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Additional Information

Traditional Mossi housing-case studies in Baasneere (Burkina Faso)

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Purpose: The common language behind vernacular architecture only seems to be maintained in societies that preserve a traditional way of life. Changes in these societies can threaten their cultural heritage, while research may be a tool for its conservation and enhancement. In this paper, the habitat of a Mossi community is therefore studied as a first stage in analysing the possibilities of its maintenance.

Design/methodology/approach: After a previous study, data collection from a stay in Baasneere (Burkina Faso) and the analysis of 32 traditional residential units were completed. The research showed some common features which, when compared against the bibliography reviewed, could be defined as characteristic of the traditional architecture of this culture.

Findings: The home for a family unit consisted in an enclosure formed by the grouping of adobe constructions around a courtyard. As the family grew so did the compound, in a relationship directly linking the scales of architecture and the levels of kinship. The main daily activities took place in the courtyards while the individual interior spaces were understood as private shelters. Other typologies such as granaries, kitchens, warehouses and sheds were also analysed.

Originality/Value: Some features of Mossi architecture already described in the existing bibliography were verified in the Baasneere case studies, showing that this tradition is still preserved. With a multidisciplinary approach, the house was examined not so much from the perspective of construction, but of its cultural configuration.

Keywords: vernacular; earthen architecture; cultural diversity; typology; courtyard; family; conservation; documentation, surveying and recording.

Paper type: Case study

Introduction

One of the most outstanding attributes of vernacular architecture of a place is the unity of its appearance and a simultaneous wealth of unique features. This results from a process of creation based on a shared set of fixed rules, which allows for a certain degree of freedom (Oliver, 1969, 1986), a process based on tradition.

In the field of architecture, the linguistic analogy of tradition is well known and still provides a close understanding of how unconscious codes embrace variation (Shils, 1971; Glassie, 1974). The flexible articulation of these socially accepted norms allows for individual expression within a collective framework. This synthesis of opposites brings balance and may reflect the highly complex nature of human beings (Turner, 1948; Van Eyck, 1961; Tuan, 1974).

Another approach might see this process as a set of constraints often equivalent to a lack of choice (Tuan, 1989). However, tradition's capacity for self-regulation may prevent it from being imposition: traditions are maintained until society changes and adapts them to the new situation (Bronner, 2006).

According to Oliver, the study of building traditions and the ways in which they are transmitted, interpreted, negotiated, and adapted should be the specific focus of research into vernacular architecture (Oliver, 1986). Oliver shifted attention away from the object and focussed it on the process of creation. He urged an understanding of motivation, aspiration, symbolism, and function - everything that explains how a society builds. The decisive role of the cultural component in these processes was also widely demonstrated by Rapoport (1969), who noted the importance of the origin and degree of changes that a society can undergo. Abrupt changes may annul this adaptive capacity and lead to a break with all the preceding (Rapoport, 2003).

In fact, it seems that nowadays these traditional languages tend to disappear, due to their constant adaptation to change (AlSayyad, 2004). The almost instinctive adaptation of buildings to the environment, to the way of life of its inhabitants, and to the social organisation of the community seem to blur with the progress of architecture. Christopher Alexander already devoted two chapters of his first work (1964) to the difference between the "unselfconscious" and *"selfconscious"* processes in the creation of form in architecture. He explained the development of individualism in this discipline as the movement from one to another. A few years later, his *Timeless Way of Building* (1979), a brilliant design method, sought to restore the loss of a shared language pattern. He thus attempted to recover a form of artificial tradition which, by dint of being put into practice, would ultimately be assimilated as something innate.

At the same time, the academic gaze had begun to focus on the vernacular architecture of non-Western cultures which was not only preserved, but also inhabited and rebuilt as a living tradition. In particular, the ways of building in African cultures attracted the attention of numerous studies (Oliver, 1971; Gardi, 1974; Prussin, 1974; Denyer, 1978; Domian, 1989; Lauber, 1998; etc.).

These studies showed how, in most cases, vernacular architecture was charged with meaning and followed not only local daily customs but also the whole cosmogony of their cultures. The traditional dwelling was thus revealed with the strength of its patrimonial importance.

Subsequent studies focussed on the transformations of this architecture due to cultural influences (Elleh, 1997; Whyte, 2010). The modernisation of most African societies brought about profound changes which inevitably led to the self-regulation of traditions (Vellinga, 2006).

Currently, the question arises as to the role which vernacular architecture and the transmission and adaptation of tradition can therefore play in the challenges looming on the horizon, including the environmental crisis, growing demand for housing and cultural homogenisation (Asquith and Vellinga, 2006).

According to the *Institut National de la Statistique et de la Démographie* (INSD, 2018), more than 75% of the population in Burkina Faso lived in rural self-constructed dwellings in 2006. These domestic constructions maintained traditional traits of the country's cultures: according to INSD data, in 2009, 80% of the dwellings were made with adobe walls and 40% with thatched or earthen roofs, all traditional building techniques. Simultaneously, a process of transformation was underway.

This case study reflects the abovementioned challenges. The vernacular building skills of the inhabitants allow them to build a shelter in consonance with their own resources and priorities[1]. The demand for housing is thus satisfied autonomously, as has already been observed in other contexts (Turner and Fichter, 1972). Moreover, traditional land distribution guarantees a plot for work or construction [2]. At the same time, the scarcity of wood due to desertification is modifying building traditions. The population as a whole (Wyss, 2005; Folkers, 2010) prefers industrial materials for the construction of "definitive" housing, as defined by the administration. However, despite their preferences these materials are economically inaccessible to the majority.

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[1] According to World Bank data on the poverty incidence rate, 43.8% of the population in Burkina Faso lived below the world poverty rate in 2014, i.e., on less than $1.9 per day.

[2] The INSD study showed that, in 2007, 73% of the population owned their home (as opposed to other types of occupation such as renting or rent-free accommodation). However, in 2009 67.7% were homeowners without official deeds. In other words, two systems of land ownership, the traditional and the institutionalized, are maintained in the country, with the traditional one predominating.

The changes taking place in the traditional architecture of Burkina Faso, their implications and whether the result of this adaptation can be understood as a new vernacular, are all central issues to current research.

