



RESEARCH ARTICLE

The Architecture of the Betammaribé of Togo: Between Materiality and Immateriality

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The Betammaribe people reside between the Northeast of Togo and the Northwest of Benin. In Togo, they are commonly referred to as Tamberma. They join the Betiabe and Besorube in the neighboring Benin to form the Somba people. Historically lacking a centralized leadership, their society was compelled to adopt a chieftaincy structure due to colonial administrative requirements. In contemporary times, although village chiefs play a certain role in society, the Betammaribe's house, known as "tèkyèntè," remains the seat of authority embodied by the head of the household. This social and cultural production is material and immaterial, constructed following ancestral rules in both practical and symbolic dimensions. The dwelling becomes the quintessential space where all elements governing individual life and social relationships converge and express themselves. It serves as the repository for all symbols constituting the universe of this people. Through this publication, we will seek to comprehend the significance of the house in Betammaribe culture, its construction's various stages, and how these people navigate their relationship with the environment.

INTRODUCTION

The Betammaribe people of Togo, along with the Betiabe and Besorube, constitute the Somba people, the majority of whom are established in Benin. In Somba culture, the house of the Betammaribe in Togo is considered the most faithful to the ancestral construction model. It is a communal work in the sense that its construction mobilizes and involves the entire village community, following specific order and hierarchy, as well as sharing of expertise. Here, the community is understood as a group of individuals with the same identity references and common interests. The house is physically built using natural materials extracted from the immediate environment, primarily minerals (earth, sand, water) and vegetation (wood, straw, plant extracts, and residues). A component from the animal world is also added: cow dung.

The construction of these people's house is underpinned by an immaterial dimension of crucial importance, imparting essential characteristics to the dwelling: sheltering the body and housing the soul. What explains such a construction, both material and symbolic? Our question aims to understand the specificity of the Betammaribe house. We aim to identify the representations invoked by the construction and organization of the house. To achieve this, we will focus on studying the architecture of the "tèkyèntè," the Betammaribe house, its organization, and its functioning. We hypothesize that by observing the stages of house construction, we can comprehend its operation and the significance of the immaterial in this social production. This work will allow us to understand how, through this social production called the house, these people combine the characteristic forces of their cosmogonic universe.

MATERIALS AND METHODS

To understand the architecture of the Betammaribé house in Togo, the methodology adopted consisted firstly of researching existing documentation. Quickly, we realized that available writings were scarce and, for the most part, quite old. Some authors have dedicated their work to these people and their culture, but scientific works on the uniqueness of their architecture are almost non-existent. After 2004, the year when Koutammakou, the territory of the Betammaribe, was classified as a UNESCO World Heritage Site, subsequent publications remained limited and largely repeated existing texts, as shown in the bibliography. Faced with the paucity of bibliographic resources, fieldwork became imperative. The next phase involved collecting field data, allowing us to confront our readings with the reality of these people's lives and understand how the house becomes the central element in the organization and representation system of their culture. To achieve this, various methods were employed.

The cartographic method enabled us to geographically delimit the Betammaribé territory, using observation and mapping techniques. In this way, we were able to reveal the spatial organization of these people, to understand the spatial transcription of its social structure. The morphological method helped us to study the houses through an in-depth analysis, to understand the design, organization, and functioning of the domestic group. This phase of the work was supported by the photographic method, which enabled us to take photos of the houses, places, events, and people in the situation. This led us to fix images characterized by space and time. Using the ethno-sociological method, we created a questionnaire on interview sheets, which we had to replace with an interview outline, due to the reality of the field. The aim was to understand the history of the Betammaribé people and how they organized their territory.

Our work took place in three villages, chosen from among the 21 in the area. These were Dissani (named Bassamba on the maps), which was designated to receive tourists, Wartéma, whose village chief invited us, and Warengo, where a local was proud to introduce us to his village. At all three sites, the approach was the same. Each house was visited and represented, taking into account the layout of the various spaces, the location of the house within its territory, the composition of the domestic group, and the status of the householder. In addition, observations and discussions with the Betammaribé in the course of semi-directive interviews enabled us to gather information on, among other things, the stages in the construction of the house and its functioning.

