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Histories of the Subaltern from the Kgalagadi's Fringe, Botswana

Author
Cohen, David Reed

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Histories of the Subaltern from the Kgalagadi's Fringe, Botswana

by

David Reed Cohen

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Committee in charge:

Professor Margaret W. Conkey, Chair

Professor Kent Lightfoot

Professor Nancy Peluso

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Abstract

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This dissertation research addresses the cultural dynamics of contact and the changing social landscapes between 'San-speaking' foragers and ancestral 'Bakgalagadi' farmers who lived in the Metsemothlaba River valley of southeastern Botswana on the fringe of the Kgalagadi Desert, c. 500-200 years ago. Using a practice approach to examine the material remains of their daily lives, this research demonstrates the everyday dynamic of contact as well as the wider social and economic connections both groups developed and maintained over time.

Archaeological materials analyzed in this research are faunal remains, ceramics, ostrich eggshell beads, glass beads, metal jewelry and tools, and stone tools. Together, these evidence the nature and degree of contact between the foragers who lived at AK47 shelter and farmers who lived at Botlhano Fela, located in close proximity to each other on Thamaga Hill, and their connections to the global trade networks flourishing in southern Africa before the arrival of Europeans to the area.

This research explores the persistence of identities via their material culture to demonstrate that equations of particular types of artifacts to specific groups obscures the realities and practicalities of their daily lives. With material signatures of interaction between different groups, this research looks at how these new materials may have functioned within the object world of the foragers by their acquisition and use, as well as how these good may have allowed the negotiation of new or affirmation of old identities.

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To Emily. Thank you for your patience, support, and understanding.

To Asher. Thanks for the motivation, distraction, and humor.

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Sitting in the light of the setting sun just above the beach, listening to the gentile surf and calls of sea birds, feeling the fresh ocean breeze on my skin, and looking out into the vast expanse of the Atlantic Ocean as weathered fisherman in small colorful wooden boats motor by on their way to check their crayfish traps after the day's soak makes me think about how I ended up in such a beautiful place. I am in Paternoster, a small fishing village filled with little whitewashed fisherman's cottages on the west coast of South Africa. Tomorrow I fly home to my wife and the excitement of our soon-to-be-born child.

I have been privileged to conduct my dissertation research in Botswana and experience the rich cultures, histories, and landscapes of southern Africa. While the research is my own doing, for better or worse, it would not have been possible without the help of many people and organizations.

First, I would like to express my deepest thanks to my wife, Emily, who has stood by me though the long process of graduate school as I am finding my way in archaeology. For editing my papers and grant proposals when she has no idea what they are about. And finally, for putting up with me being so far away so many times for so long. You were always in my thoughts.

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Prologue

> [M]asses of numerical data and sharp analytical tools are not in themselves enough…This, in its turn, requires changes in personal and professional values. We cannot retreat into abstract analysis and ethical neutrality. The real world requires involvement in social change, for we are among the 'actors' ourselves. As part of the problem, we must participate in the solution (Smith 1976: 84).

July 2003

I arrived on a Monday morning at the guard post of the Botswana National Museum for a meeting and for a moment, my body shuddered as my sense memory recalled the last time I had been there, freezing all night and worrying that I would miss my bus to Pretoria at 5 AM. I had been at the museum almost a year before, spending a night in a small, storage-box-filled room with a single bed and a non-functioning kitchen. At one time it had been a small apartment for visiting researchers to stay while they were working at the museum, but that time seemed to be long gone.

This visit was going to be the beginning of my dissertation field research, and I had a meeting scheduled with the head of the archaeology unit. I applied for a research permit 7 months earlier from the Office of the President of Botswana to conduct an archaeological survey that involved a few test excavations, but I had not received any word about it. Philip Segadika, the head of the archaeology unit at the museum told me to come to the country anyway and he would sort it out. The year prior, I had made the three-day trip from California to Botswana in order to help with excavations happening at the Iron Age site of Bosutswe in the Central District being conducted by Dr. James Denbow from the University of Texas, Austin.

During those seven weeks, I met archaeologists from the Botswana National Museum and their driver who loved to sing as loud as possible, undergraduate students from the University of Botswana (UB), a graduate student from UT-Austin, people living and working at rural cattle posts, a guy named C-4 who talked about how much he loved donkey meat and had a house built out of an archaeological midden, a retired officer from the Botswana Police, I learned some words in the local San dialect, learned some Setswana, unintentionally scared a kid who had never seen a white person before and was terrified that I was a ghost, almost hit an enormous antbear running across the road at night, helped brew traditional sorghum beer in a 50-gallon metal drum, collected porcupine quills, bought cool drinks from a local Member of Parliament, had Larium-fueled hallucinations, saw a group of San-speakers dance at a rural shebeen, participated in the all night ancestral healing ceremony of an independent Christian church with their dream-interpreting leader, and rode squeezed into the backseat of a compact car with three other people for 6 hours listening to UB40's song "Red Red Wine" at least 20 times. My eyes were opened wider to doing my fieldwork in Botswana.

I told the museum guard that I had a meeting with Philip Segadika. He consulted his phone directory, called the number and waited. No answer. Glancing down he looked for another number and called it. Success? Speaking in Setewana, at the time incomprehensible to me, he had a brief exchange with the person on the other end. "What is your name?" he said it me. "David Cohen," I replied. Their conversation continued and he hung up. "Mr. Mokobe is expecting you in his office," he said, and pointed down one of the corridors. I thanked him, not having any idea who Mr. Mokobe was, and headed toward the area where I remembered the archaeology unit offices being: down the walkway, past the museum trucks and art gallery, up the ramp, through the doors, down the hallway. When I was just outside the office block, Victor Mokobe stepped out. "Mr. Cohen," he called to me. Victor remains one of the nicest people I met in Botswana.

Inside Victor's office, my fieldwork officially began. "Would you like some coffee?" Victor asked. "Yes, thank you," I said, not wanting to be impolite. The electric kettle had just boiled, and while Victor was spooning heaps of Nescafé instant coffee into two cups he informed me that Philip was away at the Tsodillo Hills, but that he had been made aware that I was coming to the museum today and was expecting me. "So, what can I do for you?" he asked. I explained to him that I had applied for a research permit but had not heard anything further from the Office of the President. "Let's see what we can find out" he said, removing a telephone book from his desk drawer and locating the phone number for the Office of the President. He called. They had no idea. He called someone else. They said that they would call right back. We waited and talked. They did not call.

Winter weather in Gaborone can be a bit chilly at times, but to people accustomed to living there it can be freezing. This is why, during my time in Victor's office the heat was turned on as high and as hot as it would go, and I was sweating as I drank my hot Nescafé.

Victor called another office. No luck. "Well," he said, "I think that we'll just have to wait until Philip comes back after the holiday to see what to do." I told him that I understood, thanked him for his help, and stepped out of his office into the refreshing cold air hoping that fate had something good in store for me.

I called O'boy Kalanke, a UB undergrad and friend who was going to help me with my fieldwork to let him know that we could not start for at least a week. He suggested we drive to where we were last winter, near Botstswe, to meet up with Thato Masarwa, another friend who was there working on ethnographic research for his UB honours thesis, for the four-day holiday (President's Day) weekend. I was very interested in this suggestion since it would allow me to attend the *Phekolo* ancestral healing ceremony again because Thato was interviewing people there about archaeological heritage and management. Thato was keen on the idea because his tape recorder had broken and wanted to borrow mine.

After a long weekend of sleeping on the floor of a hut at Kaiser's cattle post, eating *mokoto* and *seswaa*, and being a special guest at the *Phekolo* where I was asked to take photos of the ceremony and was well-fed because I loaned the elders there my camp chairs the day before, I arrived back in Gaborone at the museum to meet with Philip. "Mr. Mokobe told me about your meeting," he said. "I think that the best thing that we can do for you now is to let you begin your project, but you will not be able to export any artifacts since there is no permit." That was fine with me.

Equipped with a Toyota Hilux 4x4, my friends and research assistants (O'boy and Lawrence Masoga), a handheld GPS, and a set of topographic maps of southeastern Botswana, I began, eventually realizing that my research was going to be as much about the people I met and my personal experiences as it was about the data.

1. THE COLONIZATION OF BOTSWANA BY HUMANS AND ACADEMICS

About 1500 years ago, on the fringe of the Kgalagadi Desert in present-day Botswana, the way of life for foragers living there began to change as they came into increasingly frequent contact with migrant Bantu-speaking farmers. In a short period of time significant demographic, social, economic, and political changes began to shape the human dynamic, eventually allowing for the development of a modern political state as well as set in place social and demographic situations that form the basis of major issues within the country today.

Despite the successful multi-ethnic multi-party democracy Botswana has become, acknowledgement of its storied past and the importance of diversity in its development has been pushed aside for a nationalistic rhetoric that erases difference. Unfortunately, this comes at the expense of politically, economically, and geographically marginalized peoples. Further marginalization has occurred with the dominant Bantu-speaking groups erasing and controlling knowledge about past social and economic injustices they have done instead of acknowledging how these events and participation by many different groups contributed to the success the country is today. My research brings out these shared histories to tell a more colored story of the past in places where current understandings deny these groups their histories.

The Republic of Botswana was established as an independent democratic state in 1966 with the British acceptance of the proposal for self-rule and the first general election. Prior to this, the region was politically and geographically bounded in 1885 as the British Protectorate of Bechuanaland. Despite the British government seeing no economic value in the area, their involvement was a result of good relations between some of the larger tribes in the area and the British, as well as the desire to have more land holdings and prevent the increasing encroachment of Boers from the Transvaal (now part of present-day South Africa) into new areas.

Botswana is a place where many minority voices exist, and when they can, they make themselves heard. The increasing awareness for the necessity of multivocality in our interpretations as archaeologists (Colwell-Chanthaphonh and Ferguson 2006; Lewis 2001; Tringham 1991) is made very apparent when voices alternative to Western academic discourse (Schmidt 1995; Watkins 2005; Wylie 1995) are not being incorporated. This can be seen as a form of 'epistemic injustice'

(Fricker 2003, 2006a; McConkey 2004) in modern discourse where it is very apparent that all knowledge is situated (cf. Haraway 1991). My research strives for the incorporation of all possible available voices, especially those of disenfranchised groups who often do not have a voice to challenge dominant conceptions of their past (Scham 2001).

Anthropological research into southern Africa's past has been plagued by 'epistemic injustice', where social identity and relations of power have allowed for disproportionate group access to the means and ability to create knowledge (and history) (Hall 1995, 2005). In some cases where anthropologists have addressed issues of identity we have been involved, knowingly and unknowingly, in the reinforcement of dominant ideologies, categories and stereotypes. In reference to work that has been conducted in Botswana and the 'Kalahari Debate', Andrew Reid pointed out that "[t]he Kalahari is surely an outstanding case study whereby Western academic traditions have failed to intertwine their research initiatives with the needs of indigenous populations. The past in the Kalahari must be a rich weave of different hunter-gatherer, herder, and farmer populations in the different niches of the Kalahari and the different political systems that have extended their influence across the sands" (Reid 2005: 371).

With a greater understanding of how academic research affects people's lives I make a point to not forget my responsibilities to local communities and my subjects of study.

2. GOALS AND MEANS

2.1 POLITICS OF THE PAST AND SOCIAL JUSTICE

Critical engagement by archaeologists has revealed the potential power of our epistemological output, positive and negative. Understandings of how archaeological practice and interpretations, via the ethnography of archaeology, are in no way outside of politics has created the necessity for us to be more aware of and engaged in the trajectories of the knowledge we create. Archaeology has created its subjects to serve its own means, and my research is an explicit attempt toward means of bringing about epistemic justice. This research examines anthropological practice in southern Africa and suggests ways we can become more critically engaged in our writing of the past through interfaces with social justice, politics, and transparency.

2.1.1 Epistemic injustice and research of value

Philosophical ideas applied to my research are borne out of the initial conceptions of Jane McConkey (2004) and later, those expanded upon by Miranda Fricker (2003, 2006a, 2006b) that address epistemology and justice, exposing a politics of epistemic practice and via a "theoretical framework conducive to revealing the ethical and political aspects of our epistemic conduct" (Fricker 2006b:1).

Fricker's concept of *hermeneutical injustice*, a form of *epistemic injustice*, is best applied within the contexts of knowledge creation in Botswana as well as within the academic arenas of Africanist anthropologists working in the area. Minority groups in Botswana have been *hermenutically marginalized*, that is to say that through their historically subordinate role within the Tswana-dominated society, they have been excluded from writing their histories into the socially accepted narrative of being a 'Batswana'. This falls within Fricker's notion of what constitutes *hermeneutical injustice*: "the injustice of having some significant area of one's social experience obscured from collective understanding owing to hermeneutical marginalization" (2006a:102).

These ideas are also valuable when applied to archaeological practice in southern Africa with our desire to categorize people and associate them with particular groups of artifacts and lifeways. Such practices, addressed in this research, have denied the power of people to construct their own material and social worlds, and in the minds of dominant socio-political groups these assigned identities and the living ancestors of these people are often associated with a static, primitive past. Fricker terms this *identity power*: "a form of social power which is directly dependent upon shared social-imaginative conceptions of the social identities of those implicated in the particular operation of power" (Fricker 2006b:2).

> "The primary harm of hermeneutical injustice is to be understood not only in terms of the subject's being unfairly disadvantaged by some collective hermeneutical lacuna, but also in terms of the very construction of social identity. In certain social contexts, hermeneutical injustice can mean that someone is socially constituted as, and perhaps caused to be, something they are not, and which it is against their interests to be seen to be. Thus we can say, without essentializing, that they are prevented from becoming who they really are" (Fricker 2006a:107).

My research attempts, through Marxist praxis, to "generate knowledge about the past, use this knowledge to engage in a critique of our world, and come to action based on the realization that there is real oppression in the world that muse be challenged" (McGuire *et al.* 2005:355).

2.1.2 Indigenous, Impoverished, and Disenfranchised

Within the context of this research in Botswana, the debated ideas surrounding the concept of 'indigeneity' in southern Africa and other parts of the world inform the nature of my discussions. Additionally, how the past is used by (indigenous) groups, such as with 'strategic essientialism' (cf. Conklin 1997), to anchor their roots back in time for political and social reasons weigh on my interpretations and outcomes. Speaking about groups in Canada and southern Africa and alluding to the roles that anthropologists and others have played in creating the past, Richard Lee (2006) discusses how "people themselves self-identify as 'indigenous' by employing a complex amalgam of their articulated histories (backed by scholarly evidence) and an emerging capacity for self-promotion" (471). From a different view, Adam Kuper (2003) argues that *indigenous* is a meaningless category and that being indigenous is not defined by a primordial ethnicity but rather by poverty and marginality. Could this be the case for Botswana as it is in other affluent countries like the US, Canada, and Australia, where groups referred to as 'indigenous' rely heavily on welfare?

Lee (2006) wonders if "by focusing more on the social construction of current indigenous realities have anthropologists neglected indigenous peoples' still precarious position in the political economy and class politics of their respective nation-states?" (468). While engaging with the debates over indigeneity in southern Africa, my research interfaces in a different way. One that acknowledges the academic debates and difficulties in definition while seeking to provide value to these groups through critically informed knowledge and an understanding of the political discourse where these ideas play out.

2.1.3 Political action

> [K]knowledge is trivial if it is not linked to a critique of the world. Knowledge gains relevance from how it informs, challenges, or reinforces contemporary ways of thinking and doing. Critique also requires that scholars self-examine their role in the world, and how their scholarship challenges or reinforces the inequalities in society. Action in the absence of self-critique leads to self-delusion (McGuire *et al* 2005:356)

Politics of the past plays an undeniable role in my research, but attempts are made as well at political action. My research is grounded in a Marxist approach and is an attempt at praxis. Praxis is a theoretically informed action that refers to the "uniquely human ability to knowingly and creatively make change in the world," and "implies a dialectical relationship between gaining knowledge of the world, critiquing the world, and taking action in the world" (McGuire *et al.* 2005:356). As I tell the stories of the people who made their world in the past, I attempt to empower them in the present. An engagement in praxis is the way Marxism is relevant to archaeology, and that as a social theory, Marxism is committed to creating change in the world (McGuire 2008).

Botswana has a recent record of silencing its critics on a number of issues, and most recently the treatment of San peoples. In addition, non-citizens are expressly forbidden by the country's constitution in engaging in any sort of political activity within the country. In 2006, a professor at the University of Botswana, Kenneth Good, was permanently expelled from the country for his criticism of the political status quo and power relations there (Good 1993, 1999, 2003). Marxism is inherently subversive and political, and my application of this approach is necessarily within these constructs.

2.2 KNOWLEDGE AS A PRODUCT OF SELF

To achieve my intended goals with this research, I have made a conscious effort to include two related aspects into this dissertation: use of narrative and examination of knowledge production. Through the praxis of my research and a recognition of the historicity of myself, I understand the necessity to reveal my relationship and motivations about my subjects.

2.2.1 Narrative: reflexivity and transparency

> "[W]e must recognize and take account of our own position, as well as that of our research participants, and write this into our research practice" (McDowell 1992: 409)

Having not been living in Botswana to conduct my fieldwork when I did and not knowing the people I interacted with on a daily basis, I do not believe that my archaeological conclusions in this dissertation would have been as valid or as valuable. My experiences in the present have highly influenced my interpretation of the past and my desire to connect the two. Thus my empathy for the struggles (known and unknown to them) of marginalized minority groups in Botswana has placed me in a position to make what I have been doing with their histories valuable beyond academic discourse.

I agree with Twyman *et al.* (1999) that my research can "only be understood with recourse to the biography of the researcher…and the contextualization of the research process (314)" because of my background, personal philosophies and motivations. Being reflexive in the writing of my research is a move toward transparency in the multiple ways that my social identity intersects with the research process.

During his research in Morocco, Paul Rabinow's ([1977] 2007) personal narrative showed anthropological fieldwork as an ethical, unfolding lived experience. To this, Pierre Bordieu remarked that it is necessary to approach the modern world "through sociologically mediated understanding of how knowledge was produced. Otherwise, the naïve illusion that thinking was unsituated, removed from power relations and structured social relations of domination, would only continue to produce illusion and ideology (Rabinow 2007: xiv)."

I will discuss how the positions taken by myself or imposed by others have played a role in my research outcomes and knowledge I have produced. This is tempered with my constant questioning of my reflexive positionality as an 'expert' researcher and the impossibility of achieving a fully transparent reflexivity to situate knowledge (Rose 1997; Cupples and Kindon 2003).

2.3 KNOWLEDGE PRODUCTION

A cornerstone of feminist thought in epistemology and the philosophy of science is the idea of a socially situated subject, a tenant that I apply to this research as I critique the ways that archaeological knowledge is produced in

Botswana and greater southern Africa. Donna Haraway's idea of 'situated knowledge' (1991) shows that while we cannot know everything, the knowledge that we produce comes from a specific place that is bounded by personal limitations. Miranda Fricker (2008) calls this a 'situated social conception' and "conceives epistemic subjects and their interactions as situated in a context of social identity and power" (29).

My research comes from a desire to interface with social justice and to play some role in making change. What I hope to achieve with this dissertation will, in the end, be judged by the reaction it may bring about.

3. RESEARCH METHODS

To achieve the goals of my research, I use four important classes of data that form the bulk of this dissertation: archaeology, ethnography, ethnohistory, and oral traditions. Discussed in Chapters 3 and 4, the Berkeley-Botswana Archaeological Project (BBAP), directed by myself, involved conducting landscape surveys and site-based archaeological excavations. Locations were selected based on specific criteria, and excavations focused on retrieving qualitative and quantitative information to answer a specific set of questions related to contact between different groups in the past.

The use of ethnography in the archaeology of southern Africa is a common practice, especially when interpreting archaeological assemblages supposedly belonging to foragers. I use these ethnographies to aid in imagining possibilities for interpretation, but do not uncritically apply them ad hoc since ethnographic information is nuanced and contextual. The same applies for ethnohistoric accounts written by missionaries, travelers, and colonial administrators in the area. These valuable resources often stretch written observations further back in time than ethnographies, but rarely provide the same level of detail and are not without judgments and interpretations viewed from a Western eye.

Lastly, oral traditions recorded by myself and Gary Okihiro (1976, 2000) provide another source of documentation and chronicle of time essential to this research. These narratives trace aspects of peoples' lives filtered by relative ideas of culture and status, and are a valuable piece to telling the story of the past.

Chapter 1: Building on intertwined histories of foragers and farmers

1. INTRODUCTION

'Bechuanaland' and 'Botswana' literally translate to the 'Place of the Tswana'[1], indicating that this is the land of the eight 'Tswana' tribes of Bantu-speaking people in the country today. Despite this giving the impression that these groups were always there, archaeology has shown that Bantu-speaking farming groups began migrating to the northern and eastern fringe of the Kgalagadi Desert[2] about 1500 years ago in small numbers, then with increasing frequency caused by building demographic pressures to expand outward for new land as populations increased and groups splintered off. When these groups expanded along the northern and eastern fringes of the Kgalagadi, everywhere they went they encountered forager and pastoralist groups who are seen today as the ancestors to peoples referred to by collective terms such as 'San', 'Bushmen', 'Khoi', and 'Basarwa'[3]. The contemporary ancestors of the early migrant farming groups are now referred to as 'Bakgalagadi'[4].

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[1] The term 'Tswana' is commonly used to describe the collective identity of the majority 'black' Bantu-speaking peoples in Botswana ('land of the Tswana'). Thus, in this paper, I use the term to represent the dominant hegemony within Botswana. It should be noted, however, that this term encompasses many different groups with their own unique histories: bakgatla, baKwena, baMalete, bamaNgwato, baNgwaketse, baRolong, baTawana, and baTlokwa. In referencing the past, I use the term 'ancestral Tswana' or 'Tswana' when referring to the collective group in the recent past, but often forego the specificity and simply use the terms 'farmer' and 'forager'.

[2] I use the term 'Kgalagadi Desert' as is reflects the antiquity of the name better that the English modification to 'Kalahari'. 'Kgalagadi' is the name in Bantu-dialects, and I am unaware of a encompassing term for it used by its earlier inhabitants.

[3] The utility of terms to identify collectives of people is much debated. Currently most of the approximately 120,000 people who self-identify as 'San' prefer to be called by group names like G|ui, Hai||om, Ju|hoansi, ?Khomani, Khwe, !Kung, Naro, and Xun; and as 'Bushman', 'San', 'San-speakers' or 'Red People' when referred to as a collective (Hitchcock and Biesele 2000). I use the term 'San-speakers' in this dissertation in reference to contemporary peoples when no specific group is being discussed. When referencing the past, I use the term 'ancestral San-speakers' or 'ancestral to San-speakers' to refer to foraging groups. In Botswana, the term 'Basarwa' is officially used to reference these peoples, and is very much a pejorative term that I only use in quotes by others.

[4] 'Bakgalagadi' are a non-Tswana collective group for who speak a Bantu language similar to Setswana and are generally considered to have been among the first Bantu-speaking populations that migrated into Botswana. This group designation was placed upon them by the 'Tswana' groups that forced them into subservient positions, and one informant told me that 'Bakgalagadi' only means 'they came from far away'. Today, the term is used by people as a collective identity for themselves, as well as a pejorative term. The peoples that make

Oral traditions and some later ethnohistoric accounts have described situations where these small 'Bakgalagadi' groups often had good relationships with the various 'San' groups they encountered. This, however, does not cover all the ways group contact manifested over time, and this issue has become a contentious, polarized, heavily critiqued argument between anthropologists working in the area[5]. Arguments have ranged from complete encapsulation of foragers by farmers resulting in forced economic and labor obligations, to ideas that these groups lived separate lives with little impact on one another. While the truth very likely lies in between, these arguments that have dominated the anthropological research in the region and are bases that can be built upon, but do not have the ability to serve as models with which to apply ad hoc to all past contact situations between foragers and farmers in the area.

This research takes place within the temporal sequence of cultural divisions established by archaeologists working in southern Africa and falls within two sequences, the Stone Age and the Iron Age. The Later Stone Age (LSA) period began 20/30,000 years ago (after the transition from the Middle Stone Age) and since it refers to the material culture of foragers, the terminology is generally used through the period of the arrival of Bantu-speaking farmers and up to the 'historic' period of European colonization. The Iron Age, is similarly divided, and in this research the concern is with the Middle Iron Age (AD 900-1300) and the Late Iron Age periods (AD 1300 onward) that ended sometime in the 'historic' period as well. Compared to the Iron Age, the Later Stone Age in Botswana is poorly understood, with the concentration of research on this temporal period having taken place only in northwestern Botswana and mainly in rockshelter deposits.