This paper presents the initial stages of this research: the analysis of the vernacular architecture still built by the Mossi culture, based on the case study of the village of Baasneere (Burkina Faso). The aim of this study was to understand the characteristics of the traditional habitat, not so much from the point of view of its materiality, but globally, from the perspective of its conception and meaning. In other words, with the intention of examining the shared language that is the architectural heritage of a culture.
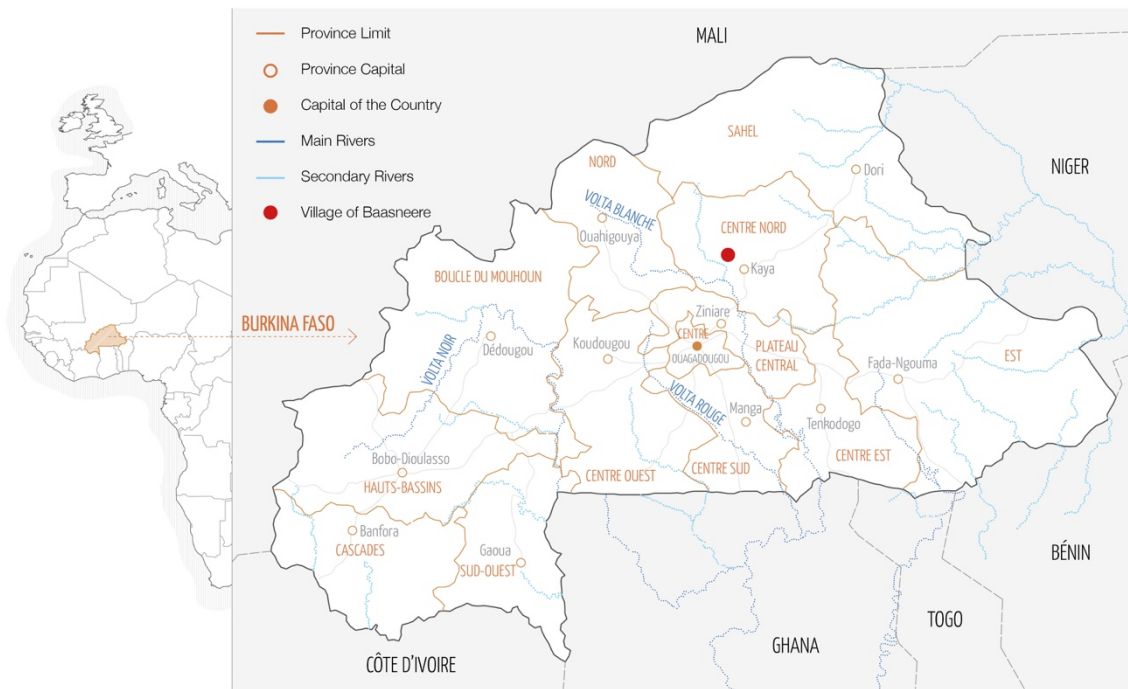
Figure 1. Location of the village of Baasneere on the plan of Burkina Faso.

Figure 2. Aerial image and plan of the village of Baasneere.

Baasneere is a small rural community in the province of Sanmatenga, in the North-Central region of Burkina Faso [*Figures 1 and 2*], with an arid climate and a semi-desert landscape. As already stated, its population is mostly Mossi, a cultural group which until the establishment of the French colony of Upper Volta dominated much of what is now the *Burkinabe* territory.

In addition to their oral tradition, the Mossi were first mentioned in the chronicles of 17th-century Arab historians, *Tarîkh Es-Soûdân* and *Tarîkh el-fettâch* (Ki-Zerbo, 1972), as the protagonists of a series of raids against the Malian and Songhai empires. However, it was not until the end of the 19th century, with the colonisation of West Africa by European countries, that this culture attracted the attention of the Western scientific community, mainly in the fields of anthropology and linguistics (Izard, 1970). Since then and throughout the French occupation, increasing amounts of research were devoted to explaining the origin and customs of Mossi society, especially its highly hierarchical social and political organisation and the distribution of authority within it. Mention should also be made of the works published by Zahan (1961), Izard (1965, 1970, 1973), Gruénais (1984) and Tiendrebeogo (1963) and that of Skinner (1964). Following a different approach, *Une famille Mossi* (Lallemand, 1977) addressed issues such as the characteristics of the local economy, traditional trades and, especially, family relations.

However, although housing featured in the background as a scenario in these works, there were few specific studies on traditional Mossi architecture. The most comprehensive work was a description of the building techniques found in Burkina Faso, the general socio-cultural organisation of the different peoples, and the approximate typologies of traditional housing classified according to the major cultural groups to which they belong (Kéré, 1991). Another work focussed specifically on the analysis of traditional housing of the Gurunsi culture (Boudier and Minh-ha, 1985).

These studies provided valuable insights into the unchanged vernacular architecture of some of the country's cultures. Current research focuses on how this vernacular architecture has changed since then.

Within the framework of the *ConBurkina* project, the first objective of the research was to learn about the current state of Mossi vernacular architecture by identifying case studies in the village of Baasneere. The specific intentions of the study were:

- To analyse the general arrangement of the dwelling based on the family configuration.

- To distinguish the elements that form the dwelling and their function within the complex.

- To understand the way of life that gives meaning to the housing configuration.

This research consisted in a data collection process during a stay in Baasneere, where interaction with the families in the village made it possible to get visit and learn about their houses. The study of the traditional dwellings led to the identification of some common characteristics which, compared with the previously reviewed bibliography, could be highlighted as belonging to a Mossi architectural language still alive in the country.

Starting with the description of the courtyards visited, the article presents the general configuration of the house, based on the configuration of the traditional family. This is followed by an examination of the individual private constructions in relation to the central space of the courtyards; the auxiliary functions of kitchen, storage and shaded spaces; the specific typology of the granary; and, finally, the uses, spaces and usual routes inside the dwelling. An approach to the semantics of space in traditional Mossi architecture concludes the results section.

Materials and Methods

The work was divided into three phases comprising initial research, the collection of data during the stay in the village, and the processing of the information collected.

Phase 1: The first stage consisted of a review of the literature on the context of Burkina Faso, the Mossi cultural group, and the general features of traditional architecture in the country, as summarised in the introduction. The main aim of this stage was to achieve the necessary knowledge to identify the data which could be obtained during the stay. In addition to this review, a form template for collecting information and a general plan of Baasneere to locate the case studies were prepared.

Phase 2: During the stay, data gathering combined quantitative and qualitative research techniques. Initial numerical data were collected on the types of elements, their presence in the cases, and their physical characteristics. Subsequently, participant observation and open interviews provided information on uses, routes, and spatial relations. Additional photographs, diagrams and drawings were obtained while living in the village and walking around it. A sample was defined with the houses which appeared to preserve the main traditional features described in the bibliography consulted, closely examining any dwellings where the relationship with the inhabitants, granted the authors access. The sample comprises a total of 32 case studies [*Figure 3*]. Access to interior spaces of the houses was not possible in most of the cases given their extremely individual and private nature. Only a few houses could be entered when the authors became familiar with the inhabitants.