RESULTS

The Betammaribe house is composed of a set of circular or elliptical-based turrets arranged around a circle or ellipse. It is called 'tèkyèntè' and has two distinct levels. The first level serves as a stable and storage area. Access is through an oval-based turret that serves as an intermediate space between the exterior and the interior. It is the entrance vestibule where a cereal grinder is located on one side, and on the other side, a mortar exclusively reserved for fonio, the noble and sacred crop of this people. This space is used for animals and food storage. It is a realm of dim light due to the lack of openings. From the stable, you can access the kitchen turret on the left-hand side.

The second level is accessible from the space dedicated to the kitchen. It is the realm of full light and open air, serving as the area for domestic activities on two types of terraces. A small terrace is built in front of the kitchen, providing access to another higher and more extensive terrace that extends in front of the upstairs bedrooms. The difference in level between the two terraces is bridged by a ladder made from notched tree trunks, sometimes replaced by earthen steps. There are three bedrooms in total. The first, in a central position, is the only one covered by a thatched roof and is intended for the first wife. The second bedroom, belonging to the second wife, is located above the entrance and is flanked by two granaries. Finally, the third bedroom, covered by a terrace roof like the previous one and opposed to the kitchen, belongs to the third wife. After the evening meal on the large terrace, the women, their daughters, and small children take over the bedrooms for the night. The boys and young men sleep under the stars on the terrace for the former and on the roof terraces of the second and third bedrooms for the latter. The master of the house goes down into the male part of the stable where he has his bunk. As we can see, the construction model for the Betammaribé house provides three rooms for the wives. However, according to our guide Bafon, only those capable

of ensuring the well-being of several wives have the right to take more than one (Padenou, 2003). This is one of the ancestral rules of this people, subsequently confirmed by other interviewees.

Before constructing a house, a survey is necessary to find a suitable plot of land if the father has not allocated a parcel within his residence. A ritual is then performed with a stake planted in a small clump of soil in the evening to determine the nature of the spirits inhabiting the area. If the stake is still in place the next day, the land can be chosen as it is deemed viable. If not, it's best to look for another location. Otherwise, the spirits that caused the stake to fall will not favor life in such a place (Padenou&Barrué-Pastor, 2006).

Preparatory works

After choosing the land, construction materials are collected from the environment, paving the way for the construction activity, which will be punctuated by certain rituals. Each village has a quarry to extract the suitable lateritic soil necessary for construction. The collected soil is piled up at the construction site by women and children, members of the future head of the household's family. Then, apprentice masons or "otababo" knead the soil with water drawn from a pond or an arm of the Kéran River until it reaches the required consistency for use.

In the meantime, the oldest otammari or architect draws the plan of the future tèkyèntè on the ground with a stick, around the spot where the stake used to choose the site was planted, an operation that is crucial to its strength and stability. This marked out the location of the central turret, which would house the first chamber. Next, the other main turrets, i.e. those housing specific functions, in particular the entrance vestibule, the kitchen, and the third wife's bedroom, were drawn. The attic supports and secondary turrets, whose function is to reinforce the strength of the connecting walls, are then designed to complete the ensemble.

It is worth noting that the execution order of the layout, always the same, is defined by the constructive and symbolic culture of the Betammaribe. The plan is controlled by a master architect or "otammari" and can be modified if it is found to violate the rules. The quality of the layout determines not only the solidity of the house but also the protection of the family.

The material and symbolic foundations of the house

On the building site, the material foundations are built according to the order of the layout. The special feature of tèkyèntè construction is that it does not require foundations as such. There are therefore no excavations. The first layers of earth are laid directly on the ground and form the foundations of the house. They represent both the physical and symbolic foundations of the house. For this reason, great care is taken during this phase of the construction process. When the mortar reaches the right consistency according to the otammari, work can begin. Balls of earth are laid out on the ground, along the lines of each of the rooms, in the ancestral order, progressing in a clockwise direction. If this is not respected, "the house would not be good, and various misfortunes, diseases, poor harvests, infertility, etc., could be risked" (Maurice, 1986: 34). Once the foundations of the turrets are completed, the work stops.

The next day, one of the elders from the village arrives at the construction site in the middle of the day with several plants and a collection of different specific soils. He gathers all the elderly men at the center of the plan of the central turret. They sit directly on the ground, facing East. A calabash of millet beer is placed on the ground. With another elderly man serving as his assistant during the ritual, they share the collected plants and soils. Then, progressing counterclockwise, the two men follow the curve of the base of the central turret. At regular intervals, they take a small portion of plants and soil, incorporating it into the foundation soil. The same operation is repeated at the location of the kitchen and the male granary support. Next, the officiator pours a bit of millet beer as an offering on the kitchen floor, then at the location of the central turret, and also at the four corners of the future stable. This ritual, also observed by Preston Blier (Preston Blier, 1987), is accompanied by a prayer in which health is sought for the architect and the occupants of the future house. It concludes with the sharing of the millet beer, "bañaan," among all those participating in the construction.

