author actually describes the method of amylolytic ferments: 1) cultivation of fungi on a substrate of cooked starch, in this case germinated maize, between (banana?) leaves => growing of the mycelium. 2) inoculation of a cassava slurry with these ferments => saccharification-hydrolysis of the cassava starch 3) concomitant alcoholic fermentation => a cassava beer.

The tropical climate of Central Cameroon promotes the cultivation of amylolytic fungi, the dry climate around Lake Chad much less so, if at all. The proximity of tropical Africa and its tubers (yam, later manioc) has had an impact on the brewing techniques of the ethnic groups of Central Cameroon (**10**).

[20] Roulon-Doko describes the brewing of kpàtà beer too briefly: "The women say that it is made from bananas and cassava balls crushed in water to which crushed millet is added. This paste is then sieved. The resulting juice is sealed in a container where it turns into beer." (Roulon-Doko 2001, 198).

In 1905-1907, Captain Moll demarcated the border between French Congo and German Cameroon, 2000km from the Gulf of Guinea to Lake Chad. E. Brussaux captures scenes of drying and grinding cassava in Gbaya country and of men drinking their *doko*, the Gbaya's cassava beer.

Fig. 20: drying cassava on rock slabs (left); pounding cooked cassava (centre); *doko* beer drinkers (right)

4.4 A 4th method for brewing beer from starchy fruits?

Roulon-Doko sums up the brewing of kpàtà beer by the Gbaya women:

"The women say that it is made from bananas and cassava balls mashed in water to which crushed millet is added. This paste is then sieved. The resulting juice is put into a container where it turns into beer." (Roulon-Doko 2001, 198).

Unfortunately, this short description does not specify the technical role of the false banana tree *Ensete gilletii* collected by the Gbaya.

Plantain beers are a customary fermented beverage of the so-called Great Lakes region of East Africa (Huetz de Lemps 2001, 231-254). They are cultivated throughout Central Africa, especially in the Congo Basin. Banana phytoliths dated to the 1st millennium B.C. discovered at the Nkang site (50km north of Yaoundé) indicate that the spread and adaptation of the *Musaceae* family were early in Central Africa (Mbida & al. 2000). These phytoliths did not make it possible to distinguish between banana-fruit (AAA), banana-plantain (AAB), or false banana *Ensete*, an important issue in differentiating between banana-fruit wine and starchy plantain beer.

Fig. 21: *Ensete*. Seignobos 2014a, f. 16

In addition, the formula of the beer given by Roulon-Doko is composite: banana + manioc + millet. Are we dealing with a real banana beer or a mixed fermented beverage?

4.5 The recent prevalence of the malting technique

In the encounter with colonial industrial beers first introduced in bottles at the end of the 19th century, to be brewed in Africa a few decades later, African beers have become closer to them by favouring the malting method which gives well clarified, less sour, and sweeter beers.

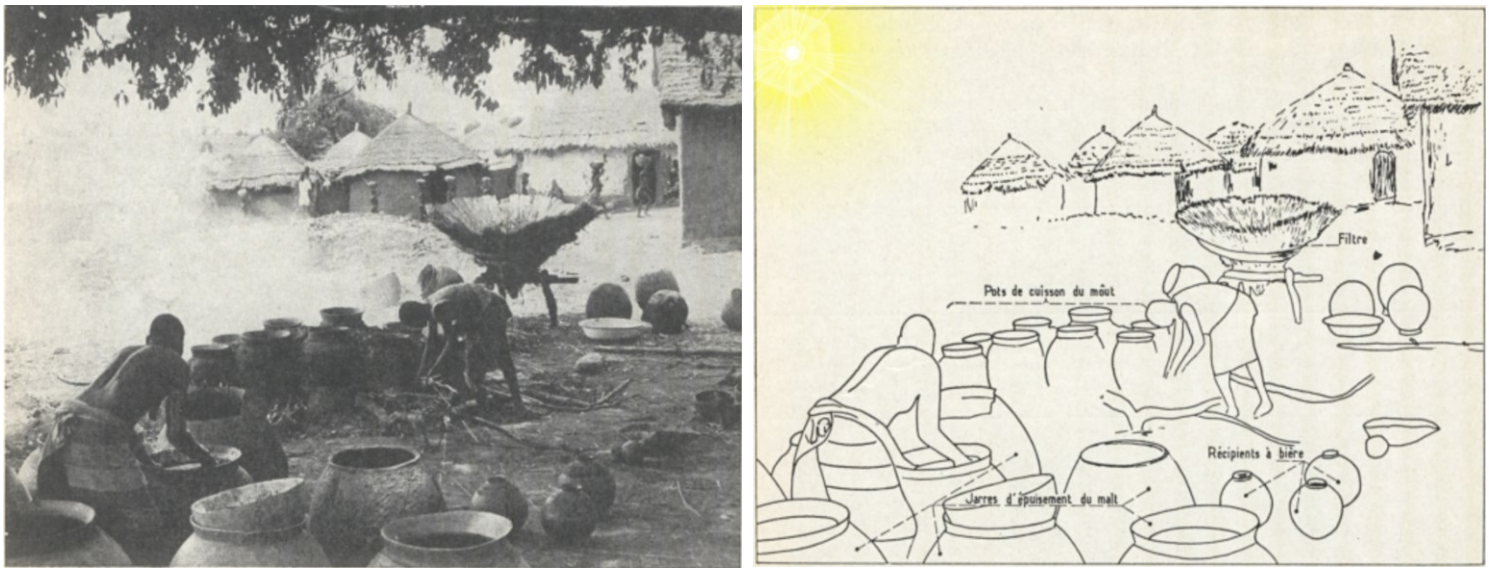


Fig. 22: Left: an open-air African brewery to make large volumes of dolo beer each week, observed in Togo in 1959 (Périsse & al. 1959). Right: photo and diagram of the brewing apparatus

This competition drastically changed the African geography of beer in the Sudanian zone during the 19th and 20th centuries:

- In rapidly growing urban areas, indigenous beers gradually disappeared, especially after the political independence of African states. Embracing Western beers was a sign of modernity. Abstaining from them was a sign of strict Islam. To remain faithful to indigenous beers was a sign of attachment to one's original ethnic group.
- In the countryside and villages, two complementary developments took place. 1) Traditional beers were sold in markets but their brewing method was based exclusively on malting cereals. 2) The other families of beer (sour beers, beers brewed with amylolytic ferments) were maintained in an increasingly restricted cultural and geographical context, that of the ethnic groups who remained attached to traditional social structures and religions, for example in the forests of Central Cameroon. Nowadays, they remain only as vestiges in the Mandara Mountains and the south of Diamaré, alongside the bil-bil malted beers which have become monopolistic.

The far-reaching socio-political shifts of the last two centuries make any archaeology of the African beer very difficult. The ancient artefacts discovered by archaeologists no longer have any significance for the indigenous populations. Written documents are extremely rare. Oral traditions are permeable to modern ideological reconstructions, especially those inspired by the jihads and their ban on beer equated with the "drink of the pagans".

5 Socio-politics and brewing traditions in the Chadian basin

The starch provided by cereals, tubers, legumes and starchy fruits is essential for brewing beer (**3**). Cereal and horticulture, acquired in the Chadian basin 3,000 years ago, provide this starch according to various annual cycles that combine harvesting and farming. Storage techniques (pits, granaries, drying, keeping tubers in the ground) preserve this starch throughout the year. This relative security of starch reserves is a prerequisite for brewing beer at regular intervals throughout the year.

Nevertheless, the emergence of brewing traditions also depends on a powerful social dynamic that collectively values and controls a fermented beverage whose very purpose goes beyond the biological need to quench thirst. The rise and consolidation of the brewing traditions in the Chadian basin has taken place over the last two millennia. This long and undoubtedly chaotic historical process is intimately linked to the progressive complexification of the social organisations of the Chadian basin in the first millennium, as witnessed by archaeology (**5.1**).

These protohistoric brewing traditions, about which almost nothing is known, were developed by increasingly complex pantheistic societies. Their past and their social structures are "reconstructed" thanks to the ethnic groups extensively studied by ethnologists in the 19th and 20th centuries. The pivotal role of brewing traditions in the societies of the Mandara Mountains, the Diamaré Plain and Central Cameroon is the topic of chapters **6**, **7** and **8**.

History is not linear. In the 11th century, the early penetration of Islam disrupted the Chadian basin. Fermented beverages became a central issue, socio-political rather than religious (**5.3**). The Chadian world is split between pantheistic societies – beer provides essential social functions for cereal-growing peoples (**5.2**) – and centralised Muslim powers whose politico-religious elites advocate abstaining from alcohol (**5.3.1**).

Beer became a symbolic cultural beverage for the ethnic groups who resisted the slavery policies of the Muslims. We can therefore observe their brewing traditions, which are still well alive in our time.

For ten centuries, Islamic kingdoms waged war on pantheistic societies and institutionalised the practice of slavery (**5.3.2**). The expansion of Islam could have ruined the brewing traditions of the Chadian basin. It did not. Exploring the deeper reasons for this age-old paradox is the subject of the long chapter **5.3**.

In Islamised territory, the surprising survival of brewing traditions is more complex to explain. The food production and crafts of the Islamic kingdoms were based on the work of enslaved pantheists. They did not stop brewing and drinking their beers with the approval of the Muslim authorities (**5.3.3**). The pervasiveness of slave raids during the 19th century promoted warlords and soldiers who were quick to drink beer and had little regard for the Koran (**5.3.4**).

In the 20th century, the history of beer in the Chadian basin is still woven by these two competing and inextricably linked political economies, two economic logics from which two types of social complexities arise: acephalous, egalitarian and pantheistic, or authoritarian, hierarchical and Muslim. This historical dichotomy, perfectly illustrated by that of the brewing traditions, is still generating these effects today. In Nigeria, Boko Haram has returned to the triplet: jihad ↔ slave raid ↔ destruction/enslavement of non-Muslims. Once again, beer crystallises the other side of this deadly triplet with numerous ambivalences.

5.1 Protohistory, social complexity and emerging brewing traditions

Archaeology provides some clues to the emergence of brewing traditions in the Chadian basin. They are closely linked to cereals, which play an increasingly central economic role at the expense of cattle and pastoralism. We have seen that the holders of eleusine and sorghum who came from the east around the 4th century were pastoralists and proto-farmers (**3.1.3**). It is not known whether they made their fermented beverages from a cocktail of fermentable ingredients of all kinds (fruits, berries, beans, honey, seeds) or whether they already had a proto-tradition of specialised starch-based fermented beverages. Was beer already a specialised beverage, an autonomous family of starch-based fermented beverages?[21].

The Zilum site covers 12-13 ha, surrounded by a ditch and an embankment 60km north of Maiduguri (Nigeria. Map 1). It dates from 800-400 BC (Gajiganna culture, phase III). The vegetable diet, of millet and cowpea, shows a shift towards storage (pits for storing grain), a less meaty diet, and a large production of coarse pottery. An area of 400 m^2 in the centre of the village was used for tanning hides. Zilum is adjacent to 12 other sites of a similar nature (Magnavita & al. 2006, 166-168). A social complexity emerges about 2500 years ago in the plain bordering Lake Chad: collective housing, crafts, specialised agriculture, and grain storage. Archaeologists have not found any analysable evidence of fermented drinks.

In the Chadian basin, cereal farming developed among the pastoralists-fishermen-hunters of the Sudanian savannah. Social complexity, demographic growth, technical advances (metallurgy, pottery, agriculture) lead to the emergence of brewing traditions around the first millennium, as attested by the study of ancient pottery from the Mandara Mountains and neighbouring regions (below).

The socio-economic functions of beer have expanded in proportion to the degree of stratification of societies over the last millennium. Increasingly efficient cereal cultivation goes hand in hand with regional developments of the brewing techniques (**4**).

[21] The stage of mixed fermented beverages precedes the differentiation of beer as a stand-alone beverage, a beverage fermented with starch only, a stage that implies mastering the basic brewing techniques and having year-round starch supplies (beer-studies).

We define social complexity by the existence of hierarchies and relationships of mutual dependence, the specialisation of technical activities or social functions (producers, warriors, political leaders, ritualists), territorial logic and the reinforcement of large human groups[22].

The pivotal period for the consolidation of brewing traditions in the Chadian basin would be the turn of the first millennium. Archaeologists have compared shards of pottery unearthed at archaeological sites in Diamaré with modern pottery in order to identify their function: either beer jars and pots, or cooking pots for preparing the "millet ball" (Fig. 23).

Around the 1st millennium, the proportion of shards associated with brewing vessels increases. "*This shows, among other things, from the middle of the first millennium AD onwards , an increase in the shapes classically used to prepare and serve grain beer. As early as this period, we can therefore expect an increase in the consumption of cereals in the form of beer.*" (Langlois 2005, 349).

In North Cameroon this period corresponds to an Iron Age that emerged between 500 and 1000 (Marliac, Langlois 2000, 71-76). The larger share of starch sources devoted to beer reflects deep socio-political changes. These are of two kinds: on a local scale, a growing social complexity among the peoples living in the region; on a regional scale, the consolidation around the 11th century of kingdoms inspired by centralising and conquering political conceptions. Historically, these two phenomena undoubtedly respond to each other. Among pantheistic societies, we observe mechanisms that transform beer into a global social fact[23].

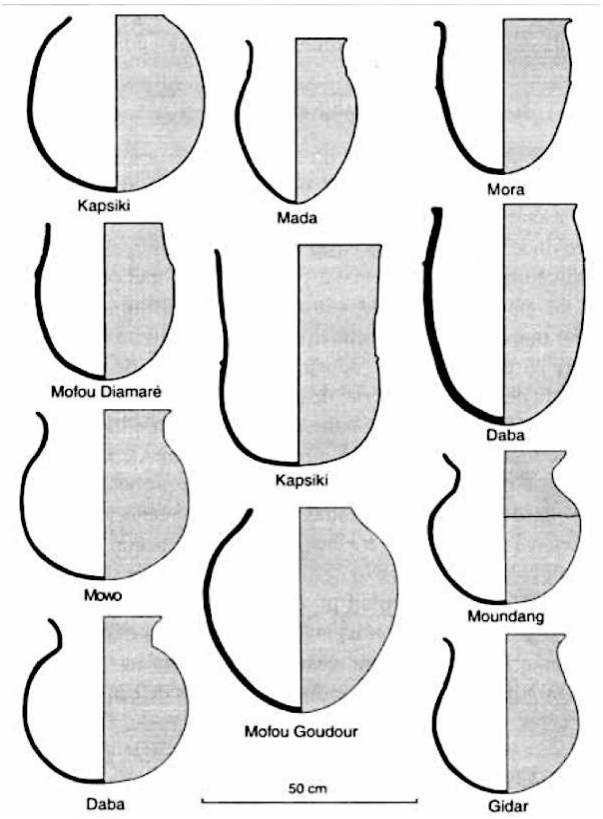


Fig. 23: ceramics for brewing are defined by a high average thickness, a relatively high standard deviation of thicknesses, rather extreme opening diameters = high standard deviations, a low percentage of convex edges (Langlois 2005)

Fig. 24 : firing brewing beer jars, Mandara Mountains foothills (Seignobos 2017)

[22] African societies are usually classified according to their degree of centralisation/accumulation of political power: acephalous/lineage societies, tribes, chieftaincies, kingdoms, 'empires'. This classification, often used and criticised for its evolutionary inspiration, poorly reflects the complexity of African social dynamics.

[23] *Pantheistic society* are partly inappropriate terms. Islamised entities have maintained tributary pantheistic ethnic groups within their territories. Conversely, Muslim pastoralists have infiltrated pantheistic territories. Pantheists and monotheists peoples do not inhabit antithetical and homogeneous territorial blocks in Africa.

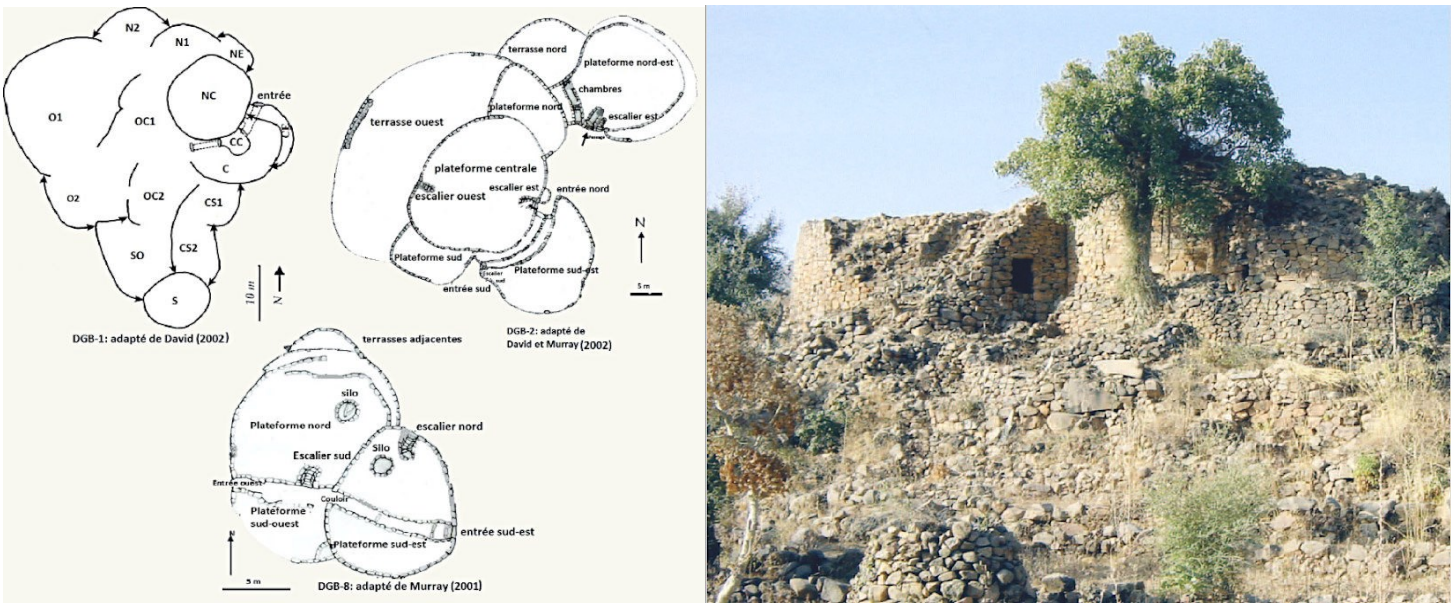


Fig. 25: *Diy-Ged-Biy*, DGB. Left: DGB-1, DGB-2 and DGB-8 structural plans adapted from David and Murray 2002. Right: DGB-1 at Kuva in 2004 (David 2004)

In the north-western Mandara Mountains (Map 1), many '*eyes of the chief on top*' (*Diy-Ged-Biy*, DGB, Müller-Kosack 2021:80) are ancient stone buildings used and abandoned in the early 15th century (C_{14} dating, David 2004). These sixteen structures built on rocky hills (800 to 1200m), about 10km apart, have required significant collective work. The surface areas vary from 75 to 2000 m^2.

Several hypotheses have been rejected: fortresses, acropolis, warehouses, dwellings, chiefs' tombs. In 2004, Nicholas David suggested they were defensive watchtowers or ritual buildings dedicated to the rain. The 1450s experienced an episode of drought and the dramatic near-drying of Lake Chad.

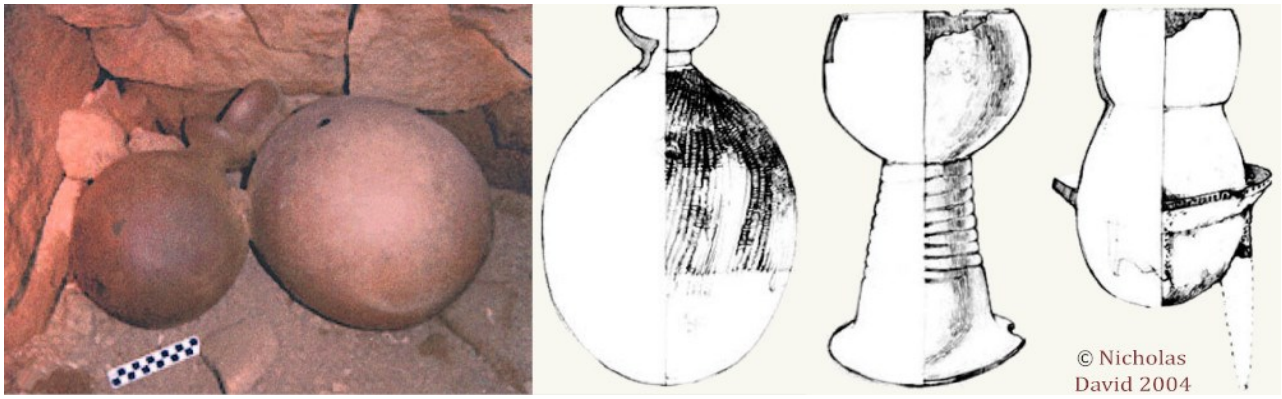


Fig. 26: DGB-2 ceramics. Left: 2 beer jars with funnel neck in situ. Right: the smaller of the two; beer mug with blackened surface; tripod cooking pot. (David 2004)

Excavations at DGB-2 have uncovered jars, beer goblets and cooking pots, and evidence of celebrations or ceremonies related to rain and the agro-pastoral activities of the inhabitants (Fig. 26 & David 2004). The existence of these monumental stone constructions is perplexing. The most imposing have been

compared to those in Zimbabwe[24]. The rubble of DGB-8 contained ancient broken millstones predating its completion. The inhabitants of North Mandara were cultivating (or collecting) cereals before the 15th century (MacEachern 2012, 53).

In 2004, Gerhard Müller-Kosack compared the two funnel-necked pots with small apertures found in DGB-2 with those made today by the ethnic groups of the Gwoza hills in the extreme northern tip of the Mandara Mountains (Fig. 26). The similarities are striking (mandaras.info/DGB-Godaliy_Research/). He also compared the flat-faced dry stones walls and terraces of the DGB with those of the houses and field-terraces in Gwoza hills and noted their similarity (mandaras.info/DGB_NCameroon). His research demonstrated that the Dghwede, Chikide and Guduf ethnic groups (Nigerian border of the Mandara) are the custodians of a tradition that was contemporary to the DGB when they lived in the area now inhabited by the Mafa (Müller-Kosack 2021, 280).

Fig. 27: libation of beer over a DGB.

Some *Diy-Ged-Biy* are used today as altars over which to pour libations of local beer and for the sacrifice a chicken. Rainmasters claim this heritage and periodically officiate on *Diy-Ged-Biy*. The DGB may not have had this function six or seven centuries ago (Fig. 27).

The social structures of the Mandara people of the 15th century seem to have been more complex than those of their modern descendants, although they are not the same people.

In the 15th century, the kingdom of Kanem, initially founded east of Lake Chad, extended its grip to the west. The expansion of the Kanembou pushed peoples to the south and west. Others became part of what was to become the Kanuri people (Urvoy 1949, 61-64). This Islamised and conquering kingdom waged a permanent war against the nearby pantheistic peoples and led to a regression of their social organisations. These societies found refuge in mountainous or marshy areas and they had to overcome challenging ecosystems.

Fig. 28: a Sao pot in Chad, Connah 2019

The inhabitants of the northern foothills of the Mandara, like the Sao who live south of Lake Chad, endure this expansion of the Kanem kingdom. The Sao lived in the southern part of Lake Chad before they were driven out in the 16th century by the armies of Bornou. Some of them were absorbed by the Kotoko, heirs to their huge Sao jars buried in the ground (Fig. 28). Graham Connah

[24] Monumental buildings and centralised powers are not always linked. DGBs were not inevitably patronised by kingdoms or centralized political structures in the 15th century (MacEachern & David 2013).

has suggested these were large jars for fermenting beer, but did not analyse possible fossil residues (Connah 1981, 191). Hence, the hypothesis has not been verified[25]. Whether Sao or Kotoko, these large jars demonstrate a technical mastery but above all the relative prosperity of the Chadian basin economics.

They were to fall prey to the Islamised kingdoms.

On the banks of the Logone, the fortified cities of the Kotoko and the Musgum peoples bear witness to the deep socio-economic changes among pantheistic societies south of Lake Chad before their Islamisation between the 16th and 18th centuries (Lebeuf 1969, 46). The emergence of more or less centralised political structures is not exclusive to Islamised kingdoms. This parallel political evolution of pantheistic societies responds to an endogenous social complexification and to the military pressure of Muslim kingdoms.

Fig. 29: Sao terracotta anthropomorphic figurine, 9th-16th century, Musée du quai Branly

In 1804, the hunt for slaves intensified with the jihad launched by the Fulani and the slave policy of the Sokoto Caliphate. It extended to North Cameroon around 1830. Today's mountain communities or those of Logone-Chari are only a shadow of the complex societies of the Mandara Mountains or Kotoko in the 15th century.

5.2 Modern pantheistic societies and their brewing traditions

The history of traditional brewing in central Sudanian Africa cannot be traced back before the 19th century, due to a lack of documents. The chronicles of the Kanem-Bornu, Wandala, Bagirmi, and Wadaï kingdoms describe the triumph of Islam and the political struggles between Muslim clans, but rarely the inhabitants' customs except to disparage them. Sometimes, beer appears in the course of a text when it evokes the fight of Islam against the "pagans" in the 18th or 19th centuries. Before that, there is silence, except for the mention of beer among the Zaghawa in 990 (**5.3**)[26]. From the 15th century onwards, the military and slave geopolitics of the Islamised kingdoms overwhelmed the pantheistic societies who were on the defensive. The history of the Chadian basin polarises and splits into two types of civilisation. The reading of the brewing traditions must adopt two different views. Beer becomes marginal, without ever disappearing, within the Islamised political entities. Beer is central to the pantheistic ethnic groups who live on cereals, the backbone of their material and cultural life. Beer soon became the drink-symbol of their resistance to Muslim slavery policies. It still plays this role

[25] Another hypothesis regards them as funerary pottery like those found in the cemetery of the Houlouf site, phase A, dated to 1400-1600, contemporary with the Sao and the Kanem kingdom (Hool 2006; Hool 2022, 680-682).

[26] Arab geographers speak of *Dar es-Sūdān*, the "*land of Blacks*", as early as the 7th century (Al-Farazi), first briefly, then more accurately from 903 (Ibn al-Fakir). In 990, Al-Muhallabî provides the first mention of beer in Sudanian Africa, in the land of the Zaghawa (**5.3**). Three other mentions of the beer concern the kingdoms of Ghana (1068 and 1154) and the so-called empire of Mâli (1353). Cf. Beer-studies

today. Native African beer = traditional religion = customary society = local economy.

In the 19th century, the first European explorers of Sudanese Africa, travelling under Muslim cover and supervision, gave only depreciatory anecdotes about African beers, and said nothing about their socio-religious functions. In June 1851, Heinrich Barth travelled along the western side of Mandara Mountains, the land of the Marghi people, who offered him a pot of beer which he did not seem to enjoy:

> "I had scarcely returned from my most interesting walk, when the inhabitants of the neighbouring yards, seeing that I was a good-natured sort of man who took great interest in them, and hearing from my people that in some respects I was like themselves [a non-Muslim=a beer drinker], sent me a large pot of their intoxicating beverage, or 'komil', made of Guinea corn [millet], which, however, I could not enjoy, as it was nothing better than bad muddy beer." (Barth 1957, Vol. II, 385).

These ethnic groups were only seriously studied at the beginning of the 20th century, when the European gaze on Africa was through the anthropologist's spectacles, and later those of the ethnologist[27]. But as of time, a gap has opened up between the Islamised ethnic groups and those who have retained their traditional beliefs and ways of life. The Muslims drink beer - or a diminished version of beer (beer-like drink) - but this beverage, which has become profane, is stripped of all social and religious value. One must look to the ethnic groups of the Mandara Mountains (**6**), Diamaré and Logone-Chari (**7**) or Central Cameroon (**8**) to understand the overall social role of beer in an African society. We owe it to the age-old resilient strategies of these ethnic groups to observe their living brewing traditions today. Far from being an archaism or a folkloric speciality, they later shed light on a shadowy part of African history (the internal slavery that plagued this continent) and inscribe these ethnic groups in the modernity of harmonious social organisations that are more concerned with their environment.

The bonds woven by these ethnic groups with their brewing traditions are so strong that no one can describe their ceremonies, lifestyles and beliefs without mentioning the omnipresence of beer. Ancestors mediate for the living with the afterlife and are honoured with offerings of beer. Collective celebrations (agricultural cycle) or family events (birth, marriage, death) cannot be achieved without beer (**6** and Table 1). Paradoxically, Muslim slave raids and jihad have strengthened the brewing traditions of these poorly stratified societies within which beer flows from the bottom to the top of the social ladder without any marked

[27] Colonial administrators' reports on 'pagan' ethnicities are often poor and focused on the economic development of the country (Nigeria, Cameroon, Chad), with a few notable exceptions (Brusseaux, Chevalier, Temple, Meek, ...). Ethnicities are seen through the eyes of the Fulbe, Muslim elites who retain their powers through their laminates, the local political structure of the former states of the Sokoto Caliphate. Traditional African beers become the emblematic beverage of 'pagan peoples', just as they were and remain the sign of idolatrous mores in the eyes of Muslims. The European explorers during the 19th century and then the colonial administrators during the 20th century adopted the vocabulary, the viewpoint and the cultural values of the Fulani or Kanuri Muslim elites. Pantheists are seen as tribes of uncivilised savages who must be subdued by force.

difference. These traditions have so far cemented the resistance of pantheists to Islam since the 11th century or to Christian proselytising since the 20th century.

These brewing traditions still observed today reveal an unsuspected social complexity. Their economic, social and religious functions are intertwined. This is one of their characteristics. For example, the chiefdoms of the Mofu and Mafa ethnic groups celebrate the *maray* every 2, 3 or 4 years in honour of their ancestors. The heads of the richest families sacrifice a bull that has been fattened for several years. The *maray* crystallises several functions: honouring the ancestors, reactivating the political hierarchy of the chieftaincies (one after the other, they celebrate their *maray* according to a calendar that memorises ancient power relations), bringing together the communities of the mountain ranges (the maray institutes a peaceful week during which distant sisters and brothers are visited), celebrating abundance and the joy of living. Usually vegetarian, family members, neighbours and friends gorge themselves on meat and drink beer at will. The *maray* celebration replicates the annual harvest festival in November, during which beer is also freely available. This cross-ethnic and cross-divisional institution reactivates the collective consciousness of many of the Mandara Mountain ranges. Some mountain ethnic groups do not (or no longer) celebrate the *maray*, as do all those in the lowlands (Map 1).

By superimposing the geography of the Mandara Mountains - the highest plateaus and massifs in the centre - and that of its population, ethnologists have highlighted a gradient of seniority of religious complexes over a period of two to three centuries. The oldest are found in the heart of the Mandara Mountains (Mafa, Mofu, Kapsiki, Hide ethnic groups), while those most affected by the slave raids and cultural contacts with the Fulbe (Muslim Fulani) of the plains are located on the piedmonts and the lowland edges. Pantheistic societies are flexible organisations. Their brewing traditions have evolved over the centuries.

The ethnological studies highlight two basic historical facts:

1) The social complexity (as defined in **5.1**.) of the so-called 'animist' ethnic groups (Margi, Kapsiki, Mafa, Mofu, Hide, Mundang, Tupuri, Masa, ...) can be compared to that of Islamic societies, albeit with different patterns, horizontal rather than vertical social organisations. The privative adjectives 'acephalous', 'stateless', and 'illiterate' hide this native complexity. These societies must be described 'with': endowed with collective rules against the cumulation of powers and coercive hierarchies[28], be atomised social organisations, be geographically fragmented and obsessed with their resilience, symbiose with their environment, and use intelligent and sustainable management of their agrosystems, etc.

2) Since the 16th century, pantheistic peoples have forged vast political entities with centralised power and stratified social organisation in central Nigeria and Cameroon (Bamoun, Kwararafa, Bamileke kingdoms). Social stratification and broad political groupings are not exclusive to Islamised kingdoms. To the south of

[28] The temporary power of a political leader counterbalances that of a religious or land leader. An endogamous clan of blacksmiths has no claim to political power.

Lake Chad, the Kotoko principalities offer another example of complex political construction, before becoming by force dependent on the neighbouring military power, the Muslim kingdom of Bornu (Lebeuf 1969). Beer remains a fundamental socio-economic medium within these societies, whether they are kingdoms, chieftaincies or horizontal structures such as those of the Mandara Mountains. These horizontal societies might have evolved into more complex and vertical societies without the predatory Muslim pressure (**5.3.2**).

Table 1: main features of brewing traditions for all the self-sufficient brewing societies in the Chadian basin

1. Beer and granary management are interrelated. The share of grain taken from the granaries to brew beer is socially controlled. The rules are set at the family level: man's granary, main woman's granary, other women's granaries. Collective granaries appear with the centralisation of political power in the chiefdoms (e.g. Mofu Diamaré, Vincent 1991). They involve a collective brewing and drinking of the beer. In the ancient Kwararafa kingdom, the royal house had its own fields, granaries and brewers. Beer for the king was brewed separately (Meek 1931, 441-446).
2. The annual cereal cycle is punctuated by agrarian rituals (offerings to the spirits of the soil and plants, feasts) celebrating the abundance of grain that beer embodies. Beverage of libations and festivities.
3. 3. Beer is used as a compensation when a family organises collective work involving several families, neighbours or villages (weeding, sowing, harvesting, earthworks, construction, etc.).
4. The brewing and drinking of beer indicate the division in social roles between men and women.
5. When a social stratification is reinforced (chieftaincy, kingdom), the quality of the beer, its ingredients, its density (ratio vol. of grain/vol. of beer) or its brewing method reflect the differences in social status.
6. Beer is used as an exchange item at weddings. The groom offers jars of beer to his future father-in-law to solicit his approval.
7. In the 20th century, African beer is sold in traditional markets or beer public compounds, an adaptation to the merchant economies of Africa. Prior to this time, barter or hospitality obligations to outsiders (merchants, peddlers, emissaries, etc.) may have played this role.