Early Bantu-speaking farming and herding groups in the area are associated with the development and connections to larger population centers, referred to as 'kingdoms' or 'chiefdoms', that were active between ~800 AD and 1800 AD. The large human migrations to these centers, located in what is now southern Zimbabwe, northeastern Botswana, and the confluence of the Shase and Limpopo rivers at the borders of Botswana, Zimbabwe, and South Africa, did not result in significant increases in the population of Bantu groups around the southern Kgalagadi Desert, but rather connected them and the forager population to larger social and economic networks that extended to the east African coast and the Omani Arab and Portuguese Indian Ocean trade networks. When these densely populated centers began to break apart, these groups necessarily expanded into less populated areas in search of grazing land for livestock and arable land for farming. It is likely that at this point in time, these larger, more organized colonizing 'Tswana' groups began the subjugation process of 'San-speakers' and 'Bakgalagadi' peoples living around the fringe of the Kgalagadi Desert, pushing

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up this collective are generally: baKgwateng, baBolaongwe, baNgologa, baPhaleng and baShaga.

[5] This has been given the name the 'Kalahari Debate' and is discussed in more detail in Chapter 2.

them deeper into the desert and setting up the final phase of the patterns of interaction documented by Europeans.

With the advent of European colonial expansion into this region, numerous ethnohistoric accounts by explorers and missionaries, mention interaction between the various groups around the Kgalagadi. These accounts, along with oral traditions, collectively show the significant effect of the last major population movement in the area, the *difaqane* (Sotho-Tswana for 'the scattering'). The *difaqane* (AD 1815-1840) was a period of massive population shifts in the region due to Shaka Zulu's (leader of the Zulu kingdom) violent conquest to expand into far reaching lands forcing groups to flee from conflict. This period represents the largest, and most significant population shift into the southern Kgalagadi Desert area and was the final push of the 'Tswana' that began the development of the present state of social, political and economic discourse in Botswana today.

2. FRAMING MY RESEARCH IN ANTHROPOLOGICAL APPROACHES

Briefly, I want to mention the basic constructs of the academic community of practice which I have been working with and within during this research, and what I build and draw upon. Foundational to much of the early archaeological research that began being conducted in Botswana during the 1970s were earlier ethnographic studies. These works, combined with numerous ethnohistoric accounts, have been much-used by archaeologists in interpreting the remains of material culture of the diverse array of foraging, herding, and farming groups in southern Africa (mainly Namibia, Botswana, and South Africa).

Alan Barnard nicely summarizes the development of what has been termed 'Bushman studies' in the Kalahari in his recent book *Anthropology and the Bushmen* (2007). Out of this research focus in southern Africa, I want to mention both the traditions of ethnography and the development of scientific archaeology as they relate to my research. Some of the more prominent historical ethnographies on the peoples of the region, especially in southeastern Botswana, were written by Isaac Schapera (1930, 1953, 1963).

2.1 ETNOGRAPHY AND SOCIAL ANTHROPOLOGY

"Sakkie" Schapera, the son of Jewish immigrants to South Africa who grew up in Little Namaqualand among Nama-speaking people, was an undergraduate student of A.R. Radcliffe-Browne at the University of Cape Town where he began his training as an anthropologist and ethnographer. Radcliffe-Browne suggested that he go to graduate school for a PhD with Robert Lowie at the University of California-Berkeley, but instead he went to the London School of Economics to work with Bronislaw Malinowski. Schapera's ethnographic style from the 1930s onward "emphasize[d] social action and social structure, and history too, both over race and over an abstract notion of culture" (Barnard 2007:44). He wrote realist ethnographies, honestly laying out the contemporary lives of the people he was studying, including all the undesirable points at the time in anthropological fieldwork such as people wearing western clothes, attending church, etc., very different from anthropologists like Malinowski who were disguising the modern influences on the people they studied (eg. Malinowski 1922, epilogue of 1935). Gluckman[6], a former student of Schapera, (1975) noted that "Schapera's achievement was to bring into anthropology the view that district commissioner and chief, missionary and magician, were persons within a single social system, composed of groups of different culture, and that their relationships to one another and to others should be studied in the same way" (24).

Other notable foundational ethnographic works relevant to this study were written by: George Silberbauer, an amateur ethnographer, colonial administrator, and later anthropologist (1965, 1981) who was the Bushman Survey Officer of the Bechuanaland Protectorate and District Commissioner of Ghanzi in the 1940s-1950s; Richard Lee, a graduate from the University of California-Berkeley, produced some of the most well-known ethnographic works during the 1960s-1970s on the Ju/'hoansi (1965, 1968, 1969, 1979, 1984, 1993, 2003); and Jiro Tanaka, an anthropologist from Kyoto University, studied the G/wi and G//ana in

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[6] Isaac Schapera, Max Gluckman, and Meyers Fortes were three anthropologists that contributed significantly to a more politically engaged anthropology in the region and very consciously opposed racist views in their scholarship, as well as political and social lives. All three of them were born in South Africa to Jewish immigrant parents who had fled Tsarist Russia during the persecution of the Pogroms, an interesting aspect of their lives to me as this is when my family fled as well. Jan-Bart Gewald (2007) believes that their anthropological views were significantly influenced by anti-Semitism in their lives and academic careers, combined with growing up in the Union of South Africa and the segregated and racist environment there at the time. In conversation with Adam Kuper (2001:7), Isaac Schapera's views on racism and presenting things as they are comes up when asked about the state of racial affairs in South Africa at the time he was conducting his fieldwork in Bechuanaland (Botswana):

> Adam Kuper: *Did you worry about the way your country was going?*
>
> Isaac Schapera: One had to, but fortunately for me, and unfortunately for someone like Gluckman, in Bechauanaland they did not worry about these things. It was completely—that was my impression of the time—a race-free country. Only once—I traveled with a district commissioner from one place to another—that'sw how I traveled, I didn't have a car—and we came to a place where there was a fence and the fence had a gate, so a little boy ran to open the gate, and the district commissioner, who was driving me, threw him a ciragette and the boy said: 'Dankie, Baas.' Off jumped the district commissioner and he went up tot he child and said: 'In this country we don't say Baas.' I said: 'Thank god—completely colour free.' He said: 'Morena is what we say.' Morena means Lord. So…

1966 (1980) and a strong tradition of San studies continues in Japan, unfortunately mostly out of reach for those of us that do not read Japanese.

The archaeological research presented here does not rely heavily on ethnographic studies to interpret the behavioral patterning seen in the material remains from archaeological sites on the basis that there is such a great amount of diversity (and also great similarity) between groups around the Kgalagadi Desert, especially in regard to San-speakers. I argue that it is too assuming to map the culture of a San-speaking group from the 1960s living on the other end of the Kgalagadi Desert of a country the size of Texas onto groups ancestral to San-speakers that lived 300-400 years ago. I use these ethnographic studies as tools for explanation only, of for example, ways that people butcher and consume an animal, the technology involved, and potential archaeological parallels. This conforms more with Alan Barnard's notion in regard to these ethnographies, saying that we should "feel free to explore it, either systematically or just by dipping into it, but always in the knowledge that diversities of all kinds exist and that no Bushman is any more real than any other. Diversities exist through time, across ethnic boundaries, between individuals within the same ethnic group, and even within the thoughts and statements of the very same individuals" (2007:146).

2.2 ARCHAEOLOGY AROUND THE KGALAGADI DESERT

Archaeologically speaking, our knowledge of Botswana and the Kgalagadi Desert, where the sites being presented in this research are located, is still in its infancy. Alec Campbell, one of the longest practitioners of archaeology in Botswana remarked that "[t]he history of human occupation of the Kalahari is a book but recently opened. Of necessity, today's statements are based on minimum research; 50 years hence a more coherent picture will have emerged." (1990:123-124).

Botswana has seen a significant increase in the amount of archaeological research being carried out there since the 1960s. Soon after the country gained its independence (formerly the British Protectorate of Bechuanaland) in 1966, enormous diamond deposits were discovered. This newfound wealth helped establish the National Museum, Monuments and Art Gallery. The area of present-day Botswana was generally left alone after it became a British protectorate in 1885, and since it did not have any known large stone-walled cities, it avoided the creation of colonially-inspired interpretations of its past at sites like Great Zimbabwe, although it did have its share of searches for lost cities (Farini 1886) built by Phonecians or other lost white civilizations, interestingly eluded to in former South African president Thabo Mbeki's address at the opening of the Mata Mata Tourist Access Facility to the Kgalagadi Transfrontier Park (12 October 2007): "I am convinced that nothing can stir the soul and evoke intimacy with the remote, better than the legend of the lost city and the stilled voices of past civilisations buried deep beneath the shifting sands of the Kgalagadi Desert"

Early scientific excavations of Later Stone Age sites in Botswana were undertaken as part of the Harvard University Bushman Studies Project (later the

Harvard Kalahari Research Group). As part of this project, John Yellen and Alison Brooks excavated sites in the Qangwa and CaeCae areas of Western Ngamiland (Figure 1.1, below); with the most work done on the Middle Stone Age (MSA) and Later Stone Age (LSA) levels at ≠Gi (Brooks 1978). These late 60s and early 70s excavations marked the first time in Botswana that archaeology began to provide insight into past human activity in the Kalahari.

Ed Wilmsen excavated an LSA site at CaeCae (1978, 1988), where he found evidence of contact between LSA foragers and Early Iron Age farmers in the form of ceramics and domesticates (cattle). This was similar to what has been found by Yellen and Brooks at ≠Gi, and excavations at Ngoma and Divuyu with James Denbow in the Tsodillo Hills in the northwestern Kgalagadi Desert, northwestern Ngamiland, began to lay the foundations for the 'Kalahari Debate', discussed in Chapter 2. Significant and sustained research began in 1982, when Larry Robbins and Alec Campbell began excavating LSA rockshelters at Tsodilo and documenting rock paintings, which they continue to do at the present time, and James Denbow is still working in the northern parts of Botswana investigating larger Iron Age sites.

2.2.1 Archaeology in southeastern Botswana

In southeastern Botswana specifically, previous archaeological work in the area (Denbow 1981; Laider 1938; Lane 1996; Robbins 1984, 1985, 1986; Van Waarden 1990; Campbell *et al.* 1991; Sadr 2002) demonstrated a potential for further research. Unfortunately, most of the archaeological work that had been done has not been published, and in some cases none of the artifacts or records of the work can be found since the excavators did not place them into the Botswana National Museum (BNM). Survey work had been somewhat unsystematically accomplished by the Archaeology Unit, BNM, with further ones conduced by Catrien Van Waarden (1990) while undertaking an Archaeological Impact Assessment (AIA) during the realignment of the tarred roads connecting Gaborone-Thamaga-Molepolole-Kanye, Paul Lane's 1992 (1996) survey and test excavations with Univerisity of Botswana students, and later Karim Sadr's work in the Thamaga area during the late-1990s.

Unlike other parts of Botswana, the southeast is not as well researched, and many questions are yet to be resolved or even asked about the past overlapping group histories there. Evidencing a history that spans from the Middle Stone Age, through the Colonial period, this area has a fascinating and rich history of cultural diversity and economic practices. For the more recent past in the area, numerous ethnohistoric accounts exist of the cultural, political, and economic happenings of the people that lived in the Metsemothlaba River Valley. Missionaries and traders, hunters, and explorers give glimpses of life at the end of a history of interaction between various groups of people that had lived there. In addition, oral history / oral traditions work by Gary Okihiro (1976, 2000) in the Molepolole area and Schapera further enriched knowledge of the more recent past.

In their case study for group relationships in the southern Kgalagadi Desert, Western Kweneng District in Botswana, Solway and Lee (1990) believe that the model of Tswana-Kgalagadi domination, where San-speakers occupy the physical and social margins, cannot be neatly applied there at present or in the past. They argue that "the historical record reveals a variety of linkages between San and their neighbours, with a variety of consequences. San encapsulation within the orbit of Bantu-speaking peoples and loss of autonomy have been neither automatic nor, in most instances, complete. The San of Western Kweneng have not always worked for their Bantu neighbours" (111-112). They further go on that "[o]ral traditions obtained from current residents indicate that the relations between Kgalagadi and San were largely symbiotic in the early period. All were nomadic and lived primarily by hunting and gathering, although the Kgalagadi may have practiced some horticulture. After 1820 new waves of Kgalagadi, refugees of the wars of the turbulent period known as the Difaquane, retreated into the desert with their goats, sheep, and dogs. The Kgalagadi credit the San with having taught them desert skills, and the San made use of Kgalagadi animals, especially hunting dogs" (112).

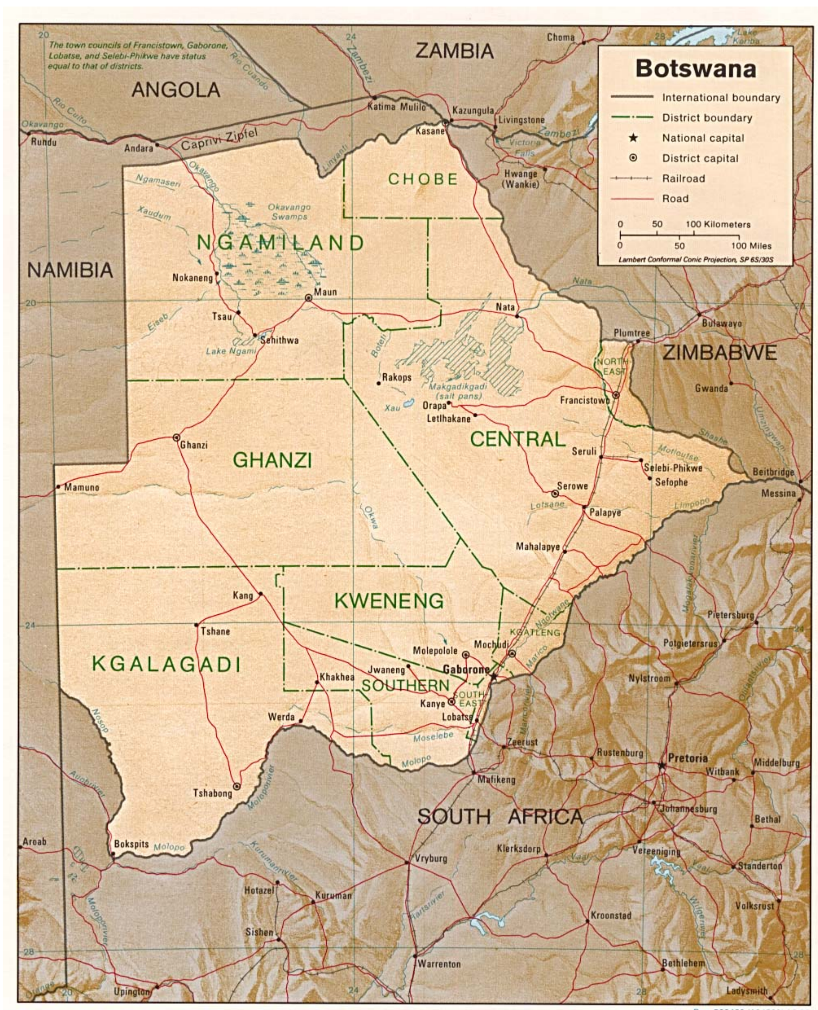

Figure 1.1: Map of Botswana with Districts indicated.

Two research projects in the Metsemothlaba River Valley of southeastern Botswana, Eastern Kweneng District (Figure 1.2) established a baseline for further research in this area, especially looking at questions related to contact between foraging and farming groups. Archaeological research at forager sites here was first carried out by Larry Robbins (1984; 1986) at the site of Thamaga I (Figure 1.3), which was later incorporated into a project by Karim Sadr (2002) in 1996 to attempt archaeologically to distinguish foragers that had become "encapsulated" by farming groups from "independent" ones. Sadr used materials recovered mainly from two rockshelters around Thamaga, which he argued collectively established "Precontact" (>BP 2100), "Early Contact" (~BP 750-550) and "Late Contact" (<~BP 300) occupations.

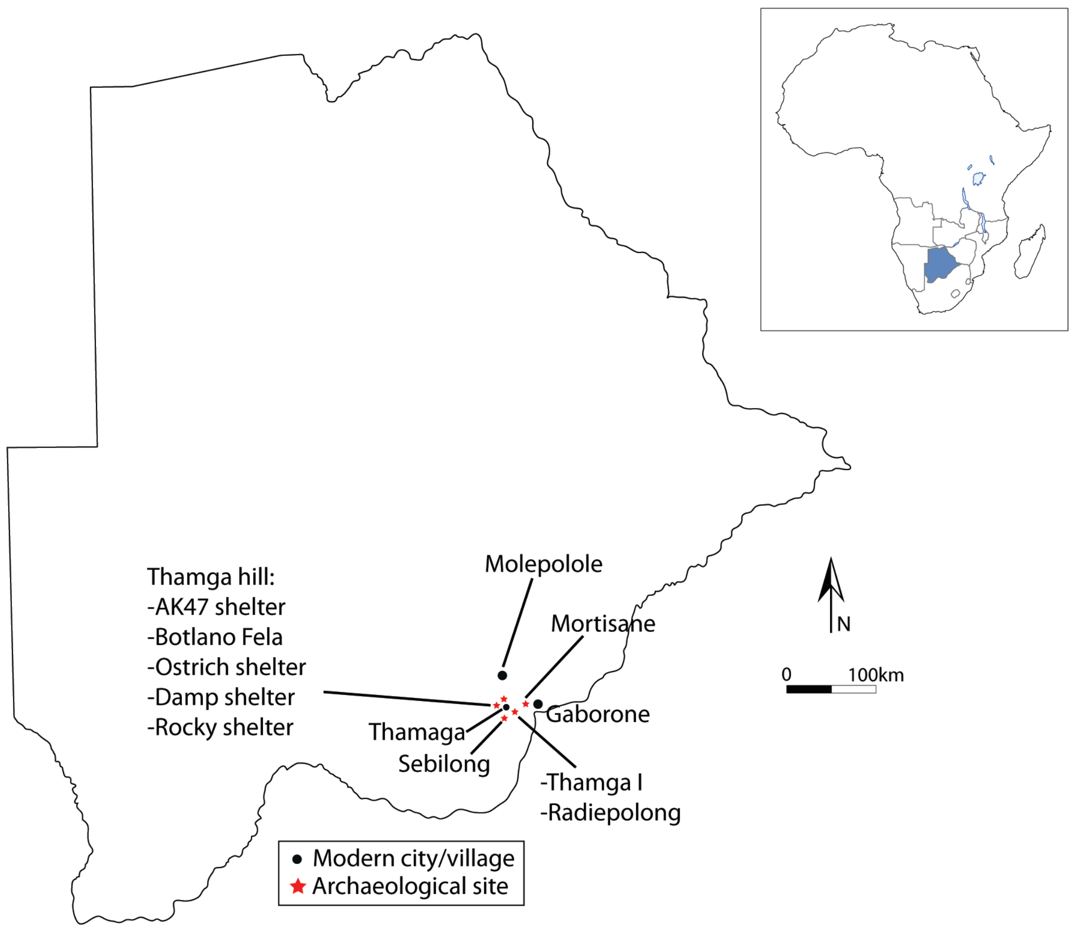

Figure 1.2: Map of Botswana with archaeological sites significant to this dissertation indicated, as well as present-day villages and cities.

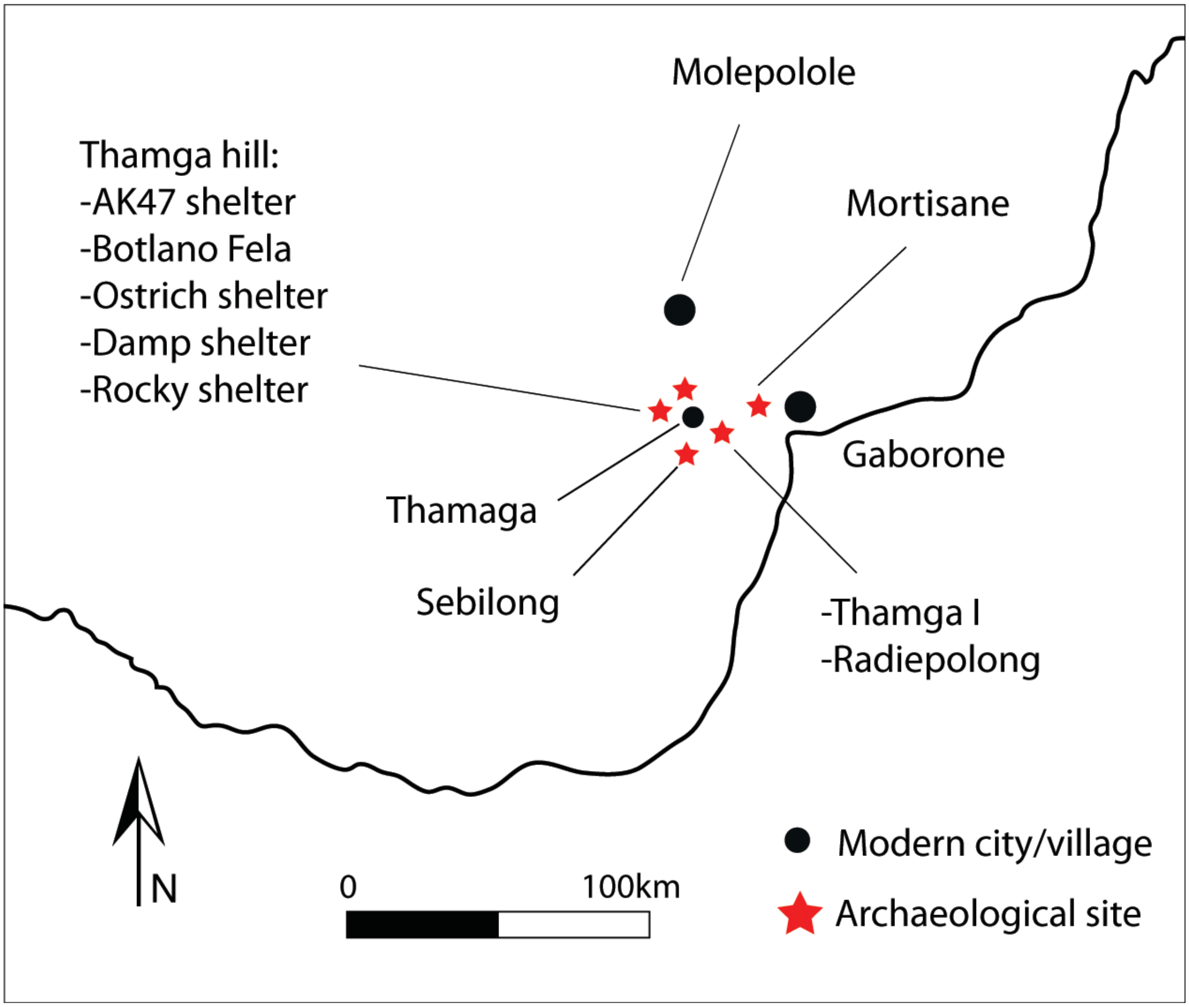

Figure 1.3: Close-up of southeastern Botswana with archaeological sites significant to this dissertation indicated, as well as present-day villages and cities.

Overall, Sadr interprets a pattern of decreasing cultural materials considered to belong to foragers (flaked stone tools) as indicating increasing contact with farmers, as well as acceptance of farmer material culture and reliance on these groups. In terminal occupations, Sadr (2002:44) concludes that a population of "assimilated" and "dependent ex-foragers" can be recognized archaeologically from the prevalence of foreign goods associated with craft production and subsistence technology and the scarcity of traditional materials, basically, an increased number of sherds from ceramic vessels as few flaked stone tools. This research provided a starting point to look at changes in material culture at a local-level but fell short in explanatory power due to the lack of critical examination of the materials and the implications of their appearance in the daily lives of these supposedly interacting groups.

In addition, Sadr and Ina Plug (2001) argue, based on a "relatively small sample of diagnostic bones" (78) and the application of various interpretations of ethnographies about 'San-speaking groups', that the appearance of small stock (sheep/goats) in the terminal occupations of the sites represents the foragers who lived there having undergone a transition to being herders, overcoming a culturally-imposed sharing ethos, and accumulating domestic stock for themselves. These interpretations, essentially arguing that the foragers living there were emulating the people with whom they were interacting and passively accepting the material and economic aspects of their culture, I believe need to be further examined and reevaluated. In essence, with this research Sadr was attempting to address issues of the archaeological recognition of contact in light of the Kalahari Debate, such as with James Denbow's (in Solway and Lee 1990:125) questioning: "What does it take to initiate a measurable change in hunter-gatherer life? Would we recognize it archaeologically if we saw it?"

