The Dynamics of Mounds-Clusters in the Mouhoun Bend (Burkina Faso)

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Received: 📅 October 16, 2019

Published: 📅 October 29, 2019

Abstract

Mounds are human made accumulations of settlements debris of varying size and shapes, found in different parts of the world. In West Africa, they tend to be located in relatively flat lands, at low elevations, in wetlands, marshlands or flood plains. Some are large single mound sites. Others are made of groups of scattered or clustered mounds – mound-clusters -, spread over varying surface extent. The dynamics of such settlement systems is still poorly understood partly because of inadequate field methodology. Ethno-historical and ethnographic data from West Africa recent past are relied upon to suggest some of the key processes behind mounds clustering: ethnicity, craft affiliations, or a combination of both. The Mouhoun Bend Archaeological Project (MOBAP 1997-2000) was designed to address this issue. The field methodology was articulated on testing all mounds parts of the mound-clusters under investigation. Two mound-clustering strategies were identified:

- Tight-clustering resulting in the formation of a large “single mound site”, and
- Loose-clustering with scattered individual mounds of different size and shape.

Residential and craft requirements combined differentially in the 2000 years Mouhoun Bend settlement history, have generated the settlement patterns investigated in the study area. The ethnicity component of the identified dynamics – that is plausible – could not be tracked with the current methodology and is accordingly undecidable.

Introduction

The Mouhoun bend was settled by iron-using communities in the first millennium BCE (Figure 1, Table 1). The climate was wetter [1]. The Sudanian savanna and the Mouhoun River offered a diversified resources mix that allowed for the stabilization and growth of these mixed farming fishing populations. Their

settlements consisted of multi-mound complexes – mound-clusters. The sample of sites excavated within the Mouhoun Bend Archaeological Project (MOBAP 1997 – 2000) offers an entry into the dynamics of this kind of settlement that developed and spread in the study area for a little more than 2000 years, from ca. 700/500 BCE to 1650 CE (Figure 1, Table 1).

Table 1: Radiocarbon dates from the Mouhoun Bend Archaeological Project.

ISGS NO	SAMPLE	C-14 AGE (RCYBP)	C-13 (VS PDB)	Cal BC/AD (1 sigma)	Cal BC/AD (2 sigma)
Kerebe-Sira-Tomo					
KST-1					
1 - 3941	KST-1 (20cm)	2050+/-70	-9.7	167 BC – 47 AD	348 BC – 117 AD
KST-2					
2 - 3937	KST-2 (20cm)	930+/-70	-25.3	1021 – 1209 AD	983 – 1260 AD
3 - 3932	KST-2 (60cm)	880+/-70	-25.7	1037 – 1241 AD	1018 – 1281 AD
4 - 3936	KST-2 (140cm)	1660+/-70	-25.5	261 – 434 AD	237 – 556 AD