Phase 3: The forms on each case were reviewed and completed after the stay, allowing the information collected to be organised and compared. The plans and drawings of the dwellings and the village were also detailed and the results obtained are presented below.

COMPOUND 1 | CASES 1.1., 1.2., 1.3., 1.4., 1.5., 1.6., 1.7., 1.8., 1.9., 1.10., 1.11., 1.12., 1.13.
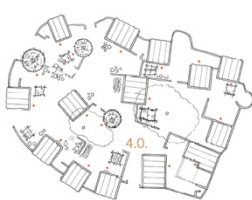
COMPOUND 2 | CASES 2.1., 2.2., 2.3.
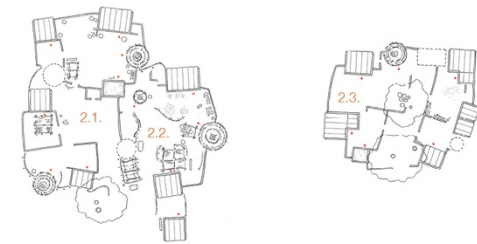
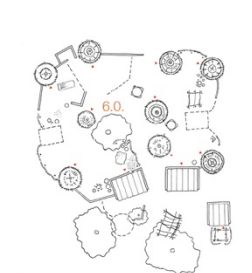COMPOUND 3 | CASES 3.1., 3.2., 3.3.

ISOLATED PATIO | CASE 4.0.
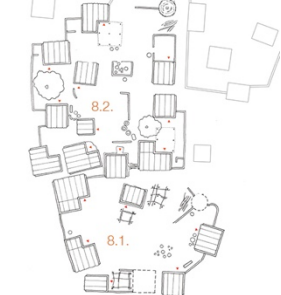
COMPOUND 5 | CASES 5.1., 5.2.

ISOLATED PATIO | CASE 6.0.
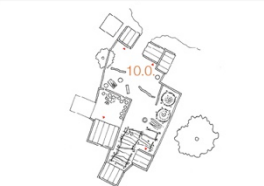
COMPOUND 7 | CASES 7.1., 7.2., 7.3.

COMPOUND 8 | CASES 8.1., 8.2.

ISOLATED PATIO | CASE 9.0.

ISOLATED PATIO | CASE 10.0.

ISOLATED PATIO | CASE 11.0.

ISOLATED PATIO | CASE 12.0.

Figure 3. Approximate drawings of the case studies: 32 isolated or grouped courtyards.

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Results

Case studies: nakomsé, têgâ-bisi and other families

The courtyards visited, belonging to different families, showed various grouping situations. Based on the conversations with the residents, it was found that Baasneere was mainly populated by two large families: the Ouedraogo and the Sawadogo.

The Ouedraogo represented the social group of the *nakomsé* (sing. *nabiga*). In Moré, language of the Mossi, *nam* means "sovereignty" or the power to rule other people. The *nakomsé* were the sons (*komsé*) of power (*nam*), descendants of the village chief or *Naaba*, that is, the population belonging to the noble class.

The Sawadogo represented the *têgâ-bisi*, literally the "sons" (*bisi*, sing. *biga*) of the land (*têgâ*) or autochthonous settlers. The headman of the *têgâ-bisi* was the "chief of the earth" or *têgâsoba-damba*.

These two leaders had different decision-making powers in the village and were usually the elders (*kasmâ* or *damba*) of these two families, considered *buudukasmâ* or head of the lineage. The chiefs of each neighbourhood (*yiirsoba*) and the chiefs of each group of dwellings (*zaksoba*), who were in turn the elders of each family branch, answered to them. The village thus showed a clear social hierarchy which followed the urban configuration: the village, neighbourhood, grouping, or house were social and urban scales ruled by the elders of each group.

These two social segments were usually found in all Mossi populations. In fact, the story of the foundation of Baasneere, as told by the elders bears great similarities to the founding story of the Mossi as reported by other authors (Zahan 1961, Izard, 1973). A foreign warrior named Ouedraogo came from the south to a territory already populated by a mixture of cultures (the *têgâ-bisi*) and helped them to free themselves from a common enemy. These cultures were the Samo, Dogon and Kurumba, according

to Izard (1970, 1965). In return, the local people welcomed Ouedraogo and his family as rulers of the territory (the *nakomsé*). The alliances between the two groups formed a unified population, and the Mossi population (in this case, in the village of Baasneere) was established.

Although this story varies slightly depending on the area it is widely accepted as the foundational myth explaining the social and political configuration of the culture, from the smallest scale (the village) to the largest one (*Moogo* [3], with its kingdoms Yatenga, Ouagadougou, Koudougou, Tenkodogo, Kaya and Fada N'Gouma). This highlights the coherence of the Mossi tradition, displaying a type of unity resulting from specific particularities, as also happened with its architecture. While the founding history of Baasneere represents the founding history of the entire culture, the configuration of dwellings provides an explanation of the configuration of the whole village.

In most Mossi populations, a distinction is also made between the social group of the blacksmiths or *saambas* and that of the merchants and common people or *yarse* (Zahan, 1961; Tiendrebeogo, 1963; Izard, 1970).

Regarding the case studies, Compound 1 was the household of the younger brother of the former chief of Baasneere. This cluster consisted of the original courtyard (1.4.), the house of the head of the family, those of his four wives, and the later courtyards built by his descendants. In line with the description by Kéré (1991), *nakomsé* families in Baasneere also tend to develop large clusters of dwellings.

Smaller than the previous case, Compound 2 was the household of the "chief of the earth" or headman of the *têgâ-bisi*. This grouping consisted of the courtyards of the

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[3] In Moré, *Moogo* or *Pais Moaga* referred to the territory inhabited and governed by the Mossi leaders, descendants of Ouedraogo, founder of the ethnic group.

chief and his younger brother. A few metres away, was the nearby courtyard occupied by his son (2.3). Again, coinciding with Kéré (1991), the *têgâ-bisi* families continued to build smaller more dispersed groupings in the territory. Another example was Compound 3 consisting of five courtyards, of which only three could be visited. Courtyard 3.1., belonging to the head of the family, also incorporated secondary courtyards for different branches of the family.