According to legend, the plants and soil specimens used in this ceremony come from the original city, Dinaba, which is believed to be located in the Gourma Kingdom in Burkina Faso. Each village has a

place on its territory where ancestors placed these materials considered magical. Symbolically, therefore, a part of this city of origins is incorporated into each new house. This underscores the importance that the past and tradition hold in the life and culture of the Betammaribe. The purpose of this foundation ritual is to strengthen the house. The sacred plants and soil used aim to bring sacred forces into the house. The plants used are of the same nature as those used in initiation rites and for treating certain diseases associated with deities. It appears that these plants come from a fertile forest and, in this way, attract fertility into the house. These plants sanctify the house and protect it from the influence of malevolent spirits. The Bassamba people say that if the malicious spirits of the place were clever enough not to be revealed by the stake ritual, the magical plants would inevitably expose them. So, the day after the foundation ritual, if malevolent spirits exist on the site, the places where the plants were incorporated will be marked with traces of blood. The sight of such marks signifies that the location is not viable, and it is better not to build there.

Theoretically, after the foundation ritual, building work can continue. But in general, it doesn't resume until two days later. This is because the solidity of the foundations will determine the solidity of the whole building. For this reason, the foundations are left to dry for forty-eight hours, before they can receive the next foundations.

Delimitation of spaces and orientation of the house

Once all the foundations have been built, the house must be oriented. With this act, the *tèkyèntè* symbolically opens up to the West. This step is important because of the role played by the setting sun in spatial division and management among the Betammaribé. It ritually marks the opening that will serve as the entrance to the house.

The construction of the turrets

Work resumed early in the morning with the construction of the turrets, which, after the foundations, are essential to the stability of the building. Their construction must therefore be meticulous. The central turret is the first to receive its second foundation. It is considered the backbone of the house, both materially and symbolically. The whole *tèkyèntè* is organized around it, and it is at its feet that the spirits of the family's protective ancestors may later be placed. The entrance vestibule turret, the kitchen turret, and the turrets supporting the third wife's bedroom, the male attic, and the female attic then take their place. This order must always be respected and reproduced identically every day until all the successive foundations have been built. What's more, Betammaribé tradition and building rules only allow for one foundation course per day. And the height of around thirty centimeters is a threshold to avoid the wall collapsing, as no structure is incorporated into the walls to hold the damp earth, which has to dry before being loaded again. Some Betammaribé architects innovate by dividing the size of the foundations into two or three parts. On the same day, successive layers are arranged, observing a few hours between each placement for drying. This modification is one of many that these Betammaribe architects introduce into the ancestral construction method, marking their work with a personal "seal."

Orientation of the house and installation of the threshold

The orientation of the house is established during a ritual that sets the threshold. It is performed by the architect during the construction of the entrance-vestibule turret. The architect arrives early in the morning at the construction site with a ball of soil prepared at his home according to a precise ritual. Once the second layer is laid, the soil ball brought by the architect is incorporated into the base of the foundation. Then, facing East, the architect bends down and cuts a mass of soil using the edges of both hands simultaneously. The soil thus taken marks the passage of the entrance called "knakwango." Through this act, the house is oriented concerning the sun and following the Betammaribe tradition. After this operation, a flat stone is placed on the remaining foundation soil where the notch was made. This stone, which will serve as the threshold, is called "liwantali," meaning "the stone from outside." Generally, the threshold stone is taken from the ruins of an old construction of the extended *difwo* family. Thus, it carries the essence of all ancestors who have stepped over it. In this way, the family ensures the protection of its ancestors, including those whose memory is no longer alive. The *liwantali* thus identifies with the ancestors and the deceased members of the family it represents. They stand guard at the threshold of the house and filter access. No one can enter the house without stepping over it. Only well-intentioned individuals can cross the