The social functions of beer outlined above (Table 1) mirror a way of life established during the 20th century in a socio-economic context disrupted by colonisation and then political independence (Nigeria, Cameroon and Chad). This leads to two distortions: 1) pantheistic peoples with no history would live today as they did centuries ago, and their method of brewing beer would never have changed; 2) these human communities would be unaware of social complexity and political structures. The archaeology of this region, although still too fragmentary to reconstruct a complete regional history, belies these prejudices (**5.1**).

Chapters **6** and **7** discuss the multiple brewing traditions of the Mandara and Diamaré mountains. Chapter **8** focuses on the Duupa of Central Cameroon.

5.3 Beer and the predatory economics of Islamised African societies

The Islamic prohibitions target the palm wine (*laqbi*), the beer (*gia*), the mead and various wines based on sap, berries or fermented fruits. Nothing is known in the Chadian basin about these fermented drinks between the 11th and 16th centuries. From the 16th century onwards, cereal farming prevailed and beer became the main fermented beverage.

We try to understand the vitality of the brewing traditions to the south of Lake Chad and in the Sudanian zone, despite being converted to Islam as early as the 11th century, and the factor of the expanding Muslim kingdoms to the south. This is not a chronicle of the predicted disappearance of beer in Muslim Africa, but of its surprising persistence. Its explanation is less trivial than it sounds.

Beer was gradually banned from Islamic centres of power, but beer brewing continued everywhere else. The laxity of the religious authorities, the taste for fermented beverages, the moral slackness of the Muslims, etc., can be invoked. All these reasons only partially explain the extraordinary resilience of brewing traditions in kingdoms that have been Islamised for a thousand years, such as Kanem-Bornu, or in the 33 emirates of the Sokoto caliphate, which since 1817 have been ruled by a rigorous Islam following the victorious jihad of the Fulani.

By and large, these religious arguments do not explain the contrasted social mapping of the beer drinkers within Islamised territories. Aside from the division between pantheists and Muslims reflecting their ethnic differences, peasants, soldiers, merchants, slaves, dignitaries, and clerics close to political power, do not all behave in the same way towards beer, nor do they enforce the same prohibitions. In Africa, the sociology of beer in the Land of Islam is a rather complex reality.

Let us start with its history. In 990, Al-Muhallabî describes the fermented beverage of the Zaghawa who were settled in the north-east of Lake Chad at that time. This is the earliest mention of sorghum or millet beer in Black Africa, after the Egyptian accounts relating to Nubia (note 2):

> "They worship their king and they worship Him instead of God, the Most High. They say that he takes no food. But his food is brought to his house in secret by his own people, and no one knows where they get it from. If a passer-by happens to come across the camel carrying the (royal) provisions, he is killed on the spot. The king drinks with his intimates a beverage made from sorghum and strongly flavoured with honey. ... The crops of the country are mainly millet and peas and then wheat (sorghum?)" (Cuoq 1985, 78)[29].

[29] The lost texts of Al-Miṣrī al-Muhallabî (died 386/996) are known from the quotations by Yāqūt in his *Mu'djam al-Buldān*, and by Abū i-Fidā. They were written in Egypt. Al-Muhallabî did not travel to black Africa. He relied on the accounts of Muslim caravanners travelling through the Sahel. Hence the vagueness and contradictions of Arab geographies. The Zaghawa's location is not known exactly between Lake Chad, Fitri and Fezzan in the 10th century. Does 'Zaghawa' refer to an ethnic group, a political entity or a geographical area?

The secret food and drink of the 'king' of the Zaghawa is a variant of the pejorative Muslim fables describing the naive and cruel 'idolaters'. What matters here is their growing of sorghum and millet by the Zaghawa in a region that is not as semi-desert as it is today, their brewing of a beer, and their creation of a more or less centralised political power (a confederation of peoples rather than a kingdom). In the 10th century, these Zaghawa pastoralist-cultivators controlled the trans-Saharan trade north of Lake Chad. They founded two cities and the kingdom of Kanem, probably with the Tibu (Ahmad Al-Yaqubi, 872).

In the 19th century, Nachtigal reports on the Zaghawa "It is, for example, noteworthy that, completely to the Tubu custom, they drink merissa and asses' milk." (Nachtigal 1971-1987, vol. IV, 163). Merissa is a sorghum beer drunk in Darfur, the eastern neighbour of the Zaghawa. Here we come across the pairing of beer and milk, the two drinks of pastoralists and farmers in the Sudanese zone. First puzzling fact: the Zaghawa have been converted to Islam since the 16th century! (Tubiana M.J. et J. 1973, 251)[30].

Second surprise: it is in the sphere of the sacred and the rites that the now Islamised Beri (Zaghawa and Bideyat), distant and modern descendants of the historical Zaghawa, who are divided between Chad and Darfur, have maintained beer in its role as a ritual beverage. Until around 1950, they kept their fertility rituals (asking for rain) together with offerings of beer:

> "While men were roasting meat at the foot of the mountain, a uterine nephew of the kamini [clan chief] climbed the slope carrying the small pieces of meat in a basket, millet being malted in a pot, and the unwrapped foetuses [of a grey goat and a grey sheep] in his hand." (Tubiana M. J. 1964, 50).

The *merissa*-beer (traditional beer in present-day Southern Sudan, Chadian Arabic *merīse*) is brewed in the village by the women of the *kamini*. They mix millet semolina and sprouted millet flour with water in a pot and let it ferment. This malting technique thus survived among the Islamised Zaghawa until the middle of the 20th century. However, its use is restricted to the performance of ancient ritual customs. Another ritual, the enthronement of a new chief (*ina*), required until the 1940s a sacrifice with libation of millet beer (*guru*) in the *kige* mountain. The *ina* had to enter a sacred space surrounded by thorn trees and endure a retreat of several days. He had to promise jars of beer to the guardians of this enclosure:

> "They will only let him pass after having obtained the promise of receiving the hind leg of the sacrificial cow and two large pots full of millet beer (guru, Arabic *merise*)." (Tubiana M. J. 1964, 91). "The ina sits on the stone and eats some of the meat from the sacrifices in the shelter ... People come and sit in a respectful attitude and eat too. Bones are gathered in front of the entrance to the shelter. People drink *merise* prepared by the women of the chief's family. All the people who come can then see the akko [small rodents, garden dormouses] and the snake [which agrees or rejects the chief]." (Tubiana M. J. 1964, 93).

[30] Zaghawa are strongly hierarchised into endogamous castes: nobles and warriors, merchants, blacksmiths, cultivators, and at the bottom of the social ladder a majority of slaves and slaves' offspring. Hence the persistency of traditional political leaders.

Did the brewing traditions of the Zaghawa disappear under the rigours of Islam? In 1956-57, M. J. Tubiana observed the market of Hili-ba (Iriba in North Chad), in Zaghawa country, and noted the presence of Zaghawa brewers:

> "Finally, the third traditional post was that of the millet beer sellers (zagh. guru, Arabic merisä). Four or five Zaghawa women could be seen, with their pots overflowing with a greyish foam, despite the formal prohibition of the Administration to prepare and sell this alcoholic beverage." (Tubiana 1961, 205).

The same resilience can be observed in the southern region of Niger, the valley of Maradi, which was part of the former state of Gobir (see below).

The long historical trajectory of the Zaghawa since the 10th century illustrates a major fact: the expansion of Islam in the Sudanian strip has neither rapidly nor totally eclipsed beer. Yet the chronicles of the Muslim kingdoms bordering Lake Chad, the preachers of the Muslim faith, the traders, the Arab geographers and chroniclers have invariably drawn this dividing line among the peoples of the Sudan: the 'pagans' drink beer, the good Muslims abstain. The 'idolaters' offer food sacrifices to their gods, share food and beer with them, hence the accusations of anthropophagi repeated ad nauseam by Arab sources. Good Muslims pray, but their recitations are neither accompanied by offerings nor by drinking shared among the faithful.

Are the Islamised Zaghawa the image of other peoples in the Sudanian zone? For beer drinkers and pantheists, their conversion to Islam did not mean that they renounced fermented beverages, at least until the 19th century and the wave of jihad that swept this region from the Atlantic to the Sudan.

In the heart of Muslim kingdoms, one would imagine entire regions of Islamised populations becoming abstinent following the expansion of Islam since the 11th century. This is not the case. Why have brewing traditions survived the general Islamisation of the Chadian basin? This can be understood by taking a closer look at the social and geographical distribution of beer in the 19th and 20th centuries, when more data is available. Unexpectedly, this distribution does not follow a dividing line between 'Islamised' and 'pantheistic' countries. This apparent anomaly has several explanations:

1. The main one is structural: the economy of the Islamised kingdoms of the Chadian basin is based on the subjugation of non-Muslims. These kingdoms raid neighbouring ethnic groups to capture contingents of slaves who are bartered, via the trans-Saharan trade, for weapons, horses, etc., and thus to perpetuate their armed forces. The Koran forbids a Muslim to enslave another Muslim. The Muslim kingdoms (Kanem, Bornu, Wandala, Bagirmi, Wadai, the 33 emirates of the Sokoto caliphate, etc.) were careful not to convert pantheistic peoples. They controlled their territories as reservoirs of slaves, the Mandara Mountains, the southern plain of Diamaré, the Logone-Chari basins, or more anciently the southern shores of Lake Chad (Sao, Kotoko peoples, etc.). In the distant past, the map of an Islamised territory of the Chadian basin looked like a sea of beer drinkers dotted with islets of milk and grain-infusion drinkers (**5.3.2**). In the 19th century, this distribution has been inverted.

2. The Islamic political elite has prospered since the 11th century thanks to war and trade, its two main and complementary activities. But agriculture, animal husbandry, fishing, crafts, metallurgy, masonry, etc. depend on slave labour. Without the slave population, the economy of the Islamic kingdoms would collapse, especially the vital food production. The internal slavery of Islamised societies explains why communities, villages and plantations restricted to 'pagans' have preserved the brewing traditions in the heart of Islamised territories. It is estimated that the servile population of the most prosperous Muslim kingdoms reached 40%-50%. The emergence, expansion or collapse of an African Muslim power always revolves around the issue of slavery. This is recorded in all the dynastic chronicles that have come down to us. The dynasty or familial clan that controls the slave routes takes and keeps power.
3. As a final consequence of a predatory Muslim economy, a quasi-professional military and commercial class gravitating around the Muslim courts has specialised in slave hunting. With little respect for Muslim morality, this soldiery drank beer and other fermented beverages within the Islamic power circles. They were the first to barter European distilled spirits for slaves in Tunis, Tripoli and Benghazi, the terminal points of the trans-Saharan traffic in central Sudan, or in the Niger Delta and on the Guinea coast when Europeans bartered gin or rum for slaves from the 18th century onward. These professional slave hunters and their cohorts of intermediaries, sometimes former slaves or traditional chiefs, care little for the Koran and its prohibitions (**5.3.4**).

We need to clarify the relationship between the slave economy and brewing traditions because these links are not immediately obvious and are rarely described. By disrupting, fighting or preserving brewing traditions, the Islamic kingdoms have shaped the unique geography of beer in sub-Saharan Africa over the last millennium. It is made up of pockets (mountainous massifs, flood zones, dense forests), lands of the pantheistic brewer peoples and centres of their resistance to slavery, encircled by Islamic territories inhabited by milk drinkers. This historical paradox – Islam indirectly strengthening the African brewing traditions – motivates the long and required excursus below.

5.3.1 The ban on fermented beverages is primarily aimed at rituals

The Qur'an forbids all fermented drinks because no offering, no sacredness of food or drink, no kind of communion, prayer or supplication with spirits can interfere with the direct communication of a Muslim with his God[31]. The proscription of beer is primarily aimed at its religious and ritual use: beer for libations, offerings to ancestors or spirits. Here is an example: the Chronicle of the

[31] The Qur'an deals with the mental faculties impaired by fermented drinks (wine, beer, mead) (Beer-Studies). It does not speak of drugs (cannabis, hashish), nor of distilled alcohol popularised later. Both will also be forbidden by the doctors of Islam. The use of tobacco has been fought in the Bagirmi and eastern Sudan. Archaeologists have not discovered tobacco pipes east of the Chari and in Bagirmi. Anti-tobacco preaching increased at the Al-Azhar Mosque in Cairo. Did psychotropic plants take the place of alcohol in the Muslim world? This is too complex a question to be addressed here.

Wandala kingdom, in the south of Bornu (Map 1), says that May Boukar Adji (1731-1753) left Krawa, the former centre of Wandala power, and set up his court in Doulo, which had converted to Islam in 1723-24[32]. At his death:

> "He was given the title of 'Hajj' because he introduced Islam to the Wandala country. He instituted circumcision, ordered to smash the beer jars and banned pagan cults forever. He also built mosques and established Koranic schools where he sent children to learn the Koran. He made prayers obligatory, imposed the fasting of Ramadan and enforced all the rules of Islam throughout his kingdom." (Mohammadou 1982, 26).

We note the late conversion in the middle of the 18th century of a Wandala kingdom, then vassal and neighbour of the Muslim Bornu, itself heir to the Kanem, and officially Muslim since the 11th century. In those kingdoms persists an African Islam compatible with beer libations. The beer jars are broken in the palace while prayers and the mosque replace the beer offerings and the altars of pantheistic cults. This conversion concerns only the Wandala political elite and the wealthy families, hardly the free people of Wandala, and even less the very large population of slaves who work for the former.

The ban on beer was first imposed within the court of the sultans and emirs who had to follow the prescriptions of their imams and ulama. In 1870, Gerhard Rohlfs wrote about the cupbearer of the Sultan of Bornu:

> "The function of Sintel-ma or cupbearer is less important. In a state where drinking wine or beer is considered a crime, this is easily explained. In Bornu, since Islam was proclaimed the state religion, the Sintel-ma's entire job is to present the Mai with a bowl of water or a cup of coffee or tea. Before and after the meal, he must also bring the bowl in which the Mai rinses his hands." (Rohlfs 1870, 99)

The Islamisation of Chad was done from above. It is the enterprise of a conquering Muslim elite: *faqui* (juris consults specialising in law, Sunna and Shari'a), *ulema* (scholars specialising in Islam), ruling families, and Muslim merchants. All of them benefited socially, politically and financially from an Islamic legislation that promoted the enslavement of 'pagans'. Outside this closed social environment, beer is not banned, even among the Islamised populations.

The survival of brewing traditions in African Islam has theological reasons, reinforced by a strong social and political stratification. Beer was tolerated on condition that it remained a profane drink and was consumed far from Muslim circles of power. The rigorist jihads of the 19th century were to break this politico-religious modus vivendi. The arrival of the new beer-drinking European masters would reshuffle the deck at the dawn of the 20th century.

Between a minority of abstainers for political-religious reasons and a majority of beer drinkers live the pastoral peoples whose drinks oscillate between two poles:

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[32] Müller-Kosack presents a chronology of ancient Wandala based on written sources, oral traditions of the Dghwede, C14 dating of the DGB, and dry/wet climatic alternations. Several facts are contemporary: a wet episode in the mid-17th century, the disaffection of the DGB, the Dghwede's migration to the north-west (Gwoza hills) and their replacement in central Mandara by migrants from east who later became the majority Mafa group (Müller-Kosack 2021, 80-85, 160-163).

milk and beer. To brew beer, they must trade their dairy products, hides and animals for grain, or barter them for beer at local markets when they migrate south during the dry season, in search of pasture and water for their herds. The Arab Showas pastoralists are a case in point. They nomadize around Lake Chad, a centuries-old Islamised region, and drink milk:

> "The Shouaas live entirely in tents of leather, or rather of rudely dressed hides, and huts of rushes, changing but from necessity, on the approach of an enemy, or want of pasturage for their numerous flocks: they seldom fight except in their own defence. The chiefs never leave their homes, but send bullocks to the markets at Maffatai and Mekhari, and bring gussub in return: their principal food, however, is the milk of camels, in which they are rich, and also that of cows and sheep; this they will drink and take no other nourishment for months together." (Denham & al. 1826, vol. 2, 59)

Do they only drink milk? Crearc'h has pointed out that these same Arabs from the shores of Lake Chad, including the Showas, drink a type of beer, *ar'habèche*, which is similar to the beer-like beverages of the Muslims of the Niger basin (**4.2**). How can these contradictory, even *haram*, habits be explained?

Taking for example the Wandala kingdom, Scott MacEachern has shown that this image – Muslims only drank milk – is anachronistic and based on late 19th century chronicles. They rewrite the history of the kingdom according to the ideal model of the Muslim mores of the North African and Arabian states, and under the inspiration of the jihad that was sweeping across Sudanese Africa at the time. These sources are not reliable as to what the Islamised peoples drank before the 19th century.

More fundamentally, MacEachern has demonstrated that the predatory economy of the sultanates had no need for a structured organisation or state bureaucracy, for a governance similar to that of the centralised states of the Middle East (Ottoman Empire) or Europe:

> "With the extractive potentials of slave-raiding and -trading, the trappings of stateliness could be sustained without significant degrees of political centralisation over an extended territory, without a formalised bureaucracy, and without an elaborated administrative framework." (MacEachern 2015, 186).

In other words, the political and military elite which organised the slave raids drank beer because they did not obey an idealised Islam but followed their immediate economic and political interests, free from any government ideology. There is a gap between the edifying narratives of the *ulama* and the practice of the warlords who capture slaves on behalf of the emirs, sultans and their ulama. Those who pray to Allah are served day and night by slaves. Those who hunt these slaves all year round do not read the Qur'an!

Islam's exclusion of beer from the sphere of the holy matters has another important long-term consequence. During the last millennium, Islamised African societies have gradually departed from the historical rule of proportionality between increasing social complexity and the multiplication of the functions

occupied by beer in a given society[33]. Beer restricted to its biological function as a thirst-quencher no longer has a social history. As a utilitarian drink, beer is no longer at the core of the global evolution of Islamised kingdoms. This differs radically from the configuration of pantheistic societies, which have preserved the multifunctionality of beer (see **2**).

In an Islamised context, it is henceforth the political stratification that plays in favour of the resilience of traditional beers. What African history calls the kingdoms (or empire) of Kanem, Bornu, Bagirmi, Wandala or Wadai are in fact multi-ethnic, multi-confessional and hierarchical societies. Economic dependencies, necessary political alliances and cultural influences mean that the region's main fermented beverage, beer, serves as a social lubricant but above all as a marker of political status: the largest volumes and the best quality for those who retain more power. Even the Bornu Mai could not forbid his 'subjects', whether pagan or Muslim, to drink beer or beer-like products. His power depended on a highly developed political pyramid of governors, officers, dignitaries, royal clans, allied beer-brewing ethnic groups, etc. This ambiguous situation from an Islamic point of view prevailed until the outbreak of the jihads in the 19th century, and continued after them with the arrival of new masters, this time European and beer drinkers.

The strict non-respect of the Shari'a was used as a pretext, among others, by the religious reform of the Fulani of Dan Fodio to attack the royal clans of the Hausa cities in 1804, labelled 'bad Muslims'. Here again, the pretense of a religious crusade hides the real political relationships between Fulani and Hausa, between Fulani and Kanuri, and above all between Muslims rulers and pantheistic ethnic groups stamped by the former as slave reservoirs.

In the 20th century, beer is still found among Islamised populations, even after a century of jihad. Why? Similar to millet loaves, balls or groats, beer comes from the grains that African peoples take so much trouble in cultivating to feed themselves. This food-drink, ruled out of the religious affairs, could not disappear from the daily life of Muslims, even pastoralists[34]. Throughout the Sudanian strip, beverages made from grain, milk and honey can be found, which ferment after a few hours. We have called them beer-like beverages. One example is *furah*, the sorghum-milk-honey beverage so popular with Barth around 1850. A Muslim would rush to drink this before smelling traces of alcohol, whereas non-Islamised person could wait as long as it takes.

What about those who live far from Muslim political centres? Newly converted ethnic groups, soldiers, artisans and peddlers travelling between beer and milk drinkers, etc? They rarely give up fermented beverages, except to gain some

[33] This rule will no longer apply within Islamised societies in North Africa. Islam, like Christianity before it under the Carolingians and their crusades against Northern and Eastern pagans in Europe (Carolingian beer brewing), excluded beer from the sacred domain and suppressed its multiple roles in rituals.

[34] Beer is slowly being excluded from religious practices (libations, offerings). Conversion to Islam does not mean abandoning previous beliefs.

political benefit. In 1869, Nachtigal visited Tibesti, a remote mountainous region in the Libyan desert, and was surprised to see the Tubu, almost fanatical Muslims, drinking date wine, labqi, to the point of intoxication (Nachtigal vol. 1, 292)[35]. In Upper Egypt and in the Nubian desert, which he crossed between 1812 and 1815, John Lewis Burckhardt observed that the brewing of bouza was a small business for women, often slaves forsaken by their masters, who brewed beer and were reduced to prostitution in order to survive (beer-studies). The Muslim caravaneers who trade between Dongola (a river port in North Sudan) and the Red Sea brew and drink one of these three types of beer at each of their stops: *bouza* and *merin* made from sorghum loaves diluted in water, and *Om Belbel* (*Mother Nightingale*), which is similar to the previous two but filtered through a cloth (beer-studies)[36].

Closer to our study area, Nachtigal wrote in 1872 about the Bagirmi kingdom:

> "For the rest, *merissa* contributed not a little to raise their spirits; the massive quantities which were prepared were in proportion to the glut of grain, and Pagans and Mahommedans with equal zeal applied themselves to an excessive indulgence in it." (Nachtigal 1971-1987, vol. III, 334).

He observes similar events in the Wadai, between Bagirmi and Darfur:

> "… to take the breakfast which the *kursi* had brought with him, consisting of a roasted hen, to which was added a water-bag, whose contents however to my great astonishment turned out to be merissa." (Nachtigal 1971-1987, vol. IV, 60).

This *kursi*, a Muslim cadi from the Wadai, is a great beer drinker from morning till night (op. cit. 62 and 64). *Merissa*, a sorghum beer, is drunk in the Wadai, but also a beverage "made from dates of reddish colour, stronger than the *dukkn* beer, but quite unlike *labqi* [date wine from Tibesti]" (op. cit., 65). Nonetheless, there is an authority that tracks down beer drinkers. In Wadaï, the *fattashi* (*inquisitor*) is an officer of the sultan:

> "whose exclusive function is to track down the forbidden drink, merissa. The *fattashi* has his agents throughout the country, and himself travels around in greatest possible secrecy. He us authorized, whenever he finds a house in which merissa is prepared, to inflict severe punishment, i.e., to whip the inhabitants, to have the vessels used for preparing the beer smashed, to shave the head of the woman of the house, etc. Since however, in the end everything can be adjusted with money, the *fattashi* is accustomed to be lenient and to allow his indulgence to be bought." (op. cit., 181).

In Northern Cameroon and Nigeria, beer-like beverages such as *furah* play the same role. In all Islamised territories of the Sudanese zone, the beer offers a similar picture. The politico-religious authorities hunt down and punish those who brew it and those who drink it. But in the secrecy of homes, villages and unfrequented places, people drink beers that are openly alcoholic (*merissa*, *bouza*,

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[35] Amongst the trivia, Clapperton notes that even camels get drunk: "Several of our camels are drunk to-day: their eyes are heavy, and want animation; gait staggering, and every now and then, falling as a man in a state of intoxication. It arose from eating dates after drinking water; these probably pass into the spirituous fermentation in the stomach." (Denham & al. 1826, vol. I, 17, note*)

[36] Linguists have suggested that the Chadic *bil-bil* has its root in the Arabic *belbel*.

merin, *mizr*) or disguised as soaked, sour and slightly fermented cakes or mashes (*soubiéh*, *dinzâyé*, *oum-bulbul*, *furah*).

In 1826, Clapperton's second journey took him from the Gulf of Guinea to the city of Sokoto. Halfway there, in the province of Youri (Borgu), he found Muslims and pagans together drinking beer (bouza or pitto), palm wine and distilled spirits:

> «The booza is made from a mixture of doura, or Guinea corn, honey, Chili pepper, the root of a coarse grass on which the cattle feed, and a proportion of water : these are thrown in equal proportions into large earthen jars, open at top, and are allowed to ferment near a slow fire for four or five days, when the booza is fit to drink, and is put into earthen jars. It is a very fiery and intoxicating beverage; but, whether Mohamedan or pagan, they all drink, and agree very well together when in their cups.» (Clapperton 1829, 129)[37].

Clapperton's landlady in the town of Koolfu is a rich widow who trades in beer and palm wine:

> "The widow Laddie, as she is called, is considered to be very rich. She is a merchant; sells salt, natron, and various other articles: but what she is most famed for is her booza and roa bum, as the palm wine is called ;" (op. cit.)

By expelling beer from the religious sphere, Islam flattens the brewing traditions of the Sudanese zone in two dimensions: brewing techniques and social stratification. The poor and marginalised drink bread-beer or beer-like beverages, the powerful and rich can drink (overtly or covertly) real, well-brewed malted beer. Every other socio-economic manifestation related to beer has disappeared from the social field. In the Islamised world, beer becomes an impoverished and crude image of political stratification. In the world of the pantheists, by contrast, beer is a global social fact (**6** and **7**).

5.3.2 The slave hunt and the geopolitics of the Chadian basin

Islam advocates the enslavement of idolatrous pagans (*al-Kafirun*, Qur'an Sura 109). A Muslim has the religious right to enslave them. The Qur'an requires a Muslim to eradicate idolatry and false beliefs from the face of the earth. Believers and Kaffirs cannot live together. To separate oneself by food, clothing, way of life, from those whom the Koran designates as 'idolaters' authorises one to declare war on them, to slaughter them, to plunder their villages, to reduce them to slavery. The African chronicles, the Arabic Tarikhs (Histories) and the explorers all state the same thing: slavery is the foundation of the Muslim kingdoms in Black Africa.

Islam has cleaved the geopolitics of the region between Muslims and pantheists, between believers, synonymous with the true human, and kafirs ostracised to the status of infrahumans[38].

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[37] Clapperton names two beers, *pitto* and *bouza*, without saying what distinguishes them. The brewing of bouza does not seem to involve malting. *Pitto* (pito) is the usual name for beer in Yoruba country and its neighbours. *Bouza* refers to beers in Egypt and Sudan. Clapperton uses "*bouza*" influenced by the Bornuans he met, and by his first trip some years earlier to the Chadian basin or by his own reading.

[38] Arab geographers of the second millennium describe African polytheists as tailed-animals, anthropophagous (*nam-nam*), wild beasts, at best naive and superstitious. African

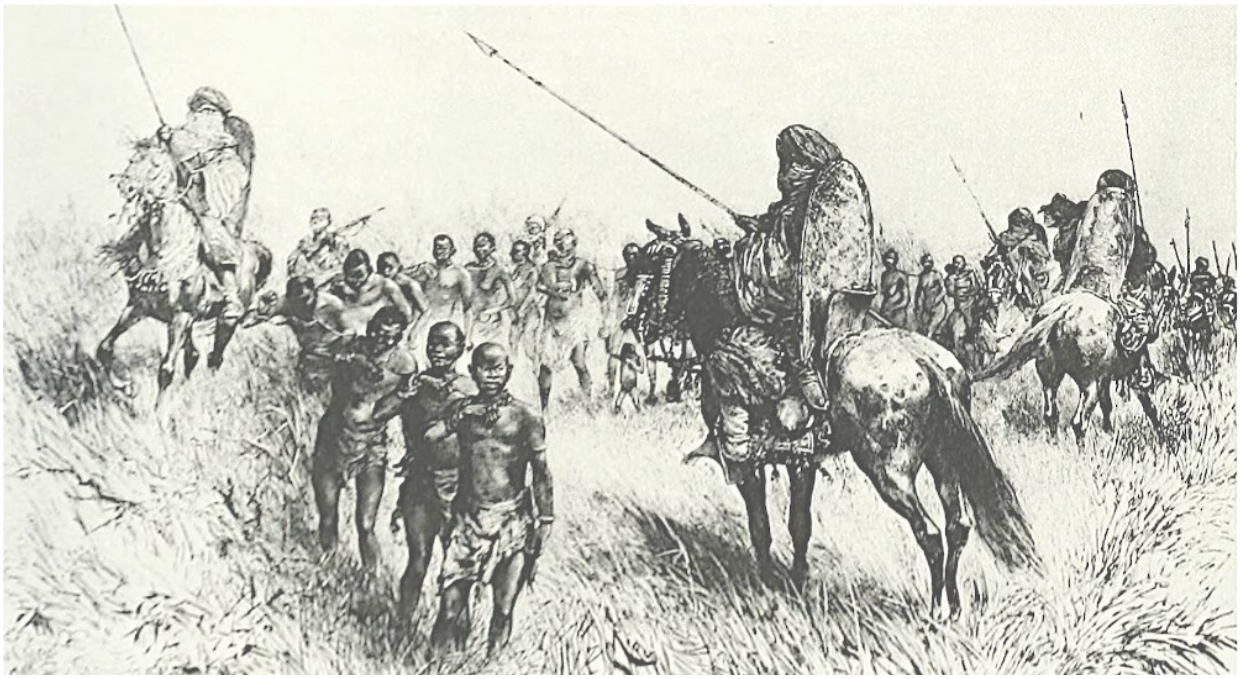

Fig. 30: a caravan led by Muslim slave traders in the 19th century (anti-slavery campaign)

The religious divide is coupled with a racism that reduces Black Africans to the rank of animal-humans that white North Africans can hunt like beasts. The hunt for 'pagans' is not aimed at their conversion to Islam. They must remain pagans in order to be enslaved as 'idolaters'[39].

The history of the first Islamised kingdoms is one of predation. Botte evokes the conversion of the Berbers to Islam in the middle of the 8th century. They converted to avoid being captured by Arab Muslim armies and used as slaves in Baghdad, Damascus or Al-Fustat (first city of the Nil delta to be converted in 642). But their conversion triggers the fury of the Abbasid caliph Abû Ja'far al-Mansûr. Although a Berber on his mother's side, in 754 he ordered the governor of Ifrîqiya (North Africa) to pursue the slave raids among the Berbers. The prosperity of the Baghdad caliphate depended on slaves captured in North Africa (and other areas such as Anatolia, Southern Europe or East Africa). In the following centuries, once their conversion was agreed by the caliphate, the Berbers in turn became the main organisers of the trans-Saharan slave trade, whose hostile space they dominated through camel riding and systematic warfare (Botte 2011, 29-31).

Islamic writings are replete with such descriptions. The Pagans are Kirdi (Arabic *qird* = monkey, no relation to the Kurds!). These themes were taken up by European propagandists promoting the triangular trade, by some explorers and, more surprisingly, by English, German and French colonial administrators. In 1912, Tremearne, a British officer in Nigeria for seven years, published in London *The tailed head-hunters of Nigeria* for a readership eager for oddities wellcomecollection.org/works/a3bg72n9

[39] Slave hunting, the enslavement of prisoners of war and debt slavery were practised in Africa before Islam. Islam institutionalised slavery by designing societies based on two radically opposed categories of human beings. Jews and Christians are protected if they pay the annual *jizya*, a discriminatory tax coining their lower social status. Nothing protects the pantheistic peoples. Islam considers them as inferior beings named *kaffirs*.

This is the main reason for the existence of the kingdom of Kanem as recounted in Arab sources. Its foundation and rise in power rhyme with the widespread hunting of slaves around Lake Chad and the trans-Saharan traffic set up by the Berbers. The Sao on the southern shores of Lake Chad and the Bulala living in its marshes were the first victims. Around 1260 Ibn Sa`īd describes the slave raids undertaken by the sultans of Kanem:

> "To the east of this city, at the corner of the lake [Chad], is al-Maġzā and there is the arsenal of the Sultan of Kānem. Often the sultan sets out from there with his fleet to raid the country of the infidels, situated around the lake; he attacks their boats, killing and taking captives ... [Ǧīmī] this is the residence of the sultan of the Kānem famous for his pious deeds and the holy war he wages against the infidels. This sultan, who is called Muhammad b. Ǧil, is of the descent of Sayf ibn Di Yazan." (Lange 1980, 167-168).

Muḥammad b. Ǧil is the Arabic name of Dunama b. Salmama (c. 1221-1259), 5th Muslim *mai* of Kanem after the conversion to Islam around 1085 of Hummay, his great-great-grandfather.