KST-3					
5 - 4302	KST-3 (20-40 cm) 800+/-70	-25	1165 – 1283 AD		1039 – 1376 AD
6 - 4310	KST-3 (40-60)	770+/-70	-24.7	1215 – 1291 AD	1070 – 1385 AD
7 - 4311	KST-3 (60-80)	800+/-70	-25.5	1165 – 1283 AD	1039 – 1376 AD
8 - 4321	KST-3 (80-100)	770+/-70	-25.7	1215 – 1291 AD	1070 – 1385 AD
9 - 4319	KST-3 (100-120)	790+/-70	-26.6	1191 – 1284 AD	1042 – 1379 AD
KST-4					
10 - 4340	KST-4 (0-20)	710+/-70	-25.1	1262 – 1382 AD	1195 – 1401 AD
11 - 4343	KST-4 (40)	550+/-70	-26.2	1313 – 1435 AD	1292 – 1453 AD
12 - 4320	KST-4 (50)	660+/-70	-24.6	1282 – 1396 AD	1244 – 1418 AD
13 - LLNL	KST-4 (40-60)	1830+/-50		123 – 235 AD	67 – 291 AD*1
14 - 4341	KST-4 (60)	720+/-70	-26.8	1259 – 1379 AD	1191 – 1399 AD
15 - 4344	KST-4 (75-80)	790+/-70	-25.2	1191 – 1284 AD	1042 – 1379 AD
16 - 4345	KST-4 (100)	720+/-70	-24.7	1259 – 1379 AD	1191 – 1399 AD
KST-5					
17 - 4346	KST-5(0-20)	810+/-70	-25.4	1163 – 1281 AD	1037 – 1298 AD
18 - 4347	KST-5(40-60)	850+/-70	-25.5	1061 – 1263 AD	1022 – 1288 AD
19 - 4348	KST-5(60-80)	840+/-70	-25.5	1070 – 1274 AD	1024 – 1291 AD
Tora Sira Tomo					
TST 1					
20 - 4349	TST-1(50)	2360+/-70	-26.7	501 – 386 BC	761 – 212 BC
TST 3					
21 - 3927	TST-3 E (20-40)	460+/- 70	-22.5	1412 – 1477 AD	1326 – 1631 AD
22 - 3931	TST-3 E (80-100)	780+/- 70	-26.4	1211 – 1287 AD	1059 – 1382 AD
23 - 3928	TST-3 E(120-140)	710+/- 70	-25.8	1262 – 1382 AD	1195 – 1401 AD
24 - 4586	TST-3 W(20-40)	790+/- 70	-24.8	1191 – 1284 AD	1042 – 1379 AD
25 - LLNL	TST-3 W(20-40)	740+/- 40	-	1212 – 1300 AD	1220 – 1380 AD*2
26 - 4587	TST-3 W(40-60)	740+/- 70	-24.6	1223 – 1298 AD	1163 – 1393 AD
27 - 4588	TST-3 W(60-80)	880+/- 70	-25.5	1037 – 1241 AD	1018 – 1281 AD
29 - 4585	TST-3 W(100)	960+/- 70	-25.4	1003 – 1162 AD	904 – 1222 AD
30 - 4590	TST-3 W(120)	980+/- 70	-24.9	997 – 1158 AD	899 – 1216 AD
TST 4					
31 - 4591	TST-4 (30)	570+/- 70	-25.7	1302 – 1426 AD	1286 – 1445 AD
TST 5					
32 - 4350	TST-5 (20-40)	400+/-70	-24.8	1436 – 1627 AD	1408 – 1649 AD
33 - 4356	TST-5 (80)	440+/-70	-25.1	1420 – 1486 AD	1331 – 1637 AD
34 - 4357	TST-5(80-100)	560+/-70	-24.6	1304 – 1431 AD	1289 – 1449 AD
TST 6					
35 - 4358	TST-6 (40-60)	630+/-90	-24.7	1284 – 1409 AD	1223 – 1441 AD
36 - 4361	TST-6 (80-100)	770+/-70	-24.9	1215 – 1291 AD	1070 – 1385 AD
37 - 4360	TST-6(100-120)	820+/-70	-25.4	1161 – 1279 AD	1033 – 1296 AD
38 - 4359	TST-6(120-140)	950+/-70	-25.6	1018 – 1183 AD	978 – 1243 AD
39 - 4362	TST-6(140-160)	960+/-70	-24.2	1003 – 1162 AD	904 – 1222 AD
TST 9					
40 - 4593	TST-9 SE (40)	330+/- 70	-25.8	1467 – 1649 AD	1436 – 1945 AD
TST 10					
41 - 4595	TST-10 (20-40)	700+/- 70	-25.2	1268 – 1385 AD	1214 – 1404 AD
TST 12					
42 - 4596	TST-12 (40)	720+/- 70	-25.7	1259 – 1379 AD	1191 -1399 AD