threshold of a worthy tèkyèntè. If not, the liwanti is taken from a specific location on the mountain. Once placed, an apprentice begins to shape a conical post on each side of what foreshadows the future entrance to the house. The future homeowner, as an offering, pours millet beer onto the house threshold and the ancestors it represents—those of the architect and the client. This is complemented by the sacrifice of poultry, which is then given to the architect as part of his compensation. Through this ritual, the house, oriented towards the sun, opens to the West, allowing the sunlight to penetrate until it reaches the central turret in the evening. When ancestral altars are placed there, the souls of the ancestors use the sunlight as a celestial path to re-enter the houses built for them. Every day, these souls rise early in the morning, and leave the tèkyèntè following the God Kuyé, the sun, considered the creator God of the Betammaribe. They only return in the evening, brought back home by the divine star. The Betammaribe house is under the protection of all the deceased who, as Kerchache would say, are "presentified" (Kerchache, Paudrat & Stephan 1988) through the liwanti. Moreover, the solar cycle is also integrated into its life and evolution. Each tèkyèntè becomes an essential element of the Betammaribe cosmogony. It's worth noting that the Betammaribe consider themselves the children of the sun, Kuyé, and the earth Butan—the earth used by the sun to create the first Betammaribe. This earth also provides all the materials for building the house, and the sun brings spiritual protection to the family.

The construction of joined walls

The curvilinear walls linking the turrets give the Betammaribé house its compact appearance, delimiting the domestic space. They are built according to the same rules as the turrets. However, the wall between the entrance turret and the wall supporting the male attic has a special status. It is the male wall that is considered to be the receptacle of the householder's power. As such, it must be built first and spiritually fortified. At its base, this wall bears the architect's signature known as *faluafa*, a term that means "healing". The signature is made up of bumps, striations, broken sawtooth lines, curves, and many other symbols taken from Betammaribé cosmogony. These are the characters of a coded script specific to the symbolic language of scarification, which only the initiated can understand. After being signed, the male wall is consecrated to a tutelary divinity through a ritual for which the future master of the house provides a white rooster and a black hen, or vice versa. The two fowl are tied together by the legs, then passed over the foundation before being sacrificed. The officiant then plucks a few feathers from their hindquarters and inserts them into the damp earth. At the end of the ritual, the rooster is offered to the architect as part of his fee, and the hen is kept by the master of the house. The master of the house also offers a meal to the architect as part of his fee. In the following days, the female wall was built, followed by the wall between the attic and the kitchen. Then the wall between the kitchen and the turret supporting the third wife's bedroom was built. Because of its length, this wall was reinforced with a turret at the junction of the two terraces. Finally, the wall between this last turret and the male attic was built, to completely enclose the house by building all its vertical walls.

The interior wall

Finally, a wall is constructed between the reinforcement turret and the central turret. It may happen that this wall, which marks the difference in level between the intermediate terrace and the main one, bears signs in the form of "V" made with fingers. These signs are sometimes also placed on the kitchen wall and represent cultivated plants. This seems to be related to the pursuit of family well-being through fertility or abundance.

Floors and terraces

The construction of the floors generally requires two days of work and involves several individuals, including the *otababo*, as well as men, women, and children. A few weeks before the start of the work, men go in search of construction wood. It is found on the mountain and in "forests" known to the Bétammaribé, considered as wood reserves. Knowledge and identification of the specific essences used are passed down from father to son. These include *boussi* (*Anogeissus leiocarpus*), *bsam* (*Lannaeacida*), and *boukoutikon* (*Entada africana*). Their wood's density and particular hardness make them invulnerable to wood-boring insects. The architect's task is to provide forked posts and beams that will constitute the main structure of the terraces and floors. The collection of intertwined branches and straw will form the secondary structure. Collecting these materials is the responsibility of the future homeowner. The client and the contractor organize the individuals around them who