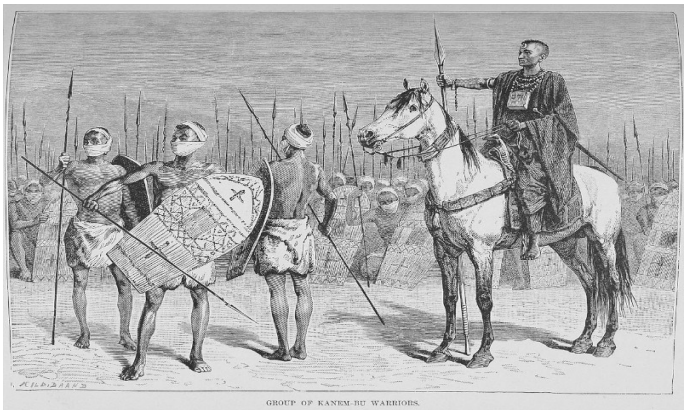

Fig. 31: Kanembu warriors and their chief on horseback (Barth, vol. III, 1857)

This biopolitics[40] intensified over the centuries with the multiplication of Islamised kingdoms in the region (Bornu, Bornu, Wandala, Bagirmi, Wadaï, ...) and their expansion southwards. As had happened between the Arabs and Berbers two centuries earlier, the pressure of slavery exerted by the Kanem on the neighbouring peoples placed them in a dilemma: convert, flee or defend themselves.

These Muslim kingdoms were founded between the Sahel and Sudanian zones, between semi-nomadic camel herders and sedentary farmers; schematically, between milk drinkers and beer drinkers. The villages of self-sufficient sedentary farmers are always easy prey for camel drivers who have become armed horsemen. Around 1510, Leo the African spent a month in the capital of Bornu (*Birni n'Gazargamu*) and explained, in the Cosmography he wrote from 1524 onwards, the predatory logic of this kingdom: exchanging slaves for horses from North Africa with which 3,000 Bornu horsemen could launch their annual manhunts against the villages of the black farmers, and again exchanging slaves for horses and weapons.

> "He *[the king]* has no other income than what he gains from killing his enemies on the borders who are also black by origin and who live in the desert of Seu [Sao]. They are without number and, in earlier times, tended to cross the desert by foot in order to inflict as much harm to the province of Borno as they could. Ever since there are kings who rule over Borno, they [the kings] allow merchants from Barbaria [Berber countries of north Africa] to bring horses and they exchange them for slaves. They give 10 to 20 slaves for each horse and also gold." (Rauchenberger 1999, 310).

[40] A policy that takes human beings as its main economic resource.

The *Book of Bornu Wars* written by Ibn Furtu in 1576 recounts the expeditions of the *mai* Idris Alooma (1564-1596), military, political and religious leader of the kingdom. They were aimed at Bornu's pantheistic neighbours: the Sao-Gafata in the region of the Yobe River to the west; the town of Amsaka to the south of Lake Chad; the Margi to the south-west; the kingdom of Wandala to the south; the Ngizim to the west; the Sao-Tatala on the shores of Lake Chad; and the fortified cities of the Kotoko principalities along the Logone River (Lange 1987).

This annual cycle of predation is endless. During the last ten centuries, the Islamised kingdoms waged ruthless wars against pantheistic peoples, not to plunder their granaries - a secondary consequence - but first to capture slaves. The bartering of slaves for horses at the court of the sultans was extended over the centuries to weapons, fabrics and luxury objects that North Africa and Egypt could offer, intensifying the trans-Saharan slave trade[41].

In the 19th century, the Fulani launched their jihad in the plains of Nigeria and then in Cameroon. Their slave raids were not linked to any proselytising. The 'pagans' had to remain so to become slaves of the Fulani (Vincent 1991, 105). The jihad legitimised the slave raids in the name of the holy war and reinforced the institution of slavery. In the mid-19th century, slaves represented about 50% of the population of the Sokoto Sultanate according to Barth's estimates (1857, Vol. I, 510, 527), which was repeated by Paul Lovejoy (2000, 193). Lovejoy estimates that *in the mid-19th century, there was a larger slave population in the jihadist states* [of the entire Sudanian zone] *than in the United States, the Caribbean and Brazil combined. The Sokoto Caliphate, the largest of the jihadist states, stretched from Dori in what is now Burkina Faso, across southern Niger and the northern two-thirds of Nigeria, to northern Cameroon and the Central African Republic. At the time it numbered several million slaves* (Lovejoy 2015, 101).

Sultan Mohammed Bello (1780-1937), son of Usman dan Fodio, succeeded his father as head of the Sokoto Caliphate. In 1902, he wrote a history and apology of jihad, the *Infaku'l Maisuri*. The issue of slavery is discussed as Bello justifies attacking the Bornu kingdom, the oldest Muslim kingdom in Sudanese Africa. Bello sets out his conception of a world divided into three categories of human beings: the true and pure Muslims, the false Muslims (badly converted or apostates), and all the others destined to become slaves of the first ones:

> "Here it is right that we should discuss the question of slavery in these lands. In truth we have said before that the people are of three kinds. First there are the pure Muslims, but these were very few at the time of Shehu's coming. The second are those that have mingled heathen and Muslim practices. Of this kind were most of the chiefs of Soudan and their peoples and evil

[41] Historians have calculated that the annual number of slaves sold on North African markets rose from 1,000 to 5,000 between the 7th and 15th centuries. This figure does not take into account the exorbitant toll in human lives paid by the slave columns crossing the desert. The 19th century explorers who left North Africa (Tripoli or Tunis) followed the skeleton trails, caravan routes linking the shores of the Mediterranean to Lake Chad. The desert and the wells are littered with the remains of men, women and children who died of fatigue, thirst and abuse, left behind by Muslim traders. The mortality rate in these slave caravans is estimated at 20-25% (Renault 1993, 471).

> mallams. The third are those of heathen origin who have never entered Islam. They are subjects of the chiefs of Soudan and are called Maguzawa. If you follow what we have said, you will know that captives if they are Maguzawa are to be enslaved. For they are heathen by origin. Let their children and women be taken and their property divided. The mallams are in entire agreement on this point." (Arnett 1922, 125).

The 19th century was a dreadful period for the ethnic groups of the Mandara Mountains, who were forced to live in a citadel-mountain (the Margi ditto). Their traditions retain the memory of the ruthless slave hunts by the Fulani, who were now equipped with firearms obtained in North Africa or on the Atlantic coast in exchange for slaves. In April 1851, Barth came across a caravan of slaves in Kúkawa, the Bornu capital, on its way to Fezzan (Libya), led by a Bornu dignitary and a rich merchant from Tripoli, both Muslims:

> "This was one of the largest slave caravans which departed during my stay in Bornu for, if I am not mistaken, there were seven hundred and fifty slaves in the possession of the merchants who went with it. Slaves are as yet the principal export from Bornu, and will be so till the slave trade on the north coast is abolished." (Barth 1957, Vol. II, 339).

Barth's optimism about the abolition of slavery is based on his Western mercantilist conceptions. The slow disappearance of the trans-Saharan trade will not make slavery disappear within Islamised kingdoms, even after European colonisation (**5.3.4**). These 'commercial' expeditions operated under the protection of the local sultans (Savage 1992). In 1853, Richardson, a fellow traveller of Barth's, explained the workings of the slave trade in Bornu and the Sultanate of Zinder. It enriched all levels of society, even former slaves leading armed bands. Newly converted Muslims themselves became their victims (Richardson 1853, vol. 2, 231-232).

In 1850, Richardson found that pantheists survived in Maradi (between Katsina, Konni and Tessaoua) on the border between the Caliphate of Sokoto and Bornu, in an area that was almost entirely Islamised: "En-Noor [sultan of Tin-Tellust between Iferouane et Taghelel] describes pagans of Maradee drinking large quantities of gia (beer, or fermented liquor)." (Richardson 1853, vol. 2, 91). The inhabitants of this region survive as pantheists and brewers because they are a pool of slaves. Richardson, endorsing the Muslim criterion (beer drinkers = pagans) concludes that "the great distinguishing mark between paganism and Mahommedanism appears to be the drinking or not drinking gia, the latter being the people who of course abstain from this intoxicating beverage." (Richardson op. cit., 105). He was wrong.

What separates Pagans and Muslims: the former are enslaved by the latter. Very rarely the opposite! On the other hand, Muslims can drink beer.

Nowadays, in the same region of Maradi (former Gobir state in the 19th century) and the Gulbi valley, the Asna people follows its pantheistic religion: libations and beer offerings. They drink their millet beer (Nicholas 1969, 213, 221). Their self-sufficient economy has isolated the Asna and preserved their brewing traditions from the jihad to the present day. Their historical trajectory mirrors the Zaghawa's one further east.

5.3.3 Food production is provided by the slaves

A more substantial difference splits pantheists and Muslims, and it is not beer as Richardson thought. The former are producers, the latter predators. The economy of the pantheistic tribes is based on agriculture, fishing, gathering, metallurgy and all associated crafts. Their social economy makes beer a guarantee of community cohesion, the vital beverage sustaining and reactivating social ties among households, villages, clans and whole ethnicities.

African Muslim elites do not cultivate land, forge metal, weave or build. Technical and domestic chores are mostly done by slaves. Islamised slave societies have no need for fermented beverages. Their political cement and economic engine are slave raids. They exploit the labour of non-Muslims and engage in trade, primarily that of slaves.

The Kano Chronicle bears witness to this division of economic activities between pantheists and Muslims. It lists the traditional African chiefs subjugated by Bagoda (c. 999-1063), the mythical ancestor of the Kano emirs:

> "The greatest of the chiefs of the country was Mazauda … Gijigiji was the blacksmith ; Bugazau was the brewer ; Hanburki doctored every sickness ; Danbuntunia, the watcher of the town at night ; Maguji was the miner and smelter ; Asanni chief of the dancers ; Bakonyaki the archer ; Awar work salt of Awar … In all there were eleven of these pagan chiefs, each was the head of a large clan. They were the original stock of Kano." (Palmer 1967, III 99).

This Chronicle was written in northern Nigeria centuries after the events. This ideological reconstruction nevertheless bears the trace of the economic tasks assigned to the 'pagan' peoples by Muslim elites: metal work (mining, smelting, forging), beer brewing, policing and warfare (young male slaves became soldiers), medicine, music and dance, salt extraction. To this list must be added the cereal cultivation mostly carried out by the slaves. They filled the granaries on which the Muslim elites fed. They brew beer for themselves and also for the slave teams integrated into the palace administration of the kingdoms, for the villages of slaves assigned to agriculture or weaving, which became the economic speciality of the emirate of Kano, for the soldiers, and for the population living in the *ribats*, the military fortresses-colonies built along the eastern borders of the Sokoto caliphate to protect its frontiers (Philips 2003).

In 1824, Dixon Denham saw whole villages of pagan slaves in the Bornu kingdom. They cultivate in the service of the sultan and the Muslim inhabitants:

> "The country [around Kouka the capital of Bornu, now Kukawa in Nigeria) was now assuming a more interesting appearance from the crop of gussub [sorgho] that had sprung up all round Kouka, on which the slaves of all the inhabitants has been busily employed during the last month, as they sow at the commancement of the rainy season" (Denham & al. 1826, vol. 2, 393) … or they weave « At Belagana, the sheikh has a large inclosure of huts, within a wall, where he generally has from five hundred to eight hundred slaves of both sexes, under the charge of four eunuchs, who are employed in preparing cotton, and spinning the linen (*gubbuk*), of which the tobes area made" (Denham & al. 1826, vol. 2, 88).

Most of the men and women captured by the Bornu kingdom ended up in slave villages, often referred to today as 'Wula villages'. Wula is a synonym for highlanders and refers in particular to the Mafa, whom the Kanuri Chadic language of Wandala calls Matakam. A. Hallaire quotes Coste's (1923) estimate that half of the agricultural population of the Wandala kingdom was made up of captives at a time when the Wandala kingdom had freed itself from the control of Bornu. These agricultural villages, populated by pantheistic slaves, retained their food habits and brewing traditions, although they were definitively cut off from their original ethnic groups and relatives.

Another mechanism explains the survival of brewing traditions within the Islamised kingdoms of the Chadian basin. The latter imposed annual tributes on the mosaic of ethnic groups, some Muslim and others pantheistic, living in the heart or on the margins of the territories they militarily dominated. This was the price these communities had to pay to avoid being looted, massacred or enslaved. In 1823, Denham observed in Mora, capital of Wandala, the payment of tribute by an ethnic group from northern Mandara Mountains to the Sultan of Wandala: iron, panther skins, donkeys, goats, and slaves (Denham & al. 1826, vol. I, 161-162).

The Islamised political entities have knowingly maintained and organised communities of pantheists in their territories who are free to brew and drink their beers and to organise their religious ceremonies, provided they feed the Muslim elite and acknowledge the Muslim political domination. Over the past four to five centuries, an ever-increasing number of men, women and children have been captured among pantheistic peoples to sustain this Muslim elite.

The military campaigns against pantheistic peoples are not religious crusades but economic undertakings. Economics is governed by concrete benefits. The neighbourhood between brewing communities and abstinent Muslims contravened *sharia* law but reflected the economic dependence of Muslims on pantheistic grain farmers and also brewers.

In 1963, Antoinette Hallaire notes that this predatory economic logic is still effective. About the Wandala Muslims:

> "Slavery is no longer an issue [not so long ago, in fact since ≈1927, see Hamman Yaji the slaving lamido], but the present way of life of the Mandara bears the mark of the old situation. Unaccustomed to farming themselves, they rely as much as possible on the seasonal labour of the mountain people, who come easily because they are nearby. In order to have a reserve of labour available all year round, they easily accepted, and often favoured, the presence of small pagan quarters in their villages." (Hallaire 1963, 59).

This observation sheds light on our initial question: why did brewing traditions survive in Islamic lands? Because the predatory economy of the Islamised kingdoms needed the labour and skills of the pantheistic peoples.

Brewing traditions survived more or less through the 19th century in the plains, the Logone-Chari basin and around Lake Chad under pressure from the Nigerian Fulani whose military campaigns and jihad spread in waves to North Cameroon. The immediate economic dependence of Muslims with regard to non-Muslims was transformed into indirect dependence after the prohibition of slavery,

which was replaced by the merchant economy (system of cotton, groundnut and rice plantations, rubber collecting, etc.) and the colonial administration. Slave traders turned into grain and cattle traders!

Brewing traditions have been easily perpetuated in the refuge areas of the Mandara Mountains (**6**) and the flooded areas of the yaérés (**7**), which were almost safe from slave raids.

5.3.4 Muslim slave hunters but also beer drinkers.

The resilience of beer in Islamic lands owes much to the multitude of slave soldiers serving the Islamised kingdoms. Drunkenness and courage in battle went hand in hand. The palaces of sultans and emirs were guarded by slave soldiers. The raids were led by a soldiery of slaves captured young. Their biographies testify to this[42]. In Sokoto, Clapperton said in 1827:

> "[The slave] when not working must attend all calls of his master and also attend him on a jour[ney] or go to war if ordred [ordered]"[43].

Nachtigal takes part in the bloody attack on the village of Koli in the southern Bagirmi Sultanate in 1872, a raid led by the Sultan's retinue to capture slaves and loot the pagan granaries. Nachtigal tells how the women and girls of the village bring jars of beer to their warriors to support their courage:

> "The women and girls nevertheless came out of the village, refreshed their warriors with *merissa* and fresh water, and with fiery speeches spurred them on to renewed endeavour." (Nachtigal 1971-1987, vol. III, 354).

This link between beer and warlike action is not surprising for pantheists who are attached to their favourite beverage. Do Muslims have a similar relationship with beer? Nachtigal still meets proud Muslim warriors from the small kingdom of Runga in the Wadai, including a pretender to the title of chief:

> "The young Runga man was a noteworthy member of his tribe, a tall, very black man, a steady merissa drinker, and to judge by his stories, and his whole personality, a man who found satisfaction only in military campaigns, and in dangerous elephant and rhinoceros hunting, which was carried on there on horseback." (Nachtigal 1971-1987, vol. IV, 81).

Soldiers and mercenaries of the Muslim faith drink beer and wine in North Africa. Mamluks and Ottoman soldiers are serious drinkers of *bouza*, *mizr*, *soubieh* and other kinds of millet, barley and wheat beer from the Nile delta and valley. In Nubia and Sudan, the same soldiery has been drinking merissa since the Mamluks extended their control over these southern regions. In the 19th century, Tripoli was both a vast warehouse for spirits and one of the largest slave markets on the Mediterranean coast. In 1821, George Francis Lyon wrote:

> "Drunkenness is more common in Tripoli than even in most towns in England. There are public wine-houses, at the doors of which the Moors sit and drink

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[42] Dorugu (Dyrregu) was a Hausa child captured by Bornuans and then sold by his mistress to Arab traders in Zinder. He was freed at the end of 1851 by Dr Adolf Overweg and became Barth's servant during his expedition, after Overweg's death in September 1852 (Kirk-Greene, Newman 1971, 36-37). A'bbega, a Margi, had a similar fate.

[43] Clapperton in 1827 (Bruce-Lockhart, Lovejoy 2005, 311). Slaves accompany their masters to war, which consists more often in razzia and slave hunting.

without any scruple; and the Saldanah, or place of the guard, is seldom without a few drunkards. The greater part of the better sort of people also drinks very hard; but their favourite beverage is Rosolia, an Italian cordial, and it is not uncommon for visitors, when making calls, to give unequivocal hints that a little rum would be well received." (Lyon 1821, 19)

From Tripoli, caravan trails cross the Fezzan to connect with the Lake Chad. In Murzuk (≈800km south of Tripoli), the inhabitants drink date wine and beer:

"I sometimes accompanied Mohammed (who was civil to me on account of some tobacco I possessed) to the parties of the natives, where I joined them in dancing, and drinking Lackbi [a date wine] and Booza. The latter is a liquor resembling in taste bad thick beer, and is made of dates, the flour of Gussub [sorgho], and water; it ferments in the course of a night, and on becoming sour, is fit for drinking: it is preferred when thick, and it soon intoxicates." (Lyon 1821, 172).

Booza is a traditional type of beer in Egypt and the Ottoman Empire[44]. The mixture of dates + sorghum + water = beer is a recipe very similar to the beer-like beverages of the Chadian basin. *Lackbi* is a date wine. Their use indicates populations freshly converted to Islam and faithful to their ancient fermented beverages.

In 1826, Denham travelled through the Sokoto sultanates, east of the Niger loop, and noted the penetration of European or local distilled spirits, this time from the Atlantic coast towards Segu, Djenne and Timbuktu:

"The Quolla [Niger river] he described to be here as wide as to the market outside the walls and back, which must have been nearly two miles : they were all kaffirs, he said, but not bad people. The sultan Mahmoud had several hundred guns and powder, which were brought from the *bahr kebir* (great water) [Atlantic Ocean], and arrack (rum), in plenty; which was brought in large glass bottles." (Denham & al. 1826, vol. 2, 81).

These bottles of alcohol are the property of a sultan!

Denham again: "This desert [Denham imagines a desert in southern Adamawa still unexplored] is passed several times in the year by kafilas [caravans] with white people, not Christians, who bring goods from the great sea: some of these reach Adamowa. He himself saw white loaf sugar, such as the merchants brought here from Tripoli to the sheikh, and a gun or two, with metal pots and pans, and arrack (rum)." (Denham & al. 1826, vol. 1, 199).

The Fulani called the gin *barasa*, a word for the inhabitants of the *brass*, the Niger delta where the spirits came from. In 1853, Richardson had to give the Sultan of Zinder a bottle : "His highness the Sultan expressed the most ardent desire to see and make himself acquainted with the rum, and other strong drinks of the Christians …" (Richardson 1853, vol. 2, 216).

The presence of distilled spirits on the margins of the Chadian basin tells us more about the tolerance of fermented beverages in African Muslim lands. In 1937-39, Paul Créarc'h studied the diet of the populations of Chad (Arabs, Kotoko, Bilala of Lake Fitri and Hadjeraï mountain people of the Guera massif). He points out that

[44] In the early 19th century, the Ottomans regained control of that region. In 1835, they re-established a direct power over Tripoli, Benghazi and Fezzan, the « vilayet of Tripoli ».

"being Muslims, Arabs should not drink fermented beverages, although they know how to prepare them, but some of them, giving in to temptation, make and consume such beverages" (Créarc'h 1993, 137), whose brewing process is accurately described by him (**4.1**).

Muslims have never strictly adhered to the prohibition of fermented beverages, except for the clerics, the learned and the devout. A moral laxity of the Islamised peoples is not involved. The phenomenon has deeper roots. Islam establishes a deeply vertical and irrevocably split vision of an ideal society ruled by a theocratic power: at the top are those who hold the true belief, self-legitimised by the interpretation of the Qur'an, pray, study the texts, lead prayers and decide on holy war. All the others have a lower social status and live at their service. The Fulani jihad of Usman dan Fodio provides one of the best historical examples.

The holy war launched by Uthman dan Fodio (1754-1817) in the Niger loop, and then the Mahdist movement from Sudan with Rabih al-Zubeir (1842-1900) reactivated the question of fermented beverages, especially beer. Around 1800, Uthman dan Fodio wrote the *Kitāb al-farq*, a detailed catalogue of the differences between the governance of the Habe Muslim dynasties ruling the Hausa cities he was fighting and the ideal Islamic governance in accordance with the *sharīʿah*[45]. In the chapter about morals, we read.

> "One of the ways of their governments [those of Hausa's cities] is their intentionally eating whatever food they wish, whether it is religiously permitted or forbidden, and wearing whatever clothes they wish, whether it is religiously permitted or forbidden, and drinking what beverages (ṭa'am = grains, thus by extension native beer) they wish, whether religiously permitted or forbidden …" (Hiskett 1960, 567).

This text divides everything into two categories, permitted or forbidden by the *sharīʿah*, the sole repository of truth. 'Real' Muslims do not drink beer, 'fake' Muslims drink it openly or under the disguise of beer-like beverages. This programmatic text declares war on the Hausa Muslim cities charged with following a bad Islam or worse, a reformed, innovative Islam adapted to African mores. Uthman dan Fodio explicitly mentions beer: the bad Muslims 'drink grains'. Beer, the main fermented beverage of the political and merchant elite in Hausa cities, is targeted.

In 1804, the troops of Uthman dan Fodio attacked the Hausa cities, revealing the socio-political stakes behind the religious crusade. In a heavily Islamised region, the sources of slavery were drying up. Muslim traffickers have no choice but to capture other Muslims, claiming to follow a '*purified*' Islam that hunts down *bad Muslims*[46]. This jihad takes over and amplifies the slave trade of the Hausa

[45] Some examples of *sharīʿah* compliance taken from the writings of Uthman dan Fodio: restoring corporal punishment instead of imposing fines (cutting off the hand of the thief, whipping, putting to death), excluding women from public spaces (markets, festivals, ceremonies, audiences), separating men and women within communities (prayers, palaces, workshops, etc.), abolishing religious offerings, imposing sharia-compliant economic rules and taxes, etc. (Hiskett 1960).

[46] Polytheistic ethnic groups remain the primary target of slave raids.

kingdoms. Do these new soldiers of Islam drink beer? We learn this from scattered sources. They do not come from the Nigerian plain proper, the starting point of Dan Fodio's jihad, but from the Wadai and Darfur to the east. They suffer another jihad from the Sudan. Barth reports in 1855:

> "As for drinking, it is well known that almost all the people of Wádáy indulge in an intoxicating beverage called merísa by the Arabs, of which there are three species – the bilbil or red, the ákebésh or white, and the 'hal'. » (Barth 1957, Vol. III, 561, Appendix VIII).

The disjunction between good and bad Muslims practically abolishes the prohibition of enslaving a Muslim. The collusion between war and slave hunting plunged the region into permanent insecurity throughout the 19th century: expansion of the slave system (raids, destruction of villages, slave trafficking to North Africa and the Atlantic coast), the proliferation of royal slaves and slave villages, wars of conquest (Adamawa, Nupe, Yoruba, etc.). Richardson (1853, vol. 2, 223) notes that this policy wipes out the benefits of being a Muslim and adopting the Koranic ethic. Why then abstain from drinking beer?

In 1823, Major Denham took part in a slave raid conducted jointly by Bornou and Wandala from Kouka against the Fulani of Maroua, in retaliation for the raids carried out by the converted Fulani into these two Muslim kingdoms. But in both camps, the military operations had the same economic purpose: to capture slaves (Vincent 1978).

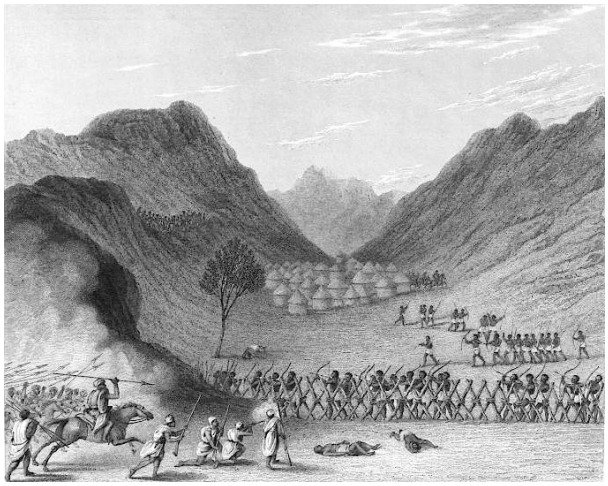


Fig. 32: joint slave raid of Bornu and Wandala in the Mandara foothills in 1823 (Denham vol. 1.)

This predatory logic endured in the Sudanese zone until the 1930s, long after the official abolition (1807) and the effective end of the transatlantic slave trade (≈1860?).

In the 19th century, Rabah (Rabih al-Zubeir), a warlord and slave trader, personifies this inner African drama. He comes from Khartoum, the centre of the slave trade of the "Khartoumi" who set up *zaribas* in Bahr el-Ghazal, fortified trading posts manned by bazingirs, their slave-soldiers equipped with firearms for their raids. He became the main lieutenant of Al-Zubeir Rahma Mansour, himself a warlord and slave trader appointed in 1872 as pasha of Bahr el-Ghazal by Khedive Ismail, pasha of Egypt and great promoter of slavery in Sudan. Between 1879 and 1890, the main sultanates of the Sudanese zone (Darfur, Wadaï, Bagirmi and finally Bornu) fell into his hands. Each time he adopted the same strategy: destroy the cities of the former Muslim political powers, capture or disperse their

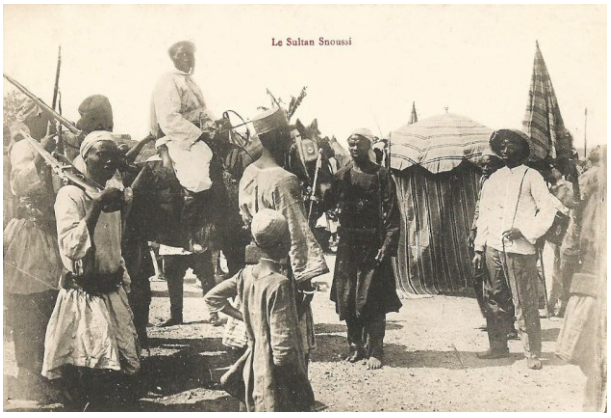


Fig. 33: Mohamed al-Senoussi, relative by marriage of Rabah, at Dar el-Kouti (Waddaï) with his bazingirs around 1900

inhabitants, and take over their slave trade against the animist populations. His ally Mohamed al-Senoussi exported 1500 to 2000 slaves to East Africa every year. Rabah, master of Bornu between 1893 and 1900, sent many more to Tripoli by intensifying the slave economy of Bornu via the traditional slave caravans led by Muslim traffickers across the Sahara (Amegboh 1976).

At the beginning of the 20th century, slave raids against pantheistic ethnic groups continued in Nigeria, which was now controlled by the British. In 1912, a notorious slave trader, this time a Fulbe (Fulani), operated between 1912 and 1920 on the western slopes of the Mandara Mountains. His own diary records more than 2,000 people captured among the Margi, the Higi and other neighbouring mountain ethnic groups. Hamman Haji is not a warlord like Rabah but a lamido, a Muslim political leader of a territory and owner of vast domains centred on his main residence in Madagali (Map 1). He is one of the many local Muslim chiefs that the colonial authorities leave in place (Indirect Rule) after the breakdown of the Sokoto Caliphate. Hamman Haji commands his slave raids, accompanied by murder and pillage, under the eyes of the colonial authorities, successively German, French and then English (Vaughan, Kirk-Green 1995)[47]. The victims were mostly young girls forced to become concubines or captive servants of Hamman Haji, his troops and his Muslim clients.

Fig. 34: Hamman Yaji. Photo by Kurt Strümpel 1912

The management of food in the house of a lamido shows that one of the five pillars of Islam is not respected: the *zakkat* (1/10th of what is produced) is diverted to their own profit by the lamido instead of helping the poor or financing pilgrims and Islamic works. A lamidat shelters three circles: the Muslim aristocracy, the free people in the service of the lamido, and the slaves, the most numerous group (Hamadou 2002). Religious ethics weigh little in the management of a lamidat. The hunting of slaves remains its primary economic purpose.

The predatory economy of the Islamised kingdoms of the Chadian basin goes hand in hand with centralised political organisations. They have often been described as states promoting a healthy monotheistic religion, fair political organisation, civilisation and cultural refinement, in contrast to an Africa supposedly sunk in superstition, tribal anarchy, savagery and primitive customs. A doctrine of government and administrative structures was seen in the dynastic lists and titles of the 'officers' attached to the Bornu court (Urvoy 1949, 114-120), an organisation modelled on that of 19th century Oriental states or the Ottoman Empire. These comparisons have been applied to the political entities of the

[47] In 1927, his exile was decided by the British because of his support for the Mahdist political-religious ideology, which was hostile to the Western and Christian presence, rather than to protect the mountain people who were victims of his slave raids (Vaughan, Kirk-Green 1995, 38). Nowadays, local people compare Hamman Haji with Abubakar Shekau, the alleged leader of Boko Haram books.openedition.org/irdeditions/38287.

Sudanian region (Wandala, Bagirmi, Wadaï, Sokoto, etc.). Are we really dealing with proto-state or even state structures?

The political power is in fact held by a family clan and is exercised in two ways: 1) taking an annual tribute in kind (grain, cattle, horses, weapons made by blacksmiths, cloth, etc.) from the subjugated ethnic groups in order to maintain an army and the lifestyle of the dignitaries, 2) waging war in all its forms (territorial conquest, subjugation of 'dissident' ethnic groups, slave raids, war of pillage). This power is based on a double logistics: politico-religious legitimacy derived from Islam and brute armed force. Two circles of power gravitated around the sultanates: jurisconsults specialising in Islamic law justified the war and the hunting of slaves, while warlords shared out peoples, booty and territories. This logic of plunder needed no administrative apparatus. Islamic law takes the place of state ideology. It is anachronistic to see the Muslim kingdoms of the Chadian basin as proto-states, let alone as 'empires', whatever their territorial extent.

5.3.5 An ethnogenesis of slavery in the Chadian basin?

Over the centuries, the irreversible cleavage that made *pagans* the target of slave raids and the economic engine of Islamised kingdoms reconfigured the entire socio-political landscape of the Chadian basin. Pantheistic peoples had to choose between resistance, payment of tribute or forced Islamisation. Their social structures were lastingly affected, particularly the relationship between farmers and smiths, between those who farmed and those who forged weapons.

Scott MacEachern envisages a split between slave states and pantheistic societies as a result of an endogenous process, a clash between clans that became enemies within the same ethnic group. His hypothesis does not question the fundamental role of the predatory Islamic economies, but studies their effects on neighbouring pantheistic societies.

He takes as an example the Wandala vassal of Bornu in the 18th century. This kingdom, which became Islamic towards the end of the 18th century, has close economic links with the ethnic groups of the northern Mandara Mountains and common ethnic origins. Some of the Wandala clans would have opted for conversion to Islam and the evolution towards a predatory 'state' in the shadow and image of Bornu. Other clans opted for resistance in the mountains, a less hierarchical social model, and a grain and iron production economy (Scott MacEachern 1990, 1993 and 2012). After the break-up, the economic dependencies remain. The highlanders need salt and animal protein from the lowlands, the Wandala kingdom needs iron and highland slaves. MacEachern notes this paradox: the mountain blacksmiths provide the Wandala kingdom with the iron from which the chains of slaves captured in their mountains are forged!

This scenario, based on archaeology, written sources and oral traditions, has one major deservingness. It explains the genesis of the Islamic states of the Sudanian zone as an indigenous political evolution of ethnic groups, an endogenous African political history and not the consequence of an Islam fallen from the sky (or from Northeast Africa, even if Koran comes from Arabia) as the African chronicles of Islamic inspiration often portray.

Before such a political split, everyone drank beer within the same ethnic group. Almost everyone continues afterwards, except, as we have pointed out, the religious elite who derive their political power from this difference. In other words, Islamisation does not draw an unbridgeable line between beer and milk drinkers. It denies beer to be involved in any sacred realms of prayer, offerings and ritual. But beer retains its role as a convivial beverage and social marker (**5.3.1**).

From then on, after the division of an ethnic group into Muslim converts and those faithful to the religion of their ancestors, the Islamised clans continued to drink the beer brewed by their slaves, a drink that had become exclusively profane for them. In Africa, this 'secularisation' of beer is a long social process spread over several generations. Religious beliefs do not disappear because they are declared forbidden. If an Islamised clan stopped pouring beer over the spirit-pots of their ancestors, they faced calamities. Converted to Islam, African political powers have tried syncretisms, respecting the pillars of Islam alongside the cult of ancestors, formulas that are all the more accommodating as Islam does not prescribe any collective rites apart from the Friday prayer in the mosque, and seems to leave room for other personal devotions.