43 - LLNL	TST-12(40-60)	570+/- 30		1280 – 1400 AD	1300 – 1430 AD*3
TST 13					
44 - 4592	TST-13 (00-20)	570+/- 70	-25.6	1302 – 1426 AD	1286 - 1445 AD
45 - 4594	TST-13 (20-40)	830+/- 70	-25.9	1160 – 1277 AD	1207 – 1294 AD
46 - 4597	TST-13 (60)	820+/- 70	-25.2	1161 – 1279 AD	1033 – 1296 AD
TST 14					
47 - 4598	TST-14(20-40)	870+/- 70	-25.5	1040 – 1256 AD	1019 – 1283 AD
48 - 4599	TST-14 (40-60)	670+/- 70	-25.7	1280 – 1393 AD	1223 – 1413 AD
TST 15					
49 - 4600	TST-15 (20)	660+/- 70	-24.4	1282 – 1396 AD	1244 – 1418 AD
50 - 4601	TST-15 (40)	820+/- 70	-25.9	1161 – 1279 AD	1033 – 1296 AD
TST 16					
51 - 4603	TST-16 (20)	980+/- 70	-25.1	997 – 1158 AD	899 – 1216 AD
52 - 4604	TST-16 (60)	670+/- 70	-25.8	1280 – 1393 AD	1223 – 1413 AD
TST 17					
53 - 4605	TST-17 (60)	650+/- 70	-26.1	1284 – 1398 AD	1258 – 1423 AD
Diekono					
DIE 1					
54 - 4295	DIE-1(100-120)	1380+/-70	-25.6	618 – 687 AD	541 – 777 AD
55 - 4296	DIE-1(130)	1430+/-70	-26	561 – 662 AD	440 – 759 AD
DIE 2					
56 - 4281	DIE-2(0-20)	940+/-70	-25	1020 – 1205 AD	981 – 1256 AD
57 - 4282	DIE-2 (20-40)	930+/-70	-24.9	1021 – 1209 AD	983 – 1260 AD
58 - 4283	DIE-2 (40-60)	960+/-70	-25.2	1003 – 1162 AD	904 – 1222 AD
59 - 4284	DIE-2 (60-80)	960+/-70	-26.1	1003 – 1162 AD	904 – 1222 AD
60 - 4293	DIE-2 (80-100)	950+/-70	-25.4	1018 – 1183 AD	978 – 1243 AD
61 - 4294	DIE-2(100-120)	1020+/-70	-25.5	979 – 1148 AD	889 – 1185 AD

Key: LLNL = Lawrence Livermore National Laboratory:

* Radiocarbon dates from iron objects processed by Dr. Andrea C. Cook at Lawrence Livermore National Laboratory, UC Berkeley.

*1 = from an iron ring

*2 = from a small iron spear

*3 = from a large iron spear

Mounds result from the piling up on the same spot of human occupation by-products. They include habitation features, craft installations, collapsed building material as well as discarded and abandoned material culture. They are therefore exclusively human-made and, depending on circumstances, can be either well preserved or significantly disturbed by erosion agencies. These formation processes that combine cultural (C-transforms) and natural (N-transforms) are well understood in general [2,3].

Habitation mounds dating from the Late Stone Age onwards are recorded in different parts of West Africa, from the Chad basin to Mali and Guinea [4-18]. They consist either of a single small or large mound or of multiple mounds (mound-cluster). It has been suggested that mound-clusters may have derived from residential segregation, inhabited by different specialized more or less endogamic groups such as blacksmiths, potters, hunters, fishing folks, bards, etc. [19,20]. Distinct mounds are thus axiomatically

considered to materialize residential segregation, and as such, are the signature of craft-specialization. The explanation is tautological. No excavation program was implemented to test the accuracy the hypothesis mentioned above. The testing procedure may have required an appropriate methodology, consisting at least of the probing of all the mounds part of the settlement complex under investigation, a precise and fine-grained chronology backing detailed analyses of material culture, architecture, and subsistence remains. It is then and only then that variation – or lack thereof – can be assigned to differences in social status. These principles have guided the field strategy implemented in the Mouhoun Bend Archaeological Project [21,22].

The Mouhoun River flows from the SW to NE, winds its course in a U-shape bend to follow a N-S direction (Figure 1). The study area located in the Sudano-sahelian zone is delimited in the north and northeast by the meandering river course. It measures 40km

East-West (3° 11' North / 3° 32' East) and 38km North-South (12° 30' / 12° 45' latitude North). The land, prone to cyclical droughts, is flat with elevation ranging from 294 to 249m above sea level. The vegetation is characteristically a highly anthropic wooded savanna, with the protected shea-butter tree (*Butyrospermum parkii*) largely predominant, followed by different kinds of *Acacia* sp.