can assist in the successful completion of the defined tasks. Only the oldest trees are felled and cut with an axe, taking care to leave a stump with roots in the ground to retain the soil and prevent erosion. The trunks and larger branches are sized on-site into various lengths of forked posts and beams. The smaller branches are also cut. Everything is left to dry on-site for several days. Sometimes, the wood is dried by a fire ignited with the waste branches, which speeds up the drying process. It takes on a black color and a smoky smell that distinguishes it from wood dried in the sun, which retains a whitish color. For some constructions, the wood comes from the ruins of a house. Thus, one family can pass down construction wood from generation to generation. On the scheduled day for the work, the strongest men, accompanied by the youngest, carry the wood to the construction site in the morning. In the afternoon, the forked posts and beams are brought into the house through the entrance door and arranged by the otababo and the otammari, under the expert eye of the otammariwa. The usual installation technique involves slightly overhanging the ends of the beams. However, some otammari prefer to arrange for them to build an independent platform that does not rely on vertical walls. The work stops after the placement of the main structure on the first day. Early the next day, the otababo set up the branches closely. The strength of the terrace depends on its proper arrangement. They are covered with soil, but most of the time, a vegetative carpet of straw or teak leaves is first placed on them to prevent the soil from passing through the branches. Around eleven o'clock, the otababo start preparing the mortar with soil, cow dung, fine sand, and water. Assisted by volunteers, they knead it with their feet, in a cheerful atmosphere maintained by the songs of women, accompanied by clapping. When the right consistency is reached, clumps of soil are thrown to the masons, who flatten them on the branches as needed. Slopes are judiciously arranged on the different terraces to channel water towards clay gargoyles placed on the walls. Women and children are responsible for tamping down the soil to facilitate drainage. To protect it from the weather, a coating made of cow dung, clay, and fine sand is spread on the floor and smoothed with stones by the women.

The "taboté" ritual

The main ritual dedicated to the terrace takes place when its construction is complete, while the sun is still high in the sky. One of the elders of the family of the future master of the house would take a spear and stand between the bedrooms of the first and second wives, then pierce the terrace down to the branches. He made a cavity in the still-damp earth. This is how the taboté, "the hole of the house", was created (Blier, 1985: 30).

This operation gives rise to another ritual in the late afternoon before the sun disappears over the horizon. The architect lights a torch with millet stalks in the lower part of the house. He takes it to every nook and cranny, before coming to stand under the hole in the terrace. He shoves his torch into the hole and uses it to light a small fire in front of a canary filled with millet beer. Two okoti, otherwise known as wise men, in this case, the two eldest members of the architect's and the client's families, come and sit next to the canary. They serve the millet beer, *bañaan*, to all those who helped build the terrace. The beer is then spread on the ground as an offering to the ancestors.

To conclude this ritual, the father or, failing that, the uncle of the commissioner builds two clay altars outside the house, at the base of the male wall. They represent the ancestors of the architect and the commissioner. Then the new *tèkyèntèyè* (master of the house), or his father, recites a prayer to invite the two represented ancestors into the new house and welcomes them. Millet beer is offered to them, along with a chicken or guinea fowl, which will be the architect's reward.

The taboté ritual aims to mark the superposition of the two symbolic planes that the taboté connects. Indeed, the horizontal planes separate the world of invisible beings from that of the living. Fire is used in this ritual to communicate the divine force, of which it is a symbol, to the lower part of the house. As a purifying element, fire must also drive away any evil spirits that may have hidden in the house during construction. The house, purified by the force of the creator god *Kuiyé*, is considered an adult at the end of the ritual. It can then fulfill its function as a *tèkyèntè*. At the end of the prayers, a festive meal is shared among the household, the architect, and his brother. The dishes are prepared in the *tèkyèntè* kitchen and served on the main terrace, around the taboté.

The ritual of sacralizing the house by "killing" it

After the piercing of the taboté, the otammari and the tèkyèntèyè agree on a day to signify the completion of the architect's work. This involves the materialization of the house's opening through the construction of the edge of the taboté. The ritual, considered by the Bétammaribé as the "killing" of the tèkyèntè, takes place in the afternoon on the terrace. The architect receives ten cowrie shells from the homeowner, which he uses to consult the forces of the cosmos about the opportune moment to finish the house without causing problems for anyone.

The otammari asks the question, throws the cowrie shells on the ground near the opening of the taboté, observes their arrangement, and interprets the signs represented. If the answer is negative, the finishing of the house is postponed. If, on the other hand, the answer is yes, the house is completed and finished with the construction of the cylindrical rim of the taboté. The architect keeps the cowrie shells as part of his fee. The meal prepared to celebrate the event is placed on a flat stone intended to cover the taboté once dry. The otammari then returns home with the share intended for his family. After this ritual, the house is considered complete. According to Preston Blier, the term used to describe this situation is "kua", which means "killed" (Blier, 1985: 32). It represents not only the official end of the architect's task but also the end of his remuneration.