In addition to the Ouedraogo related to the chief of the village, other families with the same name or *sonde* in Baasneere did not belong to the sovereign branch. These *nakomsé* families came from other parts of the country and were not directly connected to the ruling dynasty of the village (Compound 5). In addition to the Ouedraogo and Sawadogo, two families of Peuhl culture, the Bary (Compound 7) and the Boly (Compound 8), were also known, as were *yarsé* families, such as the Sana (Case 4.0). Although belonging to a different cultural group with a semi-nomadic tradition, Peuhl families adopted the building tradition in the village and their dwellings resembled those of the Mossi. Finally, isolated courtyards of Sawadogo (Case 6.0.) or Ouedraogo (Cases 9.0. -12.0) which had not yet developed into a cluster were also analysed.

General configuration of the house

The traditional Mossi family consisted of a man who was the head of the family, his younger brothers and sisters, his wives and the wives of his brothers, and all their descendants (Zongo, 2004). The members of this family unit shared the same residential unit, except for the sisters and daughters who, when married, had to move to their husbands' family house, while maintaining their own family ties and remaining under the protection of their father or brother (Zahan, 1961; Izard, 1970). This social structure was maintained in the cases studied in Baasneere [*Figure 4*].
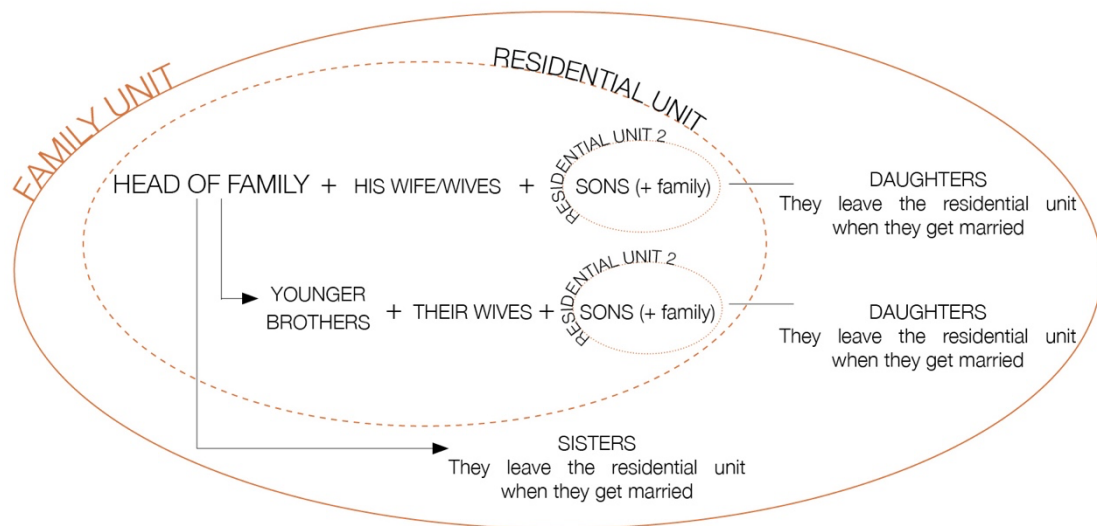

Figure 4. Diagram of the traditional family unit.

As with many other cultures in West Africa, the residential complex inhabited by this type of family consisted of an enclosure formed by a series of individual constructions around a central space, with a courtyard formed by joined walls at shoulder height (1.5 m approx.) (Domian, 1989). The most direct family relationship was established with the members who shared this enclosure [4].

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[4] In Baasneere, for example, a child would use "father" to address not only his parent, but any siblings of his parent, that is, all the adult men living in the dwelling. However, any of the mother's brothers, living in another neighbourhood of the village, are addressed as "uncles".

In the case of the Mossi habitat, these individual pieces, belonging to individual family members, had traditionally been circular constructions with adobe walls and conical thatched roofs. As most of the individual buildings were round, the compound enclosed by them also tended to be circular (Kéré, 1991). In the cases analysed in Baasneere, rectangular buildings were also found, as explained in the following section.
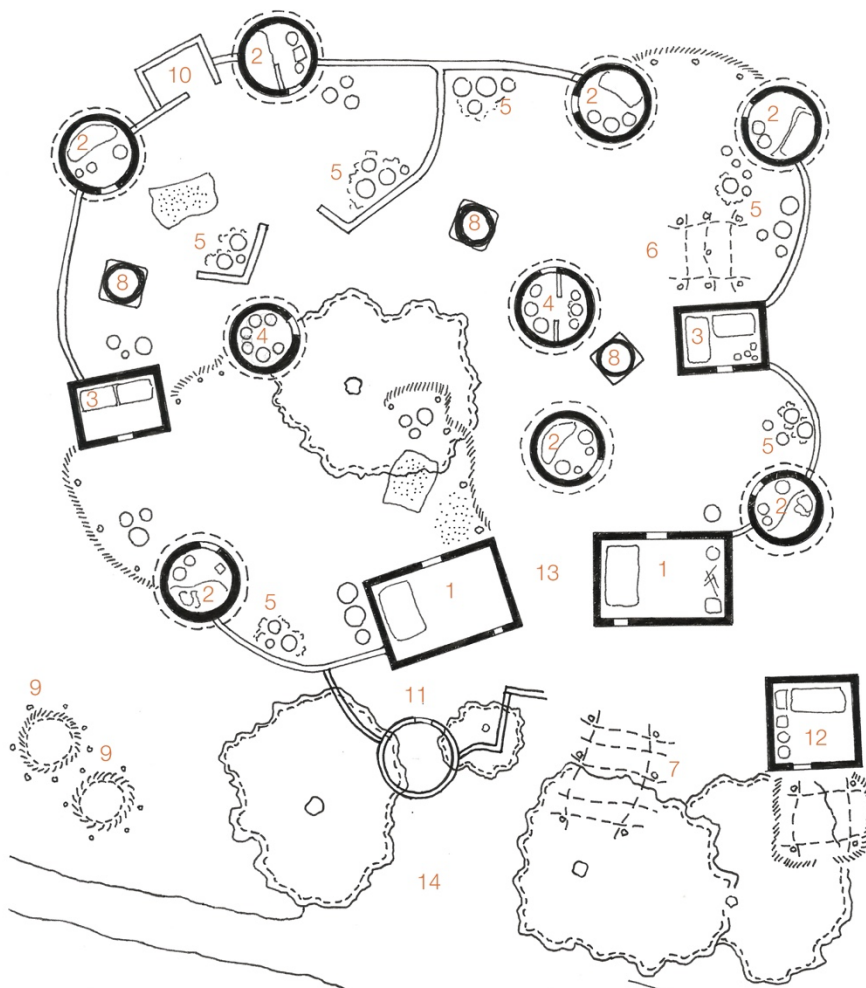
A house inhabited by the families of two brothers. It consists of the following elements: (1) Rectangular constructions or *rogo*; (2) Circular construction or *roguilga* used as a room; (3) Room for non-adult sons; (4) Circular construction or *roguilga* used as warehouse or kitchen; (5) Space used as an outdoor kitchen; (6) Shed inside the courtyard; (7) Shed outside the courtyard. It is the place occupied by the head of the family during the day; (8) Mud wall granaries inside the courtyard; (9) Granaries or *tudgou* located in the fields, outside the courtyard; (10) Bathroom area; (11) Ruins of a previous construction, possibly the original family courtyard; (12) Housing of an adult son of the family that will lead to a new courtyard; (13) Entrance to the family compound; (14) Paths leading to the house.