The Study Area

Seventeen settlements with two to seventeen mounds (Tomo in local Marka language) each were recorded in an area measuring 20km east-west and 25km north-south (Figure 1). Kirikongo and

Tora-Sira-Tomo/Gnambakouon-Sira-Tomo (TST/GST) are located at 280 to 284m above sea level (asl). All the remaining settlements are found at elevation ranging from 280 to 260m asl. There is an intriguing concentration of mound-clusters around Douroula in the central part of the surveyed area. The density of settlement is surprisingly low in the river valley if one considers that the region is prone to cyclical droughts. River blindness has plagued the whole Mouhoun River basin during the colonial period, and probably before. This may explain the avoidance of the river shores for direct settlement. There is no single permanent village on the river banks today. Instead, there are seasonal fishing camps set by non-local fishermen.

Figure 1: Distribution of archaeological sites in the Mouhoun Bend (Burkina Faso).

Three mound-clusters located in different environments were selected for excavation: Diekono in the Mouhoun River flood-plain, Kerebe-Sira-Tomo (KST) on the cliff delimiting the river valley, and Tora-Sira-Tomo (TST) and its satellite Gnambakouon-Sira-Tomo (GST) on the topographic rise in the central part of the study area. Each of the above mentioned sites is comprised of a number of mounds of different size and shape, iron-working workshops, and laterite quarries.

The Dynamics of TST and KST Mound-clusters

The long-term pattern of growth of inhabited space within a mound cannot be assessed with the field methodology implemented in this case, with one test unit per mound. A general time line of the settlement complex formation can nonetheless be reconstructed.

TST settlement complex (12° 35' 07" N and 3° 22' 07" E) is located at 280m asl. With 17 distinct mounds, it is the largest

settlement complex of the study area, spread over 900m west-east and 500m north-south, some 45ha in total surface extent (Figure 2). TST-3, the largest mound stretched along the north edge measures 260m west-east, and 120m north-south. All 17 mounds were tested after three field seasons (1997, 1999, and 2000). Five,

TST-1 (Iron smelting), TST-2 (quarry), TST-4 (cloth weaving and dyeing workshop), TST-9 (cemetery), and TST-17 (oil production workshop), are special purpose sites. The fourteen remaining ones were standard habitation mounds with varying occupation intensity.

Figure 2: Tora-Sira-Tomo settlement complex.

KST settlement complex is located on the cliff top along the edge of the Mouhoun River valley (Figure 3). The complex consists of eleven more or less distinct mounds stretched on 350m west-east and 600m north-south. The cluster is made of three distinct sites categories: a quarry (KST-2) located at some 800m east, iron-working stations both smelting and forging, and habitation mounds. Habitations mounds, clustered in the north, resulted in the formation of a large 15ha village site. All iron-working stations, arranged along a roughly ENE-WSW axis, are concentrated at 100

to 200m along the south flank of the main habitation cluster. KST settlement complex was inhabited from the second half of the first millennium BC to the second half of the thirteenth-century AD, with an important 500 years occupation hiatus in the second half of the 1st millennium AD. The development of TST and KST settlement complexes can be arranged in four successive phases, from the middle of the first millennium BC to the middle of the second millennium AD.

Figure 3: The evolution of TST settlement complex.

Phase I (650 BC-800 AD)

At TST, the initial settlement phase (650 BC-800 AD) that started in the mid-1st millennium BC is documented at TST-1, TST-2, and TST-3-East (Figure 4, Table 2). The earliest occupations are found at

TST-1, an iron-smelting site dated to 650-395 BC (Figure 5), TST-2, the quarry site that provided raw material for house construction and iron production, and finally, the blacksmith workshop exposed at the bottom of TST-3-East probe.

Figure 4: View of TST-1 iron smelting furnace.

Figure 5: Differential mounds size in m2 during TST phase IV (1400 – 1650 CE).

Table 2: Tora-Sira-Tomo mound cluster at Phase I (650 BC – 800 AD).