Why does the house have to be 'killed'? We believe that this ritual enables the house to be transmuted from the material world into the immaterial world so that it can become part of the forces that will protect the living. The tabote has an important ritual function, as it is at the center of certain ceremonies that must be performed at midday when the sun is at its highest. The sun's rays can then pass through it and reach the lower level of the house, the level dedicated to the spirits and ancestors. Here, offerings are made to Kuiyé, the creator solar god, on the flat stone that covers it. The Betammaribé say that this stone represents Butan, the divinity of the earth, wife of Kuiyé, and mother of all living beings. It comes from a place considered to be Butan's sanctuary, located on the mountain and used as a tombstone for the master of the house. It is called kubotan, which means 'the killed stone' or 'the dead stone' (Blier, 1985: 34). The taboté symbolically unites heaven and earth in the tèkyèntè. The soul of the deceased passes through it on its way to the world of the dead. Its role as a transition between the world of the dead and that of the living reflects the Betammaribé concept of death as a second life.

Laying the straw roof

The first wife's bedroom, the koudiyéhoun or dowry woman's bedroom, located above the ancestors' bedroom, is the only room to be covered with a straw roof. The roofing work takes place after the construction of the floors, terraces, and terrace roofs. The framework, made of branches connected by fiber ties of bouléba (*Piliostigmareticulatum*) to form a cone, is assembled on the ground near the house. It is then lifted onto the terrace and placed on the edge of the room's wall. The thatch is then arranged from the bottom to the top, in small bundles secured to the structure with vegetable cordage. This roof is retractable, and its large overhang allows it to hold securely on the wall

Finishing work

These tasks primarily involve plastering, decoration, and waterproofing the walls of the house, exclusively carried out by women with assistance from their daughters. These activities aim to protect new constructions or maintain existing ones after each rainy season.

• Plastering

Women collect fresh cow dung, and add fine sand, clayey soil, and water to it, mixing the obtained mixture in gourds. This mixture serves as a protective plaster and is applied by hand to all surfaces exposed to the elements. Walls and terraces are coated and smoothed using pebbles collected from the river. Once all external walls have been covered with plaster, the same treatment is applied to the interior walls. Despite our explicit request, the Bétammaribé women, not wanting to be observed during their work, took all necessary precautions to operate without our knowledge, much to the amusement of our guide.

• Decoration

Bétammaribé houses are not extensively decorated. Decorations are exceptions and are also created by women who imprint cosmogonic signs into the still-fresh plaster. These signs depicted on the walls are the same as those found in scarifications, *faluafa*, which mark the face, belly, ribs, back, buttocks, and sometimes the arms of women and young girls. Nowadays, the majority of women with *faluafa* are elderly, and very few know their meaning. Young girls who learn and reproduce these signs are also rare. Consequently, *faluafa* are disappearing, along with their significance.

• Waterproofing

The final step in the women's work is to protect the plastered surfaces exposed to the elements by making them waterproof. The product used is obtained by soaking crushed locust bean pods (*Parkia biglobosa*) in a pot of water, which is then brought to a boil for at least an hour. Another method of preparing this coating involves letting the crushed pods soak for two to three days. The preparation is then sprayed onto the walls using a gourd. On the terraces, it is applied with "brushes" made of tufts of indigo plants (*Indigofera tinctoria*) called *toulounlouti*. To enhance waterproofing, the walls are sprayed with water mixed with vegetable fat obtained from shea butter (*Butyrospermumparkii*) preparation. During each shea butter preparation, water is sprayed on all exposed walls of the house, effectively waterproofing them.

The granaries: sacred pots

The granaries or "lboo," are special structures constructed as the final step in the building process, often after the domestic group has already settled in the house. Their construction requires the expertise of specialists in the field. The granary is essentially a large pottery built on-site, elevated, and crafted with a specific type of fine clay, sourced from termite mounds. Only unoccupied mounds are selected for this purpose. These structures are built once the house is completed and thoroughly dry. However, if unoccupied mounds are unavailable, the occupied ones can be used after evicting termites through smoking to encourage them to relocate. The harvested clay is mixed with fonio straw and kneaded with water until it reaches the ideal consistency.