6 Beer in the economics and religion of the Mandara Mountains

Beer is very long standing in the Mandara Mountains (**5.1**). Its production and consumption shape the social life, from sorghum fields to beer jars. But were the ethnic groups of the Mandara Mountains "beer societies"? Could all members of an ethnic group drink beer?

Fig. 35: sorghum beer in Rumsiki, North West Mandara

In his reconstruction of the agrosystems and food supply of the Mandara Mountains, Ch. Seignobos indicates that beer was not a shared good in the early 20th century. It was the privilege of the elders.

> "Some groups in the southern Mandara Mountains maintained both types of beer, with the white alcoholic mash (furdu) being consumed hot in the cooler season. At the beginning of the 20th century, new categories of beer appeared. That of the Kirdi Mora, valawa (cailcedrat), which incorporates a maceration of liber of this essence in the beer, will develop by their neighbours, Breme, Urzo and as far as Maroua. Its arrival on the markets was accompanied by battling conflicts between supporters of the old beers and the new one. The end of the confiscation of beer by the gerontocracy came with the descent to the plains and the arrival of the markets. The mountain societies had to give way by authorising women to sell sorghums beer, sorghums to be bought on the markets, thus preserving those stored in the familiy granaries. By extending access to millet beer from the religious to all social relations and even to its marketing, the highlanders finally became - albeit belatedly - 'beer societies'.". » (Seignobos 2014)

So, a before and after 1950 when women brewers could sell their beer. Also, a before and after 1900 in the western slopes of the Mandara Mountains with the arrival of peoples fleeing the ravages of the Muslim crusade in the Nigerian plain, brewers of a red beer, valawa, mixed with the oil of the cailcédrat (Khaya senegalensis), also called valawa in the Pelasla language (MacEarchern 1990, 87-88, 219-220). And many other social mutations during the preceding centuries among ethnic groups in perpetual reshaping.

The distribution of male-female roles was undoubtedly different when ethnic groups did not have to adopt defensive strategies against Muslim military pressure. This slave economy contaminated peoples who only practised slavery in its domestic form (war captives, families sold during famines). Some chieftainships became involved in the trade of slaves sold to the Fulani, which disrupted the social structures of the ethnic groups in the south of the Diamaré plain and, as a result, their brewing traditions (Boutrais 1984, 275-276). The appropriation of beer by the elders is a historical phenomenon. Similarly, the lifestyles and rituals described below are recent social constructions observed during the 20th century, merely moments in the long history of the "Montagnard".

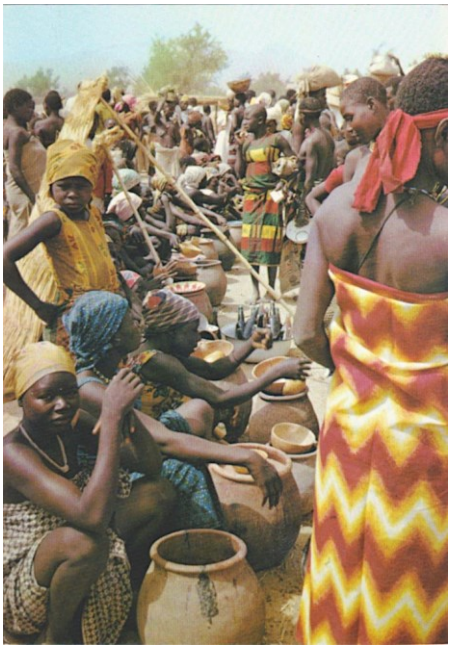


Fig. 36: Koza beer market near Mokolo in the Mandara

6.1 Mandara Mountains, haven and promised land of the "Montagnards"

In 1526, Leo the African described the peoples living south of the Bornu kingdom as mountaineers (*montanarj/Montanari*), clearly separating the inhabitants of the plains from those of the mountains. This Muslim traveller and merchant spent a month travelling around the northern shores of Lake Chad, then controlled by the Bornu kingdom. He is an eyewitness to the slave raids carried out by the Sultan of Bornu against the mountain people and the Sao of Lake Chad. The perpetual war waged by the Islamic kingdoms has influenced the geopolitics and ethnogenesis of pantheistic societies. They adopted horizontal and flexible social organisations to resist the military and hierarchical Islamic structures.

These societies will have no choice but to seek refuge in inaccessible mountainous areas (Mandara Mountains) or lands protected by marshes six months of the year (flood plains of the large and little yaérés). For these farmers, who inherit a protohistoric heritage (**3**) and have become self-sufficient because surrounded by predatory entities, beer has become a key drink for their food survival and their cultural identity over the centuries. But it is also a symbol of their opposition to Muslim slavery. The resilience of the pantheistic ethnic groups up to the present day and their lively brewing traditions are two sides of the same coin. They will survive or disappear together.

The oral tradition of Wandala tells how Gouvé, a mountain hero with herculean strength and a great beer drinker, repelled the Muslim attackers:

"Before engaging in combat, the giant used to have a pantagruelian meal, during which he would finish off a castrated goat alone and promptly empty a huge jar of red millet beer. This meal doubled his strength and increased his natural ferocity tenfold. ... To ensure the services of this real living shield, the various hamlets of the massif agreed to take turns in supplying their valiant defender with billy goats and beer." (Mohammadou 1982, 111)[48].

In a decisive battle of Gouvé against the Wandala around 1829-1842 (reign of Tliksé May Iliyassa) near Mora, a town north of the Mandara Mountains:

"For his part, after having swallowed the castrated goat and the jar of beer sent by the Tliksé, Gouvé placed himself on a flat, bare rock, in full view, and waited for the Wandala to attack. As usual, he had arranged for huge boulders to be thrown onto the attackers by himself and his men. But they did not use them that day ..." (Mohammadou 1982, 112)

The mountain people also built defensive walls and dug pits facing the plain to stop the charge of the Muslim horsemen and from where to launch their arrows. In the 1970s, J.-F. Vincent followed the course of the ancient walls built by the Mofu-Diamaré from the chiefdom of Duvangar, around their massif towards 1850 (Vincent 1991, 96-98).

Fig. 37: remains of defensive walls built by the Mofu Duvangar, Vincent 1991

In the 1980s, Ch. Seignobos identified another defensive strategy: the planting of walls of thorny trees and dense bushes to stop horses and hinder pedestrians. The agricultural and arboreal expertise acquired to survive on poor soils watered for only four to five months a year allowed them to adapt and propagate the most effective plant species. The combination of a thorny acacia bush species (*A. ataxacantha*) and a tutor species (*Commiphora africana*) erects plant fortresses that shelter dwellings. High impenetrable hedges (3.5m and higher) of spiny euphorbia with toxic latex (*Euphorbia unispina*) and false baobab (*Adenium obaesum*) reinforce these lowland vegetation defences around dwellings, fields and enclosures. They also protect access to the mountain ranges, with regional variations between the western, northern and eastern piedmonts of the Mandara (Seignobos 1980, 195-215).

The Mandara Mountains are not only a citadel mountain. They are also a promised land with about 400,000 inhabitants (Hallaire 1991), an exceptional demographic density (average of 150 to 200 inhabitants/km^2 in its northern part, census 1987), with inhabitants fed by a successful cereal crop (Seignobos 2000, 61-62)[49]. The Mandara Mountains are totally anthropised: terraces raised with stones for farming, carefully selected plant species, managed pools and water run-

[48] The beer-drinking 'heathen', strong, fierce, cruel and naive, is one of the most frequent pejorative clichés in Islamic literature (see the Zaghawa).

[49] Up to 250 inhabitants/km^2 for some Mafa groups. The highlanders moved down to the plains when the colonial authorities outlawed Muslim slave raids around 1930. Densities may have been higher in the 19th century when the encirclement of the Mandara Mountains by the Fulani prohibited any movement towards the plains.

offs, and villages scattered among the rocky heaps. What at first glance looks like an antediluvian landscape is in fact a land that has been completely man-made for a thousand years or more (see Diy-Ged-Biy).

Fig. 38: in Mokolo, the saré Mofu watches over the Diamaré plain eastwards to prevent raids.

Table 2 summarises an annual social cycle, that of the Mafa taken as a reference. It highlights the three strongly intertwined logics that govern the brewing traditions of the Mandara Mountain peoples: the annual cereal cycle, in this case the biennial rotation of sorghum (sowing, cultivation, harvesting, drying, storage, etc.), the social economy of human groups (families, lineages, clans and groups of clans), and the calendar of ceremonies and rituals that bind Mafa communities together across several generations.

The main events in Table 2 are found among most of the ethnic groups living in the Mandara Mountains. They are detailed for the Mafa people, whom Müller-Kosack studied at length between 1985 and 2000 (**6.2**). These descriptions will not be repeated for the other ethnic groups (Mofu, Giziga, Zulgo, Kapsiki, Mada, Hidé, Margi) unless a variant or absence is significant.

<table>
<tr><th colspan="12">Grain and beer cycle among the Mafa of the Mandara Mountains during the sorghum year (after Martin 1970).</th></tr>
<tr><td colspan="7">Dry season (October-April) and cool season (December-February)</td><td colspan="5">Rainy season</td></tr>
<tr><td>October</td><td>Nov.</td><td>Dec.</td><td>January</td><td>February</td><td>March</td><td>April</td><td>May</td><td>Juny</td><td>July</td><td>August</td><td>September</td></tr>
<tr><td>New year (Mogololom). Month məsəla</td><td>First sorghum crop. (zavad)</td><td>Sorghum harvest & drying</td><td>Month mazlam</td><td>Month momokwa</td><td>De-bushing</td><td>Prepare the fields</td><td>Early sorghum sowing</td><td>Major agricultural works.</td><td colspan="2">The young men go to the village chief to weed. Sowing of Tiger Nuts (August)</td><td>Harvesting cowpeas (diya). Sorghum almost ripe</td></tr>
<tr><td rowspan="3">Harvest and beer festival, full granaries and abundance. First brews with new sorghum. Libation of beer to the family ancestor.</td><td rowspan="3">Songs, dances, beer. zom zhigilé (beer for God).</td><td rowspan="3">Granaries full. Songs, dances and beer. Zom ńgwar, dry season beer.</td><td rowspan="3">Maray = sacrifice of the claustrated bull or billy goat every 2 or 3 years. Beer libations to the ancestors. Meat and beer feasts.</td><td rowspan="3">hudok, feast, Dances during the full moon as for zavad.</td><td colspan="3">Collective "rest". Sharing of beer between neighbours, selling of beer at markets, drinking meetings. zom ńgwar or "dry season beer".</td><td colspan="2" rowspan="2">Melebay festival for the rains.</td><td rowspan="2">Twins' ceremony</td></tr>
<tr><td colspan="3">In the past, war season, settlement of conflicts between ethnic groups and neighbouring massifs. Beer of the brave.</td></tr>
<tr><td colspan="3">Beer and cooperative work on agricultural terraces, to repair houses and granaries.</td><td colspan="4">Hungry gap and possible grain shortages. Famine beers brewed with taro, yams, nutsedge, cowpeas, potato peas, or other sources of starch.</td></tr>
<tr><td colspan="12">Beer sold in markets, theoretically all year round depending on sorghum and millet stocks in granaries.</td></tr>
</table>

Table 2 : **grain and beer cycle among the Mafa of the Mandara Mountains**

Table 2 is a simplified view of the even year of sorghum which permutes with the odd year of penicillary millets (+ cowpeas, sorrel, nutsedge). The grain-beer cycle will be equivalent, less the *maray* celebration. Biannual mafa calendar = 12 + 13 lunar months. Mafa and Gregorian months cannot be synchronised. Martin's (1970) calendar for Ziver is two traditional months ahead of the Müller-Kosack's calendar for Gouzda (2003, 180), two distinct Mafa territories. The Mafa are our reference ethnic group for understanding the link between beer, the agricultural calendar and the social practices. Their ceremonies and rituals are among the richest. To avoid repetition, their descriptions will not be repeated for the other ethnic groups, but divergences will be noted.

6.2 Beer among the Mafa in 1985-2000 (Müller-Kosack)

The Mafa inhabit the heart of the northern Mandara Mountains, its highest region around Mount Oupay (1494m). Approximately 150,000 around 1985, they are the most numerous mountain group. They are also considered by historians and ethnologists as the ethnic group that has longest preserved its social organisation, its customs and its collective memory: a reference mountain group due to its relative geographical isolation. Among the Mafa, we find all the socio-economic functions performed by beer and the memory of customs that became obsolete around 1950, such as the initiation rites for men. All these customs have been extensively studied in the field by Gerhard Müller-Kosack. Table 2 is based on the Mafa and his published data. This generalisation ignores the many variations between Mafa communities, their local histories and their respective ecosystems.

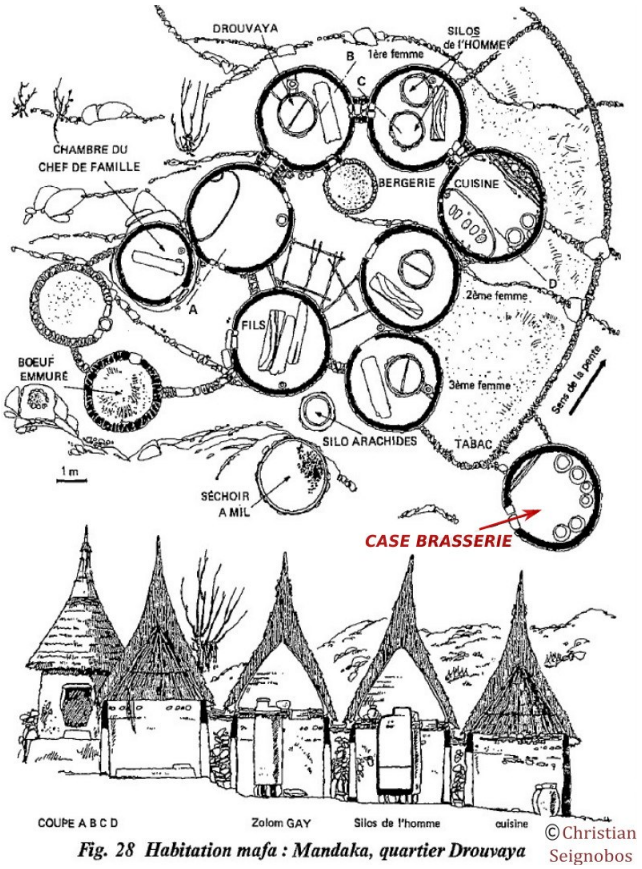


Fig. 39: a Mafa dwelling and its hut-brewery (Seignobos 1982)

The Mafa use the malting method to brew their beer (*zom*). The malting-brewing process takes 4 to 5 days. The sorghum grains are put in water to hydrate and germinate. The water is changed several times so that it does not become putrid. The next day, the germinated grains are spread out to dry (gurdede infra). The next day, the wort is boiled and the fermentation begins. After two or three days, the beer is ready (Müller-Kosack 2003, 166). The sorghum for the beer goes through the following path through the various rooms of the Mafa house (op. cit. Mafa house plan p. 130) :

1 – Man's granary (ritual beer) or that of one of the wives (ordinary beer or beer for sale): picking the sorghum ears. The first wife has the privilege of brewing beer for ceremonies (Müller-Kosack 2003, 126).

2 – Main woman's kitchen or courtyard of the dwelling: de-husk the sorghum cobs. Soak the grains in a jar. Let them germinate.

3 – The *zlanglokw*, a shelter for goats and its upper floor, the *gurdede*. The *zlanglokw* is a special hut separated from the main dwellings, semi-buried at 50cm with two horizontal compartments accessed via a round or semi-circular opening. At the bottom is the goat pen. Above, a floor of wood and flat stones intended for the drying of sprouted sorghum to make

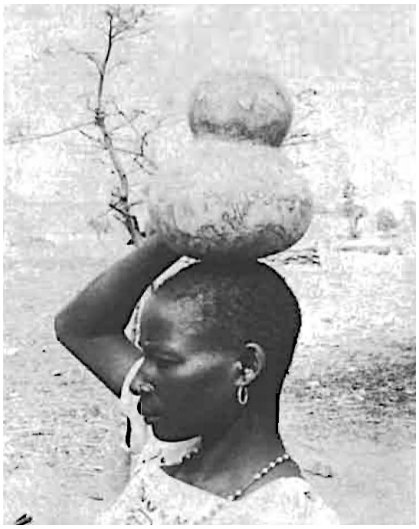


Fig. 40: Mafa woman holding a gourd filled with *zom* beer (Barreteau, Le Bléis 1990)

malt. It is covered by a clay-sand dome, itself protected by a conical thatched roof (Müller-Kosack 2003, 133).

4 – Back to the main woman's kitchen or courtyard. Crushing of sorghum malt, cooking of the crushed malt in a dedicated brewing jar, then fermentation.

5 - The beer is poured into small jars to be brought to the place of a ceremony (granaries and ancestor's *baba*-pots, rocks for the 'beer path', etc.).

6 – Or the beer is poured into gourds and carried to the place where ordinary beer is drunk in groups (common courtyard, village square).

7 – Or the beer jar is carried to the market, sold by the calabash and drunk on the spot.

Fig. 41: a mafa threshing-floor (Barreteau, Le Bléis 1990)

The spare or ritual sorghum is under the control of the head of the family and stored in his main granary (*huzhéɓ*). Below this granary stands the sorghum spirit-pot (*shœkwétév*). The sorghum, considered a living entity, has a soul or shadow-spirit (*mezheɓ*) (Müller-Kosack 2003, 167). Next to the sorghum's spirit pot are the spirit-pots of the family's ancestors, the spirit-pots of the sons and the double spirit-pot of the twins if the father of the family has any. The father keeps his own spirit pot by his bed, as does his principal wife. The other wives and daughters keep their spirit pots in the kitchen area. The main wife keeps her own granary, as the other wives do sometimes. The father's granary shelters and protects the spirit-pots of the male offspring, i.e. a male family line. Conversely, the spirit-pots of the ancestors are placed above the granary to protect the sorghum during the month of *malama*, a time of great spiritual danger. The sorghum can mysteriously disappear if a sorcerer accesses the sorghum's spirit.

Fig. 42: beer libation on the ground (*var ma gay*, Müller-Kosack 2003 Plate 3h)

Sorghum crystallises the many concerns and contentments of the Mafa people regarding the fertility of the land, plants, animals and humans on which their collective survival depends. The bull, sacrificed every three years, can also be included in this religious theme because its manure fertilises the sorghum terraces. Sorghum is an object of fear or prohibition and at the same time a source of abundance or collective rejoicing. Intrinsically linked to the general fertility of the country, sorghum beer manifests this ambivalence through the manners in which it is drunk. During sacrifices, libations to the ancestors and every rituals involving beer, the beverage is poured and drunk respectfully, gravely and without joyful effusion. The father of the family, the eldest son or the officiant must be pure, not having had sexual relations the day

before. The father of the family must be similarly pure before taking sorghum from his granary. During their menstruation, women may not brew ritual beer, ordinary beer or beer sold on the markets (Müller-Kosack 2003, 167 and 151). In contrast, beer brewed and drunk during collective celebrations is synonymous with rejoicing, dancing and music. Fertility, sorghum and beer are enjoyed under their positive and liberating days.

The beer for the ancestors of the family father, *zom baba*:

Fig. 43: spirit-pot *zighilè* of the Bulahay Mafa. Müller-Kosack 1988 for the study of the Mafa sacred pots

At the beginning of each year, the head of the family honours his ancestors with a libation of beer - the beer is poured into the spirit-pot of the ancestor - the sacrifice of a chicken - the spirit-pot is smeared with its blood - and offerings of tobacco and natron. This ritual concerns the nuclear family, the minimal lineage of Mafa society: the father of the family, his unmarried brothers and sisters, his wives and his unmarried children. It takes place in the privacy of the home, out of sight, with the spirit-pots of two generations of ancestors kept in the main granary of the father of the family. This is the *zom baba* and the *zom bab 'baba*, respectively beer for the ancestor and beer for the ancestor's ancestor (father and paternal grandfather of the family head), brewed by the first wife. Then the ritual moves to the common courtyard to honour the great ancestor, the great-grandfather of the family head, a ritual that the Mafa also call *zom baba*, beer-(great)ancestor. To denote that a family does not individualise its ancestors with a spirit-pot beyond two generations, the Mafa call this family *gəɗ ɓulom* (yam head). In the ground, the head of the yam rots after having generated lateral roots from which new yams will be born (Müller-Kosack 2003, 50-51 and 151).

Fig. 44: Left: the family head pours beer over the pot of his ancestor (Müller-Kosack 2003 Plate 3a). Centre: a beer calabash given with the left hand (Müller-Kosack 2003 Plate 3c). Right: women sharing beer during the *baba* ritual (Müller-Kosack 2003 Plate 3f)

After the ritual around the spirit-pot of the ancestor, a jar of beer is shared among the attendees according to a strict protocol. The *beer of the great* (*zom bay*) – great = clan or village chief – is served in a calabash and held out with the left hand, while the *beer of the following* (*zom biy gwala*) is served with the right

hand. The left hand is feminine, the right masculine. The Mafa explain that agriculture was previously in the hands of women, pastoral activities in the hands of men. Women, responsible for cereals and beer, were politically as important (*bay*) as men. The extension of the agricultural terraces, population growth and the encirclement of the mountain dwellers by the slave-owning Muslims (**5.3**) have restricted and then suppressed the extensive breeding of bulls and cows and the pastoral role of men. All that remains is the Maray sacrifice of the claustrated bull or goat (below). Serving beer with the left hand to important people keeps the memory of the preponderance of women in the Mafa agrosystems. Mafa women remain the only brewers. The left/right symbolism of the hand is of no importance when serving ceremonial beer during the other rituals: *zom Goyé* (*Goyé's beer*)[50], *zom matsam* (*jester's beer*) and *zom ngwazla* (*blacksmith's beer*) (Müller-Kosack 2003, 168 and 178).

The ritual of the ancestors' beer is repeated several times a year because it necessarily precedes the major collective ceremonies (grain harvest, maray celebration) and family rituals (birth, marriage, funerals). The death of a family head causes the lineage of the ancestors to shift. The deceased father becomes an ancestor (baba), takes the place of his father who becomes a grandfather (baba 'bab) and pushes the former grandfather, whose spirit-pot joins the common altar of the clan, towards the undifferentiated world of the great ancestors (funerals below).

The harvest celebration (*ńgwalala* or *matamay* depending on the Mafa area) signals the beginning of the year. It involves an entire clan and even several Mafa clans. A family celebrates its ancestors with sacrifices and beer libations. However, this time the ceremony takes place in the common courtyard in front of the house and not in the secrecy of the main granary (ancestral beer). It continues at the clan level, which honours its common ancestors in the same way with beer libations, but this time poured on altars set up outdoors, on rocks or terraces. Secondly, the ancestors common to several clans are honoured in the same way. Their altars are located on rocky peaks, sacred mountains (*dza*). These beer libations together with sacrifices follow a chronological order that reflects the rules of precedence between clans. Through these three levels of celebrations, we can read the relationships between the clans, the history of their movements across the mountains, the inter-clan power relationships and their past political conflicts.

Müller-Kosack has coined this geo-chronological process of beer libations across Mafa country "The Way of the Beer". The celebration of the harvest (sorghum/millet in alternate years) is a political event that embraces large Mafa communities every year (Müller-Kosack Way, 2003, 191, 200). The Mafa are divided into three geographical zones, each represented by a chief, the *biy vərɗeké*: that of Ziver (the highest mountainous region at 1,200 m), that of Zlama (900 m approx.) and that of Gouzda (the lowest at 600 m). The harvest celebration begins in the Mafa communities of Ziver, proceeds to those of Zlama and ends

[50] Goyé is the Mafa hero who stole the first sorghum from the wife of God. He is also the first inhabitant of the Gouzda region for the Mafa of this area. Every beer drinking starts with a *zom Goyé*, a beer in honour of Goyé (Müller-Kosack 2003, 103, 168).

with those of Gouzda. This north-west ➔ south-east progression perhaps reflects an ancient peopling move from the Nigerian plain or, conversely, an eastern flow to the outskirts of the Tur massif and Gwoza hills (see note 32), bearing in mind that Mafa are a historical melting pot of ethnic groups.

On the eve of the harvest festival, the male and female ancestors of the family are celebrated with libations to their spirit-pots. On the same day, the elders of the family lines (*gəd ɓulom*) bring their ceremonial beer to the biy dza (mountain priest) of their kinship group. In the evening, each *biy dza* brings the sorghum beer to the *diy mbulom* (community shrine) of their mountain sanctuary (*dza*). The beer is left there overnight and will be offered and drunk the next day. Most elders who are *bay* (chief, dignitary) or *biy gwala* (follower, disciple of a bay) bring the beer to their mountain priest, which implies that the beer is already brewed. They can thus begin the cycle of beer libations to the ancestors of their family. Married girls go to their father's or brother's house to participate. A common meal is prepared for them (Müller-Kosack 2003, 194).

Fig. 45: Left: the *biy dza* offers *zom* beer to the lineage ancestor (Müller-Kosack 2003 Plate 4e). Centre: the *biy dza* swings the calabash of beer over the lineage ancestor's pot (Müller-Kosack 2003 Plate 4f). Right: the beer offering by the *biy dza* on the sacred rock of Zlama, his Mafa community (Müller-Kosack 2003 Plate 4h).

Müller-Kosack illustrates the relative complexity of the timing and organisation of the "Way of the Beer" for a minimum family line of 65 households. That is, 5 elders (*tsəva*) each custodian of a *baba* and a *bab'baba*, about 20 younger brothers who only hold the *baba-pots* of their deceased father, and about 40 other younger brothers who have no *baba-pots* but only their personal spirit-pots. All these pots, including those of the women (*mama* and *mam'baba*), have to be filled with beer between the 1st month and before the 6th (harvest festival) by performing the *zom baba* ceremony and respecting the seniority rules (Müller-Kosack 2003, 189-190, table 3). These ceremonies cannot all be performed at once. On the scale of a clan and an entire community, the synchronisation of ceremonies and villages becomes even more complicated. Müller-Kosack reconstructed the 'Way of the Beer' for six Mafa villages, thus gaining access to fragments of their history and political relationships revealed by the rules of precedence: which village chief announces the harvest festival? Who celebrates it before the other? (Müller-Kosack 2003, 284-343).

On the last day of the harvest festival, the Mafa drink the *zom shiɗef* (*cauldron beer*), an ordinary beer drunk without ceremony or sacrifice by everyone (Müller-Kosack 2003, 209).

The celebration of the maray, the sacrifice of the bull, takes place every two, three or four years depending on the region and the Mafa clan. It involves only groups from the same village, not a large group of clans like the harvest celebration described above. Dignitaries, ritualists and the chief blacksmith meet to agree on the details of how it will be carried out. The beer is put on the fire (cooking the malt) to be ready when the ceremony begins. A divination specifies whether propitiatory sacrifices should be made for the maray to take place. Two days later, the *ńbəɗe*, the pouring of the beer that initiates the maray, takes place on a community field (Müller-Kosack 2003, 260). The crowd gathers, flutes and drums are played. After a libation of beer on the common village altar, the beer is shared among all participants. The festivities and dances begin.

Fig. 46: the new *biy gwala* drinks *zom* beer with pieces of *Cissus quadrangularis* (Müller-Kosack 2003 Plate 5g)

The next day, bulls are released and recaptured after having been confined by the heads of the families for two to three years. Those who are going to purify them protect themselves by drinking beer mixed with pieces of *Cissus quadrangularis* (Müller-Kosack 2021, 525 sq.). A libation of beer waters the sacred rope that will tie the bull to a tree during the night before its sacrifice. The liberation and symbolic recapture of all the bulls can last several days depending on their number and the importance of the village. On the last day of the *maray*, all the bulls are sacrificed, each in its own shelter. The men of the slaughter group share a jar of beer before butchering the bull or bulls. The skull is later brought back to the stable where a sacrifice and a libation of beer called *zom gəɗ zlé*, *beer for the bull's head*, are performed (Müller-Kosack 2003, 272).

The *maray* is usually held every three years (sometimes two or four), and the two intervening years are taken up by the melebay ceremony. A castrated goat is sacrificed and zom melebay, the melebay beer, is brewed (Müller-Kosack 2003, 254-255). Two months later the *ɗaf zhigilé* (*meal of God*) takes place before the clan altar, a different ritual from the *zom zhigilé* (*beer for God*) that takes place every year before the sorghum or millet harvest. Beer is poured over the roots of the grain crops to ask God to keep his sorghum or

Fig. 47: two *gad bay* drink beer, two other drinkers share the same calabash (Müller-Kosack 2003 Plate 8d).

millet well. The *beer-zhigilé* is also poured into the sacred pot under the main granary (*shoekwetev*) of each family.

The three main ceremonies described above have neither the same context (family, clan, group of clans), nor the same spatial deployment (family dwelling, village, territory of several clans), nor the same political significance. The smaller the ceremony, the earlier in the year it takes place.

The funeral of the head of the family has a triple importance in relation to the three ceremonies above. This deceased father becomes a new ancestor for the family and pushes his paternal grandfather into the indistinct group of great ancestors of the lineage, perhaps that of the clan ancestors if his lineage is strong, or even that of the ancestors of several Mafa clans.

Fig. 48: spirit-pot (*mbúlóm*) of a Mafa ancestor covered with beer lees (Barreteau, Le Bléis 1990)

The death is announced by wailing, a trumpet and a drum. The neighbours come and lament with the family. No one is allowed to eat or drink until the blacksmith (*ngwazla*) arrives and covers the face of the deceased with a goatskin and inspects the food in the house for poisoning. He searches with divination stones for the cause of death and the sacrifices that will soothe the deceased and help him to leave. After the sacrifices, the public mourning resumes. Meanwhile, the blacksmith and his helpers dig a grave in a terraced field near the house. The deceased is wrapped in a sewn skin of bull or goat for the less wealthy. Beer is distributed to the neighbours. The blacksmith and his assistants are given jars of beer and the meat of the sacrifices which only they can eat, as it is impure and considered to be funeral meat associated with the deceased. Eating it would mean anthropophagy on the one hand and becoming *ngwazla* on the other, thus endogamous. The deceased is buried in a sitting position with his familiar objects.

The ceremony of 'chasing the deceased' takes place a few days later. The blacksmith shaves the heads of the family members and friends of the deceased, halfway between his house and the grave. Porridge and sauce offered by the visitors are served. The blacksmith eats separately. Then the malting of the sorghum brought by the neighbours to prepare the funeral beer begins. It is soaked in water to trigger its germination. It takes more than a week to malt and brew the beer.

When this funeral beer is ready, the blacksmith returns to taste it. His personal spirit-pot serves temporarily as the spirit-pot of the deceased, as this latter will only be shaped by the smith's potter-wife and consecrated two or three weeks later (below). The blacksmith guides the hand of the eldest son, who must pour the beer over the spirit-pot and ask his deceased father to let his family live in peace. The eldest daughter carries her father's bed outside to wash it with beer, water, ochre and cauliflower oil. From then on, wives may freely remarry. A childless wife may return home to her father.

A month after the burial, the family prepares a meal and sorghum beer for the future 'ancestor-to-be' who consumes them, dressed as a mouse. The dish is

first placed with water near the bed. Some beer is placed between the house and the grave, which the *deceased-as-mouse* is supposed to drink.

The remains of the meal of the *deceased-as-mouse* are taken away by the blacksmith. His wife makes the ancestor's pot (*baba*), a vessel for his spirit. Offerings and prayers are addressed to him. The elder of the family pours beer into the baba-pot, the blood of a rooster on it, and smears it with the intestinal contents of a sacrificial goat. He teaches the eldest son of the deceased the prayer and ritual addressed to the *baba*, hands him a calabash of sorghum beer to pour over it. The elder spreads a little tobacco on the intestinal contents. He pours some of the *baba's beer* into a calabash and places it on top of the tobacco and the intestinal contents. This is a way of questioning the deceased. If the calabash sways freely without falling, the deceased accepts this libation of beer and the prayer that goes with it: "Okay my father, you too have left now to live with the people of the other world. Okay, let's sprinkle water, this will refresh you.". The elder then pours some beer on the ground and hands a new calabash to the eldest son, who must repeat this ritual and prayer. If the deceased agrees (swinging of the beer calabash), the son can now address the *baba* of his father and conduct the annual ceremonies that concern him (Müller-Kosack 2003, 156-158).

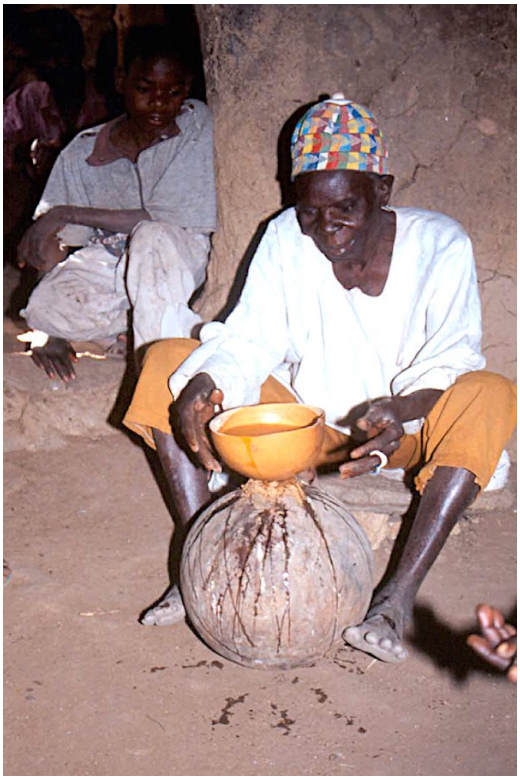


Fig. 49: the family head swings the calabash of beer (Müller-Kosack 2003 Plate 3b).