Figure 5. Floor plan drawing of a case study in Baasneere (Case 6.0.).

Each enclosure consisting of the arrangement of individual buildings around a courtyard was therefore the home of a family unit [*Figure 5*].

As observed in Baasneere, the process of evolution of the house responded to the growth of the family itself. This growth gave rise to the formation of new family units who built their respective residential units, normally one next to the other, to form a group of dwellings, all belonging to the same branch of the family. Even greater growth would give rise to different independent family branches, but with a common root, whose groupings of dwellings would end up forming a neighbourhood within the village [*Figure 6*].

PATIO 1: First courtyard, created by a couple and their children

PATIO 1': The house can grow if a man takes more than one wife.

Individual construction of the eldest son. It will give rise to PATIO 2.

PATIO 2: Courtyard of one of the sons, his wife/wives and children.

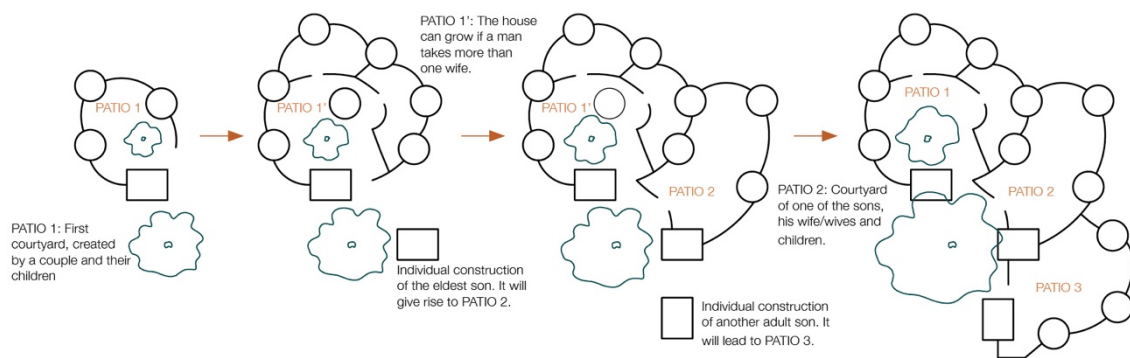Individual construction of another adult son. It will lead to PATIO 3.

Figure 6. Diagram of the growth process of a residential unit.

Each grouping of courtyards of a family was recognisable because it was in isolation, in the fields worked by the family, and was large enough to be perceived as a whole [*Figure 7*].

Figure 7. View of a compound from the path between the fields (Case 6.0.).

Individual buildings: rogo and roguilga

Each enclosure was made up of a variable number of constructions depending on the size of the family and its changes over time, as each building was occupied by a member of the family: adult men and women had their own constructions; sons under the age of 10 could live either with their father or with their mother and, from the age of 10 onwards, occupied a room shared with the other children in the family until they reach adulthood; daughters always lived with their mother until the time of their marriage (Zongo, 2004).

These pieces were built and maintained by the family members themselves as a daily task, conditioned by the periodicity of the rain, just like working in the fields.

In contrast with what is described in the bibliography, two main room typologies could be distinguished in the cases analysed in Baasneere: *rogo*, a rectangular construction, and *roguilga*, a circular construction [*Figure 8 and 9*].
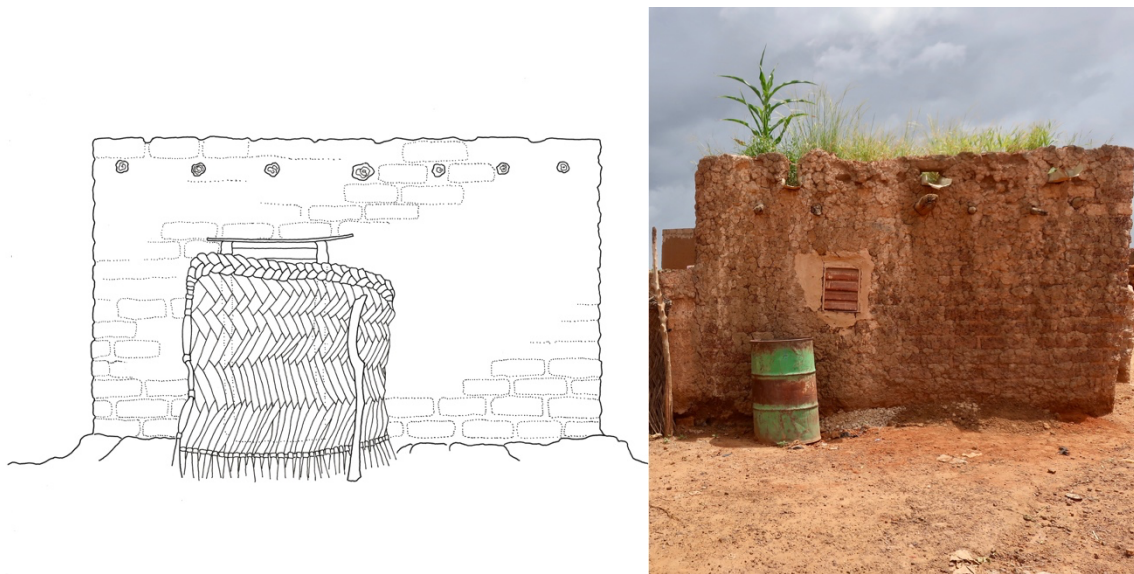

Figure 8. Drawing and photograph of a *rogo* or rectangular construction.