Following an established ancestral order, the woman's granary is constructed first, followed by the man's. Earth clods are arranged on a bed of branches and shaped to form the base. The body is then molded through one to three successive layers per day, rotating clockwise, similar to the construction of the house. As the work on the walls progresses, the central column of the granary and partitioning elements are also built. Finally, the rim of the granary is shaped, smoothed, and adorned with finger incrustations in three rows. Once dry, the structure is coated by women using a decoction of *néré* fruit pods. It is then protected from the elements with woven straw by men, spirally attached to the wall starting from the lowest level. The entrance is guarded by a conically shaped cap made of straw fixed on slender branches, forming a funnel around a bent branch piece. The bent branch's angle allows the granary's cap to be hooked onto the rim when opened. Access to the granary is provided through a traditional hardwood ladder with regularly spaced notches. The granaries are filled with crops such as fonio or "ipouaga" (*Digitaria exilis*), sorghum or "eyna" (*Sorghum vulgare*), and millet or "inaati" (*Pennisetum typhoides*), each family contributing based on their means, needs, and social status.

The Ritual of the Sacred Canari

The completion of the male granary is marked by a ritual performed at its base the next day. In the granary's name, the head of the household recites a short prayer and sacrifices a chicken at the spot of protective spirits, particularly the spirit of fonio. The blood is projected onto the wall, and a few tufts of feathers are pressed onto it. The Bétammaribé regard the male granary as a "sacred pot" because it houses sacred plants believed to protect the family. These plants are placed in a new canari positioned above the central column of the male granary in a specially designed hollow. The *tèkyèntèyè* (master of the house) is responsible for the male granary and its spiritual strength, making him the sole person with access as the guardian of the family's spiritual power. Later, he may pass this right on to one of his sons

DISCUSSION

Who builds the house?

Betammaribé houses are complex structures. Their construction is an activity that leaves nothing to chance, as it is the fruit of ancestral elaboration. It calls not only on know-how and ingenuity but also on spirituality. These structures are therefore built by people who specialize in this type of work, and as such, they are architects. However, Betammaribé architects are ordinary people, who do not enjoy the advantages of any special status within the community. They are farmers, like the vast majority of Betammaribé. For the rest of the year, they cultivate their fields like everyone else. During the dry season, they combine farming activities with construction, when necessary. In their work, they must comply with the ancestral rules, both formal and technical and ritual, which have been established and perpetuated through this particular architecture.

The hierarchy of these architects is structured based on experience. At the bottom of the scale are the apprentices, known as "otababo," meaning "one who learns to build," or simply "the little one," "the child," or "the one behind." Apprentices are typically between eighteen and twenty-five years old and are tasked with making mortar and constructing connecting walls. Their training spans around ten construction sites. After a successful trial period, they can lead other apprentices and independently build an entire house, except for the granaries, which are special structures. They then ascend to the rank of "otammari," meaning architects who are men that have constructed and led the construction of several houses. Acting as leaders, they train apprentices and have between one and ten houses to their credit. The otammari are rewarded for their work by the future *tèkyèntèyè*, although they often offer their retribution as a token of gratitude to older, more experienced architects who trained them. Otammari are not considered mature; they still have much to learn to be confirmed in their specialization.

At the top of the hierarchy, the "otammari mwa" are architects who have built more than ten houses. They are the masters of the art. According to Preston Blier (1987), the suffix *mwa* means "greatest" or "eldest". Otammari mwa are paid for their work. They also have the honour of being regularly invited to attend house-founding rituals. Their role is to ensure that the work built respects the ancestral model. As masters of the art of building *tèkyèntè*, their opinions are extremely important and cannot be discussed.

The first phase of construction

Before the future master of the house can start looking for a site for his house, he must obtain the agreement of his maternal family. Once a suitable plot of land has been found, a ritual is performed to ensure that it is inhabited by benevolent spirits. A stake is planted, around which the layout of the house begins. The decision to build the house is often taken immediately, as the families have already been warned of the imminent start of construction. The future *tèkyèntèyè* then assembles the village community to start work. This first phase is characterized by the presence of construction specialists, the *tèkyèntè* architects, who are assisted by the villagers. This stage consists of preparing for the act of building, drawing up the plan of the house, building the foundations, orientating the house and building the walls delimiting the spaces. Throughout his work, the otammari performs rituals, takes part in rituals organised by the future *tèkyèntèyè*, and receives partial payment. At the end of this stage of construction, the walls are left to dry for a few weeks. The walls need to reach maximum hardness and strength before they can be overloaded with additional structures.