The test of swaying the beer gourd is repeated after each sacrifice to see if it is approved and each time the ancestors are questioned through their baba pots. If the swinging of the beer calabash does not stop when the officiant withdraws his hands for ten seconds, or worse, if it falls, tobacco must be added and the beer calabash must be swung again or the deceased must be questioned by a divination and a sacrifice (Müller-Kosack 2003, 166-167).

The consecration of the personal spirit pot takes place a few days after the birth (Müller-Kosack 2003, 76). It is a small pot of a few centimetres in diameter made by the blacksmith's wife who is also a midwife. It is sexualised (Müller-Kosack 2003, 154). It receives libations of beer. If a woman gives birth to twins, the spirit-pot is twinned (two pots joined together, halalay) and kept by the father of the family in his main granary. This birth is attributed to the spirit of water, which is itself related to fertility. The twins manifest special ńya'a forces that are both beneficial and dangerous, similar to those of blacksmiths (divination, medicine, forging, etc.). During the *malama* month (≈ September), blacksmiths celebrate their own ceremonies, when the non-

Fig. 50: a mafa spirit-pot for twins (Barreteau, Le Bléis 1990)

blacksmith Mafa refrain from any celebration except for the twins (Müller-Kosack 2003, 279).

After building his house with the help of the neighbourhood, the new father asks his wife to prepare a ceremonial beer called *zom nngwece ma gay* ("*beer to make/lay a sign/trace*"). This beer is that of the first day of fermentation, still sweet and barely alcoholic, the *man manda besl* or *ziy wéshém* beer ("no working" beer). Parents and family members are invited. The elder of the extended family pours beer on the floor of every room, on the house shrine and all other lineage shrines outside the new house (Müller-Kosack 2003, 113, 146).

Fig. 51: beer-baba calabash drunk cheek to cheek - (Müller-Kosack 2003 Plate 3d)

Beer not only stamps the major moments of social life and their meanings in relation to grain cultivation and prosperity. Beer also testifies to recent developments in Mafa communities. With the sale of beer on the markets, a traditional Mafa household devotes two out of three granaries to brewing sorghum beer. The Mafa supplement their grain reserves by buying maize and rice on these same markets, betraying the autarkic model that guaranteed survival for three consecutive years with their granaries in the event of a famine. A terrible famine hit the northern Mandara Mountains in 1998/99, demonstrating to the Mafa the vital utility of their three granaries. An ancient initiation ritual of the Dughweɗe, the Mafa's northern neighbours, required married men to demonstrate their ability to fill their three granaries with sorghum. This initiation, the dzum zugune, ended with a sorghum feast in the form of a meal and beer distributed to everyone. Only men whose fathers and older brothers had performed the dzum zugune could enter this adult initiation cycle (Müller-Kosack 2003, 55-56).

This initiation had an economic basis and reflected a vital correlation between the mountain agrosystems (crop rotation) and that of the three granaries for three harvest years. The Mafa adapted to a new grain market economy around the 1950s. However, the beer and the social equation of the Mafa grain farmers persists. Beer sold on the markets is again at the heart of these new collective mechanisms, social and cultural values, and the clashes with Islamised groups that come with them[51].

[51] The Mafa and other ethnic groups of the Mandara Mountains were pushed towards a 'market economy' for many reasons: the capitation tax imposed by the colonial authorities, first in kind and then in money, the gradual descent towards the plains, the work in the cotton, maize, groundnut fields, the economic exchanges with their neighbouring ethnic groups, etc.

6.3 The beer among the Mofu-Diamaré in 1968-1988 (Vincent, 1975)

Around 20,000 Mofu-Diamare lived in the three chiefdoms of Duvangar, Durum and Wazang by 1980, 26,000 for the Mofu-Gudur and 17,000 for the other ethnic groups living in the same area (Hallaire 1991, census 1976).

Mofu-Diamaré and Mafa have a similar agricultural calendar in which beer plays a central role. Their ceremonies and rituals are similar. The Mofu celebrate, with some variations, the same major festivals as the Mafa: the festival of the year (*mogurlom*), maray every three or four years, *God's beer* (*zom erlam*), sacrifice for rain, sacrifice to the mountain spirits. The libations of beer to the ancestors, to the mountain spirit (*mbolom*) and to personal spirits take place in the same way as among the Mafa. Please refer to the Mafa section for more details. As with the Mafa, the celebration of the ancestors is like a great prayer to obtain an abundance of grain, human fertility and joy of living. The libations of beer on the ancestor's spirit-pots are joined by these requests interspersed with exhortations to drink:

> "Take the beer and drink well! We give you the meat, the beer, everything! We paid you everything! Now, the disease must not come anymore. The millet that was lost, the meat, the beer, we pay you for everything! May all the inhabitants of Matubay's house stay healthy! Soon Matubay will thresh his millet, let his millet increase! May he marry another woman and so will we! Drink well! You, the father, and the rest of you, drink!" (Vincent 1979, 197)

Conversely, the social organisation of the Mofu differs from the more egalitarian organisation of the Mafa. The economic and religious power of the three Mofu-Diamaré chiefs does not differ from that of the district chiefs. However, their economic benefits are greater. The chief of the massif is entitled to regular labour chores, to 'chief's plantations' in each quarter and to royalties in millet beer and meat. He may take goats, daughters and sometimes plantations from the families in his chiefdom. His power is exercised over the extent of a massif within which he can redistribute land, arbitrate conflicts, and give the signal for major festivals (Vincent 1975, 142). Above all, his power is exerted over the rain with the 'rainstones' that he must possess (or steal): the *bizi yam* ('*children of rain*') to make rain come, the *kwalay* ('*rainbows*') to stop rain[52]. Rain means fertility, grain, abundance of beer for the Mofu, as for every other ethnic groups in the mountains. Making it rain is imperative in a Sudanese climate. But why would they want to stop it? The Mofu leave their sorghum or millet to dry in the fields where it must not rot. The germinated sorghum has to be dried to stop germination and get a crushable malt to make beer. J-F. Vincent reports the following story illustrating the competition between two groups for control of the land, the Laway and the Mowayan:

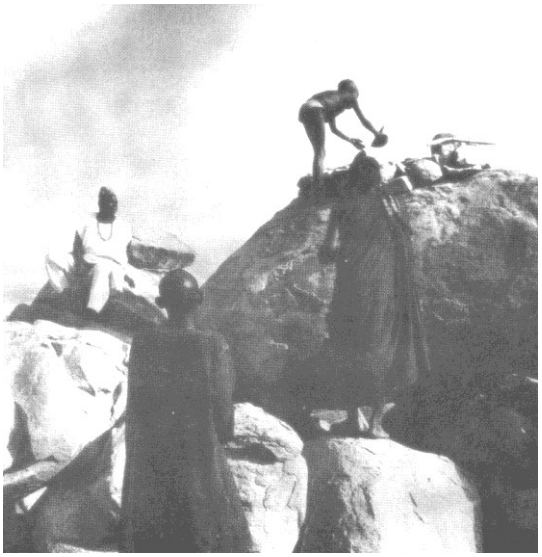


Fig. 52: offering of beer during a sacrifice to the *mbolom*, the Arkay mountain genie (Vincent 1975, 157)

[52] *Bizi yam* are usually ancient 'Neolithic' polished stones found in the ground. *Kwalay* are very colourful veined stones, hence the name 'rainbow'.

> "One day, a Laway wants to make beer and therefore dry his sprouted millet. But it rains too much. He complains to the Mowayan who lends him "a thing", his kwalay; the rain stops and the millet dries. The Laway then decides to steal his kwalay from the Mowayan. When the Mowayan in turn wants to dry his germinated millet in the rainy season, the roles are reversed. The Laway takes out the stolen kwalay, stops the rain and says: "See! You say you're a chief, but it was I who stopped the rain!" The dispossessed Mowayan must acknowledge the superiority of the Laway." (Vincent 1975, 152)

Since then, the Mowayan clan receives every four years, on the occasion of the *maray*, the jars of beer that Prince Laway makes them carry, an acceptance that means subordination. The theft of the kwalay stones tells the story of a more violent takeover that took place between the 18th and 19th centuries (Vincent 1975, 715).

We will develop what is specific to the Mofu-Diamaré, the preeminent economic and political role of the three chiefs of the massif whom J-F. Vincent has called 'mountain princes', a term we retain (Vincent 1991)[53].

A Mofu-Diamaré prince in his palace and the management of beer

The prince's meals (*bi ndwahana*/chef grand) are ruled by exclusionary rules that set him apart. His essentially carnivorous diet is separate from that of the Mofu, who eat and drink grain. "He never accepts the food from another, except beer" (Vincent 1991, 472). Why does he accept to drink beer prepared elsewhere than in the palace?

Jars of beer are brought to the palace by the inhabitants of the massif and the village chiefs. They owe the prince a share of the beer brewed for all their collective ceremonies and family sacrifices. The frequency of beer libations in the Mofu ritual calendar implies that these 'beer dues' ensure a share of the beer consumed at the palace throughout the year. In the dry season, beer is provided by simple people when they celebrate the new year, their ancestors or the beer of God. In the rainy season, their almost empty granaries do not allow gifts of beer to the palace. Jars of beer are then offered by the heads of the districts and members of the prince's clan who celebrate their ancestors. Their granaries are still half full (op. cit. 285).

Fig. 53: the prince of Wazang giving a calabash of beer.

[53] Vincent (1991, 23) discussed its relevance and retained it to underline the eminently political nature of the extended power of these Mofu chieftainships. It contrasts with the religious and limited power of the Mafa chieftaincies for example. There is a lack of historical data to trace the evolution of these chieftaincies, in the sense of a progressive consolidation or disintegration/regression under the blows of the Fulani slavers.

The prince has no choice but to drink a beverage prepared by others because beer reaches the palace ready-made. The heads of families could bring malt instead of beer, if a purely economic modern approach was followed. This touches on the politico-religious character of the jars of beer and bull meat offered to the palace. They are not a tax but a gift that shows the subordination of all Mofu to their prince. Jars of beer (not malt) are brought because all the Mofu identify themselves by sharing the same religious ceremonies during which they offer beer (not malt). On the other hand, the palace does not claim its share of the beer jars offered during collective work in the fields or the construction of houses in the villages. This beer has no religious character.

Fig. 54: the defensive rampart of the Mangerdla castle (Vincent 1991)

Another example of beer of an economic nature offered by the palace: the *mangawa* services, the 'free' work that the Mofu have to do on the prince's lands, do not entail any obligation for the palace to provide a counterpart in beer jars[54]. However, the prince's generous policy complies so that the mature men who owe the mangawa do not evade it (Vincent 1991, 521).

Like other Mofu houses, the palace brews its own beer, but on a large scale. The palace, built on top of a mountain (an expertise of the Mofu builders), is a fortified complex of residences, utility buildings and collective spaces: Wazang 800m^2, Duvangar 1000m^2, Durum 3000m^2 (with a double enclosure). It shelters the prince, his numerous wives (from 20 to 50), his multitude of children (7 per wife, half of whom die in infancy), his page, his envoys (5-10), his staff and passing guests (diviners, healers), i.e. about 200 people (Vincent 1991, 249-251). The large sorghum granaries (3m high and more) are common. Each wife has her own kitchen-hut but sleeps in a room shared by several co-wives with their children. The beer for the palace and for the great annual ceremonies

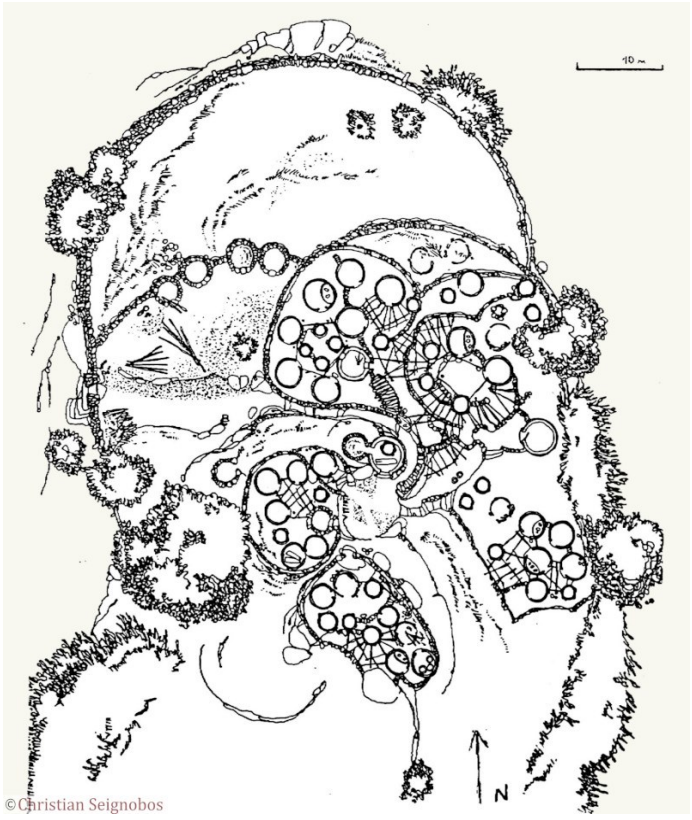


Fig. 55: plan of the double-enclosed castle of the Mofu princes of Durum (Seignobos 1979)

[54] The agricultural work is apportioned during the year between the quarters of the chiefdom (35 to 110 men and women/quarter for 6 quarters of the Wazang chiefdom). The men are in charge of sorghum, the women of eleusine (Vincent 1991, 290-293).

is brewed by the wives of the prince with sorghum from his vast granaries.

The palace functions as a large household. In 1979, the 24 wives of the Prince of Wazang and the 44 wives of the Prince of Duvangar (Vincent 1986, 96 n. 7) carry out all the work of brewing: malting, drying, crushing, brewing. This beer has several purposes and meets the multiple duties of the palace: ordinary beer drunk in the palace by its inhabitants and guests, beer-counterpart of the works done in the fields of the wives at their request (*meuney*), beer offered for the *mangawa*, beer for rituals and official celebrations[55]. The volumes of grain processed and beer brewed each year by the palace far exceed those brewed by a household or a mofu chief. They have not been quantified, to our knowledge.

J-F. Vincent reports that the Mofu-Diamaré brew their beers in 3 different ways, without, unfortunately, giving details (1991, 80).

Sorghum and, to a lesser extent, eleusine, converted into beer which is redistributed by the palace, are nothing more than cereals grown by the Mofu for their prince. The Mofu are aware of this (Vincent 1991, 521). The prince's apparent generosity reflects a necessity, to keep the palace's political machinery running. A Mofu prince may accumulate grain wealth in his granaries on condition that he converts it into political unity of his chiefdom. One of the most effective means is beer, which is used in almost all Mofu rituals and festivals. Beer also portrays the wealth of the country, its fertility the prince can and must protect.

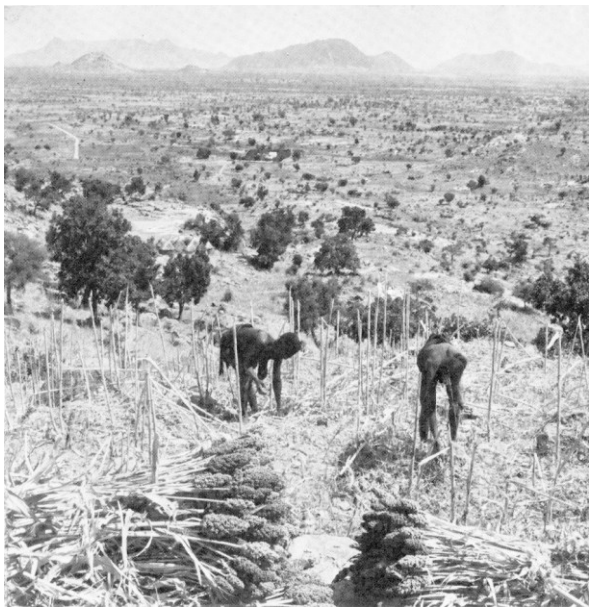


Fig. 56: Mofu women in their sorghum and bean plantation (Vincent 1979)

The assembly of the representatives of the districts at the prince's house decides the day on which the millet is to be germinated, which in turn determines the start of the festival 14 days later. It takes 8 days to make the malt, 3 days to let it rest, 4 days to brew the beer, including an optional extra day for decanting after the second boiling of the wort. The prince coordinates the start of the two main phases: malting and brewing. To do this, he orders a shout from the top of his palace: "*put the millet in the water*" (soaking the sorghum grains = 1st operation of malting) and "*crush the beer*" (crushing the dry malt = 1st operation of brewing). His two orders resound at dawn or dusk throughout the mountainous area of his chiefdom to the sound of the prince's drum. The women of each Mofu household respond by malting and then brewing their beer, respecting the known duration for each operation (Table 3). In this way, '*the beer will be ready at the same time for everyone*' (Vincent 1991, 334-340).

[55] *Meuney*, a work asked for by the prince or his wives, is not to be confused with *mangawa*, a compulsory customary work on the palace fields (op. cit., 263). *Meuney* involves the giving of beer. The beer for *mangawa* depends on the princely generosity.

Echoing the "malt vs. beer jars" question raised above, one would expect a collective organisation of the brewing within the palace, a centralised brewery reflecting the political power concentrated in the hands of the prince. This is not the case. Brewing remains an individualized task in the hands of the prince's wives. The prince controls the brewing operations for his entire chieftaincy only in a politico-religious context, when he launches the mogurlom, an October-November celebration of the new year, and the zom erlam (beer of God). In both cases, the prince synchronises all the quarters of his chieftaincy and the schedule of brewing operations (malting + brewing) is used as a reference to count backwards 14 days before launching the ceremonies. Table 3 describes this brewing agenda.

Preparation of the festival modelled on the brewing of beer (after Vincent 1991, 334-340)		
Count	Prince's actions	What every households do
	Collectively decide the date of the festival. *Mokusey* = meeting in the palace of the diviners and heads of districts.	
D-15	The prince asks his wives to 'put the millet in the water'.	
D-14	Make a shout* « *put the millet in water* » !	Soak the millet in one or more jars (1 day). "All Wazang put their millet in water on the same day".
D-13		Sprouting on a flat rock. Soaked millet covered with a mat and moistened (4 days).
D-9		Drying of sprouted millet in the sun (2 days) = malt
D-7		3 days rest (variable)
D-4	Make a shout « *crush the beer* » !	Crushing of malt + cooking + cooling
D-3		Decanting + 2nd cooking + cooling
D-2	*ar mepek* , « first drops »	Additional day for decanting
D-1		Fermentation in the *kulom* jar
Dd		Beer ready for the celebration.
* At sunset or sunrise, the prince has an envoy shout from his palace.		

Table 3 : preparation of the festival modelled on the brewing of beer among the Mofu

The same scenario precedes the *zom Erlam* festival, the *beer of God*. The prince soaks his millet first and then calls out the feast for his entire chiefdom to the sound of his drum (Vincent 1986, 101). The whole mountain must celebrate zom Erlam on the same day, this time with no other precedence than that of the prince who sacrifices in the morning, the others in the evening. "The prince has begun to offer the beer of God to Wazang. If the prince starts, the rest of us must do the same" (Vincent 1991, 346). The Mofu make an offering of beer and raw meat away from the dwelling on a shard put by the roadside (Vincent 1979, 202). Then they drink the beer and eat with each other.

The imprint of a hierarchical social organisation is apparent when comparing the management of beer in the large collective sacrifices of the Mofu-Diamaré and

those of the Mafa. The inhabitants of the Mofu villages bring their own millet to brew beer to the servant of the *Mbolom* sacrifice in their quarter[56].

A *Mbolom* sacrifice to the mountain spirits is a collective undertaking (Vincent 1986, 91). In the more egalitarian Mafa society, everyone sacrifices for himself. The 'big ones' (village chiefs, clan leaders) brew beer with millet from their own granaries to perform similar sacrifices (Müller-Kosack 2003, 194, harvest festival, and Mafa).

The existence of age groups characterises the Mofu-Diamaré society in comparison to its neighbours. Moreover, these three age groups are at the service of Prince Mofu. At the age of 16, the boys become *mazgla* for four years, then at 18 *gaola*, and finally between 24 and 28 *goala tuban* or 'mature men'. After their initiation, the *mazgla* carry out the heaviest work for the palace for 4 years. The prince maintains them with beer and millet balls (Vincent 1991, 316-318). This Mofu institution contrasts with the egalitarian Mafa, where it is absent.

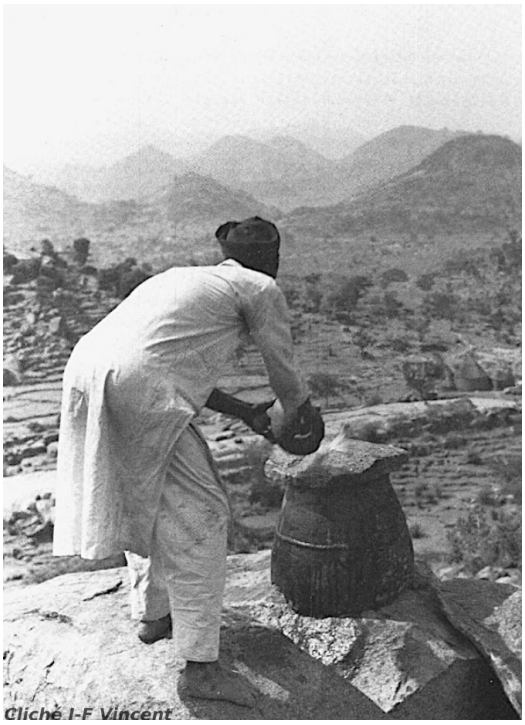


Fig. 57: offering of beer to the *mbolom* of the mountain by the prince of Mangerdla (Vincent 1990, 134)

Digging wells in the Mofu country

Needless to say, rain is vital for growing crops and to provide water for drinking, cooking and brewing beer. We have described the cycle of grain and beer that governs the Mofu year of hoped-for abundance. The water and beer cycle is no less important. Water is needed for brewing, and the rain that makes the sorghum cobs grow is not sufficient. In the rainy season, this water is drawn from rock holes, ponds and run-offs. But throughout the year, the water for drinking and brewing beer comes from wells.

In Mofu country, the ancient wells have a history. It tells of the succession of princes in the 19th and 20th centuries and of the conflicts with the Fulani of the plain. The wells were dug by the villagers of a district with the authorisation of the prince of the chiefdom with whom they remain associated in the collective memory, which makes it possible to date them. The chiefdom of Wazang had 17 wells at the beginning of the 20th century and was still digging one around 1950 (Vincent 1997, 341)[57]. The number of new mountain wells increased drastically in the second half of the 19th century. This was the response of the Mofu, who were

[56] In 1969, Vincent counted 437 families divided into 6 districts for the Wazang chiefdom (Vincent 1981, Tableau 4).

[57] The digging of a new well in such a place is the result of converging observations: "birds that enjoy flying there, earth crabs that reject damp earth from the depths, 'water grasses' that remain green late in the dry season" (Vincent 1997, 342). These wells are impressive funnels with stony walls, 5 to 10m in diameter, several metres deep. The Mofu women come to draw water from them every morning. Some of them have been dried up for several decades due to the increasing aridity of the mountains.

forced to retreat to the mountains to escape the Fulani slave raids, which prohibited access to the wells in the piedmonts and plain.

Why does the Mofu prince intervene in the digging of a well that only concerns the inhabitants of a neighbourhood? Digging a well is not a free compulsory work, *mangawa*, that the prince can enforce. It is the business of the villagers working for themselves: the men contributing their physical strength, fed and watered with beer, encouraged by the elders in the presence of the prince. But when the water rises to a depth of several metres, blood is "made": the sacrifice of a sheep, sometimes a bull given by the prince, consumed by the elders. The elder could not draw the first water until three days later (Vincent 1997, 342). For the Mofu, their 'prince lays the rain' (*bi mepi yam*). As the master of rain (rain stones), he authorises the digging of new wells[58].

Beer and grain management: men's and women's granaries, each with exclusive access. The women's millet is eaten first in the dry season and then the man's millet in the rainy season when the former is exhausted or needs to be supplemented by purchased grain. The woman's millet is used for food, not for brewing beer, which is sold locally or at a market. The latter is made with millet bought at the market or borrowed from a brother. It cannot be sold without the father of the family tasting it. He has no right to his wife's earnings: for example, Dizeleng of Wazan owned two goats which she had bought with the profits from her beer sales (Vincent 1979, 236-237).

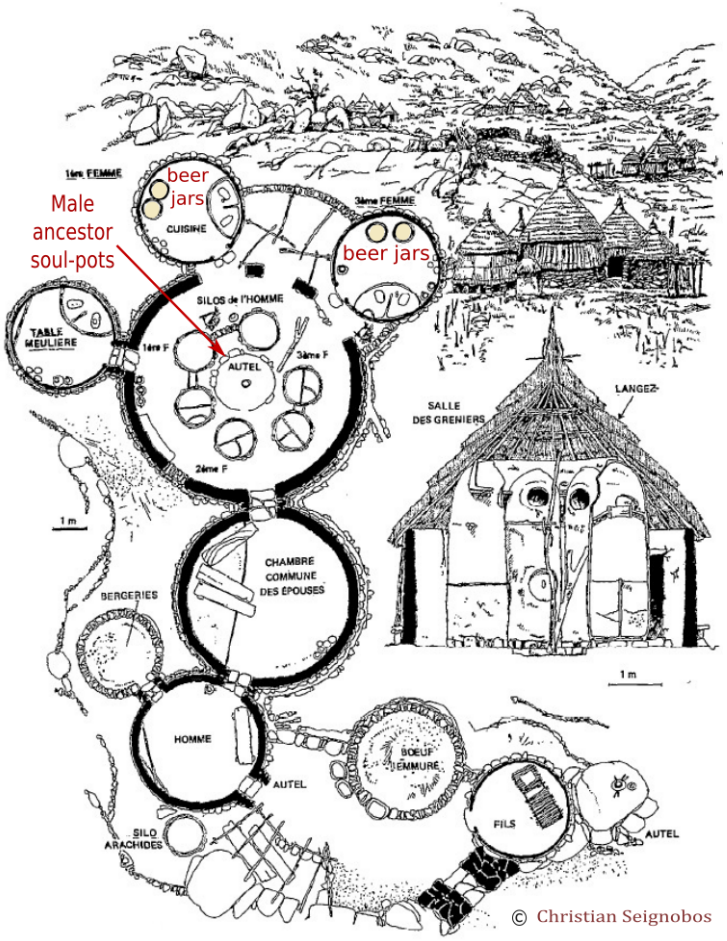


Fig. 58: a Mofu dwelling on the Duvangar range (Seignobos 1982)

The women prepare sacrificial food, meat in sauce, millet balls and beer, for their own cults (their deceased mother and paternal grandmother) and that of the male ancestors. For the latter, the master of the house preferably addresses his daughter from the same clan as the ancestors concerned, his mother if she lives in his house, and lastly his wife if the first two are lacking. The wife does not say a word at her husband's sacrifices but must be present as well as the young children. The men include them by making them drink the sacrificial beer (Vincent 1979, 241).

[58] Between 1930 and 1945, the prince Mangala initiated three dam tests in his chiefdom of Duvangar and requisitioned all the men of his chiefdom for several months.

6.4 The beer of the twins among the Mofu, the Giziga and the Zulgo

Twins are celebrated, venerated and feared in almost all the Mandara Mountains. Their birth manifests extraordinary powers closely linked to human fertility, the fertility of the land, the abundance of grain and beer, which ultimately mean social harmony.

The beer of twins among the Mofu (Vincent 2002)

Jeanne-Françoise Vincent described what happens with twins, who are beings apart, among the Mofu-Diamaré. The Mofu say *that when two children come out at the same time it is already a spirit* (*kuley*), *kuley* designating the spirit/power of the ancestors. *You twins, if you are really important, we must know it by seeing your blessings!* says a priest during the twins' festival, himself a parent of twins. The cult of the twins addresses only the exceptional living and not the dead, a request for fertility and surplus life.

> "On the very day of their birth the twins were subjected to special rites. As we have seen, they are placed on the bare earth "as if abandoned" and can only enter their parents' house after the intervention of two old actors, themselves former fathers and mothers of twins, but without any ties between them. After tying pale-green fibres of the tubah "dwarf palm tree" around their necks and foreheads - which will be found again during the stages of the cult - the two old ones will adorn the parents of the twins in the same way, then the twins and their little bearers - non-twins this time - girl for the twin, boy for the twin. The choice of this palm tree seems to be due to the double character of its leaves, which show everyone that the ritual celebrated concerns this double being, the twins. Thus identified and recognised, these children will be able to enter their parents' home, from which they will not leave for several weeks and sometimes months until the harvest season, at the "eleventh moon" corresponding to September-October." (op. cit. 112-113).

The end of their ritual confinement *makrawa* (to bring out) announces the birth of the twins celebrated by the "twins' dances" (*megervey ma mawsa*). Most of the inhabitants of the neighbourhood, and even of the chiefdom, take part, several hundred people, a very large crowd in Mofu country. This celebration is prepared well in advance, otherwise the millet would not produce much (op. cit. 113).

The guests come with calabashes full of millet grains for a man, millet flour or beans for a woman. Huge jars collect these offerings, some for the father and the first twin, others for the mother and the second twin. The women have brewed hundreds of litres of beer in their kitchens from the millet of the twins' father. The celebration begins in the afternoon and continues throughout the night with dancing and singing encouraging the birth of new twins. Two priests inaugurate the cult of the twins, without an altar, in the granary room: an animal offering after divination, a culinary offering of a rooster and a hen cooked in the same pot, two balls of millet, a double anointing of millet flour on the forehead with the left hand, and millet beer. Everything is placed under the sign of the number two. The altar of the twins is a double-bellied pot with a single collar and two necks. The

twin's dances celebrate the abundance promised to all families beyond the parents (Vincent 2002, 112-114).

Beer and dedicated sorghums to twins among the Giziga and Zulgo

Specific varieties of sorghum are grown and reserved for the annual worship of twins and their parents, or for their year-round consumption as food. These sorghums usually produce white gemellary grains. Their area of extension coincides with the cult of twins respected by most of the ethnic groups of the Mandara Mountains, including Giziga. The association of particular sorghums with the cult of twins has, however, fallen into disuse among the Northern Mafa, the Muktele, the Podokwo, and throughout the plain with the exception of the Giziga (Map 1). These sorghums bear witness to the long coevolution of agrosystems and cultural practices in North Cameroon, a history that Ch. Seignobos has studied at length. Other local varieties of sorghum have been jealously protected by certain social groups – diviners, sacrificers, chieftaincy leaders, land masters, warriors, twins, etc. – for religious purposes, "liturgical sorghums" according to Seignobos' formula. He cites the case of the *masay* Giziga, land chief of Ouzal-Loulou, who in 1988 still had 'his sorghum' grown on a 30 x 40m plot in his sanctuary. He made balls and beer from it, mixed with other sorghum, for the masay's only sacrifice, the *kuli ma di'da* (Seignobos 2014b, 131).

The Giziga (≈ 55,000) are divided into several chiefdoms, those of Marva and Kaliao being in contact with the Mofu, their close western neighbours. Like them, Giziga celebrate twins and reserve a specific white sorghum for them, referred to as white (*daw babara*) although it can be reddish. With this sorghum they brew the special beer for the twins' festival that follows the harvest festival (Seignobos 2014b, 128).

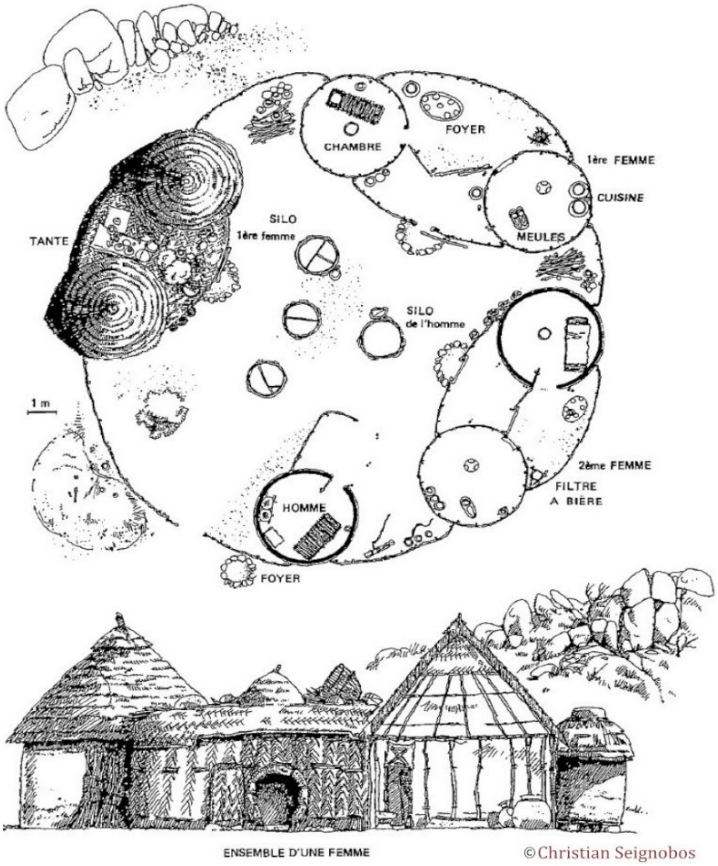


Fig. 59: Giziga dwelling in Badjava Tetra, brewery-hut and beer filters (Seignobos 1982)

The Zulgo (about 8,000) live in the north-eastern Mandara Mountains, neighbouring the Gemzek and Mada. Like other ethnic groups, they devote a special cult to twins. The Zulgo cultivate *daw masa*, a sorghum with white gemellary grains, around their domestic altars (*kuley*). The *daw dedjet* is a greenish-white gemellary grain sorghum. These sorghums are used to prepare balls and beer for the sacrifice in honour of the

twins. If the quantity is insufficient, it is mixed with other sorghums (op. cit. 128)[59].