In his arguments, Sadr made an assumption of close, direct contact between the groups because there was a Middle Iron Age village (associated with the Eiland style ceramics he found at the sites) at the base of Thamaga hill and a Later Iron Age village (associated with the Moloko style ceramics he found at the sites) on top of the hill (Sadr and Plug 2001:77; Sadr 2002). My research, while looking at interaction via the material remains from rockshelter *and* village sites, shows that the Middle Iron Age village did not exist, and the Later Iron Age village was more likely associated with people that made the Eiland style ceramics, and none of dated occupations of the sites he looked at overlapped with the occupation of this site. The rockshelter excavated during this research project, AK47 shelter, however, overlaps temporally with the occupation of the village site, Botlhano Fela, on top of Thamaga hill between Sadr's "Early" and "Late" contact periods. Thus this research and the Berkeley Botswana Archaeological Project (BBAP) was born.

3. THE BERKELEY-BOTSWANA ARCHAEOLOGICAL PROJECT

> "The Basarwa were already here. They just move around a lot…They were not driven away" (an informant of Solway in the Kgalagadi Desert; Solway and Lee 1990:112).

Using the sequence and materials established by Robbins and Sadr as well as those from my own excavations, my research was developed out of an interest to address and provide more nuanced, contextual information to culture-contact issues in southeastern Botswana via a diachronic, multiscalar practice approach. In addition, I hope to provide some understanding how the character and direction of these relationships influenced and were influenced by 'forager' and 'farmer' lifeways and trade systems in the community, region, and broader economies.

My research, presented here, addresses the contact relationships between foragers and farmers living on the fringe of the Kgalagadi Desert in southeastern

Botswana (in the eastern Kweneng district) from about 600-250 BP. This temporal period was a time when 'Bakgalagadi' farmers has already sporadically established themselves in the area in small communities from at least 1000 BP.

Analyses of a variety of materials will be used to address group participation in local, regional, and intra-regional social and trade networks, a line of questioning designed to take site-based observations and explanations and place their inhabitants within a wider cultural context to show how these people, on the fringe of the Kalahari Desert, were (or were not) actively involved in these networks and how this may have fluctuated through time. With material signatures of interaction between different groups, this research looks at how these new materials may have functioned within the material world of the foragers by their acquisition and use, as well as how these materials may have allowed the negotiation of new or affirmation of old identities.

I lean toward a more dynamic view of interaction in the Metsemothlaba River Valley than presented by Sadr and Robbins, such as Robert Gordon's (1992) view in Namibia where "[t]he old notion of ['San-speaking groups'] as passive victims of European invasion and Bantu expansion is challenged. Instead of toppling from foraging to begging, they emerge as hotshot traders in the mercantile world market for ivory and skins. Rather than being victims of pastoralists and traders…they appear as willing agents, …brokers…and hired shots" (196). My research presented here looks at the changing social landscapes and persistence of identities, and the following chapters present this scenario via material culture.

4. ORGANIZATION OF INFORMATION IN THIS DISSERTATION

Chapter 2: Theoretical approach to understanding the dynamics of contact and cultural persistence in southeastern Botswana presents my theoretical approaches toward the examination of material evidence of interaction and the persistence of forager identity during sustained contact between foragers and farmers along the fringe of the Kgalagadi Desert in southeastern Botswana. I will present an overview of the 'Kalahari Debate' of the 1990s, and the questions it raised in looking at contact between foragers and farmers. In this chapter I also discuss early approaches to culture contact studies in anthropology, the theoretical ideas of frontiers and mosaics, and lastly the concept of practice, and how this approach can inform on the daily lives of the foragers and farmers being investigated in this research. Tied to this, I discuss how a daily practice approach forms the basis for looking at cultural persistence, and the continuity of forager lifeways in the area despite interaction with farmers and even the use of their material culture. Finally, I end with some thoughts on where the 'Kalahari Debate' has taken archaeological research in the area.

Chapter 3: Working in the Metsemothlaba River valley focuses on my dissertation fieldwork methods in the Metsemothlaba River valley of southeastern Botswana on the fringe of the Kgalagadi Desert. First, I discuss the methods and results of a landscape survey and test excavations (2003 and 2004) that set up my research for the Berkeley-Botswana Archaeological Project (BBAP). Expanding out of this survey, I discuss the excavation of and preliminary findings from two of these sites that form the bulk of the data for this research, AK47 shelter (2004) and Botlhano Fela (2007). In addition to survey and excavation, in the following chapter I will discuss oral history/oral tradition recordings that I carried out in 2006, as well as my research in the storage vault of the Botswana National Museum to locate selected unanalyzed excavated materials from archaeological sites in the Metsemothlaba River valley to incorporate into this research.

Chapter 4: Excavations, Storage Archives, and Oral Traditions is a continuation of the discussion about the methods and process I used in obtaining the bulk of the materials for this research, the excavation of AK47 shelter and Botlhano Fela, as well as the incorporation of previously excavated materials and recording of oral histories/traditions.

Chapter 5: Zooarchaeological analyses presents the analyses that I conducted on the excavated faunal remains. In addition to animal bones, tools made from bone are discussed as well. Combined, these archaeological remains provide information about not only the people that lived at Botlhano Fela and AK47 shelter, but also about the animal populations of the area and the local environment at the time of the occupation of these locales. In addition, ethnohistoric and personal accounts of animals in the area, provide a temporal perspective in the greater Metsemothlaba River valley.

Chapter 6: Ceramic Use and Exchange in the Metsemothlaba River Valley presents the results of my ceramic research in the Metsemothlaba River valley from my excavated ceramic assemblages as well as other previously excavated and unpublished ones in the area. I attempt to present a case for the necessity for more detailed analyses of Iron Age ceramics, in this case through geochemistry via portable energy dispersive X-ray fluorescence. In addition to the analysis of archaeological ceramics, I conducted a small ethnographic study with contemporary potters, and the interviews and other ethnohistoric information about ceramics in the area are discussed.

Chapter 7: Lithics, Metals, Beads, and Other Small Finds details all of the other artifacts recovered in the excavations of AK47 shelter and Botlhano Fela: lithics (flaked stone and grounstone), metals, beads (ostrich eggshell and glass), and other small finds. These objects inform on the daily lives of the people living at the sites as well as their connections to various networks via trade.

Lastly, *Chapter 8: Subaltern Histories from the Fringe of the Kgalagadi* presents the conclusions of this research and prospects and questions for future research in southeastern Botswana.

Chapter 2: Theoretical approach to understanding the dynamics of contact and cultural persistence in southeastern Botswana

1. INTRODUCTION

In this chapter, I present my theoretical approaches toward the examination of material evidence of interaction and the persistence of forager identity during sustained contact between foragers and farmers along the fringe of the Kgalagadi Desert in southeastern Botswana. First, I will give an overview of the 'Kalahari Debate' of the 1990s, and the questions it raised in looking at contact between foragers and farmers and the practice of anthropologists. Next, I discuss an early approach to culture contact studies in cultural anthropology, and later in archaeology, that was developed to understand changes in groups after contact, mainly with Europeans. This acculturation (and assimilation) approach is still one of the dominant approaches in use today in southern Africa. Then, I move on to a discussion of frontiers and mosaics, and the theoretical approach that they provide for interpreting and predicting possibilities of different types of relationships that developed in areas where contact takes place on a smaller scale than that of a large colonizing force, for example. After this, I discuss the idea of practice and how this approach can inform on the daily lives of the foragers and farmers being investigated in this research. Tied to this, I discuss how a daily practice approach forms the basis for looking at cultural persistence, and the continuity of forager lifeways in the area despite interaction with farmers and even the use of their material culture. Finally, I end with some thoughts on where the 'Kalahari Debate' has taken archaeological research in the area.

2. THE KALAHARI DEBATE

This research is framed in reference to the 'Kalahari Debate' of the 1980s and 1990s, which relates, in some respects, to a particular area of the Kgalagadi Desert. Therefore, while this research informs on some of the debates and issues raised by other anthropologists, it is not a direct attempt to solve the issue or bring closure to any points. In some ways, the research presented here from southeastern Botswana may present quite a different case when the diversity of forager and farmer groups of the past is considered, and the likelihood that the foragers being considered here were in much more direct contact with Bantu-speaking farmers and later European traders and missionaries due to their location.

Sustained archaeological research in Botswana, centered in and around the northwestern edges of the Kgalagadi Desert (spanning Botswana and Namibia), began with the Harvard University Bushman Studies Project, later the Harvard Kalahari Research Group, in the late 1960s and early 1970s, with an anthropological focus on developing ethnographic analogues for interpreting foragers in the past not only in the region, but throughout the world[1]. This push to study seemingly untouched forager groups was lead by Richard Lee (1965, 1979, 1984, 1993, 2003) noting that "his interest in the San was sparked by Sherwood Washburn, who argued that studying living foragers could illuminate the evolution of human behavior, and by Desmond Clark, who suggested that studying contemporary forager campsites would throw light on prehistoric sites uncovered by archaeologists" (Wilmsen 1989:34). Early results of this ethnographic research that was presented by Richard Lee at the *Man the Hunter* conference in 1966 at the University of Chicago (Lee and DeVore 1968) sparked a significant use of this and later ethnographic research in a variety of anthropological discussions outside of the Kgalagadi Desert and even southern Africa (cf. Sahlins 1974; Godelier 1975; Harris 1978). However, early uneasiness with the use of the ethnographic studies of foragers such as Lee's was put forth with Claude Lévi-Strauss's comments that:

> "we cannot consider them as belonging to a semi-animal condition of mankind. Yet at the same time, I noticed a strong temptation to call upon recent studies of primates—monkeys and apes—or even studies of lesser animals such as rodents to explain, for example, the existence of a territorial instinct in Australian aborigines…certainly we should not try to use these recent hunter gatherers to reconstruct events and conditions in the prehistory of mankind" (1968:349-350).

While ethnographers were busy documenting the lives of San-speaking groups, archaeologists were finding material evidence that pointed toward contact and interaction between foragers and farmers, possibly over a significant period of time. This ethnographic work and archaeological evidence of contact close to where these studies were carried out, gave rise to the very contentious 'Kalahari Debate' between *traditionalists* who viewed 'San foragers' as a comparatively autonomous entity (e.g. Lee 2002; Lee and Guenther 1991, 1993, 1995; Smith and Lee 1997a, 1997b; Solway and Lee 1990), and *revisionists* who believed that foraging in the Kalahari is and was a strategy involved within a complex hierarchical social organization that involves both foragers and farmers and was in large measure created by the conditions of contact (Denbow 1984; Gordon and Douglas 2000; Wilmsen 1989; Wilmsen and Denbow 1990; Schrire 1980).

The *revisionist* approach viewed the Kgalagadi Desert and the people living in and around it in a political economy perspective (e.g. Wilmsen 1989), where "hunter-gatherer societies were not isolated by absence of contact, but rather were marginalized by political processes which had been operating in the broader region over many centuries" (Reid 2005:355). They argued that the !Kung (and other San-speaking groups) were in contact through trade networks with Bantu-speaking farmers and themselves for centuries and therefore did not represent what their

[1] A full chronicling of the research focus on the area is summarized by Richard Lee and Megan Biesele in Kemper and Royce, 2002, Pp.163-171.

culture looked like prior to this. They also alleged that the Kgalagadi ethnographers misrepresented the !Kung (and others) as isolated, pristine groups of foragers, the study of whom could allow us to see how foragers lived and behaved prior to contact with Bantu-speaking farmers and white colonists.

Revisionists took issue with the portrayal of San-speakers as isolated, pristine fossils of the past that they saw the Kgalagadi ethnographers presenting to the world, such as by Jiro Tanaka (1980) in the introduction to his ethnographic work in the Kgalagadi with San-speakers:

> "even nowadays many still live a life of hunting and gathering away from the influences of modern civilization, relying on 'Stone Age' subsistence techniques…The fact that a group of people with a population of several thousand is still living in the same fashion as human societies of almost 10 000 years ago is a miracle, although it can also illustrate the disadvantages of living in the Kalahari Desert, fit neither for cultivation of plants nor for domestication of animals. This kind of San existence offers important information about the daily life of early man, and can be an aid in the reconstruction of his society and the evolution of human society" (xi-xii).

Another example, in reference to significant amounts of modern items such as cloth and other store-bought items in her ethnographic study, Nancy Howell, who now criticizes the methods of the Harvard Kalahari Research group, states that "these things we ignored, relatively speaking, because we didn't come all the way around the world to see them. We could have stayed near home and seen people behaving as rural proletariat, while nowhere but the Kalahari and a few other remote locations allow a glimpse of 'the hunting and gathering way of life.' So we focus upon bush camps, upon hunting, upon old fashioned customs, and although we remind each other once in a while not to be romantic, we consciously and unconsciously neglect and avoid the !Kung who don't conform to our expectations" (1986:7, quoted in Wilmsen 1989).

Opponents have criticized the *revisionist* model as only allowing for one form of interaction to have occurred between foragers and farmers, that of encapsulation within the farmers' world (Sadr 1997). Andrew Reid (2005) believes that by focusing on the encapsulation critique, anthropologists have "entirely [overlooked] the very important issue of interactions that have taken place at least on the fringes of the Kalahari over the last 2,000 years…the emphasis on encapsulation and its archaeological manifestations makes the unfortunate suggestion that material objects are more important than ideas and social systems" (364). Today, both groups agree that most foragers had contact with each other and farmers over a few centuries, but do not agree on the degree of contact or the effects it may have had on the foragers or on the overall influence of the interactions. Thus, "[n]o longer can the Basarwa be viewed as 'foragers in a world of foragers'; rather like other indigenous African peoples, they have undergone profound socioeconomic transformations…[and] the Kalahari has been the scene of a complex set of interactions among foragers, agriculturalists, pastoralists, and people with mixed economies for a substantial period of time" (Hitchcock 1987:222).

Susan Kent (1992, 2002) argued that one of the reasons for the 'Kalahari Debate' was the lack of understanding about the amount of diversity among the many different San-speaking groups living within the region, and saw this as the result of generalizations of similarities in forager groups that tend to obscure the differences. Jan Vansina (in Solway and Lee 1990:516) noted that the *revisionist* arguments undermined "the basis of any comparative anthropology, based on sociocultural evolutionary theory, and force us to reconsider the premises on which a sound comparative anthropology must be built".

Today, much of the archaeological research in the area on foraging groups tends to uncritically continue to use these ethnographies in interpreting archaeological assemblages, with ethnohistoric accounts further filling in the knowledge that accounts for the much-used direct historic approach in southern Africa. In interpreting contact situations in the past, Ben Smith and Sven Ouzman (2004) argue a very important point, that in contexts of contact between groups practicing different lifeways, we must acknowledge the "dynamic relationships of time, place, people, and artifacts" (501), reminding us that archaeologists need to take more context-specific approaches in interpreting the past and forego the grand narratives.

3. ACCULTURATION

Anthropologists in the early 1930s sought ways to understand the significant change that had taken place for some cultural groups after the advent and often devastating consequences of European colonialism, focusing mainly on the United States (but see also the work on acculturation studies by Melville Herskovits in Africa and Brazil, such as 1937, 1943, 1958). Out of a focus on ways to view continuous contact between cultures emerged acculturation studies[2]. With their formal beginnings in the 1920s and 30s, steeped in colonialist ideals, anti-immigrant ideas of the 19th century and tied to ideas of "social engineering" (see Spicer's writings resulting from administrative participation in the Japanese relocation camps, 1952; Cusick 1998a,b), a variety of different approaches were taken (Boas 1940; Herskovits 1938; Kroeber 1940; Linton 1940; Redfield *et al*. 1936), all the while

[2] Herskovits was one of the most vocal advocates for the importance of acculturation studies in anthropology in the 1930s, and central to fighting for their inclusion in anthropological literature, such as the *American Anthropologist*. In 1936, Herskovits asked Isaac Schapera to write an article for *American Anthropologist* titled "Acculturation among the Bakxatla of South Africa," which was rejected by the journal's editor, Leslie Spier, because he believed that acculturation studies were not part of anthropological study and rather fell within the scope of sociology. This rejection sparked a major conflict between Herskovits and Spier that eventually led to the inclusion of acculturation studies in *American Anthropologist*, as well as other journals (Gershenhorn 2004).

treating culture change in contact situations as a unilinear model where the colonized would take on the material and social aspects of the colonizer's culture based on an assumption that 'traditional' societies "have a natural desire to adopt the intrusive material culture and other aspects of the donor societies" (Stein 2002:905). These approaches stressed the existence of bounded cultural groups that were rejecting or adopting cultural traits of other groups with whom they were in contact, using trait lists to determine the degree of change, which eventually led to their absorption into a broader culture. These early studies are much critiqued in their approaches, but at the time they "provided a veneer of uniformity to studies of acculturation and culture contact that in reality remained extremely diverse" (Cusick 1998:130).

In southern Africa today, the foundations of acculturation studies remain in practice not in interpreting European colonial contact situations, but rather contact between foragers and farmers, using "the presence of artifacts from the more powerful donor culture in assemblages of the less powerful recipient culture as direct measures of acculturation" (Stein 2002:905). For example, in a study central to the undertaking of this research, Karim Sadr (2002, 2005) hinges an argument of cultural and economic change for foragers living in southeastern Botswana on simple ratios of increasing amounts of ceramic sherds to decreasing amounts of stone tools, along with the presence of domestic stock in a rockshelter context to claim that foragers became herders as well as fully reliant on farmers based on intense direct contact. In this approach, "[a]rtifacts are portrayed as reflecting cultural or social patterns presumed to be independent of, or ontologically prior to, them rather than as active elements in the construction of those cultural or social realms" (Silliman 2004b:285). Lightfoot (1995) sees approaches using quantifiable artifact ratios to index cultural change as not well suited for understanding the nuances of material culture that would have been given meaning through its creation and use in daily practice.

Uncritical approaches have been critiqued, often in North American archaeological studies of colonialism, and arguments have been made for the necessity of more nuanced understandings of cultures and artifacts in contact situations (e.g. Biersack 1991; Crowell 1997; Deagan 1998; Deetz 1991; Delle 2000; Farnsworth 1989; Hall 1999; Jackson and Castillo 1995; Jordan and Schrire 2002; Kelly 2002; Lightfoot 2005; Lightfoot, Martinez and Schiff 1998; Lomawaima 1989, Mullins and Paynter 2000; Silliman 2001a,b; Smith and Ouzman 2004; Voss 2008). Gil Stein (2002) critiques the assumption in acculturation models that view "recipient cultures as passive groups, lacking in agency or the capacity to act in pursuit of their own goals or interests" (905), arguing that "foreign material objects and styles cannot serve as direct indices for acculturation or foreign control/hegemony,…[and] even when one society appropriates the material culture of another through trade or emulation, the borrowers transform the meanings or ideological content of these items into local cultural schemes" (907).

Looking further afield in Africa, two recent studies in Ghana help to illustrate this point. Ann Stahl's study of changing 'tastes' at archaeological sites in the Banda area of Ghana, argues that varying colonial entanglements resulted in materials being accepted, rejected and reconceptualized according to indigenous cultural preferences and embodied practices (2002: 834). Within this study, she stresses the relevance of archaeology in recognizing the object worlds before contact within which new materials would later be introduced, and the importance of a diachronic, multi-scalar vantage point. Christopher DeCorse (1998) looked at changes in material culture among the people at Elmina in Ghana, arguing that a "tremendous change in the artifact inventory should not…be viewed as an *ipso facto* indicator of changes in worldview. Continuity in the beliefs of the African population at Elmina may be assessed by considering three categories of information: the built environment, the foodways system, and the material indications of ritual behavior." Concluding that "collectively, the cognitive context in which artifacts functioned—how the Elmina people thought about the trade materials they used, viewed the buildings they occupied, and conceived their religious life—suggests resilience rather than sequaciousness, continuity rather than change in African beliefs and identity" (369).

Studies such as these demonstrate a more dynamic nature of group interaction and identity formation in culture contact situations, and exemplify the theoretical approach taken in this research, focusing, however, on contexts of group contact without the involvement of European colonization, at least initially. Some reference will be taken from, for example, interaction between Southern Plains foragers and Pueblo farmers in the American Southwest and the variety of interactions between them and exchange of material culture and food (e.g. Baugh 1991; Habicht-Mauche 1991; Lintz 1991; Scheiber 2001; Speth 1991; Speth and Spielmann 1983; Spielmann 1991a,b; Vehik 1990, 2002; Wilcox 1991; Wood 1980) and other studies that deal with non-European colonial contact (cf. Bahuchet and Guillaume 1982; Cashdan 1985, 1986; Dietler 1998; Dominguez 2002; Jolly 1996a, b; Klatzow 1994, 2000; Kusimba & Kusimba 2003, 2005; Thorp 1996, 1997, 2000). Many culture contact studies have clearly moved well beyond the simple acculturation models of decades ago and we can now look at other approaches towards the understandably dynamic relationships of cultural interactions and transformations.

4. FRONTIERS, MOSAICS, AND THE KGALAGADI DESERT

In addition to taking a critical approach toward the material remains of contact in this research, the theoretical concept of frontiers is useful in the research to interpret interaction between groups practicing different lifeways, especially those that were living on the fringe of the Kgalagadi Desert. The conceptualization of frontiers has taken various forms in archaeological interpretation, such as Igor Kopytoff's (1987) "political definition of a geographical space" (16-17), Prudence Rice's (1998) "spatially dynamic and socially open, expanding, outward-looking areas of growth" (49), or Kent Lightfoot and Antoinette Martinez's (1995) "socially charged places where innovative cultural constructs are created and transformed" (472). Frontier models provide a better way to understand group interactions than acculturation since they allow for more nuanced explanations of the nature of interactions and adoption/use of new materials and technologies across cultural boundaries (cf. Tarcan 2005). Common in these views is the recognition that frontiers cannot simply be viewed as the limits of expansion, peripheral to society and separating (or insulating) the "dominant" group from the "other," which in the case of colonial models like, and including, that of the US frontier on which these are based is generally indigenous peoples.

In southeastern Botswana, at the time when the archaeological sites discussed in this research were occupied (c. AD 1400-1650), there is no evidence that Bantu-speaking farmers had yet migrated to the fringe of the Kgalagadi Desert *en masse*, especially as seen later during the period of the *difaqane (*AD 1815-1840). This time period more likely evidenced spatially separated homesteads and small villages of Bantu-speaking farmers that traced their origins and cultural networks to the east and south. The Kgalagadi Desert to the west served as a somewhat physical boundary to agricultural production until more recently when boreholes for wells were mechanically dug into the ground (post-1960s). In the past then, the physical boundary of the Kgalagadi to farmers helped establish the area examined in this research as an economic and cultural frontier, with the land to the west filled with hunted and gathered "bush" resources.

Even today, the Kgalagadi Desert is often spoken of as a wild, untamed land of great thirst. In the case of the San and 'Bakgalagadi' groups who live within the physical boundaries of the desert, those living outside in larger communities still see them as being like wild animals. A woman in Moshaweng, a 'Bakgalagadi' village 48 km west of Molepolole in the Kgalagadi Desert, told me that when she attended a wedding in Mmankgodi, a village close to the capital, Gaborone, and people learned that she was a 'Mokgalagadi' they told her that they were genuinely surprised to not see her walking on four limbs like a wild animal, as that is what they had been raised to believe. Places where people live in the Kgalagadi like Moshaweng, or Xade in the Central Kalahari Game Reserve (CKGR), often serve as a metaphor for 'way out there', synonymous with American phases such as living in 'the Boonies', 'the sticks', 'the tules', or 'the hills and hollers'. These nondescript locations are often seen as far away places filled with wild, dangerous people and things, as well as bearing an implication of being unsophisticated and culturally backwards.

Frontiers are likely places where intense contact between different groups occurred, and a place to look for deviations or new kinds of archaeological signatures and patterns from expected material culture remains (Dominguez 2002; Jordan and Schrire 2002; Hall 1999; Lightfoot, Martinez and Schiff 1998; Schrire 1995; Wells 1992). At these permeable boundaries groups may have been more likely to encounter others on similar footing, especially when farming groups were migrating to this new area and establishing themselves, likely coming into contact with foragers. These farmers would have relied on establishing relationships with foragers and their local knowledge of resources, as well as relying on their own skills as foragers to survive on the wild resources of this new area until they could establish their farming mode of production. This is similar to the idea of an agrarian frontier, small farms or settlement plantations, in North American frontier models (Rice 1998:56), showing a high degree of adaptation to local environments and changes independent of any core cultural area. From these perspectives of pluralistic contexts, "frontiers represent ideal places to study interethnic interactions between diverse peoples; the development of new material and cultural innovations; and the construction, negotiation, and manipulation of group identities" (Lightfoot and Martinez 1995:474), placing an emphasis on the role of agency and exchange in frontier areas and opening the possibility of looking for instances of creolization or hybridity.