Figure 9. Drawing and photograph of a *roguilga* or circular construction.

The antiquity of rectangular construction in Mossi architecture was questioned because this typology had not been described as belonging to the traditional habitat in previous studies (Kéré, 1991). Moreover, some of the residents consulted considered only circular constructions to be typical of this cultural group. Others maintained that the rectangular constructions, larger in size, had traditionally been reserved for the heads of the families and were located next to the access to the compound. This situation was observed in most of the cases analysed.

The *rogo* could be considered a consequence of the introduction of corrugated sheet metal as a new roofing solution, being therefore a recent typology. However, rectangular houses with traditional wooden roof structures, braided straw mats, and clay cladding were also found in the village. This would confirm the typology as previous to the introduction of the new building materials in the village. Moreover, the existence of a word in Moré (*rogo*) to designate this type of construction seems to support this hypothesis. It may have been an evolution of the round construction or a new typology

borrowed from other nearby cultures (Domian, 1989) and reserved for the older men or heads of the family due to their larger dimensions.

Regardless of its origin, the testimonies of the inhabitants of Baasneere showed that, in the past, the *roguilga* had been the most widespread construction, which contrasted, to a great extent, with the situation at the time of the authors' stay [*Table 1*].

Courtyards	With *rogo*	With *roguilga*			
32	32	20			
		With 1	With 2	With 3	More than 3
		6	7	5	2
Individual constructions	***Rogo*** (Rectangular construction)	***Roguilga*** (Circular construction)			
230	175	55			
		Preserved	Transformed	Deteriorated	Collapsed
		24	9	11	11

Table 1. Distribution of typologies in the cases analysed, with a focus on the numbers of *roguilga* and their state of conservation

With the arrival of French as the official language of the former colony of Upper Volta, the name of the rectangular construction, *rogo*, was translated as *maison* or "house" while the word in moré *roguilga*, designating the circular constructions, was given the French name of *case* or "hut". The very words used were unintentionally indicative of the transformations that were to take place. The round building, which was an unknown typology for the newcomers, was perhaps not considered a "house" even though it was, while the rectangular typology was regarded as such. Everything seems to make sense because of the way it is called, so this new denomination may have been the beginning of a change in the concept of housing itself and of a general preference for houses (*rogo*) over huts (*roguilga*).

In Mossi architecture these individual pieces could be equivalent to what in other models of housing were considered the "rooms", while what remains between them is not merely a communicating space, but the main living area, outdoors and with a series of privacy filters.

The courtyard

The arrangement of the individual pieces, directed towards a central place and joined by perimeter walls, defined the open space of the courtyard. In all cases analysed, these walls were built with uncoated adobe or with a combination of adobe walls and braided straw mats. In particular, these plant walls were provisionally used to cover the gaps in the adobe wall sections damaged by rain or to define edges on a temporary basis. The straw mats were tied to branches used as posts to keep them fixed.

The communal courtyard included outdoor spaces associated with each individual building and usually also delimited by adobe walls or braided straw mats (Kéré, 1991) where individuals carry out their daily activities. The straw mats used brought a degree of flexibility to the dwelling, since they could be moved to delimit different spaces within the same enclosure. These individual courtyards were transitional places that provided the necessary privacy within the family compound [*Figure 10*].
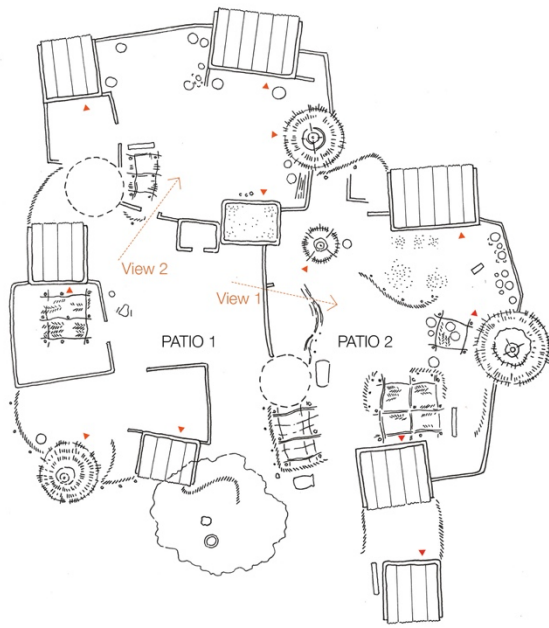
Figure 10. Views of the interior of a courtyard (Cases 2.1. and 2.2.).

In some of the cases analysed, the interior courtyards had disappeared following the loss of the adobe walls that delimited them. At the time the data were collected the rainy season had just ended so that these walls, which were less well preserved than the outer walls of the enclosure, would have been more seriously affected. Despite the absence in these cases of well-defined individual courtyards, there were limits which, although not physical, were equally respected. There was an area outside the buildings that was perceived as private, even if there was no wall to delimit it.

Something similar happened with the access to the compounds. In the sample, 20 of the 32 residential units analysed had no entrance door, while the rest had straw or braided cane mats used by the family to close the courtyard at night or when they were not at home. As with the private areas within the enclosure, there was a psychological boundary marking the entrance to a house, even if the courtyard did not have a door. The path between the fields reached a group of constructions, mostly framed between two of these constructions, and led directly into the courtyard. At that point on the path,

visitors got the impression that they had arrived at a place that was not entirely public and generally waited at that fictitious threshold to be invited in by the family living there.

Kitchens, storage rooms and sheds

The kitchen and storage were usually located in the courtyards. In all cases analysed, the kitchen was an external place that could be located either in the individual courtyards, next to the adobe wall used to make a fire; or in the main courtyard, in a spot where the fires and pots were arranged together to be shared by all the family branches living in the enclosure. The food was cleaned and prepared on cloths on the ground or on tables made of stones and mud [*Figure 11*].

Figure 11. Places used for cooking inside the courtyards analysed (Cases 4.0., 2.3., 8.2., 3.2.)

Some circular constructions were also used as interior kitchens and storage spaces, but in this case, they were located in the centre of the courtyard and not on its perimeter. Clay jars and other utensils were stored against the walls, leaving the central space free to make a fire.

Another common element in the traditional model of housing seemed to be the sheds built with branches and sometimes covered with braided straw mats. These constructions provided shade and storage, since fodder was usually left to dry above them. Some were built as a protective element next to the entrance of a building, especially in the few east-facing cases, which were most exposed to rain.