Mound	Size (m ²)	Probe (m ²)	Deposit (m)	Number of Occupations	Nature
TST-1	255	65	0.30-1.50	2	Iron-smelting site
TST-2	1250	2	0.30-2.00	?	Quarry
TST-3	???	10.5	0.45	1	Forge

KST settlement complex phase I dated to 350 BC-150 AD was shorter. It is documented in the west-central part of the complex, in KST-1A and KST-2 the quarry site (Figure 6). KST complex grew in two directions during its phase II dated to 250 – 550 AD. KST-

1B and KST-3 areas were settled. The mound was of an irregular potato- shape, oriented SW-NE. KST-2, the quarry site, was relied upon for the supply of iron ore and construction material during the whole existence of the settlement complex

Figure 6: Kerebe-Sira-Tomo settlement complex.

Phase II (800 – 1100 AD)

TST Phase II (800-1100 CE) settlement with a total of 8 mounds, witnessed the foundation of 5 new sites. They were arranged in two sub-clusters of four sites each: TST-1, TST-2, TST-3, and TST-6 in the west, and TST-4, TST-12, TST-13, and TST-15 in the east (Figure 4, Table 3). The western sub-cluster consisted of two residential

mounds: TST-3 and TST-6, and two special purpose sites: TST-1 (iron-smelting and ritual) and TST-2 (quarry). The eastern sub-cluster includes TST-13 and TST-15 residential sites, and TST-4 (weaving and cloth dyeing workshop) and TST-12 (a blacksmith workshop) special purpose sites (Holl 2014). KST complex was abandoned during all the second half of the 1st millennium AD, from ca. 550 to 1000 AD.

Table 3: Tora-Sira-Tomo mound cluster in Phase II (800 – 1100 AD).

Mound	Size (m ²)	Probe(m ²)	Deposit (m)	Number of Occupations	Nature
TST-1	255	65	0.30-1.50	2	Iron-smelting site
TST-2	1,250	2	0.30-2.00	?	Quarry
TST-3	37,200	35	0.40-0.85	2	Residential
TST-4	345	72	0.8	2	Weaving/Cloth dyeing workshop
TST-6	1,500	9	2	2	Residential
TST-12	486	12	0.7	2	Blacksmith workshop
TST-13	1,963	33	0.7	3	Residential
TST-15	314	42	0.4	2	Residential

Phase III (1100 – 1400 AD)

TST settlement complex reached its maximum extent during phase III (1100-1400 AD) with the addition of 7 new sites. All 15 mounds (Figure 4 & 7, Table 4) were located in the space delineated during phase I and II. The new additions are set in two patterns. TST-5, TST-7, TST-8, and TST-10 present a rectilinear arrangement

of equidistant mounds at 100m from one to the next. TST-5, TST-7, and TST-8 residential mounds 'sits' on burials dug deep in the laterite crust in what may have been an earlier cemetery. TST-14, TST-16, and TST-17 are along the northeastern flank of the complex, at 100m from one to the next, in a linear east-west arrangement. TST-14 and TST-16, were residential and TST-17 a karité oil production workshop.

Table 4: Tora-Sira-Tomo mound cluster in Phase III (1100 – 1400 AD).

Mound	Size (m ²)	Probe (m ²)	Deposit (m)	Number of Occupations	Nature
TST-1	255	65	0.30-1.50	2	Ritual site
TST-2	1,250	2	0.30-2.00	?	Quarry site
TST-3	37,200	35	0.40-0.85	2	Residential site
TST-5	1,963	9	1.25	2	Burial and Residential
TST-4	345	72	0.8	2	Cloth dyeing workshop
TST-6	1,500	9	2	2	Residential site

TST-7	625	12	1.55	12	Burial and Residential
TST-8	706	9	1.25	9	Burial and Residential
TST-10	360	15	0.4	1	Residential site
TST-12	486	12	0.7	12	Blacksmith workshop
TST-13	1,963	33	0.7	2	Residential site
TST-14	1,400	12	0.6	1	Residential site
TST-15	314	42	0.4	-	Residential site
TST-16	300	12	0.6	2	Residential site
TST-17	520	12	0.6	1	Oil production workshop

Figure 7: The evolution of KST settlement complex.