Some discussions of the use of frontiers to model culture contact situations (Lightfoot and Martinez 1995; Moore 1985; Rice 1998) have even pushed for ways in which to amplify the presence of indigenous groups (in colonial contact), viewing frontier situations as "zones of interaction" (Rice 1998:58) or "zones of cross-cutting social networks" (Lightfoot and Martinez 1995:474). By viewing frontiers from this perspective, different meanings may be interpreted from material culture that may have previously been seen, for example, as a result of a "dominant" outside power, with targeted selection and use by the "weaker," imposed upon groups. The purposeful selection and possible reinterpretation of cultural elements can be seen when frontiers are interpreted as "interaction zones where encounters take place between peoples from diverse homelands, not cultural borders that inhibit and constrain intercultural relationships" (Lightfoot and Martinez 1995:473).

While these thoughts are presented in regard to colonial situations, the same could be applied in this research with geographically and demographically expanding farmer groups into areas traditionally inhabited by indigenous foragers. Ethnohistoric accounts in southeastern Botswana, and other locations around the fringe of the Kgalagadi, leave no doubt that more recently Bantu-speaking farmers were an imposing force in the lives of San foragers[3], but there is no indication that with smaller population densities of farmers, mainly 'Bakgalagadi', this relationship was as imposing, and likely allowed for more exchange of ideas and goods. There are even indications, discussed in oral tradition, that 'San-speaking' women would sometimes marry into the farmer communities.

James Moore (1985) argued that cultural systems on a frontier are operating at their systemic limits, and "the forces forming and transforming social relations are often visible in ways that are otherwise rarely apparent in our idealized pristine societies" (93). Moore sees frontiers as mosaics of interaction, where the settlement, subsistence and social strategies of the different groups unintentionally interfere with each other. Moore rightly believes that sedentary farmer settlements would have changed the landscape of forager groups by imposing limitations while

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[3] Botswana's first president, Seretse Khama, then chief of the Bangwato people, testified in 1935 during a hearing into international charges of slave-holding (San peoples) by the tribe that "there was in those times no question of one people having power over another. It was simply a mutual understanding; at that time we had no strength by which we could force them to become our servants". London Missionary Society, *Report of an Enquiry by the South Africa District Committee* (Alice, Lovedale Press, 1935); summarized in Wilmsen (1989: 85, 92).

at the same time creating new economic, social, political and religious opportunities.

To interpret archaeological materials in East Africa that are the product of "interaction among peoples of diverse origins practicing and inventing different ways of life, with different levels of political complexity, and different economic and ritual specializations" (393), Chapurukha Kusimba and Sibel Kusimba (2005) use a more developed concept of mosaics. To them, they see mosaics as typically including "several communities practicing different economies, religions, inventions, and vocations, bound together by friendships and clientships, alliances, knowledge, and concepts of personal and social identity" (393). Seeing how this diversity played out, Kusimba and Kusimba (2005:395) have taken their cue from Fredrik Barth's (1969) discussion of ethnicity and boundaries.

More specifically, Barth developed an ecological analogy, using the resource diversity of an area to set boundaries for the range of possibilities for interaction between groups within the mosaics (1969:19-20). Four possibilities were presented: 1) avoidance, where one of the groups moves away to avoid competing or cooperating with the other group and interdependence is very limited; 2) competition, both groups compete for the same resources and cause conflict between them; 3) symbiosis, the groups develop a mutually beneficial relationship through trade and other forms of interaction; and 4) segmentary opposition, groups in competition for the same resources create strong cultural boundaries that inhibit interaction.

Barth, however realized that not all interactions are as clear cut as we would hope: "From the anthropological literature one can doubtless think of type cases for most of these situations. However, if one looks carefully at most empirical cases, one will find fairly mixed situations obtaining, and only quite gross simplifications can reduce them to simple types" (1969:20). Mixed contexts such as these in archaeology lead Kusimba and Kusimba to remark that "overlapping distributions of different kinds of material culture make the understanding of mosaics one of the most difficult undertakings in African archaeology" (2005:393). Barth also points out that actors define for themselves what is significant (1969), thus what we use to define difference in looking for identities in material remains as archaeologists could be mundane, ignored aspects of a culture.

Many studies of interaction, especially in southern Africa, have relied on expectations that discrete spatial patterning of diagnostic materials would be present and waiting to be discovered. Lightfoot and Martinez argue that "the delineation of linguistic, cultural, tribal, and ethnic boundaries in archaeology has long been problematical, stemming back to the days when space-time systematics were first used to define culture areas (1995:479). Margaret Conkey (1990:12) believes that we should recognize the degree to which social and cultural boundaries have been emphasized by our own contemporaneous and historically contingent worldview. She urges that assumptions about not only social groups but also human culture should be examined, posing the question: "What if we question the assumption that groups are continuous integrated bounded entities that can be stopped in their time-space tracks as traditional ethnography has led us to believe?”.

For example, the possibility exists for group change, and local and regional differences in behavior, especially in contact contexts. In this case, Bantu-speaking food producers could have decided to abandon cultivation and/or herding (or their circumstances necessitated this due to drought or stock loss) to forage or specialize in hunting and supplying wild products from the Kgalagadi for trade. Peter Mitchell (2003:172; see also Barnard 1992 and Kusimba & Kusimba 2003) notes this being a likely case for "three Khoe-speaking, but physically negroid groups—the Dama of Namibia, the Kwadi of Angola, and the so-called River Bushmen of northern Botswana" who were likely herders and farmers who adopted lifestyles of foraging, questioning our assumptions about distinct cultural groups and what makes a forager (cf. Kusimba 2005). It also clearly challenges the still al-too-pervasive evolutionist and progressivist notions that one “moves up” to farming from foraging.

In interpreting my archaeological research discussed here, based on these ideas I see the situation in southeastern Botswana during this time in two ways: 1) as a frontier, where forager movement and access to resources became further restricted with increasing farmer populations in the area migrating from the south and east, as well as farmer movement being restricted by the limits of productive land for farming and grazing at the fringe of the Kgalagadi Desert, putting both groups into increasingly direct contact and interaction; and 2) as a mosaic, where forager and farmer lives were intertwined in daily practice, tethered by social and economic relationships, and possibly even kinship ties. To further explore these two possibilities, I will look now at how to approach the daily lives and labors of foragers and farmers.

5. AN APPROACH TO THE DAILY LIVES AND LABORS OF FORAGERS AND FARMERS

Recent archaeological studies in culture contact situations, especially within North America, have moved beyond acculturation perspectives to practice-based and agent-centered approaches (cf. Lightfoot *et al*. 1998; Pauketat 2000; Sassaman 2000, 2001; Scheiber 2001; Silliman 2001a,b, 2009; see also Ortner 1994 [1984]), and this “shift toward a more humanized and dynamic picture of the negotiations taking place between individuals, communities, and institutions has been enabled by a focus not so much on agency and agents, as on practice” (Dobres and Robb 2000:4-5). Central to many of these types of approaches in archaeology is the theoretical work of Pierre Bourdieu (1977, 1990) and Anthony Giddens (1979, 1984), and to some extent Karl Marx’s concept of *praxis* (Marx 1963 [1869]).

My theoretical application lies in the ways that individuals and groups reproduce and transform their own cultures through practice, and how material culture functions to not only replicate but allows for its reinterpretation as it is incorporated into cultural structures. Many of these ideas were first introduced to me in discussions with Stephen Silliman, Barb Voss, Bonnie Clark, and Laura Scheiber during my first years of graduate school, and other aspects came to me during a special seminar on Marxist approaches from Randy McGuire and later a course on culture contact from Kent Lightfoot. While these ideas were very intriguing to me when I began my graduate work, I couldn't see their applicability in my own research focus at the time, in the European Upper Paleolithic. Having shifted my research focus to culture contact in southern Africa, these approaches feel much more useful and applicable.

Pierre Bourdieu's concept of *habitus* is helpful in theorizing contexts where groups practicing different lifeways came into contact and interacted with each other, since "every [interaction] between agents…brings together, in an *interaction* defined by the *objective structure* of the relation between the groups they belong to" (Bourdieu 1977:81, emphasis his). For him, a habitus can be "understood as a system of lasting, transposable dispositions which, integrating past experiences, functions at every moment as a *matrix of perceptions, appreciations, and actions* and makes possible the achievement of infinitely diversified tasks" (1977: 82-83, emphasis his).

In the case of interaction, Bourdieu believed that we use the past to frame our actions, and habitus, as "the product of history, produces individual and collective practices" (1977:82) that "ensure the active presence of past experiences" (1990:54). Thus, the way individuals and groups have experienced their pasts and framed them within their contemporary cultural contexts will influence the character and outcomes of interactions with other groups of people who do not share the same collective memories, or in the case of sustained or repeated interactions, may have internalized and interpreted these experiences in a different way. In this way, habitus is not only a structuring structure, but also active in producing structured structures (1990:53), and human experience is shaped by habitus and shapes habitus in a "conductorless orchestration" (1977:70) that "guides but does not determine the routines of daily life, which themselves participate in the ongoing formation and transformation of the habitus" (Voss 2008:18).

Within Bordieu's approach, he also develops a notion of *doxa*, which he sees as the unconscious, learned shared beliefs that function as a backdrop to social interaction that "goes without saying because it comes without saying" (1977:167, 169) and is unquestioned because it "appears as self-evident" (1977:164). So, while his ideas may be critiqued for the overemphasis on the controlling structures of everyday life that limit an agent's ability to act within their world and affect change (e.g. Dornan 2002; Smith 2001), they still present a useful way to approach archaeological material assemblages to gain insight into the established ways of a group (e.g. traditions), how these are replicated and reinterpreted, and, especially in contact situations, how new materials can be incorporated into a group's existing *habitus* instead of leaping to assumptions of acculturation and abandonment of traditional materials and practices.

Anthony Giddens (1979, 1984) contributes to practice approaches through his more explicit focus on agency, which he saw as the capacity to "make a difference" (1984:14). His theory of structuration was developed to allow for the recognition that there is more "give" within a social structure, and that while human social action is regulated by a set of norms and predeterminations, these are permeable and allow for agents to manipulate them. In this view, "human beings are neither to be treated as passive objects, nor as wholly free subjects" (1979:150).

This argument is furthered with his notion of a 'practical consciousness', referring to "the stock of knowledge that one implicitly uses to act in situations and to interpret the actions of others" (Turner 1991:531), defined by Giddens as "what actors know (believe) about social conditions, including especially the conditions of their own action, but cannot express discursively" (1984:375). Practical consciousness allows for individuals and groups to act in a reflexive manner, sometimes even unconsciously, in their habitual, reproduced practices. This idea, of how human cultural systems are (or have the potential to be) in fact in continual flux despite being structured by past actions, have the ability to act in their world and generate new or modify existing social structures. Lightfoot *et al*. (1998) focus on recognizing these ideas archaeologically, in their belief that in contact situations "individuals will enact and construct their underlying organizational principles, worldviews, and social identities in the ordering of daily life" (199).

Another useful aspect of Giddens's work is a discussion of the social production of place (Giddens 1984:110-131), especially in culture contact contexts of different groups occupying the same landscape, which he presents by means of two closely related concepts: *locale* and *regionalization*. Locales "refer to the use of space to provide the settings of interaction, the settings of interaction in turn being essential to specifying its contextuality", and they are "internally regionalized, and the regions within them are of critical importance in constituting contexts of interaction" (118). Regionalization, he views as "not merely…localization in space [but] the zoning of time-space in relation to routinized social practices" (119) or "the patterned differentiation among locales" (Voss 2008:148).

Barb Voss, in her discussion of the manipulation and transformation of the landscape by the soldiers stationed at El Presidio de San Francisco, summarizes Giddens concept of regionalization nicely:

> "Regionalization includes such phenomena as the construction of an unevenly developed built environment, the shaping of land-use patterns, the appropriation and transformation of natural resources and natural landscape features, the generation of patterns of movement, and the accrual of symbolic meaning to certain places" (2008:148)

As foragers and farmers in southeastern Botswana increasingly came into contact with each other at various locales, while occupying and manipulating physical spaces on the landscape via their respective regionalized approaches, their conceptions of group identity and the structures that shaped their habitus and practical consciousness provided interfaces with each other's material culture and other aspects of their daily practice over time.

These theoretical ideas interface with conceptions of frontiers and mosaics, discussed below, and the ideas of space, landscape, and the Kgalagadi Desert in terms of what it may have represented to both foragers who moved in and out of it, and farmers, whose daily practice was limited by it. Allan Pred (1990:26) views space as "both the medium and the outcome of human agency and social relations", and the physical and social geography of the region discussed in this research played a significant role in shaping the interactions between foragers and farmers in the Metsemothlaba River valley on the fringe of the Kgalagadi Desert in southeastern Botswana.

In my interpretative approach, foragers and farmers were involved in a process of performing daily, repetitive actions that were structured by and structured the social and physical world around them, but also restructured it (Bourdieu 1977, 1990; Giddens 1979, 1984). Thus, all members of the groups separately, and collectively shared the "experience of living within and manipulating the same structured distribution of resources" (Schortman and Urban 1998:109). Therefore, the cultural identities of the groups of foragers and farmers were defined by the intersection of individual agency, shared experiences, and materiality in their daily lives.

Within these interactions, I also acknowledge that I am not likely to be looking at first contact type situations, since there is evidence for some time before the occupations of the sites discussed in this research of foragers and farmers overlapping in the landscape. Therefore, these groups had prior knowledge of and interactions with each other, and in this study apparently chose to live in close proximity to one another, all the while likely encountering influences from outside as well. Along these lines, Silliman (2009) points out that "these moments of what we might call change did not repeat with each and every generation. That is, each successive generation of children did not have their parents *adopting* [new] goods, such as ceramics and metal implements. Instead, these already comprised part of household practices and perhaps even family or community traditions, and they could be inherited, so to speak, through basic socialization and everyday use" (223, emphasis his). Thus new materials "could have been absorbed, perhaps routinely and not completely consciously, into habitus" (223) and objects may shift from heterodoxy to doxa.

A last point to be discussed within the context of practice, this research, and cultural identities, comes from the work of Silliman (2001a) and his labor-as-practice approach where he argues that "[a]rtifacts and their patterns are not passive mirrors that reflect the cultural identity of their users and makers, which means that objects of nonindigenous [farmer] and indigenous [forager] manufacture cannot be easily compiled into an index of acculturation without consideration of the social context of labor" (385).

If it were the case for the archaeological sites presented in this research, as observed in later, ethnohistoric accounts, that foragers lived in close proximity to farmers around the fringe of the Kgalagadi Desert to serve as a labor force, then another productive means of looking at this contact relationship may be from Silliman's (2001a, 2004) labor-as-practice approach proposed for interpreting neophyte labor activities at an 18th and 19th century Franciscan mission in California.

In his view, the colonial labor regime could provide opportunities for natives to maintain their social continuity or develop and express new practices or identities (383). In this social practice and labor context, artifacts are not easily attributable to 'Spanish' and 'native' (401) since the use or possession of metal tools was not based on their superiority, stone tools were still used in most daily labor tasks, and metal tools were somewhat rare. Metal implements found in neophyte dorms may have been reinterpreted from their political symbolism of tools necessary for required colonial duties to utilitarian objects associated with a negotiated personal identity in the contexts of daily practice within the households of native Californians (397).

In southern Africa, the occurrence of iron tools and metal objects at forager sites is significant, as will be discussed in Chapter 7. Metal objects were given significant value in trade network. However, they were not something that even every Iron Age farmer had easy access to, since techniques of smelting were not a set of common knowledge possessed by everyone, and may have required too much labor and centralized control for the small pioneer farms to produce. The possession and control of these materials may have played an important role in negotiating foragers' identities in daily practice, and in some cases these may represent materials of gendered labor practices within the social and economic worlds of farmers with whom they were working since "practices [imbue] objects with social meanings" (Silliman 2009:216).

From these approaches to examining cultural groups in contact, often focused on change, it is important not to forget the wills of and abilities for people of different cultures and backgrounds to persist and in some cases even draw upon their historical knowledge of group practices to reaffirm their identities, to be discussed in the next section.

6. CULTURAL PERSISTENCE

As with much archaeological research in North America on culture contact, cultural persistence has been a topic of interest since anthropologists began to consider the effects of European colonialism on the lifeways of Native American groups. One example, would be Spicer's (1961) observations on the persistence of cultural identities after contact despite changes in many aspects of a group's lifeways. More recent research attempts to understand the practical dynamics of encounters stresses the abilities of groups to maintain their cultural practices and traditions and reproduce their social identities despite what were assumed to be strong, imposing outside forces (for example Deagan 1998; DeCourse 1992, 1998; Kirch and Sahlins 1992; Lightfoot *et al*. 1998; Panich 2009; Silliman 2001, 2003, 2009; Stahl 2002, 2004; Voss 2005, 2008).

This focus is similar to what Barth argued in his discussion of interactions between distinct cultural ("ethnic") groups: "ethnic distinctions do not depend on an absence of social interaction and acceptance, but are quite to the contrary often the very foundations on which embracing social systems are built. Interaction in such a social system does not lead to its liquidation through change and acculturation, cultural differences can *persist* despite inter-ethnic contact and interdependence" (1969:10; emphasis mine). In reference to arguments that many Native American groups post-contact were recent formulations, Patricia Rubertone (2000) believes that "they might be more accurately described as peoples with remarkably complex histories of survival and enduring attachments to community and place," and that "persistence sometimes (and perhaps more often) means change (rather than holding onto)" (435). This same argument can be made for the persistence of the cultures of the various forager groups, today referred to collectively as San-speakers, who lived and live in and around the Kgalagadi Desert, as it should not be overlooked that as food production spread across Africa (and other parts of the world), foraging persisted (and persists today) as an adaptable and viable way of life.

Two examples from Africa, both within the colonial entanglements of Ghana, present useful ways of approaching archaeological contexts that evidence the incorporation of European goods but are argued to evidence cultural persistence. Ann Stahl (2002; see also Bourdieu 1977, 1984) applied the notion of 'tastes' to archaeological research in Ghana to argue that varying colonial entanglements resulted in materials being accepted, rejected and reconceptualized according to indigenous cultural preferences and embodied practices. Within this study, Stahl (834) stresses the relevance of archaeology in recognizing the object worlds before contact within which new materials would later be introduced, and the importance of a diachronic, multi-scalar vantage point. Because of the unique positioning of the archaeologist, we are able to recognize diversions from and continuities in a group's 'object worlds.' Christopher DeCorse (1998) looked at changes in material culture among people at Elmina in Ghana, arguing that a "tremendous change in the artifact inventory should not…be viewed as an *ipso facto* indicator of [cultural] changes," concluding that "collectively, the cognitive context in which artifacts functioned—how the Elmina people thought about the trade materials they used, viewed the buildings they occupied, and conceived their religious life—suggests resilience rather than sequaciousness, continuity rather than change in African beliefs and identity" (369).

A brief example from southern Africa is that of stone tools, one type of archaeological material culture that is often used as an indicator of forager lifeways. Despite its common occurrence at farmer village sites, its measured disappearance and change at sites interpreted as being occupied by foragers is often seen as a loss of cultural identity and acceptance of another. Silliman has argued in a number of instances that "as much as archaeologists frequently portray stone tools as straightforward indications of unchanging Native American cultural patterns, they deserve closer attention" (Silliman 2009:224; see also Silliman 2001, 2003), as the "role of lithics in materializing identity should not be considered static and immutable" (Silliman 2001:399). This is taken up in Chapter 7, and the role of lithics in discussing cultural persistence.

The theoretical approach that I take in this research as presented here with a focus on practice, will show the active and dynamic roles that groups of foragers and farmers that lived along the southeastern fringe of the Kgalagadi Desert took in shaping their own histories over the *longue durée*, in multiple geographic scales, and in their daily lives.

7. LIFE AFTER THE 'KALAHARI DEBATE'

Now that much of the voracity of the 'Kalahari Debate' has faded, archaeologies of forager/farmer contact in southern Africa, especially around the Kgalagadi Desert, must examine contact situations with the goal of trying to understand the more nuanced daily practices, and how these contact situations played out at the local level before applying grand narratives that attempt to explain how all of these interactions progressed. This research is an attempt to do just that, and the results of the archaeological excavations follow.

Chapter 3: Working in the Metsemothlaba River valley

In this chapter and Chapter 4, I focus on my dissertation fieldwork methods in the Metsemothlaba River valley, southeastern Botswana. First, I discuss the methods and results of a landscape survey and test excavations I carried out in 2003 and 2004 that set up my research for the Berkeley-Botswana Archaeological Project (BBAP). Expanding out of this survey, I discuss the excavation of and preliminary findings from two of these sites that form the bulk of the data for this research, AK47 shelter in 2004 and Botlhano Fela in 2007. In addition to survey and excavation, in the following chapter I will discuss oral history/oral tradition recordings that I carried out in 2006, as well as my research in the storage vault of the Botswana National Museum to locate selected unanalyzed excavated materials from archaeological sites in the Metsemothlaba River valley to incorporate into this research.

1. SURVEYING THE METSEMOTHLABA RIVER VALLEY (2003)

This research is based within the Metsemothlaba River valley in the southeastern part of Botswana (Figure 3.1). Geographically, the valley (Figure 3.2) is bounded by two major escarpments that run roughly northeast to southwest and measures 67 km. Today the valley stretches 33 km wide from its northern end between Gabane and Molepolole, and narrows to 30 km wide at the southern end of the steep Polokwe hills that give rise to the town of Kanye.

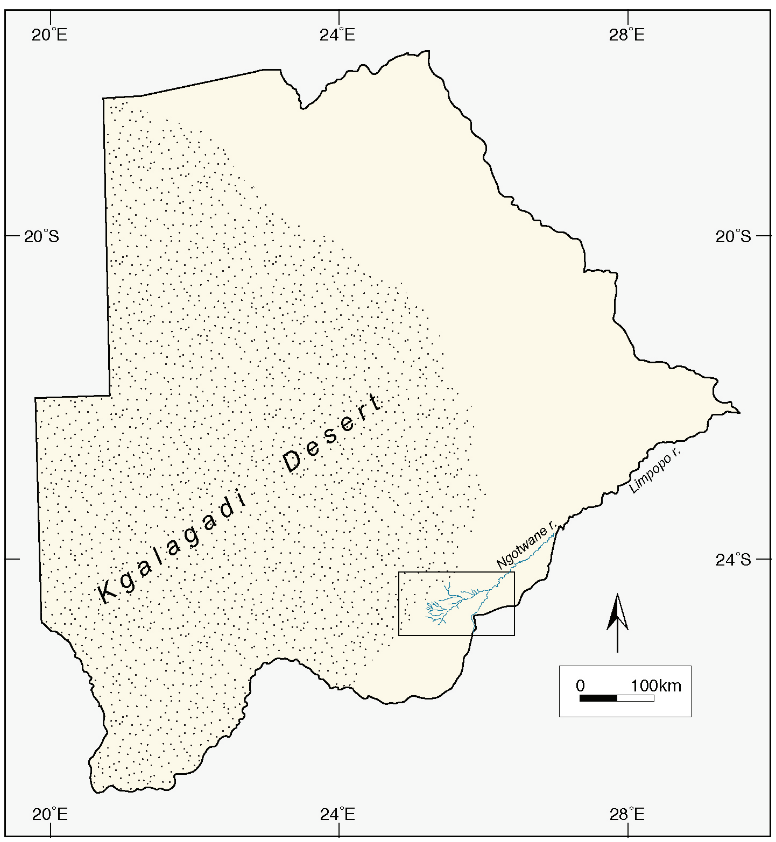

Figure 3.1: Political boundaries of present-day Botswana with the general area of the Metsemothlaba river valley indicated, as well as major rivers that drain the basin. Botswana is bordered to the southeast by South Africa, to the northeast by Zimbabwe, to the north by Zambia, and to the north and west by Namibia.

Running through the valley is the Metsemothlaba River catchment area and the many smaller rivers, streams and washes (Figure 3.2) that feed into it from underground water, springs, and runoff in the wet season, making it one of the most productive areas in Botswana today for farming when rainfall amounts—500-550mm a year (Silitshena & McLeod 1994)—are taken into account. Underlying most of the valley are soils that are part of the hardveld area of eastern Botswana, with fringes of the Kgalagadi Desert's sands feathering into the western parts of the valley just past Molepolole.