The second phase of construction

The end of the masonry work, which only concerns the vertical walls, marks the end of the otammari's work. A sort of delegation of powers then takes place between the otammari and his client. From this point onwards, the client is responsible for taking the necessary decisions and assembling the right people to carry out the additional work. At this stage, the house is considered ready for habitation, but the architect has not yet received the remainder of their payment. They will have future, non-obligatory interventions based on local construction tradition. The client will compensate them according to their means and, more importantly, at their discretion. This stage involves constructing the floors of the rooms and terraces, completing the roofs of the rooms (terraces and thatched roofs), finishing works, and lastly, building the granaries. Rituals also characterize this stage.

CONCLUSION

The house of the Bétammaribé, the tèkyèntè, is a structure that crystallizes the entire cosmogonic universe of this people. Beyond its configuration and composition, it represents woman and man, the deceased, ancestors and spirits, earth and sky, protective deities, and the Creator God. Everything is organized into three worlds, and the customs, traditions, and prohibitions, among other things, establish strong connections characterizing humans and their environment. The construction of the tèkyèntè is an activity based on the reality of materiality and immateriality defined in the daily life and myths of the creation of the Bétammaribé people. It mobilizes the entire community through relationships established in the foundations of this people's culture. This activity does not exclusively concern the future owner and their architect. It involves the respective families of these two main protagonists, as well as their ancestors and the family deities that protect them. The living, the dead, the spirits, and the divine are all involved in this activity deeply rooted in the materiality of the environment. The tèkyèntè is therefore a social production that allows the Bétammaribé to bring together their three cosmogonic worlds for the well-being of man and the proper functioning of society. Through its construction, society creates or restores social and symbolic ties that guarantee its cohesion. This gives the house its specificity and importance in the representation and organization system of the entire society.

As a material and immaterial construction, the tèkyèntè reiterates the principles of the Bétammaribé way of thinking, in which materiality and immateriality, profane and sacred, woman and man, up and down, right and left, life and death, present and past... complement each other to build life and project it into the future.

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REFERENCES

- Deffontaines Pierre (1972), *L'homme et sa maison*, Paris, Gallimard.
- Denyer Suzan (1978), *African traditional architecture: a historical and geographical perspective*, Londres, Heinemann Educational.
- Froelich Jean-Claude (1954), *La tribu Konkomba du Nord-Togo*, Dakar, IFAN, (Coll. Mémoires de l'IFAN).
- Froelich Jean-Claude (1949), *Les sociétés d'initiation chez les Moba et les Gourma du Togo*, in *Journal des Africanistes*, Paris, Revue de l'homme.
- GayiborNicouéLodjou (1996), *Le peuplement du Togo: État actuel des connaissances historiques*, Lomé, Presses de l'U.B.
- GayiborNicouéLodjou (1997), *Histoire des Togolais: Des origines à 1884*, Lomé, Presses de l'U.B.
- Kerchache Jacques, PaudratJean-Louis et Stephan Lucien (1988), *L'art africain*, Paris, Mazenod.
- Maurice Albert-Marie (1986), *Atakora (Otiau, Otammari, Osuri): Peuples du Nord-Bénin (1950)*, Paris, Académie des Sciences d'Outre-Mer.
- Mercier Paul (1968), *Tradition, changement, histoire: les «Somba» du Dahomey septentrional*, Paris, Anthropos.
- Padenou Guy-Hermann (2003), *Architecture, environnement et société: la cosmogonie des trois mondes des Tamberma du Togo*. Thèse de doctorat, Géographie - Aménagement, Université Toulouse 2.

- Padenou Guy-Hermann et Barrué-Pastor Monique (2006), *Architecture, société et paysage bétammaribé au Togo : Contribution à l'anthropologie de l'habitat*, Toulouse, PUM, (Coll. paysage & environnement).
- Paul-Lévy Françoise et Segaud Marion (1983). *Anthropologie de l'espace*. Paris : Centre G. Pompidou / Centre de Création Industrielle. (Coll. alors:).
- Preston Blier Suzanne (1987). *The Anatomy of Architecture: Ontology and Metaphor in Batammaliba Architectural Expressions*. Cambridge: Cambridge University Press.
- Sewane Dominique (2020), *Le souffle du mort : les Batammariba (Togo, Bénin)*, Paris, Plon, (Coll. Terre humaine).
- Smadja Myriam (1991), « Les affaires du mort », in *Systèmes de pensée en Afrique Noire*, dirigé par C. Henry et D. Liberski, Paris, E.P.H.E.
- Sulj Joseph (1986), *Le paysan de la vallée des Tamberma*, Nadoba.