The jars and vessels for brewing and storing beer (and water) among the Mofu and the Giziga show similarities in form and vocabulary. The Giziga live next to the Mofu in the plain (Barreteau, Delneuf 1990).

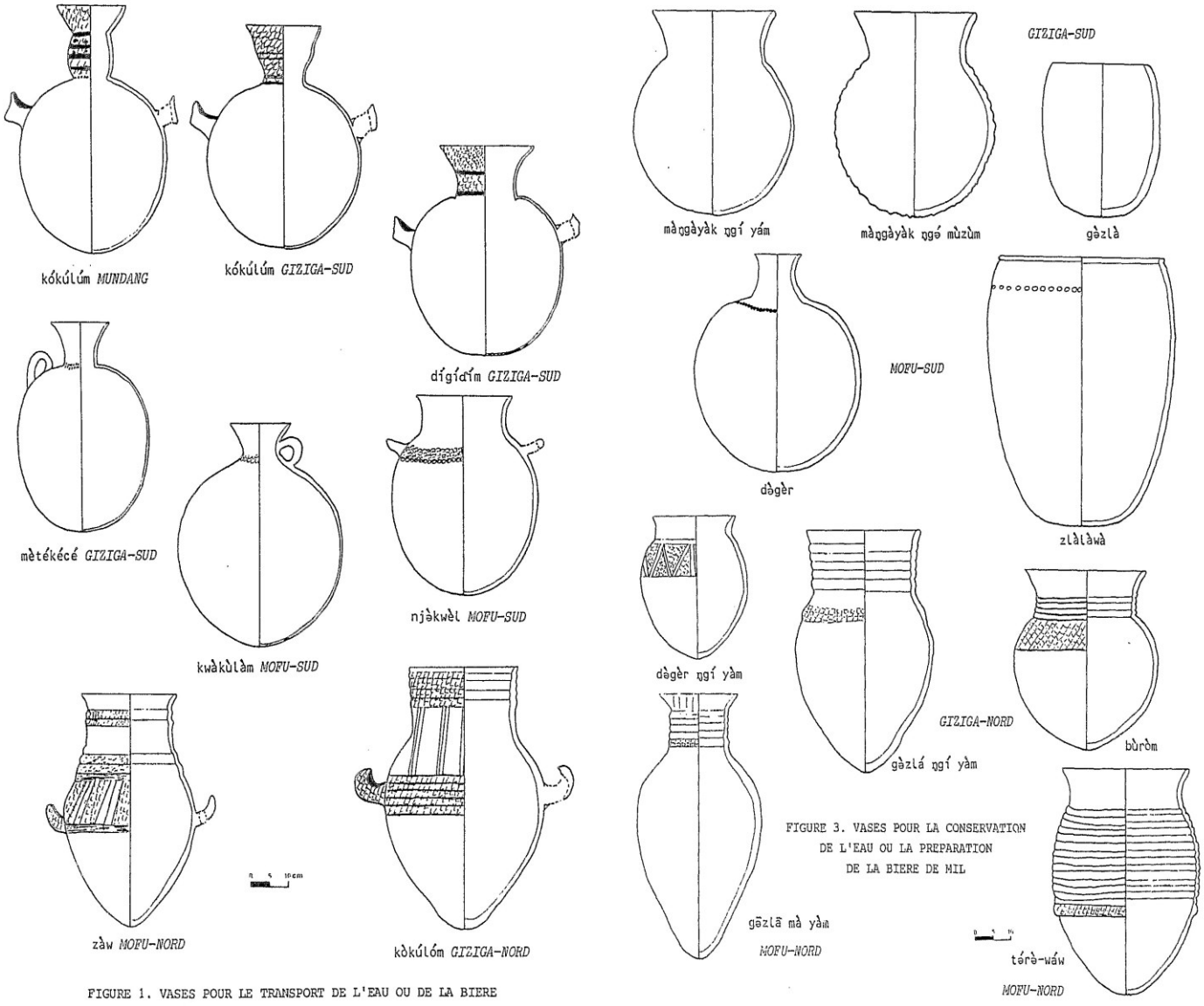


Fig. 60: comparison of jars and vases for water and beer among the Mofu and Giziga (Barreteau, Delneuf 1990, 130 and 136). See also Müller-Kosack 1988 for the study and design of the Mafa sacred pots.

[59] Seignobos cites other sorghum specialisations, unrelated to the celebration of twins: bitter sorghums to ward off locusts, bearded sorghums to repel birds, shady sorghums to exploit tree lands (Seignobos 2014a, 21).

6.5 Beer among the Kapsiki in 1971-1973 (van Beek)

The Kapsiki live today between Cameroon (Mandara centre-west) and Nigeria: 25,000 Kapsiki in Cameroon, 70,000 to 169,000 Higi in Nigeria (estimates from the 1970s), the colonial partitions accounting for these two denominations attributed by the Fulbe (Fulani).

Kapsiki derives from *psekè*, the germination of millet before making beer, the typical Kapsiki process for brewing beer, or from the verb *psuku*, that which boils (cooking the wort or fermentation). Ka-psiki can be translated as those who make beer, or 'brewers of beer' (van Beek 1978, 17). However, Kapsiki is not an autonym but the word used by the Fulani to name the ethnic groups in this region. The Kapsiki call themselves Margi or Higi (*Kamwe*) in Nigeria (Seignobos & Tourneux 2002, 149)[60].

The Kapsiki are an exemplary case of horizontal and fragmented social organisation. The autonomous socio-political unit is the village, with households jealous of their independence. The architecture of the habitat, which groups several huts behind a stone wall, reflects the organisation and autonomy of the Kapsiki family. Each village has its own territory and a history based on the migration of ancestors who came mainly from the west, the Nigerian plain, during the last three centuries of flight from slave raids[61]. Village, clan and lineage leaders have ritual obligations and very little political power. Kapsiki social cohesion is based on rites of passage for boys and girls, cyclical rituals and collective celebrations.

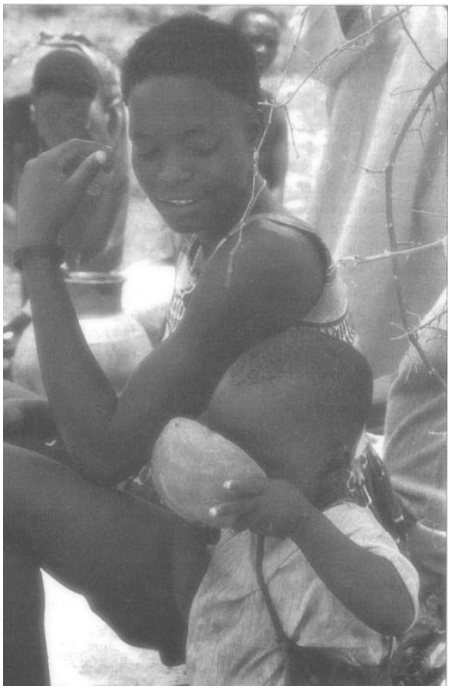


Fig. 61: a Kapsiki mother or elder sister and a child drinking beer at the market in Mogodé April 1986 (Van Beek 2005).

Egalitarian social structure does not mean peaceful community life. Inter-village conflicts and gender tensions are permanent. Women frequently change husbands and move from one village to another. The links between villages are primarily the concern of women, who are much more geographically and socially mobile than men. The latter risk seeing a wife disappear overnight. Men may marry a dozen times, a figure that has nothing to do with polygyny. Women are affected by the high infant mortality characteristic of the Kapsiki people (van Beek 1987). As trust between the genders is low, men and women tend to live in their own spheres. Beer offers an example.

[60] We also write "Kapsiki", adopted by ethnological and historical studies.

[61] The Mandara Mountains were inhabited long before this time, but data are lacking on these populations and their migrations (van Beek 1981, 113-115).).

The Kapsiki brew two different beers: *tè* the 'red' beer and *mpedli* the 'white' beer. *Tè* is the ritual beer brewed by the men, *mpedli* the beer for everyday consumption or sale on markets, brewed by the women. The possibility of selling beer on markets appeared in the middle of the 20th century among the Kapsiki and all the mountain people. This situation is itself evolving quite quickly. The once exclusively ritual 'red' beer also became a commercial beer brewed by women and preferred by men (Van Beek 2002). This evolution also affects the women of the endogamous blacksmith clan, the second largest component of Kapsiki society (4-7%).

Fig. 62: Kapsiki funeral ceremony and beer sharing (Van Beek 2005)

The brewing of the red beer follows the technical pattern of malting, common in northern Cameroon. Millet or sorghum grains (the Kapsiki like both but prefer sorghum) are soaked in water overnight, germinated for a few days in a dark hut, and then dried in the sun on a roof. In Kapsiki thought, this malt, *tè njine*, is linked to death, vulnerable to supernatural attacks during this intermediate germination phase. Four days before the event to be celebrated, the burnished malt grains are crushed, poured into a jar full of water for half a day and then cooked a first time for several hours. Traditionally, a large earthenware brewing pot (*wuta*) set in the ground is used, or nowadays metal barrels or cast iron pots. In the afternoon, when the mixture has cooled down, the clear part is ladled into other smaller jars placed against the wall of the brewhouse-hut. The remaining thick and cloudy part is re-cooked until the evening and then mixed with the remaining brew in the small jars to cool. The 'brewmaster' waits overnight, tastes the brew until it becomes slightly sour, and then filters it back into the large *wuta* or a barrel. He lights the fire around the large wuta jar or under the barrel. This slow fire is maintained throughout the night until the following afternoon. The beer then becomes sweet (*tè kwarhèni*). In the evening, the man filters the beer a second time and carefully pours it into narrow-necked beer jars (*rhewelepe tè*) sealed with a bundle of leaves (see Fig. 65, a similar Hide beer jar). These jars remain in the brewing-hut. If no yeast is added, it takes three days for the beer to ferment. The grain residues are used as garden fertiliser or pig feed.

By the end of the second day, the beer can be used for a sacrifice. Called *sarerhè* (literally *smith drinks*), smiths actually drink it and use it for domestic sacrifices (van Beek 1992). On the third day, the beer can be used for sacrifices and drunk during large public ceremonies. The red beer is brewed in a male space, the *tè*-brewing hut. It is incorporated into the enclosure wall of the dwelling, opposite the entrance. Brewing is ritualised and surrounded by taboos. If the brewer has sexual intercourse the day before and during the brewing process, the beer becomes slimy and cannot be drunk.

Inside the wall, the *dabala* is a passage hut that takes on the function of a *derha* in the rainy season. There is also a male and a female side. In the men's section, one finds the hut of the head of the family with its surrounding granaries, the huts of his sons and the brewing-hut. The *dewe*, the brew house, like the *derha*, is made of clay but mostly of stone, built by a work group of neighbours. The man prepares his red beer, which is only consumed on ritual occasions. For everyday use, women brew white beer in their own kitchens (Fig. 63).

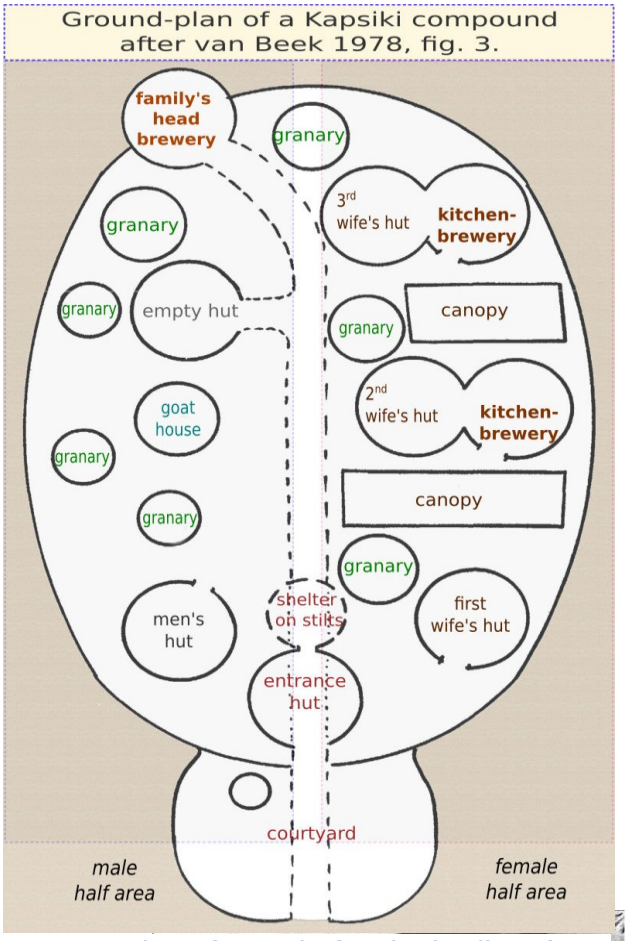


Fig. 63: plan of Kapsiki family dwelling (van Beek 1978)

The elders of a neighbourhood meet regularly at a kelungu, sitting on a rock in the shade of a tree above the surrounding landscape. They discuss current affairs, the harvest, marriages or neighbourhood problems. They play their tserhwe (a game for two or four people) in the shade, drink beer and... discuss at length the comings and goings of the village chief and their ward leader (van Beek 1978, 26).

Curses and the means to lift them are critical moments in the lives of the Kapsiki. The mpisu ritual counteracts these curses, starts with a divination and ends with prayers and offerings to the source of the curse. If the person responsible for the curse has already died, reconciliation must be achieved through the *kwadzankwa* (going on the path) ritual. Through divination, usually with a small offering of residues of beer, millet or meat, the crab indicates what is to be done. The person concerned goes out at night with what is needed in a bowl. The goal is the grave of the deceased or, if the grave is far away, the road. There he or she arranges a few stones together to form a small mound. The gifts are placed on top, and he or she tells why this is done, what misfortune there is, the divination of its cause, in this case the curse sent by the deceased ("dreaming" is called consulting the crab). The deceased is then asked to lift the curse (van Beek 1978, 88).

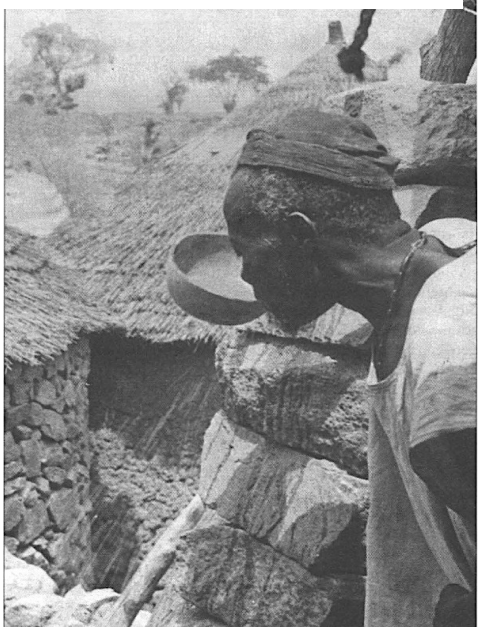


Fig. 64: Zra Demu sprinkles beer on the entrance of his house as protection, and an offering to his ancestors at the same time (van Beek 2005).

Among the Kapsiki, ancestrality is signified one year after death by the breaking of a jar or cultic calabash (depending on the sexual gender) containing red millet beer on the grave. From six months to one year after the death, the rite of the dead is completed by the *tèshingli* (mourning beer). The deceased passes to his final status, from deceased to ancestor.

6.6 Beer among the Mada in 1956-58 (Guingnet)

The Mada were about 10,000 people living in 12 villages divided into 35 neighbourhoods scattered on a massif, north-eastern part of the northern Mandara (Map 1)[62]. They constitute a chiefdom. A chief takes a share of the harvest. Specialised technicians (blacksmiths, healers, diviners, rain-masters), but no social stratification: all cultivate on fields whose size varies little. No seclusion, circumcision, excision or age classes (Guingnet 1968, 1075).

The primary importance of millet and sorghum cultivation in the life of the Mada is underlined by numerous rituals and great seasonal sacrifices. The two great agrarian festivals are *Ouzam Elgwa = beer of the plain*, the sowing festival which takes place in May after the first rains, and *Ouzam i Jegla = beer of God*, in November, at the time of the harvest and grappling, a festival of thanks for the new harvests and the filling of the granaries (op. cit. 1116).

Collective work: "Construction is done collectively, and, for a few calabashes of millet beer, the future owner of a new saré can find many workers in his neighbourhood; similarly, the repair of roofs is a community task. If everyone braids the necessary straw, the laying of a new roof brings together neighbours and friends" (op. cit. 1066) for a day work.

As farmers, the Mada give animals only a social or religious value. Chickens end their lives on a sacrificial stone to seek auspices in case of illness or bad luck. Sheep and goats are sacrificed on the occasion of a death or as an annual ceremony. The bull, locked in a small hut inside the saré[63], is sacrificed to the ancestors every three years by the heads of large families who can afford to buy a calf from a Fulani herdsman, feed and water it. In all cases, the meat is eaten collectively and copiously complemented by beer.

Wedding: "The dowry must be paid at the wedding time: 3 to 5 goats, a few boubous or loincloths, 2,000 to 5,000 CFA francs, 5 large pots of beer, a day's work at the future father-in-law's house with 10 to 30 of his comrades" (op. cit. 1085) Other gifts to the family of the fiancée are part of the marriage talks: calabashes of beer, tobacco, chickens, etc.

Funerals: "The officiant then sacrifices a goat, which will be consumed by all those present after the burial, except for: an ear, a piece of each leg, and samples of viscera which will be placed by the officiant in the pra (funeral urn), mixed with millet beer" (op. cit. 1089). "In the tomb are deposited new clothes, bought and reserved especially for this purpose, meat, millet ball, a calabash of beer..." (ibid.). For the widow or widower: "Thus between the burial and the anniversary beer offered to the spirits, one moon after the funeral, the husband must keep watch. Any dream with the deceased as its subject will be harmful and will require a sacrifice ... Until the anniversary day when the beer is drunk, a widow shaves her head completely, then after a new moon, she prepares the millet beer again which ends her widowhood." (op. cit. 1090-91).

[62] And about 17,000 speakers of the Mada language in 1982.
[63] In the Fulbe language, a saré is a group of huts inhabited by a family.

The deceased must be honoured. "During the annual ceremonies and the anniversary period of the death, a little beer and pieces of millet balls are poured into the pra, the small funeral urn placed at the foot of the central granary and supposed to contain the shadow of the deceased. Nobody forgets the libation Tegouno artaava to the ancestors" spirits before drinking the millet beer. I have never seen a Mada ignore this prescription, which obliges him to spill a few drops of beer on the ground, wherever it may be, before drinking from the calabash offered to him, saying: "I give you this, my Fathers" (op. cit. 1096).

Pregnant woman "To make a pregnant woman's belly grow, she will prepare millet beer for the neighbourhood, and her husband will summon his friends to his house to drink and rejoice together; the next day all the invited men will go into the bush with sticks to kill an apak [a kind of small grouse] and bring it to the woman, so that her belly can grow normally! (op. cit. 1113).

The presence of protective spirits = deceased ancestors, a central belief of the Mada and a guarantee of their social cohesion. The Master of Rain is a man who draws his power from his ancestors.

6.7 Beer among the Hidé (Xdi) in 1969-70 (Eguchi)

The Hide are a small group of mountain people living west of Mokolo, southern neighbours of the Mafa, at an average altitude of 1100m. In 1960, there were about 6,000 Hide with a density of 145 inhabitants/km^2, one of the highest in the Mandara Mountains along with that of the Mafa (Hallaire 1965). It illustrates the extraordinary adaptation of the Mandara ethnic groups to their meticulously managed environment, the source of agricultural prosperity feeding a dense population, and at the same time the need for strong social rules to sustain cohabitation considering this demographic pressure.

The importance given to beer in daily life, social exchanges and ceremonies can be explained by this double constraint on which the survival of the Hide as a social group depends: efficient cereal cultivation to fill the granaries, and strong customs to ensure the 'harmonious' circulation of beer throughout the year within the community.

> "The Hide are great lovers of beer. During the time of the author's field work [April to June 1969], there were drinking parties almost every day. Beer is a part of almost every one of the regular functions and celebrations, which are of great importance in Hide life, but it is very common, too, for several people to assemble spontaneously to drink together." (Eguchi 1971, 71).

The beer (*ʁuzu*) is brewed with a variety of sorghum (*Sorghum caudatum*) and millet (Pennisetum typhoideum). Eleusine, grown in a two-year rotation and paired with millet, does not seem to be used to make the beer as long as sorghum is present. The brewing method is malting. Brewing is done outside on the terraces or more often in the huts. Malting takes 4-5 days, including drying. The brewing

itself takes 3-4 days, and a complete cycle more than a week. The operations of one cycle overlap with the next cycle.

The beer is brewed by the women. They have a special hut (*rumba*) equipped for brewing. The *rumba dagala* is a kitchen hut of about 2.5m in diameter, equipped to brew large volumes of beer. It contains stone mortars for crushing sorghum and millet malt, beer filters (*tuktuk ʁuzu*) for separating wort and dregs, large unglazed earthenware jars (*udi'a*, h. 70cm Ø 60cm) for brewing and fermenting, small 3-4 litre *siga* jars for serving the beer, calabashes, wooden shelves. The cooking of the wort takes place outside, maintained with sorghum canes. Another kitchen hut, the *rumba kwitik*, is only used to brew small quantities of beer for the family (Diagram 1).

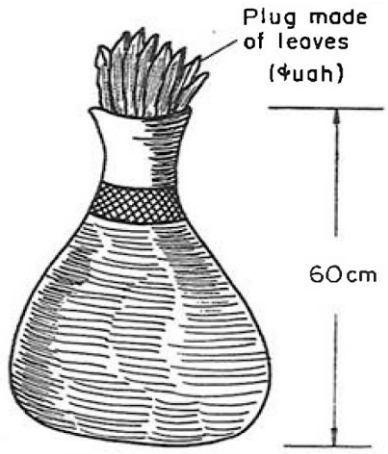


Fig. 65: beer jar (*hulama ʁuzu*) made of unglazed pottery, holding about 15-20 litres. The neck is closed with a leaf stopper (*luha*) (Eguchi 1971 fig. 4).

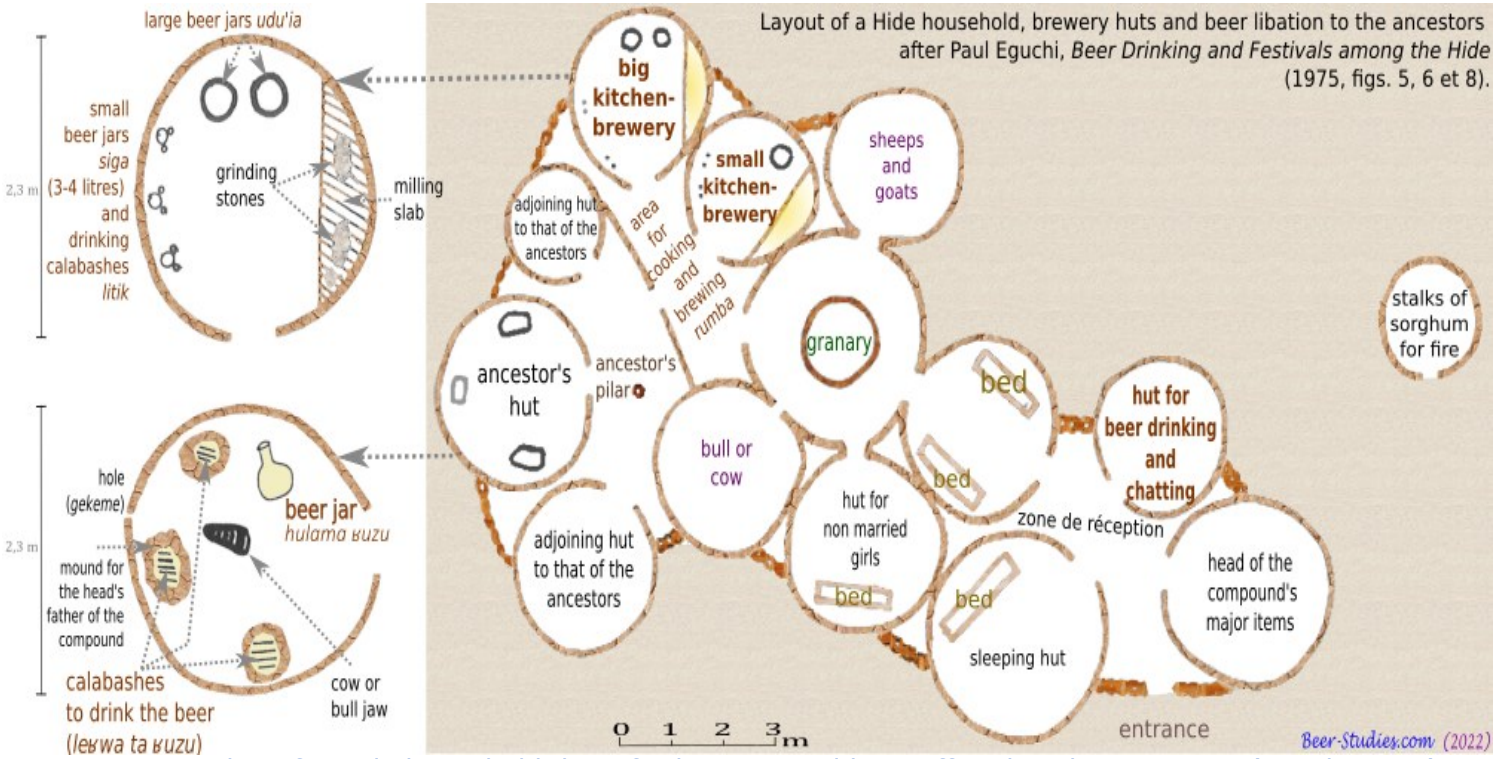


Diagram 1: plan of a Hide household, huts for brewing and beer offered to the ancestors (Eguchi 1975)

Beer is drunk while adhering to stringent social rules (Table 4).

Eguchi lists 3 contexts and 5 rules for brewing and drinking beer (1971, 73)					
	Beer sold Yes/No?	Restricted place Yes/No?	For some persons Yes/No?	For pleasure Yes/No?	For the ancestors Yes/No?
Ceremonial beer					
Beer supporting collective work					
Beer for a market					

Table 4: social contexts and rules for brewing and drinking beer among the Hide

The markets are held in the villages surrounding the Hide territory (Madagali, Gozo, Mokolo, Tourou and Ngosi). The beer jars brought by the women brewers are drunk on the spot, on a nearby hill, or sometimes in a neighbouring house where the beer is brewed.

Ceremonial beer is drunk in the *wa ckadak*, a courtyard at the back of a compound where the hut (*ckadak*) of the ancestors (*jiji*) is located, a space forbidden to women (Diagram 1).

The beer fuelling the communal work is offered by the requestor to the small group of people who have come to work.

Beer offered to the ancestors is not drunk for pleasure. Its consumption is highly ritualised. Participants always pour a few drops of beer on the ground while chanting the name of their ancestors before drinking. Those who participate in collective work do the same, but then drink as much as they want.

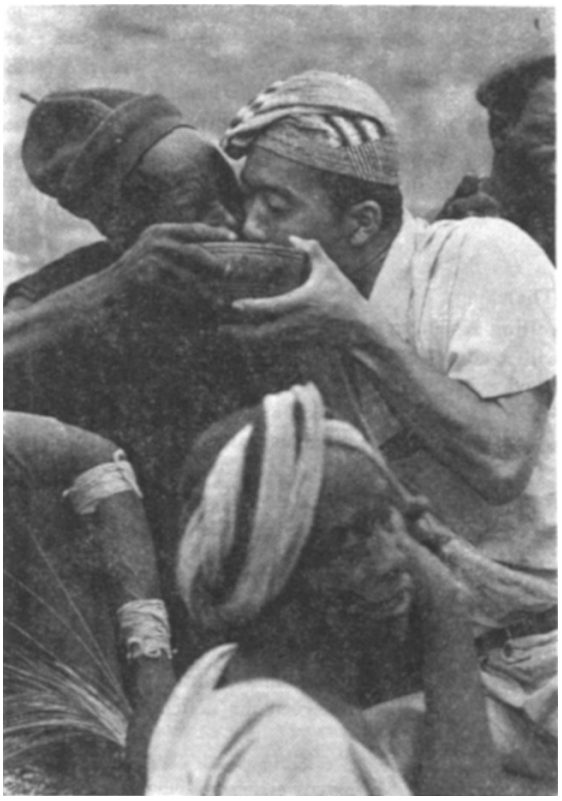


Fig. 66: drinking beer from one calabash, lip to lip (*solo-solo*) with the Hide

Apart from the ceremonies and collective celebrations that take place between November and June, the only beer that can be drunk all year round is the one sold by women brewers in the markets, brewed with sorghum and millet bought by them or drawn from their own granaries.

Outdoors and apart from the ceremonies, the Hida drink their beer wherever they can: on rocks, under trees, in a hut reserved for celebrations when it rains, on piles of drying sorghum, etc. Only certain places are taboo around the scattered habitats in the terraced fields. They drink in groups of the same kinship, which refers either to the same family and its dwelling (*hga*), or to the same exogamous clan

(*la*), *Hde* designating all the clans, and therefore the whole of the Hide ethnic group. In principle, one does not drink with a non-Hide (except an ethnologist! Fig. 66).

Drinking manners follow a strict etiquette. Beer is served according to the degree of kinship of the guests with the host. It is poured from a small 3-4 litre beer jar (*siga*) into a calabash of about 0.6 litre reserved for this purpose (*Ieʁwa ta*) and offered with the right hand. The beer is drunk in one long gulp. The drinker returns the calabash with the right hand. The thumb should never touch the beer, as a precaution against the risk of poisoning. Two people who are close to each other, the host and his visitor, may drink from the same calabash together, cheeks and lips touching, as a sign of friendship, mutual trust or to seal a vow of brotherhood. Drinking beer together from the same calabash is called *solo-solo* in the vernacular of the Mandara Mountains.

Communal works for beer. Paul Eguchi was able to observe in April 1969 the restoration of roofs woven with sorghum stalks and grass ropes, a technique in which the Hide people excel. A team of 4 to 5 men working from dawn to dusk cover three to four huts. While these men, brothers and neighbours, are doing this cooperative work, the women, who started brewing the beer three to four days before, are preparing to serve the beverage. Drinking begins at about three to four o'clock in the afternoon until sunset.

Religious ceremonies. Two main ceremonies punctuate the year. In both cases, the beer libations and the shared-drinking take on a special meaning.

That of the ritually confined bull (*La*) brings together the whole clan and even beyond. It takes place in two phases. The first phase, kept secret, only brings together the household of the person offering the animal for sacrifice. Once it is over, the men and, exceptionally, the women of the other families can enter the *wa ckadak* of the household. The master of the house offers beer, roasted sesame balls and nutsedge (*Cyperus esculentus*) as a sweetener, eaten or mixed with the beer. Offerings are placed under the pillar of the ancestors: water, cattle bones, a small jar of sorghum gruel, beer, etc.

A cloth is put around the head of the youngest unmarried man of the household. He drinks the beer first. The drum is beaten, the women shout in falsetto, and then beer is poured down his throat. After a break, the beer is brought from the *ckadak* (ancestor's hut) and distributed to all participants who offer a little sorghum flour to the ancestor pillar of the household. The beer is served continuously, the mood becomes more and more festive.

Fig. 67: Paul Eguchi and the sharing of beer among the Hide

Outside, a crowd gathers, made up of people who are far away from the family organising the feast, people from other clans, men and women of marriageable age, young men playing the drum, etc. As the drumming gets very loud and the dancing reaches its peak, the wall of the cattle

hut is broken down. The bull or goat that has been locked up in the dark hut for two years bursts out of the hut. As the animal emerges, the drumming and dancing stops dead. The animal runs wildly around the terraced field. Young single men chase the animal and subdue it with their bare hands. A member of the family organising the party takes the rope from under the ancestors' pillar to tie the animal to a tree. At the same time, there is frantic shouting, singing and dancing. Afterwards, the young man who was the first to get his hands on the animal is congratulated and offered several jugs of beer, meat and beautiful clothes. At sunset, the festival ends. The participants go home and the silence of the night wraps the field, the scene of such noisy events.

The animal remains tied to a tree all night. At dawn, the householder slaughters it with a spear. The carcass is cut up and most of the meat is left to dry on the racks of the wa ckadak. Some of the meat, along with a little beer, is distributed to the brothers of the master of the house.

This process follows closely that of the Mafa. It offers the Hide clans an opportunity to meet, exchange information and flirt. Each family rich enough to maintain a bull or a goat for two years offers this sacrifice. One clan offers several in the same year. The role played by the unmarried young man of the family reveals its matrimonial function (Eguchi 1975, 82-84).