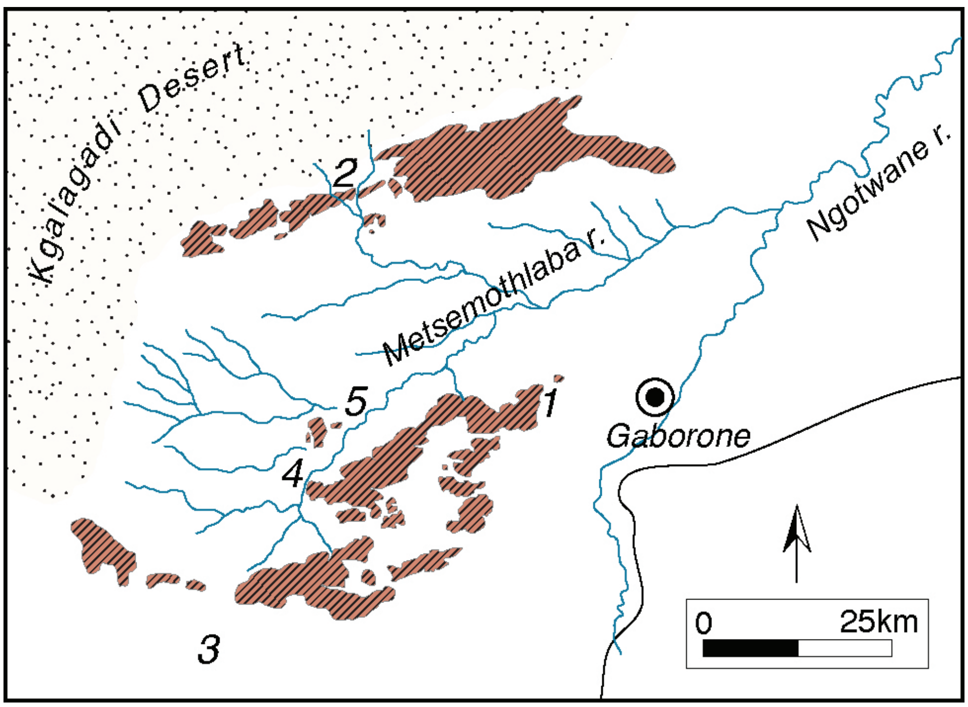

Figure 3.2: Close-up of the Metsemothlaba River valley with village locations mentioned in the text indicated: 1) Gabane; 2) Molepolole; 3) Kanye; 4) Moshupa; 5) Thamaga. Shaded diagonal lines indicate hills.

Dotted across this relatively flat valley are solitary or small groupings of hills, or *kopjes*, that stand out on the landscape like islands in an ocean and can be seen from very far away. The hills are composed of Thamaga ("rapakivi") granite boulders resulting from a Precambrian plutonic intrusion rising out of the Gaborone Basement Complex (about 2780 mya), into the landscape. The Basement is overlain by Waterberg sandstones/quartzites (about 1800-1900 mya) and some sediments of the Transvaal Supergroup (about 2600-2100 mya) (Bernard Vink, personal communication; also Lagerstedt 1994). Over time, sedimentation on these hills in open spaces as well as natural shelters formed by overhangs of boulders made locations suitable for human habitation.

Previous archaeological work in the area (Denbow 1981; Robbins 1984, 1985, 1986; Van Waarden 1990; Campbell *et al.* 1991; Sadr 2002) demonstrated a potential for further research. Unfortunately, most of the archaeological work that had been done has not been published, and in some cases none of the artifacts or records of the work can be found since the excavators did not place them into the Botswana National Museum (BNM). Survey work had been unsystematically accomplished by the Archaeology Unit, BNM, with further ones conduced by Catrien Van Waarden (1990) while undertaking an Archaeological Impact Assessment during the realignment of the tarred roads connecting Gaborone-Thamaga-Molepolole-Kanye, and later Karim Sadr's work in the Thamaga area during the late-1990s.

Unlike other parts of Botswana, the southeast is not as well researched, and many questions are yet to be resolved or even asked about the past overlapping group histories there. Evidencing a history that spans from the Middle Stone Age, through the Colonial period, this area has a fascinating and rich history of cultural diversity and economic practices.

For the more recent past in the area, numerous ethnohistoric accounts exist of the cultural, political, and economic happenings of the people that lived in the MRV. Missionaries (David Livingstone & Richard Price) and traders (William Burchell, Gordon Cumming, Thomas Bain) give glimpses of life at the end of a history of interaction between various groups of people that had lived there. In addition, oral history work by Gary Okihiro (1976) in the Molepolole area further enriched knowledge of the more recent past.

While in southern Africa in 2002, I traveled to the University of the Witswatersrand in Johannesburg, South Africa to meet with Dr. Karim Sadr to discuss my research interests since he had previously conducted archaeological research (Sadr 2002) in the Thamaga area of the Metsemothlaba River valley while a professor at the University of Botswana. That same year while I was in the field, Susan Kent (2002) published her edited volume, *Ethnicity, Hunter-Gatherers and the "Other"*, where numerous authors addressed issues that I was hoping to examine with my dissertation research. Meeting with Karim was beneficial to understanding what he had done in the area and since he was now based in South Africa, he told me that we would not be continuing his research in Botswana.

In light of this information about the Metsemothlaba River valley and the status of research being conducted there and current research interests in southern Africa, I decided, in 2002, to apply for a research permit to begin my dissertation research there, believing it to be a suitable and interesting location to attempt to address my research interests. Also, since very little archaeological work had been done in the area, and much of the material was unpublished and analyzed, I would have some comparative information from the work of others while at the same time the ability to expand on their work by incorporating orphaned museum collections.

My goals during 2003 in conducting a reconnaissance and intensive survey in the Metsemothlaba River valley, southeastern Botswana were:

1) build and expand on previous survey that have been conducted there
2) locate sites to excavate that appeared to have time depth and evidence for occupation at a time when groups practicing different lifeways lived contemporaneously on the landscape
3) provide practical archaeological field experience and training for undergraduate students from the University of Botswana
4) familiarize myself with the geographical features of the landscape and the types of archaeological materials
5) make contacts within the local communities.

It turned out, the winter of 2003 was a good year to conduct an archaeological landscape survey. Rains from the summer had been poor that year so the amount of dry vegetation had been naturally thinned out making seeing objects on the ground as well as low-lying structural remains much easier. During 5 weeks of June and July of 2003, along with two undergraduate students from the University of Botswana’s History Department, O’boy Kalanke and Lawrence Masoga, I began the Berkeley-Botswana Archaeological Project.

1.1 SURVEY METHODS

When I arrived in Gaborone, I went to the Department of Surveys and Lands and acquired topographic survey maps of the Metsemothlaba area. Looking at these maps, I began to formulate a strategy for how I might maximize my time trying to cover such a large area (about 2,000 sq km) and make sure that I would have time to conduct some test excavations so that I would have some materials to analyze in order to make stronger arguments for further funding of my larger excavation. Since some sites had already been recorded for the area, I spent time looking through site record forms and maps housed at the Archaeology Unit of the Botswana National Museum (BNM) and marked their locations and temporal designation that had been assigned to them (e.g. Later Stone Age, Iron Age, etc.) based on surface materials. Based on this information, I formulated a strategy of where I would intensify my surveying efforts as well as noted some sites that I would locate and evaluate for my research purposes.

Given the land area potentially to be covered and the small size of the survey crew, an intensive pedestrian survey was not feasible. In addition, since one of my hopes was to potentially locate an archaeological site that was likely the product of foragers, I made a decision to focus more of our efforts on and around natural stone structures (i.e. rockshelters). I questioned whether this was a bias of mine, coming from my previous archaeological experience with rockshelter excavations in Western Europe and thinking that was where to look, but I realized that based on the previous work in the area we were much more likely to encounter forager occupations that had the time depth component that I was interested in than if we were to intensively search for open-air locales the would have likely been single occupations and possibly buried deeply. Therefore, we systematically sampled the stone-mounded hills of the valley, ranging between 1085-1130 meters high (33-78 meters above the surrounding ground level), most of which are located along the course of the Metsemothlaba River.

This process involved locating these hills on the topographic map, approximating and entering their coordinates into a Magellan handheld GPS unit mounted on the dash of a Toyota Hilux, and navigating on meandering tracks usually made by donkey carts and the occasional 4x4 vehicle, past rural cattleposts and homesteads, to get close to the hills. Land access in Botswana is, thankfully, easy since land is owned by the people (i.e. the government) except where the Land Boards have granted property rights, but this is usually no more than a fenced area for a building or house compound, not a large area of land. Once arriving near the hills, we would begin with a pedestrian survey, spacing ourselves around the base and walking a circular transect to visually locate archaeological materials and structures on the ground. Around the base of the hills there is normally no vegetation, possibly because of the intensive use of the hills and immediate area by herds of goats ranging for fodder that we would consistently encounter, and this amounts to good visibility due to low/no vegetation.

When we encountered locales that appeared to be more than just a small scattering of materials likely washed down from above, all such locations were recorded with our handheld GPS as well as on BBAP and BNM forms. In addition to the location recorded about the geographical location, other information recorded dealt with the approximate boundaries, any features or architectural elements, if objects were collected and descriptions of them, the environmental setting, apparent post-depositional disturbances, proposed temporal age of the materials, preliminary thoughts and interpretations, and information about any digital photographs taken.

After circumnavigating a hill and visually mapping out possible routes we might take to make our way up and around it as well as noting larger rock overhangs to specifically target, we would climb up and around on the hill, repeating the same site recording process when a possible location was encountered. Consistently, the hills were littered with lithics, ceramic sherds, and ostrich eggshell beads that are the result of people dropping these items on the hill in the past as well as displacement from their original depositional context due to water flow washing them down. Once on the hills that we surveyed, we found them to be a maze of boulders and natural stone walls (Figure 3.3), and on a number of the hills this resulted in encountering some hidden spaces and occupational debris from human habitation there.

Figure 3.3: View of granite boulders on a hill in southeastern Botswana and the entrance to a rockshelter, 2003.

Finding these spaces, hidden from view and difficult to encounter by chance, made some interesting thoughts on why people might have lived or carried out activities there. These thoughts were exemplified in an example, discussed later, of contemporary uses of these places hidden from public view.

In instances of the locations we surveyed being close to places where people currently reside, we spoke with the residents about who we are and our intentions to engage them with our practice of archaeology and interest in the local past. We were specifically interested in their knowledge of places and remnants of the past that they had encountered living in the area. In Chapter 4, I discuss this process with specific mentions of oral histories and traditions, and the information that this provided to piece together the past of the area and the people who have lived there.

In addition to looking for sites of human habitation, we visited one known site of previous human activity, a mine on the side of a cliff in the Sesitajwane Hills between Moshupa and Thamaga named Sebilong (‘place of specular hematite; Figures 3.4, 3.5, & 3.6).

Figure 3.4: View from Sebilong mine shafts to the valley below. In the lower left, our Hilux in indicated for scale. In the upper right, Thamaga hill is identified.

Figure 3.5: View of the Sesitajwane Hills from Thamaga hill with the location of Sebilong indicated.

Figure 3.6: Looking into a mineshaft at Sebilong with veins of specularite visible.

Visible at Sebilong is the remnants of a major mining operation that occurred there, with a massive slope of scree tailings reaching from the ground up to the base of the shallow mining tunnels, likely formed from the heating of the rock and hammering at it with stones to break out the veins of specularite. In addition, at the base of the cliff are opencast excavations to mine iron ores and the remains of a historic settlement marked by the stone foundations of at least one rectangular building and a hut circle. Alec Campbell (Campbell & Main 2003:159) obtained two Thermal-Luminescence dates from the mining operations, placing the midpoint of the activities there to the 14th century. This location would later become an important resource, discussed later, for providing a possible interpretation of specularite found in my excavations.

One final aspect of my survey to discuss, is our likely encounter with numerous rainmaking sites, or rain shrines, on the hills we surveyed. Under numerous boulders on the hills and in small crevices, we found collections of broken pots and other objects that could not be equated with a living space. Schapera documented places such as these and the activity that took place there (Figure 3.7) in his discussion of rainmaking practices of the Tswana (1971; see also Landau 1993), much of which he learned from a Kgatla rainmaker, Rapedi Letsebe, in southeastern Botswana. These places would have been the locations of ritual activities conducted by a rainmaker, or *moroka* (Setswana for 'cloud', singular), to bring forth rain (*pula*) so that crops and cattle would prosper.

Figure 3.7: Plate 7.13 Derelict horns and pots at site of old rain shrine [RAI-4018] (taken by Isaac Schapera in southeastern Botswana during the 1930s, from Comaroff *et al.* 2007, reproduced with permission from the Royal Anthropological Institute)

Looking back on my 2003 survey, there are a number of things that I would have done differently had I had more time, insight, available technology, and assistance. I only had a limited amount of time due to the small amount of funding that I had received for this phase of my project to conduct a survey and find a suitable locale for my proposed research project and understand it well enough to make an argument for further funding. This caused me to lean toward locations where I knew I would have a high encounter rate for archaeological sites. I wish that we could have done more intensive searching in some other areas of the valley, most notably along the Metsemothlaba River and other feeder watercourses, but time as well as lack of field assistance made this difficult. In 2003 when I carried out this survey, Google Earth did not exist, and aerial/satellite photos of Botswana were not easily attained. This software application and the aerial images that it provides enables a much clearer picture of the landscape at variable scales than can be attained by studying topographical survey maps and would have been extremely useful in planning where to survey and predicting the physical landscape that we would encounter. In addition, some features of archaeological sites as well as natural springs are visible from the images that it provides.

Nevertheless, using the survey and sampling techniques previously described, we documented 59 possible archaeological sites that were representative of the Middle Stone Age, Later Stone Age, Iron Age, and the historic period. Four of these locations were selected for more intensive investigation via excavation: Mmamohuhumedi Shelter (Southern District, Moshupa); Thamagane Shelter (Kweneng District, Thamaga); AK47 Shelter (Kweneng District, Thamaga); and Botlhano Fela (Kweneng District, Thamaga).

1.2 THE CONTEMPORARY LANDSCAPE

During our survey, we had many interesting encounters with the contemporary uses and users of the landscape. Many of the hills today, and in cases of the past, are the locales of villages. As natural high-visibility markers on such a flat landscape, people have likely always been attracted to them to live and conduct private activities. Today, the hills often serve as a backdrop for wedding photos because of their natural beauty, are used as directional markers to orient oneself on the landscape and judge distances, serve as locales for ancestral ceremonies and Christian rites, provide locations for livestock to find fodder, and the boulders also provide privacy when locals are in need of an outdoor toilet.

While surveying hills just outside of Thamaga, we encountered a ceremonial space that consisted of a small circular dancing area (Figure 3.8).

Figure 3.8: Circular dancing area on a hilltop near Thamaga, 2003.

About 10 meters from the dance area, nested in a small crevice were tools of a *ngaka ya setso* ('traditional doctor') consisting of a ball-tipped cane (Figure 3.9) and a suitcase of *muti* ('medicines').

Figure 3.9: Briefcase of muti and other ritual paraphernalia on a hilltop near Thamga, 2003.

The place appeared to have been used recently, and likely often enough that the suitcase of *muti* would be left there. *Muti*, with its possible connections to witchcraft, are viewed in Botswana as powerful things that you should stay away from, and the students with me would not go anywhere near the suitcase for fear of being cursed by its owner.

On Thamaga hill, scattered at various places up the hillside and at the entrance to AK47 shelter we encountered blue woven plastic sorghum bags (Figure 3.10) that were likely marking a path up the hill to the rock shelter and possibly other locations on the hill, possibly related to the ceremonial users of the hill that we encountered, as discussed below.

Figure 3.10: Blue sorghum sack hanging on a tree outside of AK47 shelter, Thamaga hill.

Also, a small rockshelter located near the base of the hill had been visited on numerous occasions, evidenced by various small amount of materials left there (such as tobacco and beads) and piles of wax from red, black and white candles that had been burned there (Figure 3.11).

Figure 3.11: Remnants of a religious ceremony in a rockshelter on Thamaga hill, 2003.

At the beginning of the field season in 2004, on a Sunday afternoon, O'boy, Lawrence, and I drove from our camp outside of Thamaga to Thamaga hill to check on the condition of AK47 shelter. We had done test excavations in the previous year, discussed below, and since goats were frequent visitors to the site I was worried that the areas we had excavated and goats would have caused more of the site to be disturbed. As we pulled up to the base of the hill, three other trucks pulled in around us, the beds overloaded with people wearing white robes and head coverings singing Christian hymns.

We were very uncertain about what we had stumbled upon and stayed in the Hilux discussing what we could say to them as they began streaming past us single-file singing and ignoring us. After the group had passed, we stepped out of the truck and a man, trailing the group turned to us. Lawrence, being a Pentecostal Christian and very religious, said hello to the man and asked what they were going up the hill to do, and in response, the man informed us that they were going to heal some members of the congregation. Lawrence very briefly told the man what we were doing there and asked if we could talk to them when they came back down, to which the man replied that they had no interest in what we were doing there and wasn't interested in talking to us, turning around and leaving to follow the group up the hill.

In 2002, while working on an excavation in the Central District, the three of us had encountered a similar group with a much more elaborate ceremony, the *Phekolo*, taking place on a hilltop named *Kubuladintsa* ('hill of the dog') with archaeological remains for the same purpose (Figure 3.12).

Figure 3.12: Phekolo ceremony on Kubuladintsa, Central District, 2003.

In fact, I had learned that similar ceremonies were taking place at various locations throughout the country. These healing ceremonies were being held at locales of archaeological sites and on hills, both places where people believe that they can go to speak with the *badimo*, 'ancestors'. We had been fortunate enough to be invited to attend and participate in the *Phekolo* in 2002 and 2003.

We decided not to climb up the hill to AK47 out of respect for the group, instead waiting for awhile at the base in hope that we might be able to have a more engaged conversation with them. When this did not happen, we wrote a note to them about our research and interest in talking to them and included my cell phone number. Nobody ever called, we did not encounter them again, and we could not find anyone living nearby that knew who they were or what church they might have been from. It was disconcerting to me that we were not able to talk to this congregation about their use of Thamaga hill and the connection to the past it represents. To that point, and every instance afterward, I have never been able to find someone that acknowledges any connection to the past represented by the archaeological remains in the Thamaga area, as they are more recent settlers to the area (c. 1924).

Later on, while surveying more on the hill that year, we came across the location of their ceremony, a small cave-like rockshelter located on top of the hill just below a large white aerial survey marker that looks remarkably like a large white Christian cross. In the shelter were empty bottles of seawater (Figure 3.13) that had been purchased at a pharmacy.

Figure 3.13: Empty bottle of Ingwe brand sea water (with "sea sand") in a rockshelter on Thamaga hill, 2003.

O'boy and Lawrence informed me that, although they did not have any experience with it, people in the villages where they had grown up believed that seawater had healing properties. I find his very interesting, given that Botswana is very far from the Indian and Atlantic oceans and most people living in the country have never been to the ocean.

Lastly, the final interesting use of Thamaga hill that we learned about while talking to elders in Thamaga in 2006 while recording oral histories/traditions, was the use of the hill as a hiding place. During WWII the British colonial government was conscripting men from Botswana, then the British Protectorate of Bechuanaland, to fight in their army's conflicts in North Africa. When word would come that colonial officials and police were coming to the village for that purpose, men would hide in the rockshelters on the hill for weeks in order to avoid being taken away to fight. One of my informants, Sabata Keagile Matsila, was one of the men taken away to fight and served his time in Libya.

2. TEST EXCAVATIONS

By their very nature, surface collections, while a valuable source of information, provide skewed information. Surface collections provide "valuable data on site conditions, temporal periods, site function, material density, spatial variability, and artifact patterning" (Hester *et al* 1997: 35), but what is on top of the ground, especially in the case of rockshelters, might not be indicative of what is below the surface. Thus, the materials we encountered on the surface, especially in rockshelters, were combined with my test hypotheses to evaluate the sites:

1) that rockshelters were more likely to have been inhabited by groups of foragers, as opposed to pastoralists and farmers
2) that materials typically associated with foragers in southern Africa, such as stone tools and ostrich eggshell beads, occurring with materials associated with later inhabitants such as ceramics and metal, would be indicative of possible contact between these two groups of people
3) that the occupational deposits of rockshelters would provide a longer measure of time due to their repeated occupations and would allow for change to be seen over the *longue durée*

Therefore, to use the information derived from my survey and surface collection, it was necessary to carry out test excavations to determine which archaeological sites might be the most potentially informative in addressing my research questions. Since my research permit still had not come through at this point in the field season, I was granted permission from the Archaeology Unit at the Botswana National Museum to conduct test excavations with the understanding that all of the artifacts would be promptly deposited at the museum. This allowed me to carry out the second phase of my exploratory research, with the unfortunate catch that I would not be able to export any materials for carbon dating that would have allowed for a better understanding of the temporal spacing and occupations of the sites and provide another source of data to refine my selection of an appropriate research location.

Sampling rockshelters poses a problem. While the goal of the test excavation was to obtain chronological information, due to the nature of the occupational palimpsest of activities, I worked with the understanding that this would likely be destructive to the site structure and spatial patterning (cf. Binford 1975). Thus my test excavation methods were conducted the same meticulous way, discussed below, that the main excavation was in order to record all aspects of the deposits being destroyed by the excavation process.

2.1 MMAMOHUHUMEDI SHELTER (45-C4-20)

On the southeastern outskirts of Moshupa, just off the tarred road to Kanye, close to the turnoff to the dirt road to Manyana, are a group of low granite hills. Large granite boulders perch precariously all over the hills, with some larger boulders having come to rest near the bases. One unnamed hill caught my eye because of a large rockshelter that was not too far up on the hillside and visible from the ground.

At the base of the hill, just below the rockshelter was a house compound occupied by a woman and her two children. In discussing with her what we were doing, she informed us that the rockshelter is called *Mmamohuhumedi* ('the lady who goes under') but did not have any other information about why it had that name. We talked to her for a little while about the area and found out that this area of the village where the hills are is called *Felo la di poko* ('place of the ghost'). She told us how when she was 12 years old, she remembered seeing a man, woman and child, whom she believed were ghosts, dressed in old-style clothing (leather karosses) appear and disappear while walking from one hill to another.

Climbing the hill to reach the shelter, the ground was scattered with flaked lithic materials and ceramic sherds, what we would find was a common occurrence at any of the hills in the area. On reaching the rockshelter, we began the process of site assessment and recording. The rockshelter looks more like a typical rockshelter (one that is formed from an overhang in the bedrock) instead of one formed by boulders, and is significantly larger. The shelter measures 16 meters across and 10 meters deep from the dripline, with a relatively flat surface area beyond the dripline covering about 18 sq meters before dropping off down the hillside (Figure 3.14).

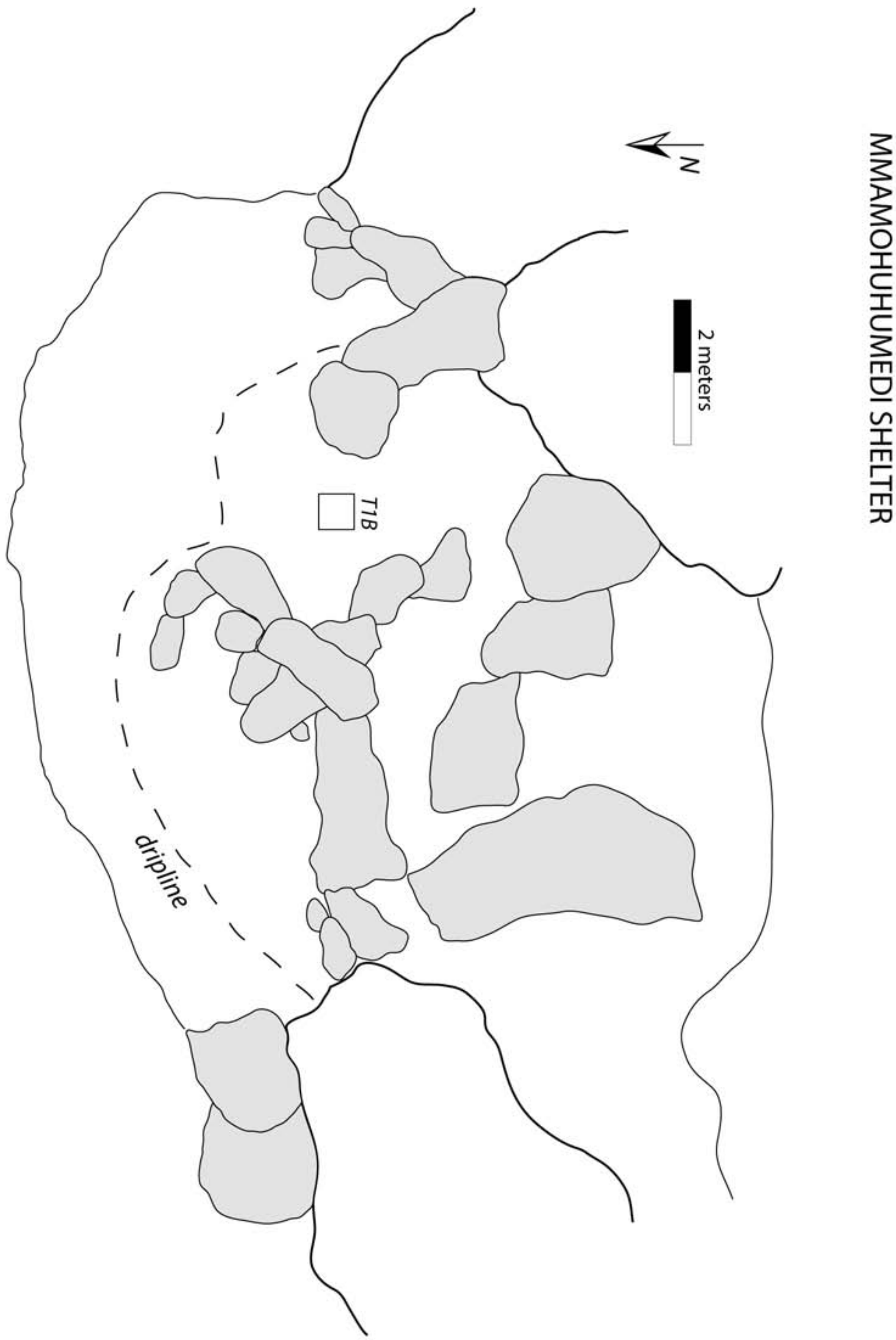

Figure 3.14: Plan drawing of Mmamohuhumedi shelter

The sites surface was a bit disturbed by goats that had been climbing around on the hill, churning up the top layer of dry, reddish brown sediment. Surveying the surface, we could see flaked stone, ceramic sherds, and ostrich eggshell beads.