KST complex also witnessed an accelerated growth during Phase III (1000-1250). KST-1A and 1B, KST-2 (quarry site), KST-3, KST-4 (occupation I and II), KST-5, and KST-6 (Figure 6) were all inhabited and in use. Fire destroyed habitation units from KST-3 occupation I and KST-4 occupation II (Figure 8 & 9), located along the southeast flank of the complex. There was also a significant intensification of iron-working, with the foundation of workshops devoted to iron-smelting, blow-pipes making, and blacksmithing along the south margins of the main village.

Phase IV (1400 -1650 AD)

TST settlement complex shrunk significantly during Phase IV (1400-1650 AD). The number of inhabited sites dropped from 15

to 9. The eastern part of the cluster was abandoned (Table 5, Figure 4). A new restricted access cemetery was founded at TST-9. TST-3, TST-4, TST-5, TST-6, TST-7, and TST-8, were residential. TST-1, TST-2, and TST-9, respectively iron-smelting site, quarry, and cemetery, were special purpose sites. In general, with the exception of TST-8 set between TST-4 and TST-7 (Figure 4), the distance between neighboring mounds oscillates around 100m.

An identical phenomenon occurred at KST. The inhabited space also shrunk considerably during KST phase IV (1250-1450 AD) (Figure 6). Shallow occupation evidence is documented at KST-4 occupation III and IV, then used as a cemetery.

Figure 8: Partial view of KST phase III domestic unit.

Figure 9: Habitation complexes from Phase III KST-4 .

Table 5: Tora-Sira-Tomo mound cluster in Phase IV (1400 – 1650 AD).

Mound	Size (m ²)	Probe (m ²)	Deposit (m)	Number of Occupations	Nature
TST-1	255	65	0.30-1.50	2	Ritual site
TST-2	1,250	2	0.30-2.00	?	Quarry site
TST-3	37,200	35	0.40-0.85	6	Residential site
TST-4	345	72	0.8	2	Cloth dyeing workshop
TST-5	1,963	9	1.25	2	Residential
TST-6	1,500	9	2	2	Residential site
TST-7	625	12	1.55	2	Burial and Residential
TST-8	706	9	1.25	2	Burial and Residential
TST-9	225	113	0.30 – 1.20	1	Cemetery

Variability of mounds clustering processes

Data collected from the excavation of four settlement complexes point to the existence of two main mound-clustering strategies: a tight and a loose one. KST settlement complex that lasted from ca. 350 BC to 1450 AD, with a half millennium occupation hiatus in the second half of the 1st millennium AD, features tight-clustering (Figure 7 & 8). All the residential sites, with the exception of KST-4, are tightly packed in a 15ha village. Iron-working sites located along the south periphery of the village display no habitation. Craft people and work crews were KST villagers who commuted to their workshops during the iron-production seasons.

TST-GST settlement complex with a total of 20 mounds features the loose-clustering strategy. The mound-sites, 17 for TST and 3 for GST are well demarcated, with each sub-set presenting a large dominant mound. Residential and special purpose sites are represented in varying combinations all along TST settlement complex occupation history.

Archaeological data indicate that flexible strategies were adopted by the different 'self-sustaining' autonomous ancient villages during the 2200 years' occupation of the Mouhoun bend. In KST, craft people resided in the village and commuted to their workshops located in the southern outskirts of the complex. In the TST alternative, with more or less inter-phase variations, craft people built their residence in distinct places and supplied local communities from their workshops. There is no fixed and permanent pattern of residential and occupational segregation in the analyzed archaeological record [21,22].

Peer-village interaction

The study area is relatively flat. The recorded settlement complexes are more or less evenly distributed in the landscape. In site-catchment analysis terms, each village is surrounded by rings of cultivated fields, fallow zones, and bush [23,24]. At their peak, during the first centuries of the 2nd millennium AD, each of the recorded settlement complex was a large autonomous and self-sustaining village. Some, like KST and Kirikongo, were compact villages with a few outlying mounds and special purpose sites. Others, as was the case for TST – GST and Diekono, were spread out with a multiplicity of distinct mounds.