The *Hana-sku* sacrifice (lit. *cutting off the head of an animal*) is offered to the ancestor of a householder's parents and brothers and involves only an extended family. It strengthens their family ties and addresses, through the householder's father and mother, his paternal and maternal lines. The *Hana-sku* begins with the sacrifice of a sheep or goat. The head of the house spreads sorghum in the ancestors' hut (*ckadak*). Then he smears the entrance of the *wa rumba*, the *gogwila*, the entrance of the *rumak*, the posts of the beds, the forehead, the feet and the abdomen of the participants with the intestines of the sacrificed animal (Diagram 1). Then he pours the beer set aside inside the *ckadak* into a half-cup and drinks. The vegetable cap of the beer jar is placed in the *ckadak* on a stone as an offering (Fig. 65). The householder then offers beer to the other participants. Each person gives the calabash back to the householder who touches the beer with his lips and hands it back to the participant. Before drinking, the latter must turn to the *wa rumba* (courtyard of the women's huts-kitchens) and shout 'for your mother' and then turn to the *gogwila* (ancestors' pole) and shout 'for your father' while letting a few drops of beer fall to the ground. When all the beer set aside in the *ckadak* is drunk, a new jar of beer is brought from the *wa rumba*. It is drunk according to the usual etiquette. The stopper of the jar is placed under the pillar of the ancestors (Eguchi 1975, 85).

6.8 The beer of the Margi in western Mandara, 1959-1987 (Vaughan)

About 250,000 Margi inhabited the western foothills of the Mandara Mountains and the surrounding plains of northern Nigeria around 1970 (Map 1). The history of their migrations was played out between the Mandara Mountains and the Biu Massif in the west. It accounts for their present geography and their division into four cultural groups: Dzirngu, Babal, Titum and Putai (Vaughan 2000,

45-71; Maps 2-1 and 3-1). They were exposed to slave raids before and especially during the Fulani jihad of the 19th century

> "The Mandara Mountains are more than an eastern boundary of contemporary Margi, for it is from them that people have come in numerous migrations spread over a long period. Even as some Margi moved out into the plains, they tended to settle around inselbergs to which they could retreat when threatened by enemies." (Vaughan 2000, 23)

Despite being backed by the inselbergs that dot the northern Nigerian plain, the Margi suffered from the slave policies that continued to be the economic bedrock of the Adamawa emirate at the end of the 19th century:

> "The south Margi community of Hildi, for example, lived on an inselberg but farmed the surrounding plain from which they also got their water. Each trip to the field brought fears of capture, and in 1959 old men could still recount the story of a five-month siege in 1899 during which Fulani cut off access to water and eventually forced them to capitulate. One hundred and seventy men were taken as slaves (Kulp n.d.)." (Vaughan 2000, 60)

Most of them are Islamised nowadays[64]. What can we learn about their ancient customs and brewing traditions? Does beer still play a role in their way of life?

James H. Vaughan chose to study the Margi Dzirngu in 1959. They perpetuated their autonomous social organisation based on self-sufficient cereal cultivation and followed a way of life that had not yet been overturned by modern Nigeria and the commercial world. The following descriptions need to be updated. They concern the Margi Dzirngu and cannot be extended to all Margi, the majority of whom inhabit the north-eastern plain of Nigeria. J. Vaughan presented a photographic exhibition on the Margi in 2005 (Indiana University) with these words: "*One could say that the society described in this exhibition has practically disappeared.*"

The Margi Dzingu, who live in the western foothills of the Mandara Mountains, are a farming and brewing people, like the other ethnic groups of the Mandara. They grow sorghum (*Sorghum vulgare*), millet (*Pennisetum*), maize (*Zea Mays*), cassava (*Manihot utilissima*), Bambara pea (*Voandzeia subterranea*), cowpea (*Vigna unguiculata*), Asian rice (*Oryza sativa*) and sugarcane (*Saccharum officinarum*) in some places, okra (*Hibiscus esculentus*), roselle and sorrel (*Hisiscus Sabdariffa*), sesame (*Sesamum*

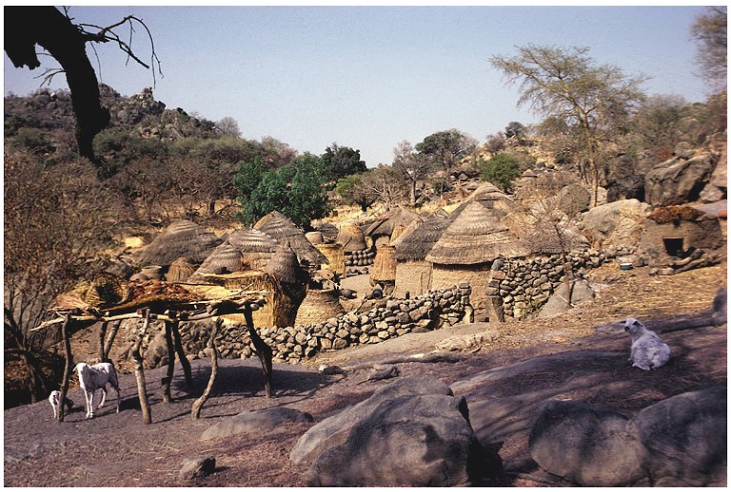


Fig. 68: dwelling of Margi Dzingu on the western fringe of the Mandara foothills (Vaughan 2000)

[64] Margi descendants of those who converted to escape Muslim manhunts or more recently to escape ostracism against the ''pagans''. Vaughan described the *Mafakur*, a different kind of "slavery" between Margi and their Mafa or Higi neighbours. Mafa children or families were adopted by Margi as a result of severe famines or food shortages in the Mandara (e.g. 1899-1904). The 'abduction' of Mafa women was also practised with the agreement of the Mafa villages (Vaughan 1977).

indicum) and groundnut (*Arachis hypogaea*). The main grain of the Margi - they recognise four main varieties - is sorghum: a food crop and grain component of their ritual systems (Vaughan 2000, 182). Maize and cassava, adopted in the 19th century, and rice in the 20th century, are not part of Margi brewing traditions. Cowpea and Bambara pea may have been used to brew 'famine beers' (**3.3**), but we are missing data for the Margi.

They therefore brew sorghum beers: the profane beer (*mpadlu*) and a ritual beer (*psu*). The *mpadlu* is the beer of community agricultural work, the beer sold on the markets, the daily beer, the beverage for festivities. *Psu* is a slightly fermented brew of sorghum poured as a libation during rituals and major annual ceremonies, mainly Yawal.

The beer of collective work (*mishki*):

As among other ethnic groups of the Mandara (**6.6** and **6.7**) or the Duupa of the Poli Massif (**8**), the important agricultural tasks of the Margi Dzirngu are communal works fuelled by abundant beer distribution. The women of the organising family brew beer when a *mishki* is announced by the head of the family. Family members must come to help, but the main events of the sorghum cycle, weeding, sowing and threshing, may require the help of friends, neighbours and relatives, up to 50 people when a farmer has large fields. Without the lure of beer and the festivities that the sponsor has to offer, it is difficult to move so many people (Vaughan 2000, 184).

Agrarian rituals occur along with these collective works: prayers, sacrifices, beer libations to guarantee fertility, the coming of rain, etc. (Vaughan 2000, 187-188).

Beer markets (*suku mpadlu*):

Beer markets have a specific organisation among the Margi. They are held in a separate place on market days (Friday in Gulak), after the main market and can last almost overnight. We quote Vaughan's vivid description (2000, 192):

"In an area convenient to the market but distinct from it, there is usually a **beer market** or suku mpadlu. Although one can normally buy **sorghum beer** most any day, on market days special effort is made to prepare large quantities for sale. The **beer market** is held late in the afternoon after the other market has concluded. It is an occasion for visiting and conversing with friends and acquaintances and it frequently features dancing which may, when the moon is full, continue into the night. Although there is a great deal of gossip and good-natured kidding about **drunkenness** and though there were a few notorious drinkers, in the l959-60 period I saw very little drunkenness at the **beer markets** I attended."

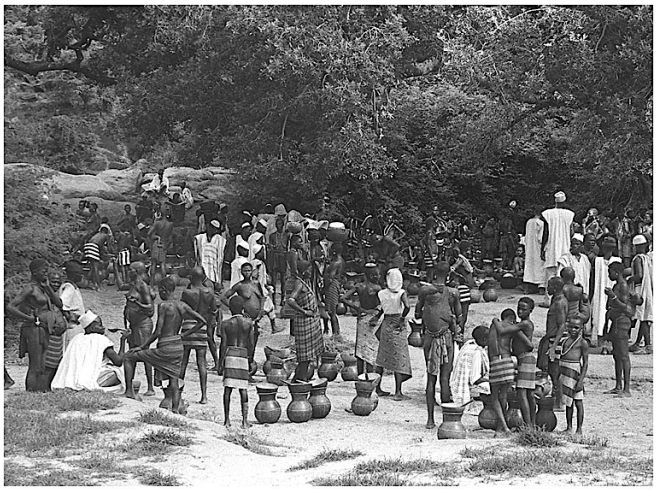


Fig. 69: Margi beer market in the Mandara Hills (Vaughan 2000)

Women brew beer for the market with their own grain and even sell it to their own husbands. Some of them accumulate enough money to buy cows or unborn calves, a risky purchase (Vaughan 2000, 192).

Yawal, the summer fertility celebration, revelry and beer:

The three major calendar celebrations are *Yawal* (July), *Anggarawai* (February) and *Digu Digal* (March). *Yawal*, the most important one, lasts four days in the middle of the rainy season, when the landscape turns green, the air becomes fresh and humid, and plants grow. Each hamlet prepares Yawal for several weeks, brews large volumes of beer, and kills a cow or a goat (op. cit. 239-241).

Yawal was more than a ritual celebrated to negotiate with the supernatural forces for the expected return of fertility, abundance of grain, food and beer. Yawal was also a political moment. The *ptil*, the traditional leader of a community of Margi villages (*ptilkur*), had to demonstrate to everyone the strength of his mystical powers and political authority. This involved rituals to test the ptil's magical power and raids against neighbouring kingdoms commanded by the ptil. The fate of the ptil, its continuation or replacement, depended on their success and the omens drawn from the *Yawal* rites (op. cit. 199-202).

The magical powers of the *ptil* protect the crops, but he cannot cultivate his own fields. His *bulama* (the one who assists the *ptil* and used to lead armed raids), summons the families to help the ptil's wives and dependents. This collective work takes the form of *mishki* (supra) with beer jars, the profusion of which demonstrates the generosity and good economic health of the ptil, a guarantee of collective prosperity.

The ceremonies that make up the ritual fabric of *Yawal* take place both in the fields, in front of domestic altars (fertility rites) and in the ptil's compound (political protocol). Women play no ritual role, although they prepare food and brew *mpadlu* and *psu* beers (op. cit. 248).

Fig. 70: young girl greeting an old woman in the market (Vaughan 2000)

On the afternoon of 2nd day, there is a beer market and dances for those who have recovered from previous activities (op. cit. 251).

The 3rd day of *Yawal* is devoted to feasting, beer and dancing:

> "Later in the afternoon, but well before sundown, a very large and festive crowd gathers in the pathla to observe the sacrificing and division of the mambil cow. The crowd contains not only people from other hamlets of Gulugu but other ptilkur as well and is so large that itinerant traders may set up tables on its periphery and ambitious women may sell mpadlu." (Vaughan 2000, 245)

On the 4th and last day, a ritual threshing of sorghum with three sticks (two of black plum, one of ebony) takes place in the morning at the foot of a baobab

tree in which the *yal* like to reside[65]. In the middle of the rainy season, ears of corn from the last harvest are symbolically beaten. In the late morning, the *ptil* leads the *ptilkur* council to the foot of the tree. The sorghum is threshed, winnowed, and the seeds scattered. The *ptil* and those present are brought *mpadlu*-beer. The ptil pours a little on each of his feet and on the ground in front of him. The previous *ptils* drank the *mpadlu*-beer, but the present *ptil* Yarkur gave up fermented drinks on becoming a *ptil* (and a Muslim?) and does not drink any. He chats amicably with the spectators who drink their share of *mpadlu*. When all the beer is drunk, the *ptil* returns to the royal compound (op. cit. 252-254).

> "The spirit of Yawal persists for a time and the market day following its conclusion in 1960 featured the largest beer market I ever saw, girls came in groups in their Yawal "costume," and there were numerous ngkyagu [members of the blacksmiths' clan] with their musical instruments. So large was the assemblage that there were four different dances going on simultaneously for a time." (op. cit. 254).

The *Anggarawai*, which celebrates the new sorghum harvest in February, is like *Yawal* celebrated with dances in the beer market (Vaughan 2000, 256).

Psu, the beer for rituals and libations:

Psu beer is a fermented infusion of sorghum, lighter and easier to brew than *mpadlu*. It displays the two features of relic beers: its ancient brewing technique (the sour amylolysis) and its almost exclusive use in religious ceremonies.

On the first day of Yawal, in the early afternoon, the *ptil* and his acolyte the *birma* go to offer the *psu*-beer to the four public *Yal* of the old Kirngu, the ancient enclosure in which the ptil lived on the mountain top. Two young girls accompany them to carry the psu but do not participate in the ritual. It is not unimportant that the girls rather than the boys attend the ritual. The *psu*-beer is placed in the *i'iwa* (an earthenware altar) at the place where the *yal* is located. The *ptil* swears to be generous and just '*even towards Matakam and Plesar (Fulani)*', and prays for Gulagu (the Margi district) to continue to be prosperous, to lead the Margi, and to be able to honour the yal at the next Yawal. If the *ptil* does not observe this custom, great misfortune may befall the *ptilkur*. In the past, the psu left in one of the i'iwa was 'read' to predict the coming autumn harvest (Vaughan 2000, 244).

On the first day of Yawal, a chicken is sacrificed by families who have a young child. Beer-psu is poured on the family altar (*koptu*), sometimes on each of the stones at the entrance. The chicken is plucked and eaten. Its feathers join the *psu*-beer on the altar. Later, the chicken feathers are placed on a piece of broken pottery or a piece of calabash and left along a nearby path. Some of the spent grains (dregs) from the *psu* brew are placed with this offering by the roadside (Vaughan 2000, 242-243).

[65] *Yal* spirits inhabit rocks, mountains, springs, etc., neither good nor evil like the *shatar*, but liable to be involuntarily angered by humans.

7 Beer in the "little yaérés Triangle"

The "little yaérés Triangle" lies between the Logone-Chari river and the Mandara Mountains, south of the Diamaré plain (Map 1). This area is flooded during the rainy season and in the three months of receding water, from July to December. These seemingly ungrateful territories of swamps, sandy plains and forest galleries sheltered ethnic groups fleeing slave raids from Bornu, Mandara or Bagirmi. The floods prevented the Muslim horsemen from galloping and startling the villages. However, the ethnic groups remain vulnerable during the dry season.

Fig. 71: carrying water from the Kebbi mayo by Mundang women from Leré, Brusseaux 1905

They have fortified their villages, improved their farming techniques and evolved into more stratified societies to ensure their collective defence. From west to east, these are the Fali, the Gude, the Mundang, the Tupuri, the Gizey, the Muzey, and the Masa further north.

They are fishermen, cattle and horse breeders, and experienced grain farmers as well, therefore those who raise cows are both beer and milk drinkers. Their brewing traditions are less rich than those of the Mandara ethnic groups because they came under early pressure from the Fulbe lamidats of the plains in the 19th century, notably from Rey Bouba and indirectly from the powerful slave-owning emir of Yola in the Adamawa of the Sokoto caliphate.

Fig. 72: Mundang fortified *tata* and granaries (Moll 1905)

Nevertheless, the manifold socio-economic roles of beer that can be observed in recent times keep alive the memory of strong and long-standing brewing traditions alive. We illustrate here only those of the Tupuri, the Muzey and the Masa. Other ethnic groups to the south, in Chad, between the Logone and Benue rivers, would deserve to be included here.

7.1 Beer among the Tupuri 1950-2000 (Masseyeff & al., Garine)

The Tupuri live in high densities in the flood plain of the Fianga and Tikem lakes. They are both pastoralists and grain farmers, and they drink milk and beer. But these two beverages do not share the same cultural relevance:

Fig. 73: Tupuri granaries, Brusseaux 1905

> "Millet beer is, together with milk, the most popular beverage of the Tupuri peasantry. Like other alcoholic beverages it has a special sociological significance. It is the group beverage. If a Tupuri isolates himself as a "gourna" to drink milk, it is the opposite for millet beer that he will drink in company, and every time he can, without moderation!" (Masseyeff, Cambon, Bergeret 1959, 33)

Brewing beer requires a lot of work, which women do for two reasons, one economic, the other social. The women sell the beer brewed with sorghum from their granaries to earn money. Even a woman's husband has to pay her. Each woman has her own granary from which the grain for brewing is taken. The husband has his own granary from which the millet can be sold when he needs money or when the women's granaries are no longer sufficient to cover the hungry gap. On the other hand, beer is the convivial drink par excellence. "Gathering with friends around large jugs of millet beer, drinking without counting the number of calabashes and in euphoria, talking, dancing and singing, is the joie de vivre of the Tupuri peasant, who knows no other distractions." (op. cit., 33). The children drink a diluted beer, nourishing and vitaminized. These traditional, unpasteurised beers retain all their nutritional qualities.

Yi is the transparent beer of the Tupuri, a *bil-bil* type of beer brewed with malt. The processes vary, being short or long versions depending on the context (family beer, commercial beer, ritual beer). This is the long and careful method of a woman renowned in the country for the quality of her beer:

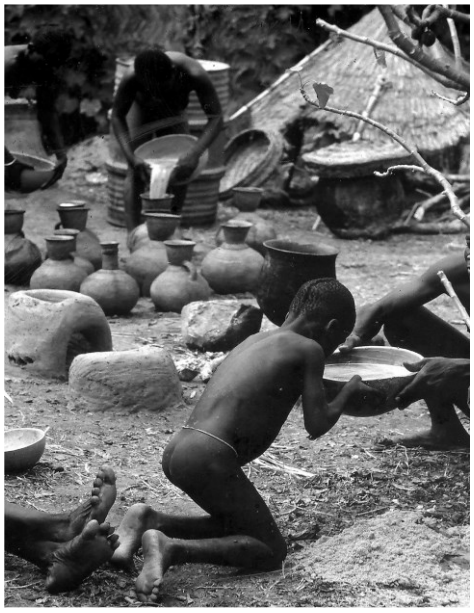


Fig. 74: Tupuri child drinking beer (Garine 2001, 56)

> "The woman puts the millet for the beer in large earthenware jars and covers the seeds with water. They stay there for two days. Then the jars are emptied, the seeds are washed with fresh water and spread out in the evening on a mat where they remain until the morning. The woman repeats this operation four times: the sprouts are now well out and they are pulled out. The seeds remain in the jars for one more night, after which they are dried first in the shade and then in the sun. When they are completely dry, the woman crushes them roughly and puts the coarse meal in the jars. She adds water and removes the impurities that float.
>
> After careful stirring, the woman manages to separate the supernatant liquid from the deposit through a succession of decantations. The supernatant is set aside. During this time the deposit is

diluted in water and brought to the boil. The woman then mixes the previously separated supernatant into this still hot mixture.

The next morning the mixture should have a slightly sour taste. If the housewife still finds it too sweet, she lets it stand for a while. When she finds it satisfactory, she filters it several times through the basketry funnels used here.

It is then boiled again. The liquid is decanted again and cooled slowly.

When the woman considers it cold enough, she seeds it with a kind of leaven from the previous production. The wort then starts to ferment.

The beer is ready to drink after half a day of fermentation. It is a rustic yellow-brown beer that is still cloudy and contains many particles in suspension. It fizzes strongly. Its flavour depends on the length of fermentation. After a few days, it becomes quite tart. These beers have an alcohol content of 4 to 5°." (op. cit., 34)

Here, we find again the circular and virtuous socio-economic logic refined in the Mandara Mountains: beer and mutual aid to cultivate-harvest sorghum, the filling of all granaries, hence plentiful of beer, offerings of beer (new year), festivities, seeds of sorghum for the following year. The annual cycle repeats.

"The work of cultivating babu [sorghum transplanted and cared for from August to October] is quite arduous and is often carried out by collective mutual aid. After the work, people eat millet and drink millet beer." (Masseyeff, Cambon, Bergeret 1959, 21)

Brewing is not a trivial technical task as in Western commercial civilisation. Brewing is a sacred operation, a moment in a great annual cycle. The obligation of purity and serenity is imposed when brewing beer: no anger, no impurity (menstruation, sexual intercourse), no collective conflicts.

Surga in *kanuri* refers to unpaid community work, where participants are simply fed and, among non-Muslims, quenched with beer. It refers to highly codified forms of collective mutual aid in matters of cultivation, and in building or repairing a hut:

- Inviting a neighbour to work on his field in return for food and beer;
- Inviting to make up for a delay (on cotton fields) in return for beer or the equivalent in money;
- Invite-convene for a day of work on the leader's field;
- Invitation from a young man to his friends to go and work on the fields of his future parents-in-law.

In the city, the *surga* turns into a tontine (pooling of small sums of money to manage petty loans between villagers), particularly for the construction of housing., especially for building housing units.

7.2 Beer among Muzey and Masa, 1962-63, 1958-59 à 2010 (Garine)

Muzey and Masa are neighbours along the Logone River (Map 1). Although a no-man's land keeps them apart, a remnant of ancient inter-ethnic conflicts, their brewing traditions are very similar. They include light beers brewed very quickly (1 day + 1 night of fermentation) and a more complex 'classic' malted sorghum beer that is close to other traditional beers of the region.

The women prepare a range of lightly fermented beers: a light sorghum porridge fermented overnight with or without the addition of yeast; *kochett*, a similar rice-based drink; *kalla* made from sorghum or millet with added chilli and sugar. Masa and Muzey also make mead and various fruit-based wines (Garine Igor 2001, 54).

The *suma* beer of the Masa and the *doleyna* beer of the Muzey are semi-opaque, halfway between the opaque balsa of the Koma and the transparent yi of the Tupuri. Brewing by malting takes 10 days of work. The Masa and Muzey prefer *Sorghum caudatum* varieties (op. cit. 58-61). The Masa, Muzey and Tupuri know the seasonal variations of the climate, their agrosystems and the vegetative cycle of the plants in their territories. To brew beer, the processes of germinating the grain, cooking the wort and fermenting are fully mastered.

Sorghum beer is the drink of high cultural value in most rituals. The Masa and Muzey contrast in this respect with the Tupuri, Kera and the mountain people of northern Cameroon, such as the Koma, where beer drinking is a popular secular activity. Many markets are involved in this activity. According to Guillard (1965), among the Tupuri, it represents 23% of domestic income and 4% of expenditure, less than other African populations[66].

The brewing of beer and its different phases (10 days) are at the basis of the organisation of the ritual calendar of the lowland populations of the area under consideration. The Tupuri, Kera, Muzey and Masa fit into the same system and celebrate their main ritual, the beginning of the annual cycle (vun tilla, opening of the months) in turn and according to the historical order of their settlement in the region. The Tupuri clan of Doré celebrates first, followed by the neighbouring Kera villages, then various clans such as Muzey, Bogodi, Gunu, Pé, and finally the Masa of the Guizey clan. The beginning of the year starts with brewing and collective drinking.

The beer symbolically involves the people who handle it. Menstruating women are not allowed to brew beer. Ritual beer should only be handled by adults wearing their ceremonial clothes and should be drunk from a clean, new calabash set aside for the purpose. Similarly, women belonging to the possession colleges come to sleep in the compound of their ritual leader while he brews, ensuring by their presence that all will go well. Purity and serenity are necessary during the preparation of the beer. Shouting, arguing or fighting between spouses is forbidden. The brewing cycle and the consumption of beer are ritualised among the Masa and the Muzey, marking a moment distinct from the daily routine.

[66] Guillard J. (1965), *Golompui. Analyse des Conditions de Modernisation d'un Village du Nord Cameroun*. Mouton & Co/Ecole Pratique des Hautes Etudes, Paris/La Haye. The Ngambaye, on the banks of the Logone River around Bongor and Mundu (Chad), drink one third of their millet harvest, or 700g of grain/day in good years (Cabot, 138). In Burkina Faso, each inhabitant drinks 263 litres per year (Pallier 1972).

Beer is consumed by everyone, children and elderly alike. Beer is offered to supernatural beings and ancestors. Most rituals involve libations and consumption of beer, at the end of the offerings and during the meal eaten together by the attendees. Among the Masa, the main sacrifice to the ancestors called *suma bumba/father's beer* is accompanied by the following prayer: *'Father, here is your beer. mother of the land (Nagata), come and drink. All you bush spirits, come and drink. None of you must remain without drinking*" (Garine Igor 2001, 59).

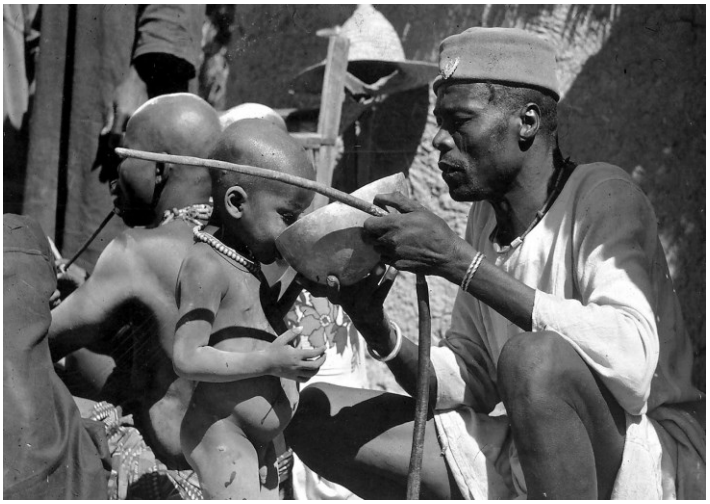


Fig. 75: beer ritually consumed by everybody, elders and children (Muzey), Garine 2001, 57

The beer has a magical power. When celebrating the guardian spirit of the Muzey Jarao clan, drops of blood may appear on the surface of the ritual beer. The dregs (*sot suma*/beer excrement) of the ceremonial beers are loaded with pollution. They are left at crossroads to impregnate the passer-by who carries their evil power away.

Tupuri, Kera, Muzey and Masa celebrate the beginning of the year with brews and collective drinking. In the main rituals, the land chief drinks first, followed by his assistants, his first wife, the male heads of household, then their wives and finally the children. Among the Muzey, drinking the ritual beer reactivates kinship ties. On the first day of the New Year's celebration (*vun tilla*), the beer is restricted to family members. Any stranger would be foolhardy to swallow what would be a poison for him. Deities such as the death deity (Matna) are so dangerous that only people of the appropriate possession group can drink their beer.

The alcohol content of sorghum beer is between 3° and 6°. A good quantity is needed for an adult to get drunk (about five litres). Various barks, such as that of the bastard mahogany tree (*Khaya senegalensis*), make the beer more bitter and stronger (*galaki*). It is not uncommon to get drunk on beer. However, among the Masa and Muzey, sorghum beer is mainly a source of cheerfulness. On intermittent ritual occasions, it allows for a slight degree of drunkenness, conducive to conviviality. Heavy intoxications are not common. Drunkards are not ostracised and are not held accountable for their actions, but brutal behaviour is not culturally expected, and fights are only occasional (**9**).

However, the red drink/*doley cawna*, a red sorghum beer, is more and more considered to be too sweet to create rapid intoxication and possible loss of consciousness. The black drink/*doley warna - arkina*, fulfils this role. It is a distilled spirit made from sorghum beer, just as whisky is distilled in Europe from fermented barley mash, but with the rudimentary and dangerous technique of bush stills. Europeans introduced spirits and then distillation to the Guinean coast (note 18).

8 Beer among the Duupa of the Poli massif, 1988-93 (Garine)

The Duupa live in north-central Cameroon, outside the Chadian basin proper. We include them in this study for two reasons. The Duupa illustrate the strategy of sanctuary zones adopted by farmers against slave hunters. Before the relative colonial peace and the ban on slavery in the early 20th century, the Poli massif served as a protective mountain in the north of the Adamaoua plateau for Duupa and Dowayo farmers[67]. On the other hand, the Duupa illustrate the manifold material functions and social mediations performed by beer within an acephalous society of farmers. The Duupa were extensively studied by Eric de Garine between 1988 and 1993. They live between 400m (the plain) and ≈1500m, mostly on the high slopes of the Poli massif[68].

The Duupa numbered 6-8,000 in the 1990s, forming a so-called acephalous society whose material resources are based on an agrarian system as advanced as that of the Mandara Mountains. The self-sufficient economy of the Duupa (except for salt) is based on a combination of crops, in order of importance: sorghum (*Sorghum bicolor*), pearl millet (*Pennisetum typhoides*), eleusine (*Eleusine coracana*) and various yams (*Dioscorea spp*.). The Duupa identify dozens of sorghum varieties, all adapted to the many constraints that these experienced farmers master: soils, seasons, uses, tastes, cultural values, etc. (Garine & al. 2014).

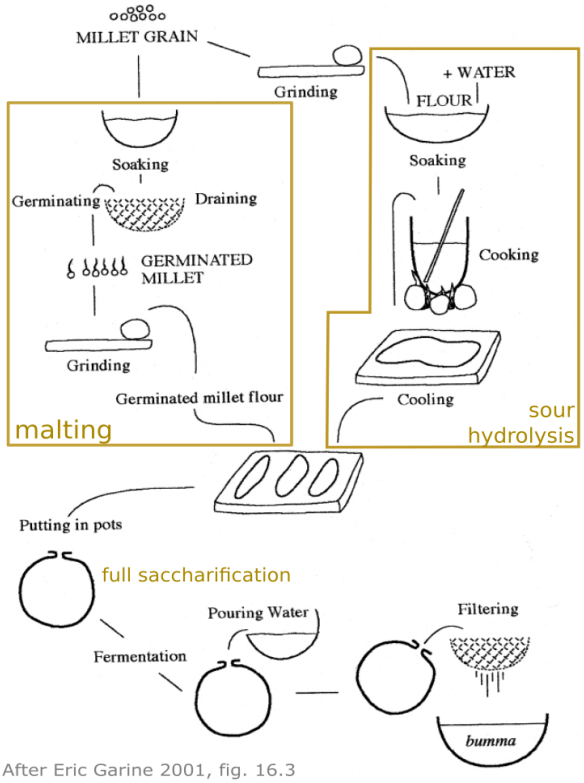
Beer (*bumma*) is generally brewed by women, with one major exception: men brew it to fuel collective agricultural work, the *kôm bumma*/*work beer* (infra). The beers of the Duupa are based on eleusine or sorghum, but those of eleusine, a little stronger, are preferred. During the rainy season, eleusine is often the only grain stock available (Garine Éric 2001, 194-195).

The brewing method is mixed: a malting of the grains and a simultaneous sour hydrolysis of a cooked paste. These two ingredients, crushed malt and acidified paste, are mixed in the same pot in a semi-solid state, an important technical detail. There is no preparation, cooking and decanting of a liquid wort. Hydrolysis and alcoholic fermentation transform the mixture of malt + acidified mash into a fermented, acidulated, semi-liquid mash. It is stored in round, semi-buried pots inside the brewhouse-hut that each Duupa family dwelling has. When drinking the beer, this fermented mass is diluted with water and then filtered to obtain the bumma (Diagram 2). This final dilution causes the alcohol content to fluctuate between 4% and 6%, depending on whether the Duupa want to drink a thicker or thinner beer, a stronger or weaker beer, or plan to share more or less

[67] The domination of the Fulbe, later the German and French colonial policies, pushed the Duupa and Dowayo from the plateau to the heights of the Poli massif, which had long been inhabited. This refuge area was not empty before them (Garine 1995, 8-9).
[68] The Hosséré Mango and Maambéecha peak at 1748m and 1532m respectively.

calabashes. Like many other facets of Duupa collective life, the bumma escapes standardisation. The brewing process takes a total of 7 to 10 days.

There are clear technical differences between the Duupa brewing methods and those of the more northerly Mandara ethnic groups, where malting with wort-making predominates. This North-South geography of beer is discussed in *chapter 10*.



After Eric Garine 2001, fig. 16.3

Diagram 2 : brewing *bumma* beer with a double method (after Eric Garine)

Every Duupa knows the brewing operations. They indicate the days between the start of a brew and the distribution of the finished beer. Those who participate in collective work, a festival or a ritual may organise themselves a week or more in advance. Social schedules based on brewing operations are a well-documented practice also among the Mofu-Diamaré of North Cameroon (Table 3 and Vincent 1991, 334).

Beer is omnipresent in the collective, family and individual life of the Duupa. It is drunk during meals structured around the millet ball with its vegetable sauce, but above all during nibbling, which is the most common way of eating. *Bumma* beer represents about 40% of the daily nutritional intake, i.e. 500 g of grain converted into beer per person per day (Koppert & al. 1996, 240 and 253, Table 11), with higher consumption by men. For the Duupa, bumma and millet balls are among the "real foods", with beer ranking highest (Garine Eric 1996, 193).

> "Beer is consumed in all rituals and festivities. Calabashes of millet beer are allocated to each person according to their status. During rituals, political meetings or collective work, it is necessary to calculate the share of men and women, the share of those who prepared the beer, those who serve it, the share of the elders, the share of the circumcision comrades, the share of the in-laws or the share of representatives of the mother's lineage. There are many rules which apply depending on the context and the composition of the assembly." (Garine Éric 2016, 62)

The brewing traditions of the Duupa and those of other ethnic groups in North Cameroon share many common features. We have selected three of them from the abundant material collected, published and analysed by Eric de Garine.