Since this met my criteria at the time for being a site potentially being occupied at a time of contact between foragers and herder/farmers and appeared to have a healthy potential for occupational depth, I chose this location as my first test excavation (Figure 3.15).

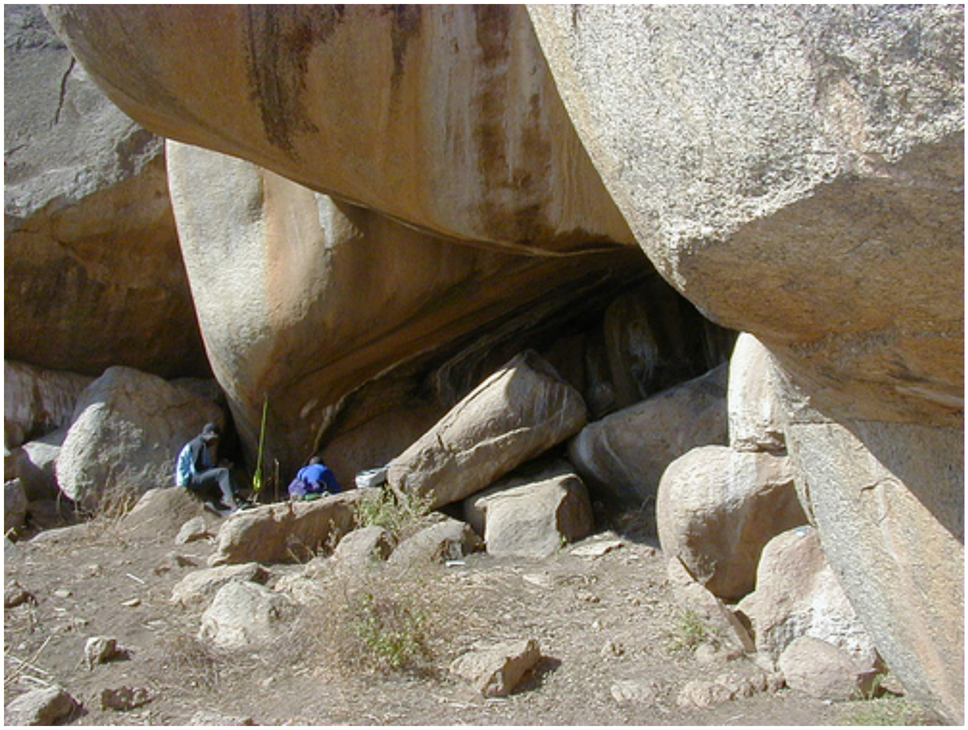

Figure 3.15: O'boy and Lawrence excavating at Mmamohuhumedi shelter in Moshupa, 2003.

For the purpose of the test excavation, a datum point was established on the eastern side wall of the rockshelter. This location was determined due to its proximity to the location selected for the test pit and its high probability of being relocated if I decided to come back and excavate further at the site and it's ability to be placed within a coordinate system with a total station. Using a string affixed to the datum point and line level, a 50 cm x 50 cm unit (TP1) was staked out just north of the east-west line established with a compass backsight to the datum point. The southeast corner of T1B was staked at exactly 1 meter west of the datum point so that anything encountered while excavating could be placed within a horizontal grid. The string attached to the datum served as the vertical indicator BD (below datum) for artifacts, and combined with the horizontal measurements created an internally consistent three-dimensional recording system.

Surface measurements were taken BD, and we began excavating the first test unit of the Berkeley-Botswana Archaeological Project (Figure 3.16).

Figure 3.16: O'boy Kalanke measuring depths while conducting a test excavation at Mmamohuhumedi shelter, Moshupa, 2003.

The excavation progressed in arbitrary 5cm levels since the stratigraphy was unknown, and I was attempting to determine the integrity of the deposit and the potential for discernable occupational periods that might be indicative of post- and pre-contact between foragers and farmers. Standardized level forms were used to record all aspects of the excavation (soil color, impressions, pre- and post-excavation sketches, etc.) and artifacts that were mapped in situ were given a sequential number. All artifacts over 2.5 cm, with the exception of smaller glass beads, were recorded.

In the upper levels of the test unit, we found a decorated ceramic sherd, a piece of flaked stone, fragments of ostrich eggshell beads, rodent bones, a bovid incisor, and some very small pieces of charcoal. As the excavation progressed, to a depth of 45cm below surface (BS) before reaching what appeared to be the bedrock surface, we encountered numerous pieces of flaked stone and very few formal tools (Figure 3.17), charcoal scatters, a few small bone fragments, and a large pit from the fruit of a *motlwana* (*Vangueria infausta*) tree, a common type among the rocky kopjes in the area. Very little difference in stratigraphic deposits could be seen that would allow for a confident assessment of site stratigraphy.

Figure 3.17: Field photo of some of the flaked stone from Mmamohuhumedi shelter.

Overall, I decided that Mmamohuhumedi shelter did not display a significant time depth that would lend itself to my research interest of looking at change and contact between foragers and farmers over the longue durée. In addition, the surface and sediment just below likely evidenced the group contact and trade period, but due to the site's easy accessibility, goats had taken a serious toll on the loose sediment, and the possibility of finding anything in situ was given a low probability, in addition to the problems of goat trampling and vertical artifact movement. The site, however, definitely has potential for yielding the material remnants of foraging peoples from the Later Stone Age time period based on the volume of flaked stone we encountered.

When we finished at the site, we stopped by the house at the base of the hill to let the woman know that we were not going to be coming back there. On hearing this, she asked us to wait and went inside her house, emerging with an old-style drinking vessel made from a dried calabash that she gave to me "so that I would have something that people did not use anymore since I was interested in the past". As we began to leave, she referred to me as "her *lekgowa*" and let us know that we would be welcome to come back and visit anytime.

2.2 THAMAGANE SHELTER (45-D1-42)

In the present-day village of Thamaga, the most prominent landscape feature is Thamaga Hill, along with a group of three smaller hills nearby across the tarred road (Figure 3.18). One of these smaller hills, Thamagane, is located just behind a very popular bar/butcher shop.

Figure 3.18: Photo of three smaller hills from Thamaga hill looking northwest from Thamaga hill. Thamagane hill is the larger one in the middle. 2004.

Surveying this hill, as with most of the other hills in the area, we encountered various archaeological materials lying all over the surface in no apparent concentration to indicate a likely archaeological site. At the top of the hill is a rockshelter formed by a large boulder overhang that, at the present soil surface level, does not easily allow a person to fit inside. Despite this, the surface of the shelter was covered in broken ceramics and a few small pieces of animal bone.

Despite the low clearance at the present in what we named Thamagane shelter (Figure 3.19), we made the assumption that the site might have some depth to it that would have allowed for easier utilization of the shelter when the surface level was lower.

Figure 3.19: Thamagane shelter on Thamagane hill during test excavation, 2003.

Also, we worked under the belief that not all daily activities at the home would have likely taken place in the shelter, and the space outside beyond the dripline would likely have been utilized heavily during the day at least, with the overhang of the shelter being used at night for sleeping warmth and protection from wind and rain. The roof of the shelter appeared to be black from burning, giving some support to the idea of a fire being built inside that would be used to keep the occupants warm at night sleeping under the overhang. Unfortunately, the area outside of the potential shelter is exposed rock, with no sediment collected anywhere so we could not put a test excavation unit there.

As with the datum point at Mmamohuhumedi shelter, a datum point was established on a boulder at the edge of Thamagane shelter. A line was stretched east-west and a 50cm x 50cm test excavation unit was established, T1D, with the southeast corner located 2 meters west of the site datum. The same horizontal and vertical recording system detailed before was utilized to record level depths and artifact locations. All arbitrary excavation levels were 5cm.

In the upper levels we found undecorated ceramic sherds, an ash lens, and pieces of charcoal. As the excavation progressed, more charcoal was encountered, as well as flaked stone (chalcedony and quartz) pieces. At 25 cm BS the bedrock was reached, ending our hopes of any significant depth to the sedimentary deposits there. In the sidewall stratigraphy, a few distinct grey ash lenses could be seen, as well as small reddish lenses. Since very few materials were found in the scant deposits at this rockshelter, I decided that it would not be suitable to address my research questions.

To this point, at every location where we were excavating we encountered local people, and at Thamagane, it was a different type of encounter that led to a longer effort. While excavating, a group of primary school children climbed to the top of the hill, not to see what we were doing, but rather to collect soil for their school's gardens. From these children, we found out that they had been instructed by their teacher to bring soil to school that they could use in the garden there. Those children whose families did not have small livestock kraals at their homes where they could collect manure would go out to the hills to collect their soil. In many instances, this comes from the organically rich soils located in the rockshelters. We took this opportunity to discuss what we were doing with the children, and the University of Botswana students were keen to tell them that that should not dig in these places since they were destroying history (and breaking the law). A few month later, the UB students formed an archaeology club in the History Department and took a fieldtrip to the local primary school to talk to the children and their teachers about archaeology and the importance of preserving archaeological sites.

2.3 AK47 SHELTER (45-D1-34)

Across the tarred road from Thamagane Hill lies the tallest and widest hill in the village of Thamaga, Thamaga Hill. This hill is a very prominent feature on a relatively flat landscape and can be seen from very far away in all directions (Figure 3.20).

Figure 3.20: Photo of Thamaga hill from the Gaborone-Kanye tarred road, 2007.

At the base of the hill is the royal cemetery where chiefs and their family members are buried, established sometime after the late 1920s and after European burial practices were adopted when the current residents of Thamga, the Bakgatla baga Manaana, settled there (Figure 3.21).

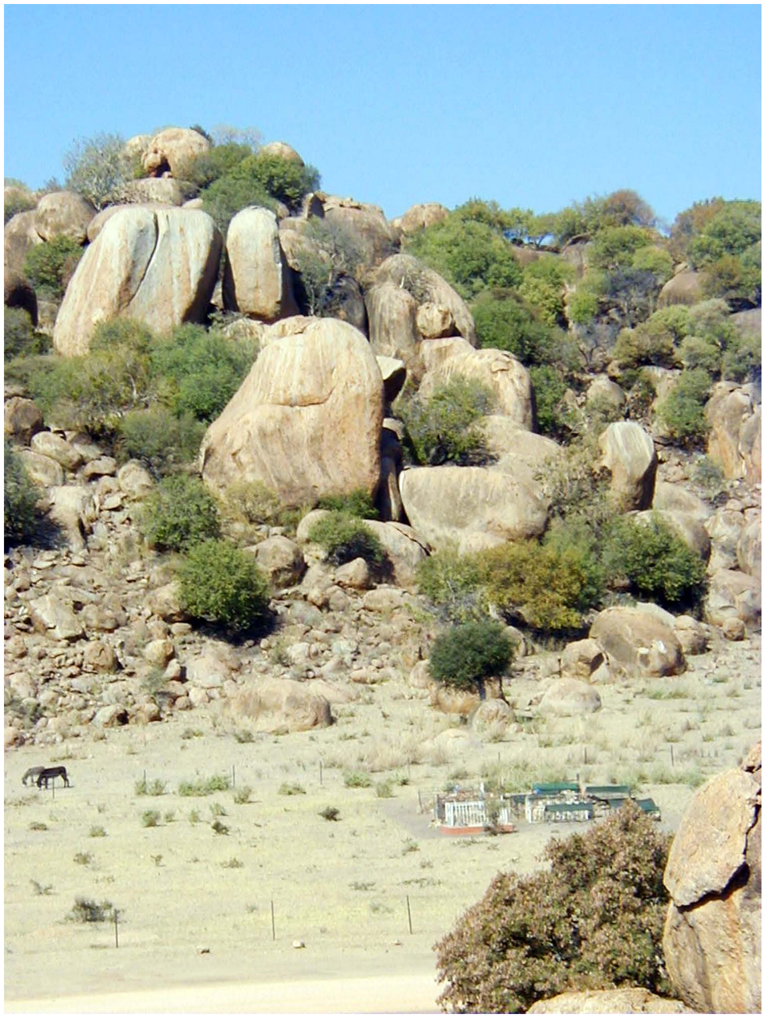

Figure 3.21: Part of Thamaga hill and the royal cemetery.
Donkeys in the foreground provide some scale, 2003.

From haven briefly spoken to Karim Sadr at the University of Witswatersrand in Johannesburg, who briefly worked in this area in 1996, I received verbal instructions as to where I could find the two small adjoining rockshelters (Ostrich shelter and Damp shelter; 45-D1-32) that he had excavated on the hill in the late 90s. Since I was familiar with what he had published about his excavation, I decided that a good starting point at this hill would be to see what type of location produced the materials found there.

When Sadr worked in the Thamga area, he did some survey around the hill. In addition to rockshelters on Thamaga hill, he reported that "[a]t the northern foot of the hill there is a scatter of Eiland potsherds and other artifacts indicating the remains of a small village or hamlet occupied during the Middle Iron Age, ca. A.D. 1000-1400" (Sadr 2002: 35). After much exhaustive searching in this area and around the entire hill and minimally invasive systematic digging of small test holes with trowels, we found no indication of this. This was unfortunate, since I had hoped that this area might be a possible site of interest for my research.

What I now believe is that since the ceramic and "artifact" scatter that Sadr reported to have found, incidentally lost somewhere and unavailable to examine, was simply a scatter with no other indication of a "village or hamlet" occupation such as burned dagga or ashy midden. As is common with all of the hills in this area, artifacts such as ceramic sherds, ostrich eggshell beads, and flaked stone are heavily scattered throughout the hillsides and bases, and I believe that the occupational site that Sadr found was more likely one of these scatters and not a Middle Iron Age site. Sadr all but confirms this when he stated that when he found a Eiland sherd at Damp/Ostrich shelter on the surface, that it was likely "collected from the immediate vicinity where Eiland sherds are not uncommon" (Sadr 2002: 37). A more extensive search, possibly with subsurface probing techniques, would have been ideal in this situation but was beyond the time and technological limitation of this project.

After locating the area where previous excavation had been done on the hill, at Ostrich and Damp shelters, two adjoining rockshelters almost at the base of the hill, we intensely surveyed the hill to gain an understanding of the topography, spatial relationships between rockshelters, as well as stone and dagga features located throughout the hill. The hill is dotted by numerous smaller rockshelters formed by boulder overhangs, and many types of artifacts were visible on their surfaces and just outside the driplines of the shelters. In unprotected areas on the hill, the sediment is loose and powdery, and numerous artifacts are visible on the surface and churned up just below from years of goat herds heavily grazing the hill. Also, many artifacts dot the slopes of the hill that have been washed down from above during heavy rains due to the loose sediment and lack of groundcover for stabilization, and the result is artifacts collecting on the uphill side of larger boulders and in crevices. All this is to say that there is significant evidence for intensive use of Thamaga hill in the past and present by a variety of users.

Beyond rockshelters, our survey on Thamaga hill located some interesting features. Toward the northeastern summit of the hill is a flat area covering about 20 sq meters, mostly enclosed by high natural stone walls on one side, while the other side meets with a tall, sheer cliff that drops some 40 meters, almost to the ground level. In the middle of this space is a large, powdery grey deposit of ash that is about 30 cm deep, with a lack of artifacts anywhere nearby. A second feature we found and recorded is a series of low, loosely-built stone walls that follow a natural path between the cliff face and boulders to the top of the hill from the eastern side. Today, they are only stacked a few stones high in most cases with numerous fallen stones downslope, but some are almost a meter high. Typically, these types of walls in the region are seen as remnants of fortification for defensive positioning, and we saw similar ones on Dimawe hill just outside of the village of Manyana where a well-known battle had taken place between members of the BaKwena and Boers from the Transvaal. Discussed later, at least the stone walling is likely connected to the occupation on top of the hill at the site of Botlhano Fela.

One site that Sadr recorded on the archaeological site register at the Botswana National Museum had an entry that read: "rockshelter with modern graffiti on the wall: 'AK47', '$'. Possibly deep deposits. Untested". After combing the hill and getting lost along the way among the large boulders, steep drops, and dead ends, we encountered this rockshelter, located on the northeastern side about 40 meters upslope from the base, almost to the flattened summit of the northeastern portion of the hill.

Entering AK47 shelter on August 8, 2003 with the cold winter winds blowing hard, the initial thoughts that ran through my head were "I can stand up in this shelter" and "it is really cold in here." The shelter provided by a very large boulder perched above created a lean-to structure and a living area under the dripline of about 20 sq meters (Figure 3.22).

Figure 3.22: Graffiti panel at AK47 shelter, 2004.

The shelter's opening faces east, and outside lies a small flat area and access to the rest of the hill that could have provided an extension of the shelter's living area. From the entrance, the shelter spans a width of about 7 meters before ending at a steep drop to about 5 meters below. At the point where the shelter drops, a very large piece of the granite structure of the hill broke off, and it appears that it might have been an extension of the rockshelter at some point and the weight of its fall pulled down the underlying surface and sediment below since various artifacts are scattered around where it had fallen. If this is the case, then the shelter would have extended for at least 10 meters to the west.

AK47 was one of the largest rockshelters that we had encountered on the survey. I thought that it would be a good potential candidate for this project since it appeared that the deposits could be deep, allowing for a significant amount of time to be seen in the deposits there, as well as the possibility that the size could have allowed a larger group of people to have lived there and would display a wider range of activities and materials (Figure 3.23).

Figure 3.23: Looking east into AK47 shelter from the potentially collapsed portion of the shelter.

A datum point was established on the north wall, and a level line was stretched to the southern wall of the shelter 3.9 meters away. From this north/south line a 1 x 1 meter test excavation unit was staked on the ground to the west of the datum line, subdivided into four 50 x 50 centimeter units (T1A, T1B, T1C, and T1D), and all surface elevations were recorded. Of these, T1C was selected for excavation because surface materials were visible in the quadrant (Figure 3.24).

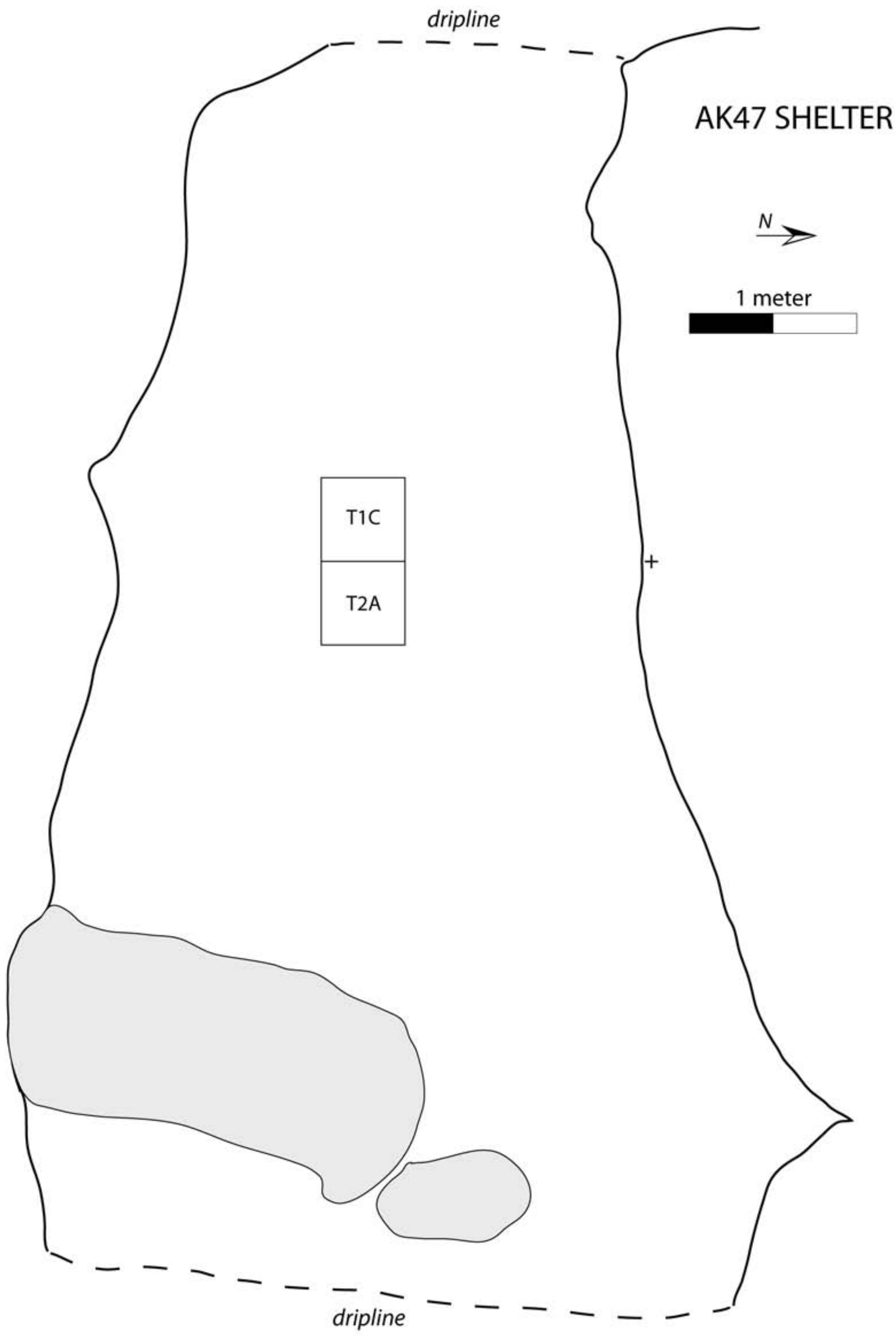

Figure 3.24: Plan drawing of AK47 shelter with test units.

Excavation progressed in arbitrary 5 cm levels, and all objects were mapped in situ using the three-dimensional recording grid established at the site. The surface sediment was very loose and powdery, and I doubt that this upper sediment represents anything in situ (Figure 3.25).

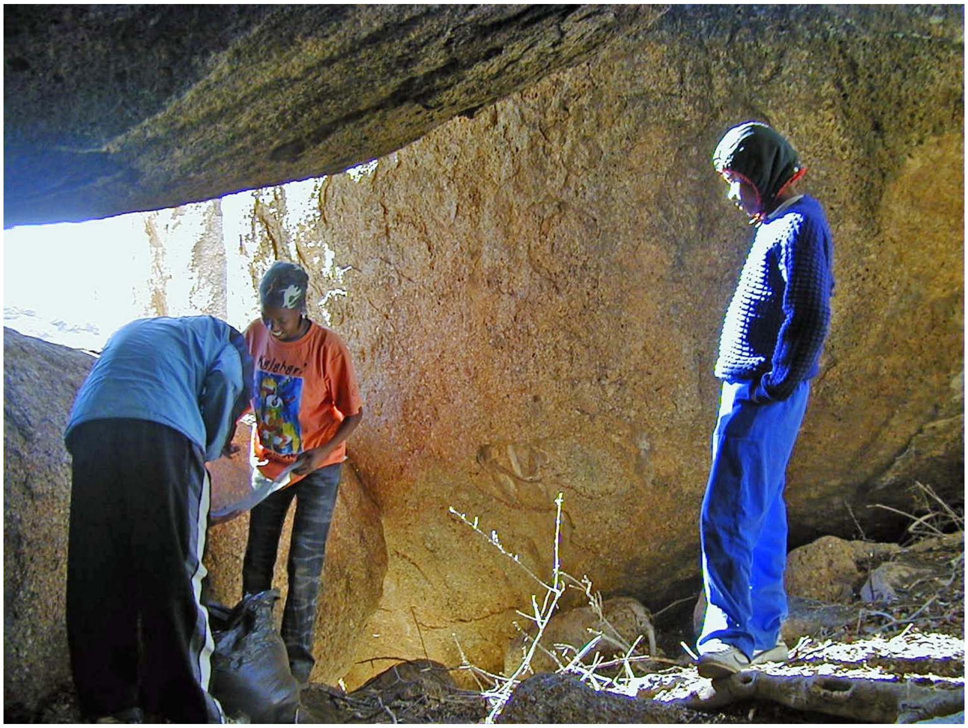

Figure 3.25: University of Botswana students screening excavated sediment from test excavation at AK47 shelter, 2003.