Most of the courtyards analysed (23 of the 34) still had a large shed next to their entrance or that of the grouping to which they belong. These spaces had traditionally been reserved for the elders of the families who, from there, could control what happened both outside and inside the house and receive visitors (Kéré, 1991) [*Figure 12*].

Figure 12. Shed next to the access to a courtyard and inside the courtyard (Cases 1.0. and 4.0.).

Granaries or tudgou

The granaries or *tudgou* were the third most characteristic building type in Baasneere architecture, along with the *rogo* and *roguilga*. These large containers were made of mats of braided straw supported by an outer framework of branches. This structure of branches, resting on rocks, was also used to keep the granary off the ground. Its upper

part was closed with a conical roof of braided straw, identical to that of the *roguilga* [*Figure 13*].

Figure 13. Drawing and photograph of a *tudgou* or granary.

The granaries had traditionally been located outside the family compound, closer to the fields or the spaces between groupings, a custom still followed in the cases analysed. A reason for this may have been the intention to protect stored supplies from possible fires inside the courtyards (Kéré, 1991). Equally, the location of the granaries may also be due to the fact that they were shared by different branches of a family working in the same land, so that their location in a common area between the different residential groups was preferable. This was indicative of the relative security that had been experienced throughout history in Mossi territories, due to their reputation as a warrior people and their hegemony in the territory. The traditional architecture of other smaller ethnic groups, such as the Gurunsi, whose territories bordered those of the Mossi domains, placed the granaries in the centre of the courtyards. They were thus protected by all the buildings of the house and by the walls between them from any raids and looting from neighbouring populations such as the Mossi (Boudier and Minh-ha, 1985).

As an exception, only two cases (1.9. and 10.0.) included this type of granary inside the courtyard. Also inside the enclosure of the dwelling, another four cases (2.2., 1.12., 6.0. and 3.2.) included smaller stores built with walls of mud and straw which were more commonly found in the homes of other cultural groups such as the Gurunsi (Boudier and Minh-ha, 1985) [*Figure 14*].

Figure 14. Some exceptions of granaries within the courtyards (Cases 6.0. and 3.3.).

Uses, spaces and routes

In Baasneere most of the day was spent outside. The courtyards were the meeting place of the family, a space for daily activities and for welcoming the closest visitors. This central location therefore concentrated the main functions of the house, which explains why, in all cases, the exterior surface area was double or triple that of the interior.

The activities of these courtyards usually extended to the entrance space. If the courtyard belonged to a large family group, this hall space was usually shared by the other dwellings of the group, creating a kind of common square. In the case of an isolated enclosure, which had not yet been developed, this space was the extension of the patio outside the perimeter walls which generally included the shed of the oldest male member of the family and a large tree providing shade. In Baasneere, the space generated around a tree and under its shade was effectively considered an additional room in the house. The shade provided by the trees in the fields outside also was a place to rest or eat during the day.

In contrast, the main function of the interior of individual constructions was to provide a private refuge. They had a reduced surface area (between 9 and 16 m^2) and were mostly used at night or for cooking on rainy days. As these interior spaces were considered extremely private, only three buildings were accessed amongst the case studies analysed. The door into the interior space was small to preserve the interior atmosphere and provide privacy. Bending down also made it harder and slower to get in, thus protecting the inside from unwanted visitors. As in other similar building traditions in West Africa, this entry point to the home of a person was charged with symbolism as it is the last boundary between the collective, shared and open world and the more individual, personal, isolated and closed world (Boudier and Minh-ha, 2005).

As an exception, it should be noted that toilet facilities were usually found in the residual spaces between the individual buildings, allowing privacy despite the outdoor location. In fact, in most cases it was not possible to identify this type of space, precisely because of its private nature.

As for the routes, the accesses and constructions were generally arranged in such a way that the house could be recognised from the outside, but the different areas of the courtyard were partially hidden from view. The enclosures usually had a main entrance that led from the path to the central space of the courtyard, as well as other secondary entrances from the fields. In some cases, the layout of the constructions caused the routes to diverge, creating different common spaces within the same enclosure. Sometimes without knowing the family it was difficult to distinguish whether the case was a single large courtyard made up of smaller individual ones or if it was a group of courtyards large enough to be considered in isolation. In fact, it was complicated for an outside observer to discern where one scale of housing or level of association ended and the next began.

The people of Baasneere used the term *zaka* to refer to a family home. In the existing literature on this cultural group, however, there was controversy regarding the meaning of this word. Different authors used the term to designate either the group of buildings around a courtyard or the central space of the house, that is, the courtyard itself (Skinner, 1964). Others felt that *zaka* was a general reference to the set of houses of a family (Lallemand, 1977).

The fact that the Moré language seemed to have only one word (*zaka*) for a family house suggests that no distinction was made between the level of the general grouping and that of each enclosure or courtyard. In other words, both the grouping of courtyards and the isolated courtyard are considered part of the same whole.

The concept of "house", so difficult to define, was even vaguer in this culture, since it could refer to any of the scales of association: the grouping of enclosures belonging to a large family; the organisation of buildings around a courtyard and this central space; or the individual unit itself inhabited by the man or woman with their children.

As in many villages in the region, dwellings in Baasneere still had various dimensions and could define different scales of architecture. This was possible because the physical boundaries between scales were not strictly defined. The continuity between spaces allowed them to simultaneously be recognised as different elements and as part of a whole. In traditional architecture the spaces of the dwelling were connected in a way that mirrored the relationship between family members.

Approximation to the semantics of space in traditional Mossi architecture

A comparison of this information with the existing bibliography on this cultural group identified some general characteristics still found in traditional Mossi way of

building. Despite the changes, particularly noticeable in the form of the constructions and courtyards, the following characteristics were established:

- Each social scale is reflected in a built scale, so that in descending levels of privacy, these are: the individual building, *rogo* or *roguilga,* with its auxiliary constructions; the private courtyard; the common family courtyard; the grouping of courtyards; the neighbourhood; and the village (*Figure 15*).

- Individual constructions are associated with a man or a woman with their children, or a group of male children over the age of 10. Additional units are built as the family grows. Their private nature is such that, when a person passes away, the building is never inhabited again by another person. Moreover, when a family moves to another part of the village, the buildings previously occupied are left to deteriorate until the ruins disappear.

- The openings in the adobe walls are small, both for constructive reasons and to ensure the interior is kept private and protected from the high temperatures.

- The outdoor space immediately around the building is also considered private and becomes a place of transition to the common space of the courtyard. This private space can be delimited by a low wall and include auxiliary constructions such as a shed, or a kitchen in the case of the courtyards occupied by women.