Collective works and beer distribution: *kôm bumma*.

Collective work is of vital economic importance in cultivating the grain fields and maintaining a social collaboration. Its organisation is based on compensation in the form of beer brewed and offered by the family that requests the collective work, usually agricultural work (weeding the fields, harvesting, threshing, etc.) or an undertaking requiring labour and skills (building a house, re-roofing, carrying materials from one village to another, ...).

These are the *kôm bumma* (*work beer*). The expression means *work* (with) *beer*, not work for beer. Beer is neither a payment nor a wage in kind in a self-sufficient economy that ignores the market system, and even more so, one that ignores the wage system. The *kôm bumma* are organised in teams of 5 to 20 people who share affinities or are used to helping one another and who do not necessarily belong to the same domestic group. The family that requests this work will brew and offer the beer, which must be plentiful. Later, the family will work to provide the same service to other families. Throughout the agricultural year, reciprocity benefits everyone. Everybody can organise a *kôm bumma*. It is not a prerogative of elders or chiefs. Reciprocity is the basis of *kôm bumma*. A family that solicits the work of others without working for them in return is excluded from this reciprocal system (Garine Éric 2001, 198-199).

Whoever organises a *kôm bumma* prepares a brew of *bumma*. The brewing cycle determines the day when the work begins, the day when the fermented dough will be ready for the *bumma* beer dilution (Diagram 2). On this day, the owner, his family members and people he has personally invited go to the field and work all morning. Before noon, other people join the group, people who are passing through, neighbours, friends and some thirsty people. Some *bumma* is offered to all, workers and 'guests' alike. Everyone continues to work until the beer distribution at the end of the afternoon. This time, some of it will be given to the people who have been directly involved and have been working since the morning. This beer, called *bum tikka* (*calabash beer*), is poured into the calabash of each person who takes it home and shares it with their family members. It is the beer drunk recreationally in the evening in small groups near the houses. There is always some *bumma* left over for everyone else to drink until the evening. The largest volumes of *bumma* beer are consumed during ritual celebrations, but the most frequent occasions for drinking are collective agricultural works (Garine Éric 2001, 198).

The Duupa brewing method (Diagram 2) makes it possible to distribute the beer in this way and to adjust the volumes of bumma according to the number of drinkers. The fermented mash is split at the last moment, diluted and filtered, which results in a greater or lesser volume of beer and a thicker or thinner fermented beverage[69]. The last brewing operation of the *bumma*, the dilution of the fermented paste with water and its filtration into jars in the sight of all participants, marks the beginning of the work in the fields. It is at this final moment that the organiser of a *kôm bumma* knows the number of participants and dilutes his beer accordingly.

Hoeing the cereal fields is a critical job. A family that cannot weed its fields risks losing the entire crop and starving the following year. This weeding must be done in late July and August, during the annual hunger season. The granaries are

[69] You can dilute a fermented wort to adjust its volume and density, but you cannot split it to obtain portions of beer that are stronger or weaker, or thicker or thinner, because the wort has already been filtered. What's more, when you dilute a jar of beer brewed using the Duupa malting-wort-decanting-fermentation process, you dilute its entire liquid content, and therefore the entire brew (one jar=one brew). It's all or nothing.

almost empty and the next harvest has not yet taken place. The remaining grain available, mostly eleusine, is used to brew bumma and solicit a kôm bumma. During this lean period, it is necessary to have the year's grain to be able to brew beer and to have grain the following year through collective work. Beer is a foodstuff but also a means of production and a social support, a revealer of the vital solidarity that Duupa groups must maintain in order to survive collectively.

Boys' initiation and bumma beer.

The initiation of young boys is organised by their fathers in a year of a good millet harvest, synonymous with abundant beer, because the whole ceremony involves a large expenditure of beer (Garine Éric 2001, 191). The fathers of a village decide among themselves on its calendar. In an acephalous society, there is no central religious authority that controls ritual activities (Garine Eric 1996, 25).

Every duupa man will have to prepare large quantities of beer on various occasions during his life. This is the case when he organises the circumcision of his sons or on other occasions such as funerals. Generosity is expected of those who have achieved the status of a great man amongst certain elders. This competitive attitude is not seen by the Duupa as the dominant feature of their drinking. It is counterbalanced by the gesture of offering beer and the implied reciprocity (Garine Eric 2001, 198).

Ancestor worship and bumma beer.

At least once a year, and more often when a member of the family compound falls ill, offerings are made to the spiritual ancestors. Beer is poured on the graves and the ancestors are called by name one by one and invited to share food and drink. In case of illness, a diviner must determine its cause. Most of the time, an ancestor needs *bumma* as does a living human being. A few drops of *bumma* are enough to satisfy the spirits of a great-grandfather. There are no ceremonies without the participation of relatives, neighbours, friends and allies. It takes a lot more beer to satisfy the living. The flow of beer between the living is no less important than between the living and the dead (Garine Eric 1996, 24).

Several months after burial the Duupa take the lower jaw of the deceased and put it in a pot kept in a granary or in the family's brewery-hut (Garine Éric 1995, 24). Regular libations of beer are poured over these spirit-pots, following the example of the Mafa, the Mofu or the Kapsiki.

9 Drunkenness from beer and violent outbursts?

Drunkenness and how it affected collective behaviour are issues that cannot be side-stepped. We approach this from the perspective of those who described them, first literate Muslims and then European explorers and administrators.

The texts of African Muslims on this subject, necessarily educated clerics writing Arabic or Ajami, are virtually invariant in content. In the 19th as well as in the 20th century, a beer-drinking heathen is ipso facto a drunkard, bestial and

degenerate. Women and men drinking beer side by side, dancing and singing, is in itself an offensive sight for a Muslim. A party with a whole village around its beer jars transgresses all the codes of the sharia: public promiscuity between men and women, consumption of fermented beverages, music, dance, drunkenness, externalisation of collective feelings, pagan religious motivations. Muslims do not seek to describe or understand, but to condemn in the name of their religion. These texts are written and circulated to justify a jihad or, at the very least, to legitimise the enslavement of male and female beer drinkers (**5.3.2**). These documents do not describe scenes of violence related to collective beer drinking. They either do not exist or the authors did not think it necessary to mention them in order to reinforce their condemnation of pagan mores. Furthermore, the great annual festivals (new year, new sorghum) involved the general drunkenness of an entire village or even a mountain range, an opportunity watched for by slave traders to murder the male inhabitants and capture women and children. These inglorious tricks, memorised by oral traditions, are never recounted in the Islamic annals.

The first Europeans described what they saw, sometimes criticising but rarely condemning. Most of them noted peaceful drinking parties, a sought-after inebriation, but seldom the violent drunkenness collectively condemned by the Africans. One feature common to all ethnic groups: beer is never drunk by an individual alone. Drinking beer is a social act, not a solitary need to quench thirst. Daily beer is drunk in small groups under the gaze of the whole village. Festive and religious beer is consumed in the public arena. Precedence, rules of conduct, etiquette and sophisticated ways of drinking beer dictate individual or collective behaviour and defuse potential violence.

In 1851, Barth reached the first Margi villages in Adamawa:

> "Drinking fermented liquor cannot be strictly reckoned a sin in a place where a great many of the inhabitants are pagans ; but a drunken person, nevertheless, is scarcely ever seen : those who are not Mohammedans only indulge in their 'giya' made of sorghum, just enough to make them merry and enjoy life with more light-heartedness." (Barth 1857, vol. II, 25).

In 1826, during his journey east of the Niger, Clapperton complained about the incessant night parties, music and dancing, but noted the good-natured atmosphere of drinking beer and palm wine. On the way back, his comrade Richard Lander notes that only drunken Muslims threaten his life, eager to kill the white *kafir* he embodies (Clapperton 1829, 310 and 312).

In the 20th century, the tone of European reports changes. The first descriptions of mob violence during beer orgies circulate. Colonial authorities took the place of Muslim sultans, emirs and warlords throughout Sudanese Africa. Colonial projects for economic development involve the work and cooperation of those who cultivate, transport and build: the slaves of the former Muslim masters, the pantheistic tribes. Colonial administrators consider their collective consumption of beer to be excessive and uneconomic. The disapproval is supported by the description of collective drunkenness. In 1938, Fourneau describes the annual feast of the Giziga who live in the North Cameroon plain (Map 1) :

> "Before drinking, the man says, for example: "I drink for Bouimoulvoung. May he leave me strong' or, 'May Bouimoulvoung help me and give me millet', and then spread some of the liquid on the ground. His children touch the

> moistened earth with their hands and then bring it to their foreheads and mouths, a gesture which indicates that they are placing themselves under the protection of Bouimoulvoung. While these exercises are going on, the crowd, whose turbulence increases in proportion to the number of containers emptied, eats and drinks without stopping. The chief and the massahaï set the example. Soon the tumult is at its height and the boozing general. In the evening, however, the party is interrupted. The kouli, as a religious event, is over. On the following day, it gave way to the mogouldoum bouimoulvoung festivities, which would continue for several days in a row. The provisions of millet beer have been replenished, oxen are slaughtered, the audience is swollen with women from neighbouring villages, the dances begin, sustained by the muffled rhythm of the goatskin drums and the high-pitched or raucous whistles of the antelope horns. The assembly becomes frenetic. All reason sinks into a collective, demented hysteria, of which nothing can evoke the spectacle. It is the time of the unavoidable quarrels that arise between natives of different villages, old disputes are once again brought up for discussion, brawls break out and clubs, sometimes spears or knives, come into action. Blood flows. The injured, often the dead, remain on the ground. Finally, gorged with alcohol, the tired men succumb to sleep and mogouldoum ends, or rather sinks, into a lethargic unconsciousness. The kouli bouimoulvoung will then successively resume in all the villages of Guissiga country according to an identical process and an invariable conclusion. For several weeks one can write that the entire population remains in a daze and absolutely unable to carry out any activity.” (Fourneau 1938, 178)

This celebration, circumscribed in the annual calendar of the Giziga, does not allow any hypothesis as to the correlation between beer and violence. From the 1970s onwards, the systematic study of the populations of Cameroon, Chad and Nigeria emphasised the serene and peaceful climate of drinking. Nothing seems to have changed since Clapperton and Barth. Anthropology tries to understand the political economy of feasts, beer parties and the social value of fermented beverages. A beer jar is not just a container for beer. It is a small concentrate of political power, a reservoir of positive symbolic values, a converter of economic wealth (granaries full of beer ➔ generosity of the sponsor ➔ prestige ➔ political power). The violent behaviour caused by beer consumption is a manifestation of social tensions, of more or less hidden relationships of domination.

With this new anthropological perspective, the ethnic groups of North Cameroon have attained the status of both model societies and relic societies. Far from being fossilised, in the 21st century, these living societies must face the danger of being culturally destructured. Collective drinking, socially framed, is becoming a westernised individual drinking. The beer bottle or can replaces the beer jar, the symbol of an African drinking-together.

James Vaughan observed this evolution among the Margi between 1960 and 1975.

> “The increased prosperity of the 1970's changed this, and beer markets increased. For example, Humbili, a hamlet which never had beer markets has held one regularly since about 1970, and there were other such hamlets, as well as individual women who had discovered that they could always sell mpadlu. Whereas in 1959-60 there was the occasional man known for his love of mpadlu, by 1973 there were known alcoholics, men regarded as disgraceful drunks.” (Vaughan 2000, 307).

Vaughan ascribes these changes to the relative prosperity of the Margi, to the market economy (canned beer is widely available) and to the chaotic metamorphosis from the framed collective drinking in the village among his people to the unrestrained, commercial individual drinking.

Fig. 76: bottled-beer drinker in Nigeria. Mid-20th century

> "Wampana's ideas were quite traditional on this topic. He liked mpadlu and drank it in moderation at the local beer markets. He was also a prosperous man. He aspired to a style of life very different from the traditional. Frequently I had European-style beer and Wampana occasionally saw me drinking, though he always refused my offers, taking a soft drink instead.
> On one occasion toward the end of our 1973-74 stay in Gulagu, I encountered him when he was obviously drunk. He avoided me for a time thereafter, though he finally told me that he had bought some European-style beer and it had been too strong for him. I do not know if this was his first experience; unfortunately it was not to be his last." (op. cit., 307 sq.).

Ch. Seignobos observed a similar phenomenon in Maroua (Far-North Cameroon). The saré for *bil-bil* are oases of co-existence and multi-ethnic dialogue on the margins of the town, when Muslim fundamentalism does not interfere.

Ch. Seignobos' study about the *bilbil-saré* or beer-cabaret of Maroua. beer-studies

10 Migration of peoples, diffusion of plants and brewing techniques

We will attempt to identify the evolution of African brewing techniques over the last three to four centuries, from the Lake Chad to the Congo basin. It is linked to the migration of pantheistic peoples from the Sudanian zone to the south. It is combined with the introduction of American starchy plants (maize, manioc, sweet potato) used after the 1600s to make African beers by peoples who exchanged plants and know-how.

The analysis is based on the 6 generic brewing methods: insalivation of cooked starch, grain germination, amylolytic fungi, amylolytic plants, over-maturation of starchy fruits, and sour hydrolysis (beer-studies). All are documented in Africa (**4**). For the geographical area and chronology studied, only three of them concern us. The germination of cereals for brewing millet, eleusine, sorghum and more recently maize beers in the Sudanian zone (**4.1**). Amylolytic fungi provide the beer ferments with which Africans in the tropics brew their yam, cassava or maize beers (**4.3**). The acid hydrolysis covers the whole region under consideration, since it is used in the brewing of beers by ethnic groups and for the

Muslims' beer-like beverages (**4.2**). The historical confrontation is therefore between malting and amylolytic fungi[70].

Map 3: distribution of the brewing methods between the Chad and the Congo basins

Our starting point is the following observation, one which puzzles a historian of brewing techniques: Dowayo, Mboum, Dii (Duru) and Gbaya make their beer ferments by leaving already malted grains still moistened to mould, rather than making them with a cooked paste of raw grains, cassava or yam, another very

[70] We have ruled out the method of brewing by over-ripening of starchy fruits (Plantain, Ensete, etc.). Its characterisation among the Gbaya is not very clear (**0**). Insalivation is marginal (chewing of cooked starch pellets for children and new-borns) and has not given rise to any brewing tradition to our knowledge.

effective technical solution for making beer with amylolytic ferments (**4.3**). The question is: why deliberately leave germinated sorghum or maize grains to go mouldy, thus combining two almost exclusive brewing techniques? The amylases generated by the sprouted grains and those from the fungi perform the same technical role. One of these two methods alone is sufficient for brewing beer: malting suited to grains or the saccharifying power of ferments suited to yams or cassava. Why use both methods at the same time?

The taste preferences and cultural markers of the above-mentioned ethnic groups can be invoked. We put forward a complementary explanation. It refers to the southward migration of Sudanese peoples, coupled with a regional geography of beer that encompasses Cameroon, South-Eastern Nigeria, Western Chad and Central Africa and the Congo Basin. The ecosystems of this vast area are heterogeneous and can be roughly divided into three zones (Map 3). This approximate geographical division obviously covers more complex situations on the ground. The geography of beer in this vast African region requires more than the overview below. Unfortunately, its brewing traditions have hardly been studied.

The Sudanian zone and the dominant malting technique. The primacy of this has been described in this study. The cereals and the contrasting climate of the savannah favour it (very pronounced dry season/rainy season). Malting was practised almost everywhere before the prevalence of Islam, from Senegal to the Red Sea, and without interruption in southern Sudan and on the Ethiopian plateaus, Christian lands that did not prohibit fermented beverages. This is the historical domain of malted beers made from sorghum, millet and more recently maize.

The rainforest and the dominant technique of amylolytic fungi. The protohistoric territory of amylolytic ferments could encompass southern Cameroon, Central Africa, Gabon, Congo and the Republic of Congo, a vast area under a Guinean-tropical climate limited to the north by the savannah and its dry Sudanian climate. Brewing with amylolytic ferments among the Songola in the middle Congo-river was described in 1980 by Takako Ankeï (beer-studies). This Japanese researcher found beers brewed using the same technique in Makokou, central Gabon[71]. Observations on the brewing of African beers are rare before the 20th century[72]. The amylolytic ferment technique is certainly practised over a much

[71] Personal communication, mail of June 2021.

[72] These mould-covered ferments have a fleeting existence in the brewing process, unless they are the subject of a small local trade. Western administrators and travellers are unaware of this brewing technique. They only know about malting. European explorers travelled in the 19th century under Muslim "cover" and watch, which forbade them to take too close an interest in fermented drinks. In modern times, it took the eye and knowledge of a Japanese researcher to bring the Songola brewing technique closer to that of sake brewers. For a long time, her study was completely ignored.

wider tropical area than the two cases documented above, since the examples of the Gbaya, Dowayo, Mboum and Dii described in this study must be added to them.

The intermediate zone: malting and amylolytic fungi. The Gbaya of Central Africa already mentioned prepare their ferments with sprouted maize while the Dowayo, Mboum and Dii prepare them with sprouted sorghum (**4.3**). This is what we need to explain. In the transition between Sudanian and Guinean-tropical climates (roughly Adamaoua below the 10th parallel), amylolytic ferments combined with grain germination (malting) are preferred.

Our hypothesis is as follows: people with a brewing tradition based mainly on malting grains migrated south from their savannahs and came into contact with people from tropical forest areas (Central Cameroon, Gabon, Congo Basin) who were holders of a brewing tradition based on amylolytic fungal ferments, the only ones capable of saccharifying yams and later cassava. These contacts gave rise to the mixed brewing tradition of *'deliberately mouldy malt*'.

These migrations are documented. They generally happened in several waves during the 18th century, and again during the 19th century with the jihad of the Fulani in Adamawa, a province of Sokoto in south-eastern Nigeria and central Cameroon.

The Dowayo groups came from the North and North-East, driven out by the Bata who colonised the banks of the Benue in the 17th-18th centuries (Seignobos 1993). They were themselves pushed further south by the Fulani.

The Gbaya came from the east, between Chad and Central Africa, not from the north. These former yam farmers had already adopted cassava as well as maize in the 19th century and probably earlier (Burnham 1981). They spread cassava cultivation to Bangui (Central Africa), where it is documented around 1840 (Jones 1959, 55). The spread and adoption of cassava owes much to the Gbaya in this region [73]. Today, they consider cassava as their main food and the cassava-corn pairing as the source of their traditional beers

Fig. 77: a beer market in Doher, Western Logone province, Chad

Fig. 78: retting cassava among the Gbaya. Roulon-Doko documentary 2009

[73] Cassava was also introduced by the Portuguese at the end of the 16th century in the Loango and Kongo kingdoms (Jones 1959). In 1650 it was found among the Bushongos of Kassaï (Zaire) and in Angola (1614 and 1648). From there, its culture spread eastwards into the interior of the continent and northwards along the Congo River and its tributaries.

(**4.3**). Sorghum is a secondary resource for the Gbaya (Roulon-Doko 2001, 15).

The adoption of cassava by yam experts was easy. The ancestral techniques of retting, peeling, drying, storing and cooking yam flour were transposed to cassava, especially to bitter-toxic varieties (Rolon-Doko documentary (fr)). The transition to cassava beers followed the same path.

Among the Mboum living to the north-west of the Gbaya, the exact opposite pattern prevails: priority is given to cereals (sorghum), and tubers are a secondary resource (Burnham 1981, 130-131). They claim to have come from the north and to have migrated to the Adamaoua plateau (Central Cameroon) at an uncertain date, but before the Fulani invasion around 1850.

The Dii (Duru) from the north (Benue) are an ancient yam people converted to cassava and taro. They are also cereal farmers: millet, sorghum, eleusine, maize (Muller 2006, 20-28).

These are four examples of an evolution common to the peoples of Central Cameroon and their Chadian and Central African neighbours. They moved south in the 19th century or earlier, adopted tubers (yams then cassava) alongside cereals (millet/sorghum then maize), and brewed their beers with sorghum or maize malt voluntarily covered with amylolytic mycelium.

Dating this evolution of brewing methods is difficult. Their geographical distribution may be ancient. However, it is not proven that the yam-sorghum pairing played the same role (as a fermenting medium for beer) as the cassava-maize pairing before the adoption in the region of the latter towards the end of the 18th century. The ancient socio-economic role of beer on the African continent does not imply the fixedness of brewing methods, on the contrary. A legend illustrates this issue. The Tupuri live on the Cameroon-Chad border (10° N) and claim to have inherited the technique of amylolytic ferments from a man of Pelfé (100km to the south), ferments that made beer stronger, a phenomenon that is technically plausible:

> "In old times, the Tupuri of the Doré clan were living a primitive kind of life and drinking sweet beer only. Bulio, a man from the Pelfé area (100 km southern), lost in Tupuri country, found a shelter in a cave in Doré mountain. At night, he would come out to steal food from the autochtones and put yeast in the beer. The Tupuri drank it abundantly and many fell on the ground, completely drunk. The villagers thought they were dead and buried them. This is how death began among the Tupuri." (Garine 2001, 59).

This oral tradition recalls (and transforms) an event that happened 100-150 years ago at most. The Tupuri did not discover beer in the 19th century but learned a new brewing technique. Yeast refers to beer ferments. This would be a clue to their spread from Central Cameroon to the North.

In the 19th and 20th centuries, the re-conquest of cereal fields by the secondary forest of Central Cameroon favoured the horticulture of yams and manioc. The political upheavals in this region affected the equilibrium between fields and forests, cereals and tubers, cereal and horticulture, scattered and grouped dwellings, etc. Food and fermented beverages evolved, with them brewing methods.

A survey conducted in 1993 by Séverin-Cécile Abega among the Tikar (between western Bamum eastern Vute) explains why maize and cassava gradually replaced millet in the valleys of Central Cameroon during the 20th century. Millet fields were replaced by maize and cassava grown in cleared forests. The *nkaŋ* millet beer of the Tikar becomes a maize beer (Abega 1993, 6), due to several circumstances:

Fig. 79: a Tikar drinking buffalo horn. Bamenda, Cameroon. Late 19th - early 20th century. Brooklyn Museum

- Growing and processing maize is less labour intensive than growing millet and sorghum. It saves on tending the fields, life in the bush to fight grain raiders (monkeys, birds, rodents). The maize cob protects the seeds better.
- Cash crops (coffee, cocoa) increase the workload of men, who abandon the gathering of firewood and the forging of iron agricultural tools necessary for millet cultivation (sickle knives for cutting ears of corn, flails, etc.) and leave the food crops to the care of women.
- Maize and cassava are more productive than millet. Cassava keeps better in the ground than yam, which rots as soon as it is ripe.

Ancestor worship and harvest ceremonies consume large amounts of starch in the form of beer and 'couscous', formerly the millet ball. The earlier Tikar religious calendar, September-October instead of November-December, has adapted to the agricultural cycle of maize. The gradual replacement of millet and sorghum by maize and cassava favoured brewing methods different from malting, firstly for cassava which cannot be subjected to germination.

The Tikar case concerns the whole of Central Cameroon. The forest is gradually replacing cultivated fields, open spaces and former clearings. In Adamaoua, honey collection and mead making are important activities that illustrate this reforestation[74]. In the 19th-20th centuries, the causes are as follows, without detailing a complex socio-political background:

- ✓ The Fulani jihad in Cameroon's Adamaoua created a dominant political stratum around 1850, above the traditional chieftaincies and village leaders. To escape the slave raids and pay the tributes imposed by the Fulani laminates, the villages regrouped (Mohammadou 1990).
- ✓ The cereal farmers of Adamaoua leave the bush, their fields and their scattered settlements too exposed to slave hunters. The forest regains ground and with it the horticulture of yam and its successor, the cassava. The cultivation of sorghum requires more work and care. Dug up at the last moment, live stocks of cassava and yam cannot be looted or destroyed as can the granaries of sorghum and millet.
- ✓ Fulani domination led to ethnic regrouping, local migration and creation of multi-ethnic villages. The exchange of brewing traditions previously divided by

[74] The Gbaya are collectors of wild honey by smoking the hives. Photographic report by Eric Tourneret in 2008 in Adamaoua, Cameroon.

territory and ethnicity may be the origin of this *deliberately mouldy malt* brewing technique.

Nevertheless, another general hypothesis must be considered: the peoples who migrated south from the far north of Cameroon themselves had a brewing technique based on amylolytic ferments. There are still hints of this today in culinary techniques or in ancient agrosystems.

Some condiments from the Mandara Mountains are based on crushed and fermented seeds to make dried pellets, a technique similar to amylolytic ferments. We quote Ch. Seignobos:

> "The most persistent fake-taste, the "meaty taste", in the sauce is still provided by Hibiscus sabdariffa seeds. Boiled and kept in closed pots until mould appears, they are dried and crushed. This coarse flour is then mixed with water to make a thick paste that must ferment in a sealed pot. The paste (mətuaz) will then be transformed into pellets of 6 to 7 cm in diameter and dried. The final product can be kept for one year. This flavouring incorporated during the cooking process is crumbled over the preparation, this gesture also bearing a name." (Seignobos 2014a, 16)

Another clue is the importance of tubers in the ancient agrosystems of the Chadian basin. The Dii (*Duru*) already cultivated yams and other tubers when they lived on the upper Benue more than a century ago. Fleeing in the middle of the 19th century from the Fulani exactions towards the forest areas of Central Cameroon, they brought with them their vital food heritage, their tubers, their cereals (millet, sorghum, eleusine) and their cowpeas. We quote once again Ch. Seignobos:

> "The agrosystems of the Dii (or Duru), in the southern Sudanian zone under 1200mm of rainfall and 300km further south, is most similar to the ancient agrarian civilisations of the Mandara. At the beginning of the 20th century, the Dii, who were stranded in the retreat areas under the threat of the Fulani lamidat of Rey, developed lands in the upper Benue valley. *Solenostemon rotondifolius* and *Plectranthus esculentus* were cultivated in beds interspersed between penicillary millet, many eleusine and long-cycle *Sorghum guineense*, accompanied by an abundance of cowpeas. Yams are very present, *Dioscorea cayenensis*, *D. burkilliana*, but also *D. abyssinica* grown in pits. As for *D. dumetorum* (hàà), called by the Dii "our ancient yam", it was first domesticated here ... Among the Dii, the ancient agrarian system was based on yams, then it was covered, here too, by a cereal agrosystems of sorghum from the north-east. But unlike the Mandara Mountains, the former continued to flourish and the two coexisted harmoniously." (Seignobos 2014a, 30)

The old coexistence of tubers and grains among the Dii is thought to be the origin of their hybrid brewing method between cereal malting and amylolytic ferments grown on grains or tubers (**4.3**).

11 Provisional conclusions

Much remains to be discovered about the brewing traditions of Central and North Cameroon. Not all brewing processes have been mapped out. The alternative sources of starch are not all described, especially tubers (nutsedge, ground peas, corms, various tuberous roots). The regional geography of beer remains to be explored, an essential prerequisite for tracing its history on a wider scale. The archaeology of brewing techniques is in its infancy in Africa.

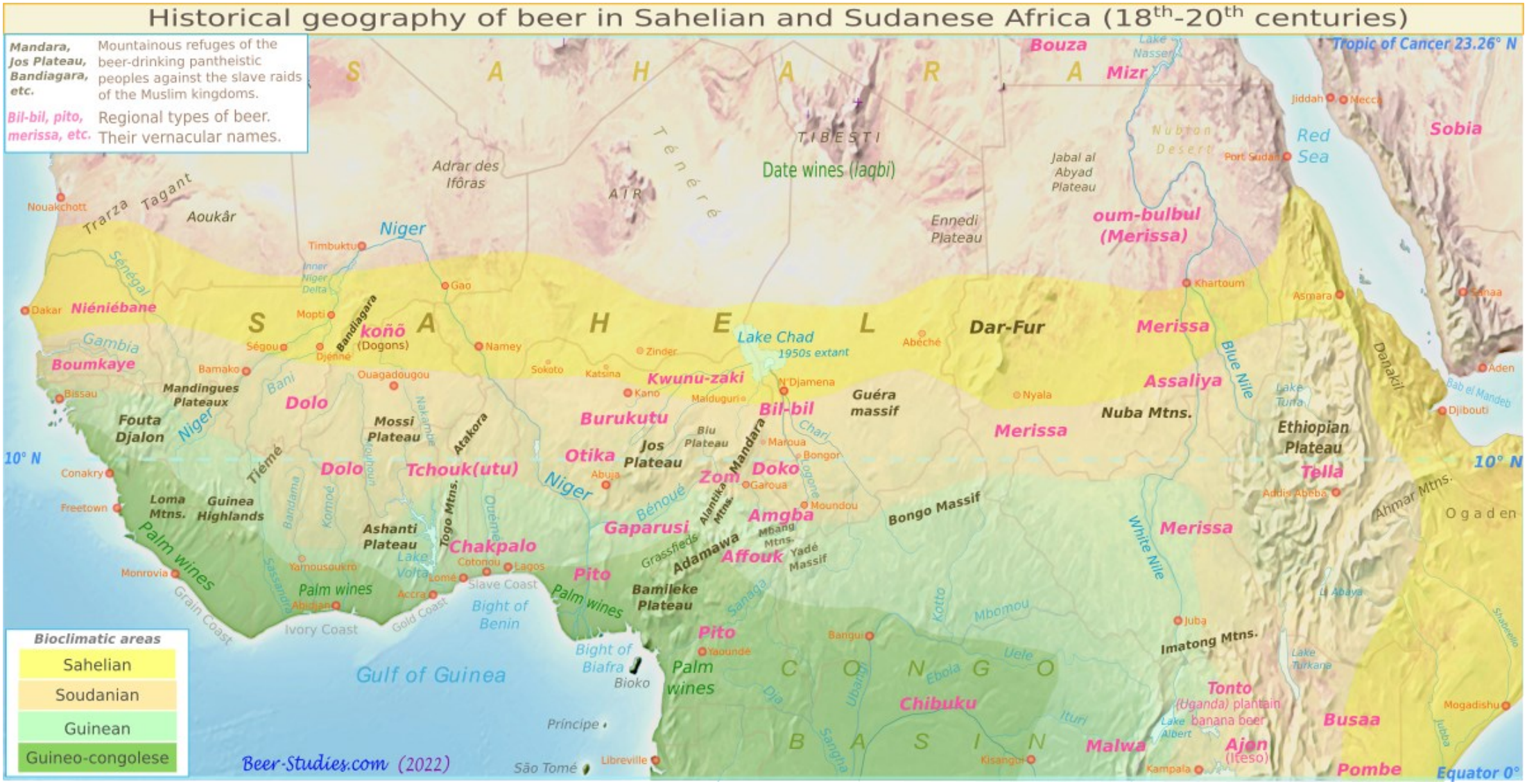
The Mandara Mountains are just one example amongst many sub-Saharan mountains that have protected pantheistic groups over the last four centuries of dramatic African history. Each time, these refuges have sheltered sophisticated agrosystems and lively brewing traditions. This observation was already made and theorised by Jean-Claude Froelich (Froelich 1964). From Sudan to Senegal (non-exhaustive list):

- Nuba mountains for the *Nuba* of Kordofan (Sudan)
- Dar-fur and the Guera massif for the *Dadjos* (Sudan)
- Ennedi plateau for the *Zaghawa* (Sahel, North-Eastern Tchad)
- Guera massif for the *Hadjeraï* (*Mountaineers*) in Central Tchad
- Biu plateau for the *Pabur* (North-Eastern Nigeria)
- Jos plateau for the *Kofyar*, *Berom*, *Ngas*, … (Central Nigeria)
- Alantika Range for the *Koma Gimbe* and *Gbeya* (Cameroun and Nigeria)
- Poli massif for the *Duupa* (North Cameroun)
- Cliff of Bandiagara for the *Dogon* (Mali)
- Togo Mountains range (Atacora) for the *Kabye* (Northern Ghana - Togo)
- Mandinka plateau for the *Senufo* (Northern Ivory Coast - Mali - Burkina)
- Bassari and Bedik plateau (South-Eastern Senegal) (Debels et al. 2024),
- Fouta-Djallon range for *Dialonkes* (Yalunka) and *Susu* (Guinea)

The equation "*beleaguered people* ⇔ *efficient cereal cultivation* ⇔ *beer and beverage as the mainstay of social life*" is verified in each case (Map 4). We could add the Ethiopian highlands (eleusine, teff and sorghum beers) if the Christian religion of the ancient Ethiopian kingdoms did not present a historical core and frontier of resistance to Muslim slave raids, except those surging from the eastern seaboards (Red Sea and Gulf of Aden)[75].

My gratitude goes to Christian Seignobos and Gerhard Müller-Kosack for their valuable help, their advice and critical reviews of this study. They also kindly offered its most outstanding illustrations.

[75] Nuba→ Nadel 1947; Dar-fur→ Dirar 1993; Zaghawa → Tubiana 1964; Hadjerai → Vincent 1962, Pouillon 1964, Fucks 1970; Kofyar → Netting 1979; Koma Gbeya→ Perrois & Dieu 1990, Dounias 1998; Duupa→ Garine Eric 1995, 1996 and 2001; Dogons→ Joly 2004 ; Bedik → Debels & al. 2024.



Map 4 : general map of beer types and brewing traditions in Sudanese Africa

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