Toward the end of Level 3, bone fragments, charcoal, and botanical remains (marula seeds) were found as the sediment became more compact and darker, likely representative of undisturbed materials. Throughout the test excavation, the density of materials remained high, with more types being found as we progressed: specularite (specular hematite); ostrich eggshell and ostrich eggshell beads; flaked stone; glass beads; and ceramic sherds of a wide variety of thickness, color, and design (Figure 3.26).

Figure 3.26: Field photo of some of the decorated ceramic sherds found during the test excavation at AK47 shelter, 2003.

As the excavation of the test unit progressed, it became apparent that a large stone that was protruding out of the east wall of T1C was going to create a stability problem for the sidewall of the unit and would likely fall out. To remedy this, since I decided to devote more time to testing AK47 because of what we were finding, I decided to open up a second 50 x 50 centimeter excavation unit adjoining T1C to the east, T2A. The excavation of T2A progressed the same as T1C, with the same density of materials with the addition of iron flakes appearing in Level 7, and the appearance of an iron hoe (Figure 3.27).

Figure 3.27: Field photo of iron hoe found during test excavation at AK47 shelter, 2003.

Both units were excavated to Level 12 (about 60 centimeters below the surface) until we had to stop due to too many larger stones in the units. Thus, we were unable to reach the bottom of the deposits, but for the purpose of testing it was a generally satisfactory end due to what we had found.

3. NEXT STEPS

I later selected AK47 for further excavation in 2004 to form the bulk of the material component of this research project, and the results of this excavation are discussed in the next chapter. In addition to the expansion of the AK47 excavation, that same year I decided that I wanted to test the possibility of excavating at another site, an occupation on top of Thamaga hill, the site of a multi-home occupation that was likely inhabited by Bantu-speakers who migrated to the area. The reason for this was to ascertain if this hilltop site was contemporaneously occupied with AK47, as well as to characterize the occupation there and the potential depth of the cultural deposit.

3.1 TESTING BOTLHANO FELA (45-D1-43)

During Sadr's 1996 survey and excavations in the Thamaga area, he noted that on top of Thamaga hill "there are scatters of Moloko potsherds, stone alignments, and patches of burnt mud-walling" that he believed indicated the "remains of a Late Iron Age settlement" (Sadr 2002: 35). During the 2003 survey and testing phase of this project, we explored the top of Thamaga hill, locating this unnamed location and recording it in a more complete manner. The rains of 2002/2003 had not been good the previous summer, so there was very little grass cover on the site, making seeing the stone alignments (short and long walls, a large stone cairn, circles) and surface artifacts, such as ceramic sherds and a broken grinding stone, very easy to see.

Returning in 2004, the opposite was the case, with good rains bringing the remains of very tall, dense grass cover to the site (Figure 3.28) making locating the low stone features somewhat difficult.

The site is located near the summit of the western end of Thamaga hill in a large flat, open area bounded by tall granite boulders to the north and a very steep cliff to the south. To access this area, a long, narrow pathway bounded on both sides by tall boulders opens out at the end, emphasizing the private and hidden nature of the hilltop site (Figure 3.29).

Figure 3.28: University of Botswana students, barely visible in the high grass, surveying the site of Botlhano Fela on Thamaga Hill, 2004.

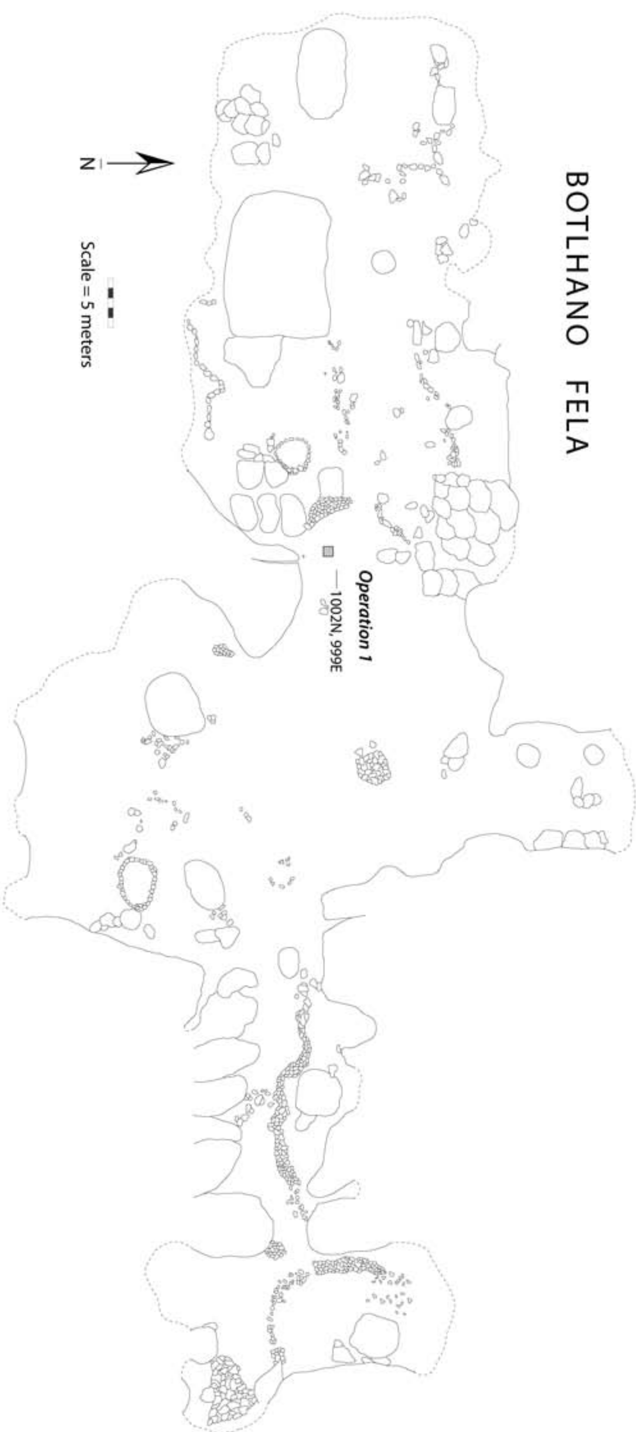

Figure 3.29: Plan view of Botlhano Fela with 2004 test unit (*Operation 1*) indicated.

After completing the excavation at AK47, I had formulated a plan to expand the scope of my research. Previous research in the area at rockshelters assumed to be inhabited by 'foragers' made arguments based on contact with nearby 'farmers', but no 'farmer' village or homestead sites had been excavated or located in the Thamaga area. Because of this, and my interest in looking at contact in the area as well as evaluating arguments that had been made by Sadr and Robbins, I wanted to evaluate this hilltop site, now named *Botlhano Fela*, potentially inhabited by 'farmers' to see if it had been occupied contemporaneously with AK47 shelter.

To begin we marked an arbitrary point near the center of the site and placed meter tapes north-south and east-west. Along the north-south line, we spaced ourselves out at 1 meter increments and walked east and then west, making digging small "cat holes" with our trowels about every 1 meter as deep as the trowel is long to locate a promising area for a test excavation unit. When artifacts were found in a hole, a pin flag was placed to mark the location. Using this method, a visual determination was established as to probably artifact concentrations at the site, at least for the later occupations, and a location was selected to place a 1 x 1 meter test unit.

In order to account for the scattered nature of the site, with evidence for contemporaneous occupation of the hilltop in at least three distinct areas, I established a false origin system (Hester *et al* 1997: 208-209) for the site's datum point, locating it off-site to the southwest. To achieve this, a subdatum was established near the area selected for the test excavation and given the coordinate of 1000 meters north, 1000 meters east, and 1000 meters in elevation above the datum. This would allow for any possible further excavation at the site to utilize the same grid. From this subdatum and elevation point marked on it, we staked a 1 x 1 meter test excavation unit at 1002N/999E.

Progressing in five centimeter arbitrary levels, we excavated with the intention of trying to reach the sterile sediment or bedrock below, a goal that turned out to be a lofty one. The surface sediment continued for about 15 cm, before changing to a sediment of a slightly different texture and color. Throughout both of these stratigraphic deposits, the density of artifacts remained constant: ceramic sherds, ostrich eggshell beads, glass beads, and bone fragments. Toward the end of the second stratigraphic layer, different types of artifacts appeared: bone points and flaked stone. This transition, marked by a new stratigraphic layer, contained a increasing volume of flaked stone as we progressed into the much harder and compact sediment.

In the second stratigraphic layer we came upon a circular stone feature, roughly 80 centimeters in diameter (*Feature 1*; Figure 3.30).

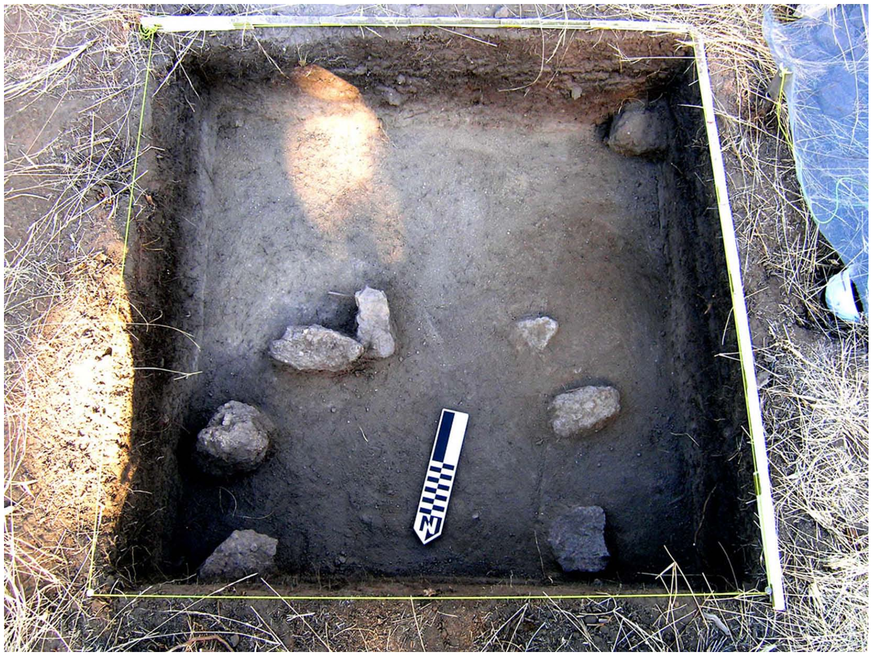

Figure 3.30: Stone circle in test excavation unit (1002N/999E) at Bothlano Fela, 2004. North arrow indicates magnetic north.

The sediment within the circle was not ashy or contained any other indication of burning, so it was not a combustion feature such as a ring for a fire. In ethnohistoric contexts in Botswana (Figure 3.31), circular stone bases are often built to support mudbrick (*dagga*) granaries for storing grains and other plant materials to keep them off of the ground.

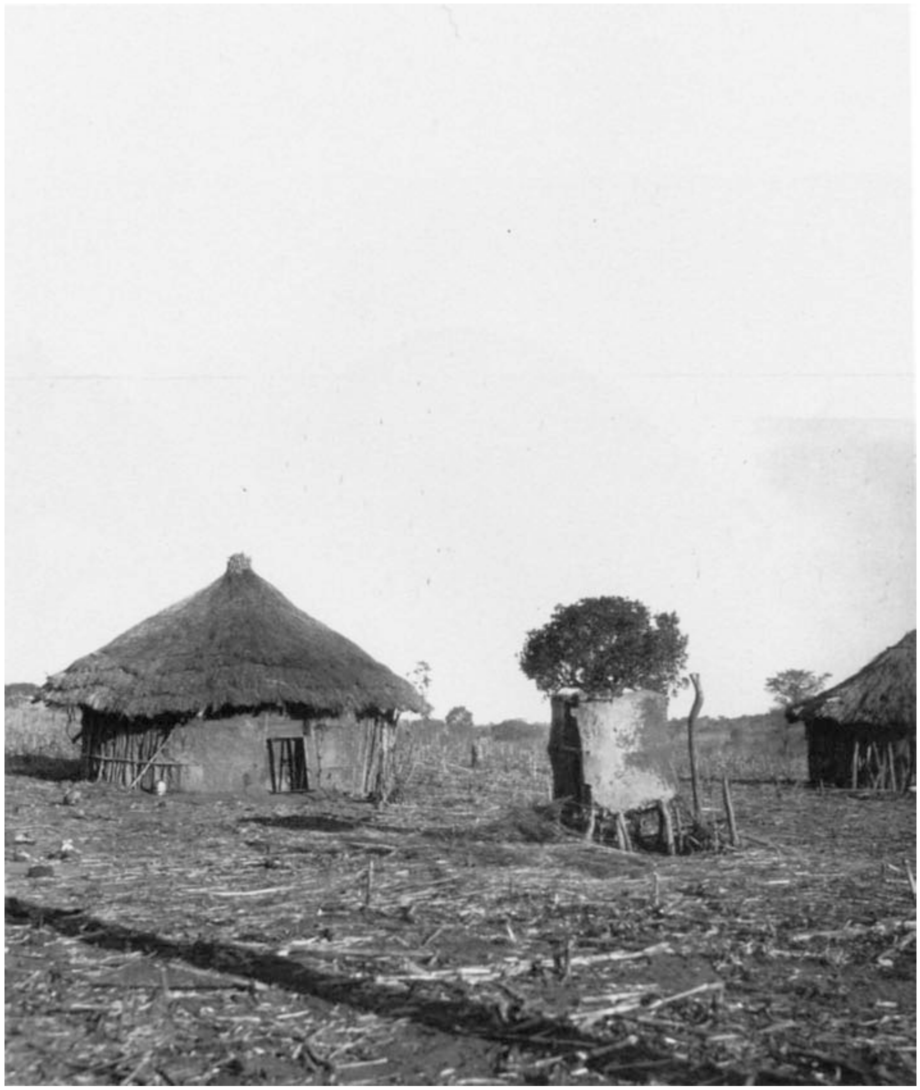

Figure 3.31: Plate 6.10 Huts and grainary in harvested cornfield [RAI-3978] (taken by Isaac Schapera in southeastern Botswana during the 1930s, from Comaroff *et al.* 2007, reproduced with permission from the Royal Anthropological Institute)

If these stones were the base for a taller mudbrick structure, no remains were found to indicate this. A sample of the sediment inside the stone circle was collected for floatation, but no plant materials were recovered after analysis. Despite the circle's ambiguity, I expect that it is representative of a domestic context. In this stratigraphic layer, we also encountered a deep ashy lens (Figure 3.32), not far below the location of the stone circle but not definitively associated with it, that grew into a pit as we excavated down, and all sediment was excavated and screened separately. Samples were taken for floatation, but no botanical remains were found.

Figure 3.32: Ashy lens in test excavation unit (1002N/999E) at Bothlano Fela, 2004.

The ashy deposit (*Feature 2*) contained numerous whole bones (Figure 3.33), and it was clear from the adjacent sediment that this was a pit that had been dug into the harder surface below, possibly as a singular or short-lived feature for refuse disposal from an associated domestic context.

Figure 3.33: In situ cattle (Bos taurus) vertebrae located in the ashy pit deposit at Botlhano Fela, 2004.

Excavation of the compacted sediment of the third stratigraphic layer became increasingly difficult since it was so dense with flaked stone and small gravel, so we decided to stop at 70 centimeters below the ground surface since our time was short, and continue excavating the ashy deposit to its base to 120 centimeters below the ground surface (Figure 3.34).

Figure 3.34: Test excavation unit (1002N/999E) at Botlhano Fela showing the completed excavation of ashy midden deposit.

Despite not reaching the end of the deposits at Bothlano Fela, it appeared to be a very interesting multi-occupation location, and bone samples were sent for AMS dating to determine the dates of occupation. Unfortunately, no datable materials were recovered from the compact, flaked stone filled sediment, but looking at the flaked stone tools morphologically the sediment can be relatively dated to the Later Stone Age and likely the Middle Stone Age before that, evidencing a significant time depth of forager occupation or use of this open-air hilltop area.

I made a decision to return to Botswana in 2007 to excavate further at Bothlano Fela since dates from the site evidenced a likely overlap in the temporal occupation of the site with the nearby rockshelter of AK47. This would provide information about two potentially different groups of people (foragers and farmers) living in close proximity, their interaction, and access to local and extended trade networks before the larger population movement of Tswana-speakers into southeastern Botswana. The results of the expanded excavations at AK47 shelter and Botlhano Fela are discussed in the next chapter.

Chapter 4: Excavations, Storage Archives, and Oral Traditions

This chapter is a continuation of the discussion about the methods and process I used in obtaining the bulk of the materials for this research, the excavation of AK47 shelter and Botlhano Fela, as well as the incorporation of previously excavated materials and recording of oral histories/traditions. The following chapters, 5-7, discuss the excavated materials in depth via their analysis and results.

1. THE PINKERTONS

In Thamaga, close to the turnoff to Thamaga Hill on the tarred road that leads between Thamaga and Molepolole lies a very large house with a thatch roof, a sprawling fenced lawn, a small adjoining house, and a small church. This hard-to-miss location gives the air of money and importance. It is the home of a Lutheran missionary family, the Cooks, that is originally from Missouri, the state I was born in. They work with a US-based group that has a goal of translating the bible into all languages and converting people to Christianity. After working in Thamaga in 2003, in 2004 I decided that it was time that I stopped in for a visit to this *moruti* ('church pastor'), Richard Cook, and his family.

While conducting fieldwork, it was easier not to shave since we were camping and a beard helped to keep me warm through the cold winter nights in Botswana. Interestingly, there are a number of white male missionaries that have passed through Botswana, and it appears that they universally have a beard. Adding to this, it seemed that when I was in Thamga, the Cook family was back in the US. My appearance, their absence, and other reasons related to my excavation that I will discuss later, caused many people in Thamaga to think that I was a *moruti* and Richard Cook's replacement when he was gone.

We drove to the Cook's house, an opulent mansion when compared to the modest cement block homes with metal roofs and dirt yards next to it. Upon pulling up and getting out of the Hilux, Jenny, an American woman came out of the small adjoining house to greet us. She informed us that the Cooks were in the US and she was just passing though on her way to carry out missionary work. When she found out that we were conducting archaeological research, she insisted that we must meet the Pinkertons, a missionary family temporarily living in Thamaga until they could establish a base camp deep in the Kgalagadi to proselytize among San and Bakgalagadi peoples living there. She got into the Hilux and guided us through some house rows to a compound with a high cement block wall and a large metal gate, oddly different from the surrounding house compounds with their low, often vegetation, fences.

Jenny led us to their gate, and calling to them inside, one of the family's four children opened the metal gate for us. Jill Pinkerton came out, and the children quickly gathered around her to greet us. After introductions, Jill apologized to us that her kitchen was in disarray since they were packing to move and that she was sorry to not be able to offer us tea. After a brief exchange, Jenny decided to say goodbye to us and left to walk back to the Cook's compound. We talked with the

Pinkerton family about the archaeological research we were doing in Thamaga, striking a chord with the family.

"Have you seen the handaxes scattered around?", they asked us.

"No," we replied, "where?".

The kids led us around to the side of the house where there was a table, on which about ten Acheulean handaxes were laid out. We hadn't seen these types of stone tools around Thamaga and asked where they had found them, and Mrs. Pinkerton suggested that the kids take us there. Before we set out, she invited us for a 7AM breakfast the next morning so that she could give us tea and we could meet her husband.

We set out for a walk with all of the children and their huge Rhodesian Ridgeback, Fox. Just outside the village, between Thamagane hill and an unnamed smaller one, we encountered a large wash area created by the rains spilling down from the hillsides. Climbing down into the meter-deep meandering cuts we saw numerous handaxes protruding from the sides of the cement-like compressed sediments. I took GPS coordinates for the area to later fill out a report for the National Museum and record the location, and we headed back to the Pinkerton compound. On the way back, the kids told us a local story about the big snake with the head of a *lekgowa* ('white person') that lives on top of Thamaga hill, a common story throughout the country. What made this version unique, is that people say the large white survey marker on top of the hill turns into the snake if someone climbs on the hill, but that during the day you were safe because the snake comes down the hill in the morning, turns into a person and takes the bus to work in Gaborone, returning in the evening after work to climb back up the hill to turn into a snake.

Go serame! The next morning was very cold, and the small metal camping table outside of the tent where we stored supplies was covered in a light layer of frost. Knowing that a warm breakfast would be waiting for us, we quickly got ready for the day and loaded into the truck that I had been warming. Despite running the truck for about 10 minutes, the heat on mornings like that didn't start working until we were almost to town. Arriving at the Pinkerton's walled compound just starting to defrost, we were ushered inside to the house's tiny living room filled with boxes and stacked odds and ends that, combined with the large family, made the room feel very small, intimate, and slightly uncomfortable. Jill let us know that most of the family had already eaten breakfast since there were so many of them and there was not enough room at the table for all of us to eat at the same time.

Out of the kitchen came the younger children carrying bowls with kitchen towels draped over them, jars of different types of jam, and three cups of tea. After removing the towels to reveal small homemade rolls, we were led in a prayer by Jim Pinkerton before breakfast began.

This experience, and the conversation we had that morning, was most unexpected.

Over breakfast, we caught Jim up on our conversations with his family from the previous day about the research we were conducting in Thamaga. While this was interesting to them, as an anthropologist, I was fascinated to hear about their lives in Africa. Jim had been raised as a missionary working in the Ituri Forest in the Congo with his parents, and after living in the United States for awhile, returned there with his own family to continue missionary work. He had many interesting stories to tell about clearing the forest to build a landing strip so that the missionaries could receive supplies, giving the Efe people bibles and pocket knives, participating in group hunts in the forest, and finding archaeological sites. Having read Colin Turnbull's *The Forest People* (1961) and various accounts of interaction between foraging and farming groups there (ex. Grinker 1994), I was intrigued about their experiences in the Ituri Forest. At one point, the family told us about the skills that the kids learned from Efe children and proceeded to show us the bows and metal arrows that they had learned to make. We also learned that the family had been reassigned by their church to Botswana due to the increasing danger of living in the Democratic Republic of Congo since there were some violent conflicts taking place in the area.

Despite the fascinating morning conversation, we headed out to get working on site and the Pinkertons resumed packing up their belongings for their move to proselytize in the Kgalagadi Desert.

2. AK47 SHELTER, 15 JULY – 4 AUGUST, 2004

After conducting a test excavation at AK47 shelter in 2003, I decided to return in 2004 to expand on these units for a larger excavation at the site with two of the University of Botswana students that had helped me during the previous year, O'boy Kalanke and Lawrence Masoga. The selection of this site was based on a number of factors:

1) richness and diversity of the archaeological materials found in the deposits

2) results of AMS dates obtained from charcoal

3) proximity to previously excavated sites in the area

During the 2003 test excavations, it became clear that AK47 shelter had not only been occupied, but that a wide range of activities was likely represented there based on the diversity of cultural remains we encountered. AMS radiocarbon dates that I obtained from charcoal at AK47 placed the deposits at 380±60 BP (uncalibrated, Beta-186764; Figure 4.1, 501-303 calBP[1] at 2 sigma) and 400±40 BP (uncalibrated, Beta-186765; Figure 4.2, 496-324 calBP at 2 sigma). Although I had hoped that these deposits would show a greater time span (which they

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[1] Radiocarbon dates were calibrated using the SHCal04 southern hemisphere atmospheric curve (McCormac *et al* 2004) since I was unable to obtain the software or equation for the Pretoria calibration curve.

eventually would with further excavation), they fit nicely into the reported ranges of occupation in the Thamaga area based on the research of Robbins and Sadr (Table 4.1 and Figure 4.3).