There are no significant wealth differences. Grave-goods and burial offerings are too marginal to be significant. Some individuals, male, female, children, and infants, were nonetheless buried in "restricted access" cemeteries while others were buried in their compounds. This differential treatment points to subtle variations in social status without detectable and/or durable material correlates. The accelerated growth at the beginning of the 2nd millennium AD initiated a scramble for land, villages rivalry, violence, and wars.

Fire: accidents or wars?

Burnt houses were recorded in some of the excavated mounds. It is the case at TST-3-West in occupation I and II, dated to 1000-1150 AD. Domestic installations belonging to two successive occupations were totally burnt down. KST complex also present two instances of burnt domestic installations dated to 1050 – 1380 AD: one at KST-3 occupation I and the other at KST-4 occupation II. In the latter case, a whole household complex with its food supply was destroyed by fire (Figure 9). Similar cases of burnt installations dated to 1300-1450 AD were recorded at Kirikongo, Mound III, level 8 and Mound IV, level 7 [8]. These events took place during a period of accelerated growth that triggered violent confrontations.

War, Violence and surgery

There is no direct one to one correlation but the unrest indicated by burnt houses is partly corroborated by traumatic injuries found on some of the deceased. Two male and female adult individuals buried in the same context at TST-7 appears to have been victims of the same violent encounter. One, a 35-50 years old adult female presents 4 well healed cranial fractures on the occipital, frontal, and left parietal. The other, an impressive 1.95m tall 45+ years old male presents two distinct episodes of trauma. He recovered from previous blows indicated by a well healed circular defect on the occipital. He has multiple trephinations with no signs of healing on the right, left parietals and frontal, showing that the second series of blows was fatal. Remarkably, both adults present similar blows patterns: they were hit on the frontal, occipital, left and right parietals, as if the aggressors were well trained fighters [25-27]. The surgery may have taken place after a violent raid. Finally, a 9-11 years old pre-adolescent, individual 18 from phase IV TST-9 cemetery, presents multiple peri-mortem depressed cranial features made by a sharp object, that was very likely the cause of death [26].

The recorded evidence on traumatic injuries is dated to phase III (1000-1200 AD) and IV (1250-1500 AD) when the area witnessed a significant growth acceleration followed by the onset of devolution. There are convincing evidence of conflict and inter-village warfare during the first half of the second millennium AD. The nature and characteristics of the kind of warfare that may have developed in the area during this phase of accelerated growth are difficult to decipher. The tactics involved may have consisted of surprise raiding and counter-raiding with the aim of seizing supplies and host [27-37].

Conclusion

Each village had its autonomous system of government, with horizontally differentiated groups. These mixed farming communities included a number of craft specialists, potters, iron-smelters and blacksmiths, masons, cloths weavers and dyers,

karite-oil producers, as well as part-time warriors, and healers (surgeons). The Mouhoun Bend peer-villages were autonomous and self-sustaining but not autarkic. A general compatibility of "worldviews" is suggested by the strong coherence of mortuary practices. Despite variations, pottery decoration techniques and syntax suggest a shared cultural universe. The mound-dwellers of the Mouhoun Bend developed an original socio-political system that, for approximately two centuries, from 1200 to 1400 AD, existed on the periphery of the powerful expansionist Mali Empire.

Acknowledgments

The Mouhoun Bend Archaeological Project (Burkina Faso 1997-2000) was funded by a CNRS grant in 1997, a National Geographic Society Research Grant # 6378-98 in 1998, and a Faculty Start-up Fund from the University of California, San Diego in 2000. The author is grateful of the support of these institutions and also wish to thank the CNRS – Centre National de la Recherche Scientifique et Technique – for the research permit and the Archaeology Laboratory of Ouagadougou University for logistical support. Students from the University of Paris X Nanterre, the University of Ouagadougou, and the University of California, San Diego participated with enthusiasm to the field programs.

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DOI: [10.32474/JAAS.2019.01.000101](https://doi.org/10.32474/JAAS.2019.01.000101)

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