- All individual buildings and private courtyards lead to a common space enclosed by these perimeter buildings and walls of adobe or braided straw mats. In the case of larger families with access to a wide central space, cooking, storage or other daily activities extend from the private areas to this common space. The courtyard is a semi-private place to which only those invited by the family have access.

- The entrance to this enclosure is between two of the perimeter buildings or through an interruption in the outer wall, never through an individual building. Tradition

ensures that, even in the absence of a gate, the entrance to an enclosure is respected as the boundary between a more public setting and the private world of the family.

- Next to the entrance there is a shaded space (under a tree or shed) to which the activities of the dwelling can be extended. In a compound, the family interacts with other branches of the same family in this common space. Traditionally, sheds were reserved for the elders, heads of each group.

- The granaries are generally outside the family compound, in the vicinity of the grouping or in the intermediate spaces between courtyards. Each granary construction belongs to a direct family.
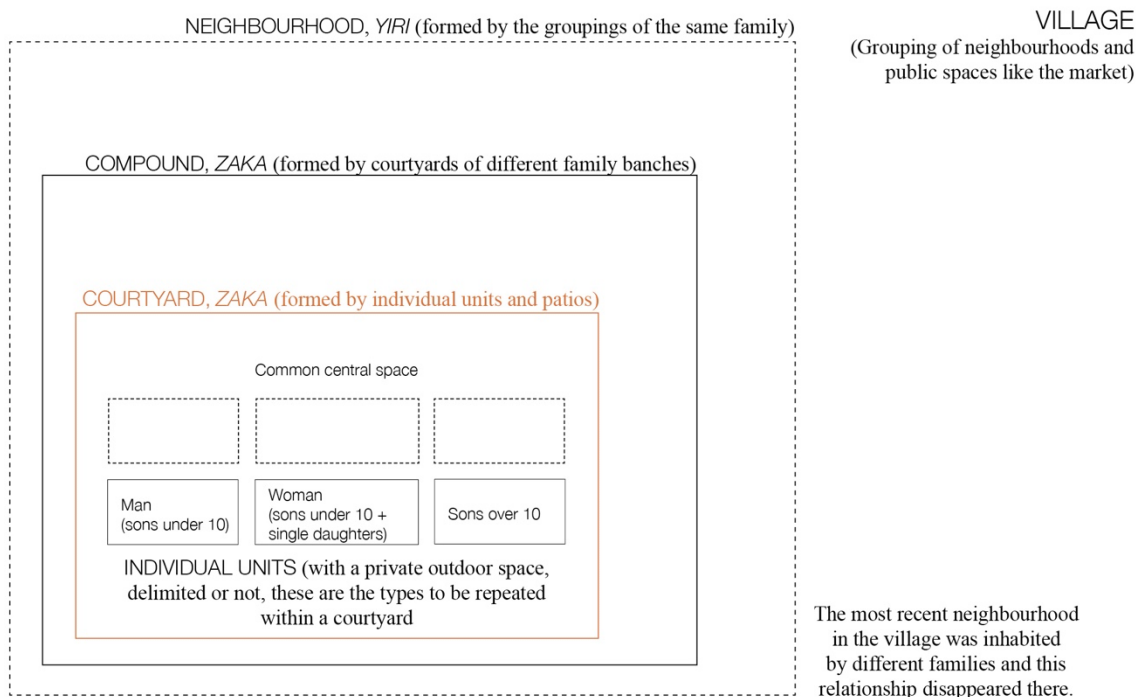

Figure 15. Diagram of the articulation of social and urban scales.

Conclusions

In view of the results, the characteristics of Mossi architecture in the Baasneere region can be summarised as:

- The traditional Mossi dwelling is made up of a series of individual constructions, each with their own exterior space and organised around a central courtyard. As the family grows new individual pieces are built and larger courtyards created within the original enclosure. These go on to become a cluster of courtyards rather than a cluster of constructions. Further expansion results in a set of groupings which ultimately forms a neighbourhood within the village. Therefore, the same logic that explains the configuration of the house is extended to the configuration of the neighbourhood, and more broadly to that of the town itself, as the meaning behind this logic is that of the very nature of the family structure.

- In the configuration of the dwelling, the main elements are the constructions that form the perimeter of the enclosure. Traditionally, the majority of these buildings, called *roguilga*, were circular and built with adobe walls and a conical roof of braided straw. Nowadays this typology is less common than the rectangular or *rogo* typology. However, despite the change in shape and construction, these elements remain individual and private spaces.

In addition to these two buildings, the granary or *tudgou*, located outside the house, could be considered the third representative typology of Mossi architecture.

Sheds are another characteristic element which can be located both inside and outside the courtyards. If located outside, next to the entrance, their function becomes somewhat representative and symbolic, as they are the place reserved for

the head of the family and mark the point of relationship between the house and the village.

Kitchen or storage functions can be housed in built elements and, in these cases, these tend to be located in the centre of the courtyard, not on its perimeter.

- The daily activities of the house take place outside, in individual courtyards or the communal central area, explaining why these places make up the largest area of the house. The interior private spaces, which define the perimeter of the enclosure, are mainly used for rest and shelter. Despite their reduced size, these places are equally important as they correspond to a single member of the family, which means that each adult has their own interior space. This inside space, in addition, extends its influence to its own outside space within the enclosure, which may or may not be delimited, forming a specific courtyard within the common one. Thus, architecture is articulated into a series of privacy scales (neighbourhood, group, enclosure, individual courtyard, and house) linked to each other through transition places, all corresponding to the different levels of kinship (neighbours, family branches, family unit, and closest relatives).

Traditional habitats thus encompass the complex nature of their inhabitants, providing a physical equivalence for their essence as individuals, as part of a family, as part of a community and, ultimately, as part of a society.

As stated in the introduction, the sample focussed on the Baasneere houses which preserved features of traditional architecture. An even larger sample of the village, however, would make it possible to ascertain the extent to which vernacular architecture is already transforming. Although the most obvious indication of these changes is found in the materials and construction techniques used, some modifications

are starting to affect the configuration of the house, a possible sign of changes in the configuration of the family itself and in the way it lives in the house.

This research is part of a wider study which aims to analyse the entire village at urban level, at typological level and at constructive level to establish the extent of the changes and to try to discern their causes and consequences. It remains to be seen whether the new housing configurations preserve this balance with the way of life of their occupants and are merely a transformation of the shared constructive heritage or whether this form of vernacular language is indeed at risk of disappearing.

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