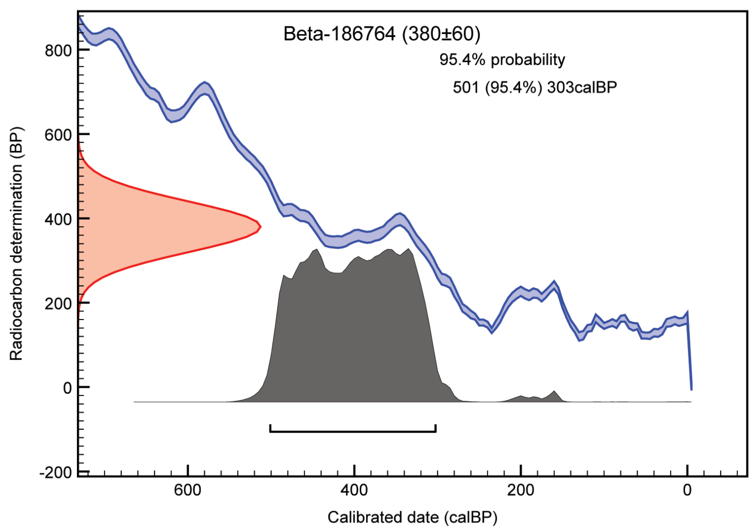

Figure 4.1: Plot of calibrated BP (2 sigma) date of first sample from test excavation at AK47 shelter using OxCal v4.1.3 Bronk Ramsey (2009) and the SHCal04 southern hemisphere atmospheric curve (McCormac et al 2004).

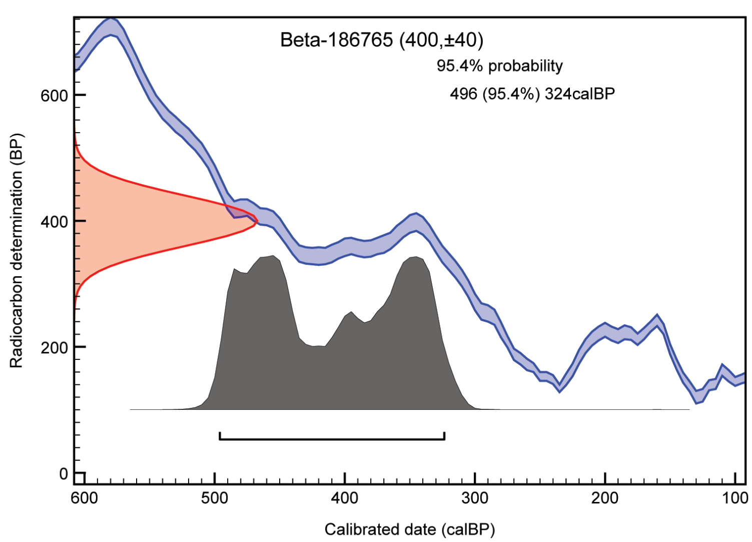

Figure 4.2: Plot of calibrated BP (2 sigma) date of second sample from test excavation at AK47 shelter using OxCal v4.1.3 Bronk Ramsey (2009) and the SHCal04 southern hemisphere atmospheric curve (McCormac et al 2004).

Table 4.1: Radiocarbon dates from the Thamaga area sites. Radiepolong, Thamaga I, and Ostrich shelter (Thamaga hill). CalBP dates were obtained using OxCal v4.1.3 Bronk Ramsey (2009) and the SHCal04 southern hemisphere atmospheric curve (McCormac et al 2004).

Lab Number	**Uncal bp**	**Material**	**Location**
"Late Contact" (Sadr)			
Beta-107601	140±60	Charcoal	Ostrich shelter (Sadr 2002)
Beta-107603	200±60	Charcoal	Rad Cave (Sadr 2002)
Beta-107602	290±50	Charcoal	Ostrich shelter (Sadr 2002)
AK47 (Cohen)			
Beta-186764	380±60	Charcoal	AK47 shelter
Beta-186765	400±40	Charcoal	AK47 shelter
"Early Contact" (Sadr)			
GrA-14457	660±50	Bone	Rad Trench (Sadr 2002)
Beta-107604	800±60	Charcoal	Rad Cave (Sadr 2002)
Beta-107605	820±70	Charcoal	Rad Trench (Sadr 2002)
GrA-14456	850±50	Bone	Rad Trench (Sadr 2002)
"Precontact" (Sadr & Robbins)			
I-13181	1190±90	Charcoal	Thamaga I (Robbins 1984)
Pta-7388	2150±60	OES	Rad Trench (Sadr 2002)
GrA-14458	3000±50	Bone	Rad Trench (Sadr 2002)
Pta-7389	3150±45	OES	Rad Trench (Sadr 2002)
Pta-7392	4100±50	OES	Rad Trench (Sadr 2002)
Pta-7386	4170±60	OES	Rad Trench (Sadr 2002)
I-13183	4510±130	Charcoal	Thamaga I (Robbins 1984)

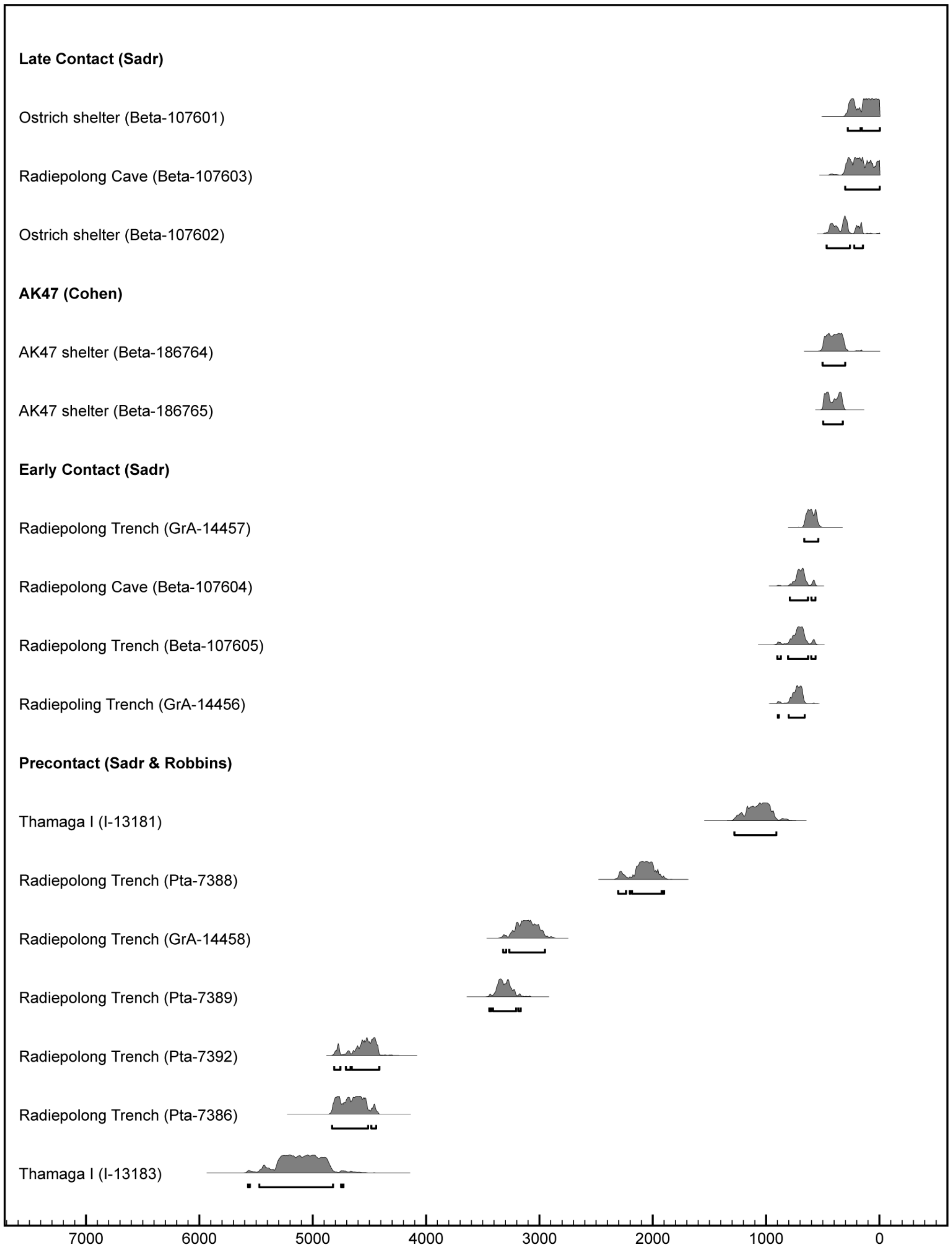

Figure 4.3: Plot of calibrated BP (2 sigma) dates from excavated sites in the Thamaga area including two dates for the test excavation at AK47 shelter using OxCal v4.1.3 Bronk Ramsey (2009) and the SHCal04 southern hemisphere atmospheric curve (McCormac et al 2004).

The occupational dates of AK47 were particularly exciting to me in my reevaluation of Sadr's arguments, discussed in Chapter 1, in that the rockshelter was occupied precisely during the time span during which Sadr had argued that foragers living in the Thamaga area had become owners and herders of small stock and heavily reliant on farmers. Sadr's argument was based on a before- and after-contact (between foragers and farmers) comparison coming from two different sites vs. viewing changes as they occurred at one locale. Therefore, AK47 shelter had the potential, combined with previous research, to develop a better understanding of changes that occurred in the lives of foragers living in the area as they potentially came into increasing contact with farming groups through trade and direct contact.

The excavation in 2004 began with reestablishing the north-south datum line and line level for elevation readings from the previous year, and then marking out five 50 x 50 cm units to be excavated (Figures 4.4 & 4.5). Units were given a number/letter designation, and the two excavated units from 2003 were assigned to this system: F7 and F8.

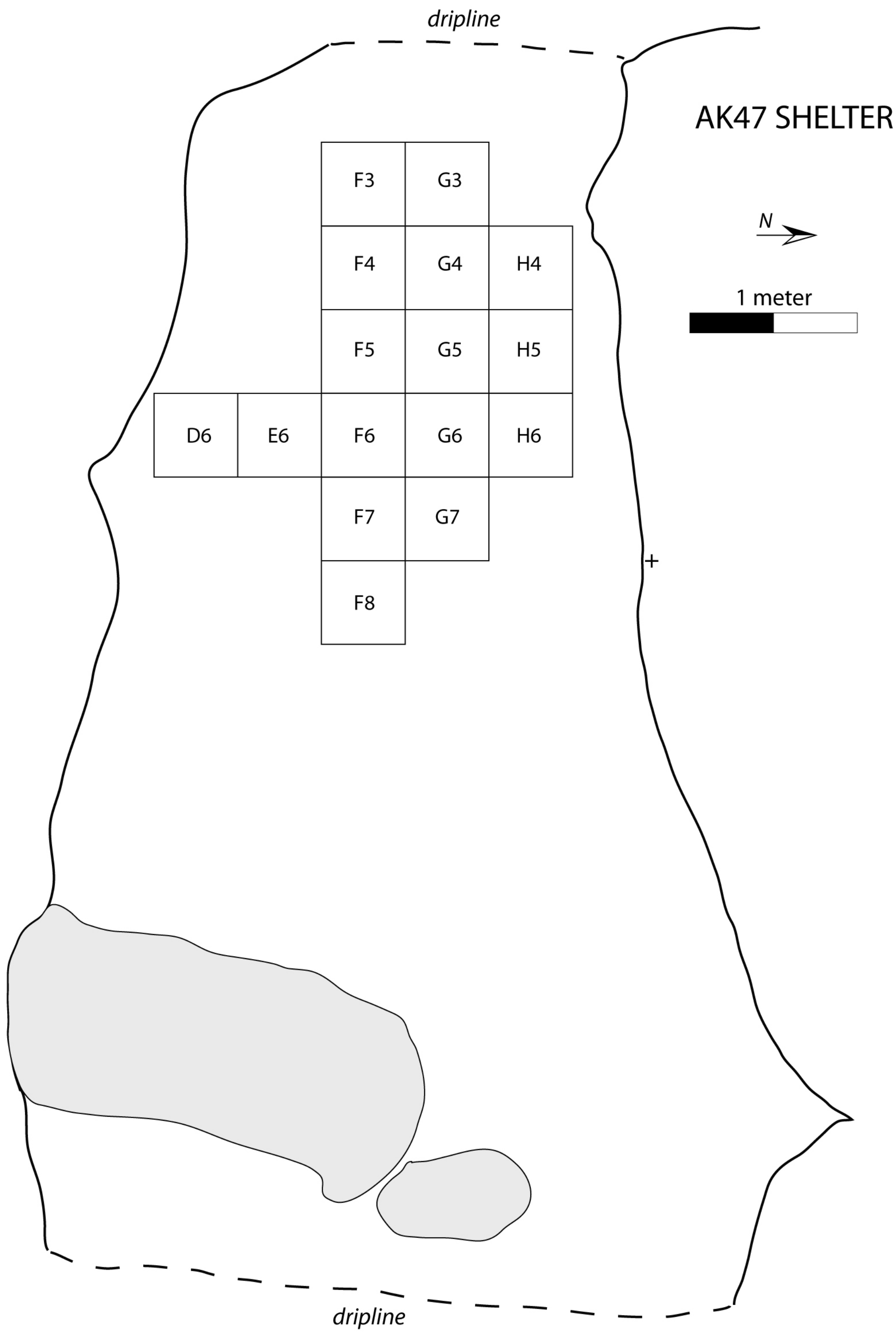

Figure 4.4: Plan drawing of AK47 shelter with excavation units indicated.

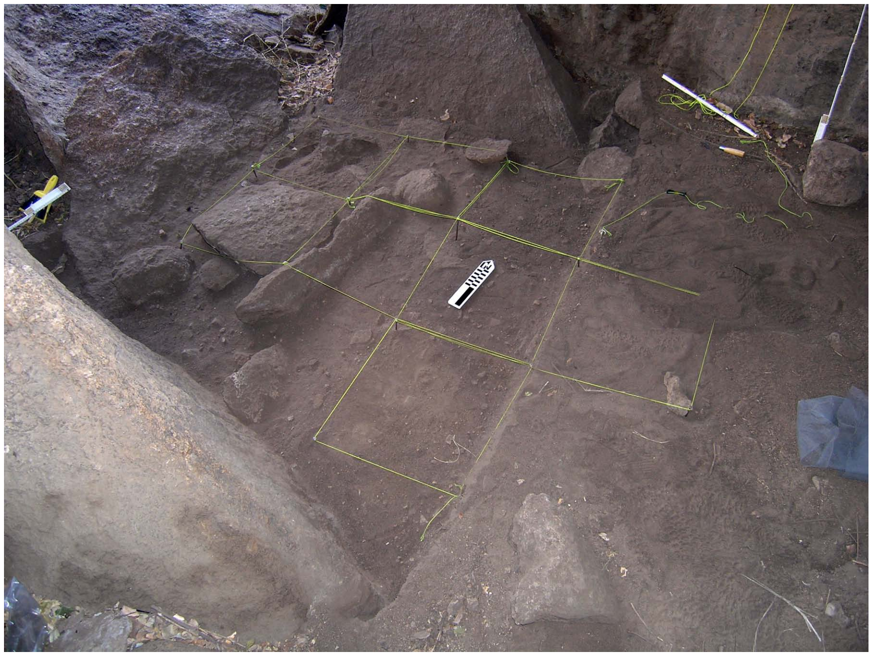

Figure 4.5: Photo of a possible living surface early on in the excavation of units at AK47 shelter looking northerly. North arrow indicates magnetic north. 2004.

Because the upper layers of sediment were so dry and loose, I decided that we should excavate all of the units contemporaneously to allow us to see horizontal surfaces better. Also, I had hoped that this technique would reduce the problem we had in 2003 of large, flat stones protruding from adjacent units that significantly reduced the area that could be excavated in the units and would have required excavating adjacent units to remedy the situation. O'boy and myself excavated adjacent units in the same arbitrary 2.5 centimeter levels as in 2003, while Lawrence screened all sediment (Figure 4.6) through the same flexible 1/16 inch screen previously used to catch small glass seed beads that were not found in situ and mapped while excavating.

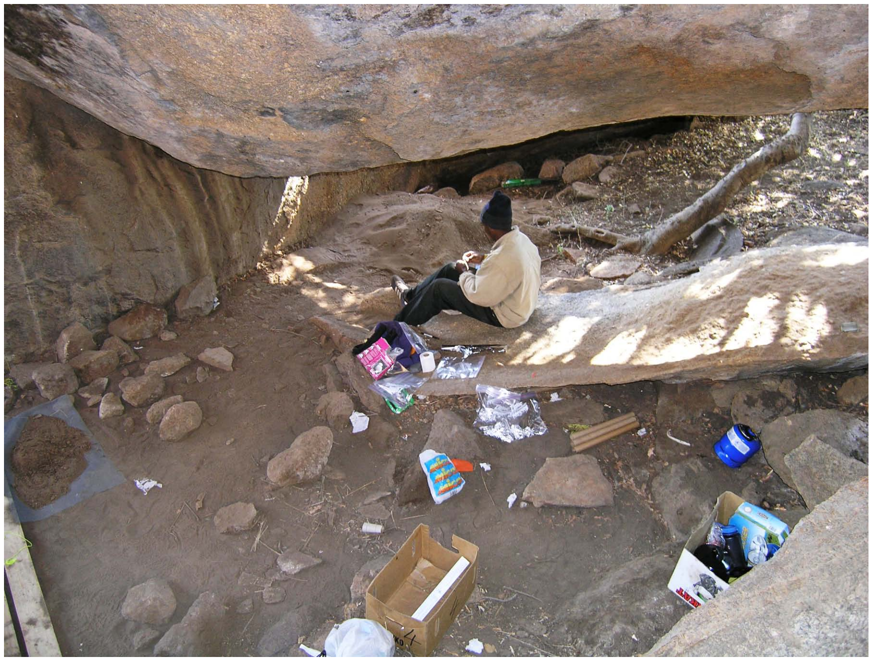

Figure 4.6: Lawrence wrapping and labeling artifacts recovered from the screen at AK47, 2004.

Excavating the upper sedimentary levels, we began to find more of the same types of materials as we found in the test excavation units: ceramic sherds, ostrich eggshell beads, glass beads, bone fragments, specularite. As we progressed, some new finds expanded the diversity of materials from we found at the site: a fragment of a grass mat, stones from marula tree fruit (*Sclerocarya birrea*), an upper grinding stone, an iron point, and other materials.

At the end of Level 2 of unit F6 (and continuing into unit G6), we encountered a flat, fibrous object that might have been a thickened base or lid portion of a woven basket, a flexible net bag, or even possibly a fragment of a woven or compressed grass mat (Figure 4.7). We were very careful with removing it and trying to keep the structure intact. In her excavation at Big Elephant shelter in South West Africa (now Namibia), Lyn Wadley mentioned finding a woven grass mat preserved on the surface of the rockshelter (Wadley 1976), but I do not know of any basketry being found archaeologically in Botswana, likely because it would not have preserved in an unprotected context.

Figure 4.7: Upper and lower views of remnants of fibrous object at AK47 shelter. The north arrow indicates magnetic north. 2004.

In addition to the plant fiber structure, Level 2 in unit F6 and the adjoining unit contained many stones from marula tree fruit (*Sclerocarya birrea*). While some appeared to be scattered randomly, a number of them were concentrated in one area very close to the fibrous object, possibly buried in the ground as a cache. Alternatively, they could have been stored in the degraded basket or another type of perishable container. Some of the stones appeared to not have had their caps removed with the seeds still inside, while others had been popped off, by people or naturally, and no longer contained the seeds. Marula fruit is fleshy when ripe, and widely eaten throughout southern Africa, containing a walnut-sized stone that, when dry, exposes 2-3 small circular caps to chambers inside containing nutty-flavored seeds that are high in fat and protein (Figure 4.8).

Figure 4.8: Ripe marula fruits (*Sclerocarya birrea*, above) and seeds extracted from their stones (below).

Because the upper layers of sediment in the shelter were so loose, I decided to build a small decking system. This allowed us to lie down while we excavated deeper without worrying about our bodyweights collapsing the edge of the excavation area since it distributed our weight to cement blocks placed away from the units. The morning of 21 July we went to a hardware store to purchase the cement blocks and wood was an interesting one.

> “They think that we are building a Lutheran church on the hill,” said O’boy, translating a conversation between two women that we could hear as they passed by the base of Thamaga hill when we started up the hill to continue our excavation.
>
> “What?! Why do they think that?” I replied.
>
> “They say that you are a *moruti* for the Lutheran church filling in for the one that is away, and that you are carrying wood and cement blocks up the hill to find a good place to build a new church.”

I laughed, finding the idea very funny. Lawrence, a born-again Pentecostal Christian, found the idea hilarious as well, and responded by removing a large roll of aluminum foil from its box and waving it around in the air to reflect light and attract attention while singing Christian songs. O'boy joined in, and it became their running joke that they would repeat when people were watching us on the hill from afar.

We pressed on with the excavation, and encountered the same problem as in 2003, larger stones in the units and spanning multiple units that made vertical excavation difficult. These stones were likely used at some point by the shelter's inhabitants as well as the result of exfoliation from the boulders above. If we had been excavating in 1 x 1 meter units or excavating a larger surface area of the shelter these would not have been such a problem. Also, on the western edge of the shelter (seen on the left side of the photograph in Figure 4.5), a boulder had fallen and split in two, capping the sediments below while making them inaccessible for excavation without splitting the boulder open. While this sometimes occurs in rockshelter excavations in southern Africa, it was beyond the means of this research project. In addition to the split boulder, a large piece of granite, likely after the site was occupied, exfoliated from the larger boulder and fell onto the shelter's surface below (Lawrence is sitting on it in Figure 4.6). The culmination of these obstacles meant that, while we were able to expose some larger surfaces, for the most part they prevented this goal of my excavation. In addition, we could not definitively say that at 72 cm below the ground surface we had reached bedrock or the terminal archaeological deposits.

Other notable finds from the excavation included a thin iron adze (Figures 4.9 and 4.10), a small fragment of ivory, more types of glass beads, copper wire, many large pieces of specularite, a wound copper bead, and three possible upper grinding stones or hammerstones.

Figure 4.9: Iron adze in situ, Level 9 in unit E6, 32cm below the ground surface, 2004.

Figure 4.10: Iron adze head from unit E6 of AK47 shelter.

As with the test excavation units in 2003, highly discernable natural stratigraphy was not recognizable during excavation or in drawing the unit profiles.

There were, some distinct lenses of sediment and ashy deposits seen and recorded while we excavated, but they were generally very ephemeral. One notable ashy lens was likely the remains of a small fire used to roast a small monitor lizard, represented by its vertebrae and mandible. While this may represent the discarded portions from a meal, as I will discuss later, this could also be indicative of another use or user of the rockshelter perhaps performing a rainmaking or other type of ritual.

To gain a tighter chronological control over the sedimentary layers at the site, additional AMS radiocarbon dates were obtained: 315±35 (uncalibrated, CAMS-120209, Figure 4.11), 420±30 (uncalibrated, CAMS-120211 Figure 4.12), and 435±35 (uncalibrated, CAMS-120210, Figure 4.13). The date obtained from CAMS-120209 represented the first and earliest directly-dated instance of a cow (*Bos Taurus*) in southeastern Botswana, but likely not the oldest.

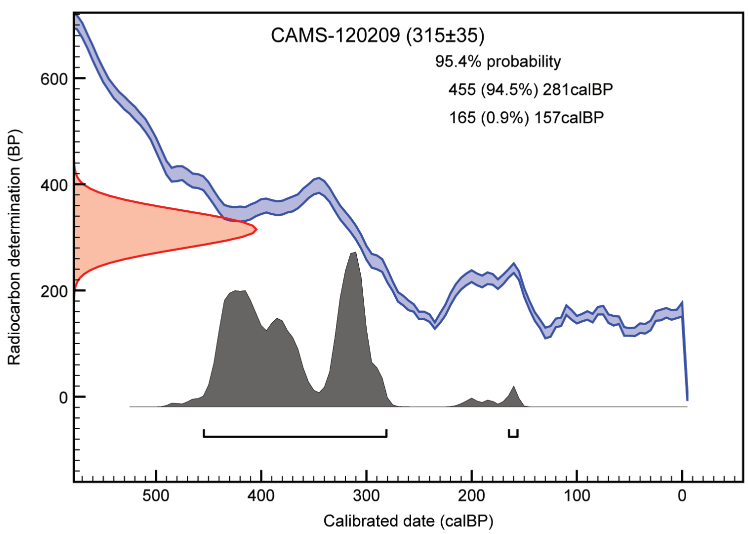

Figure 4.11: Plot of calibrated BP (2 sigma) date from the 2004 excavation at AK47 shelter using OxCal v4.1.3 Bronk Ramsey (2009) and the SHCal04 southern hemisphere atmospheric curve (McCormac et al 2004).

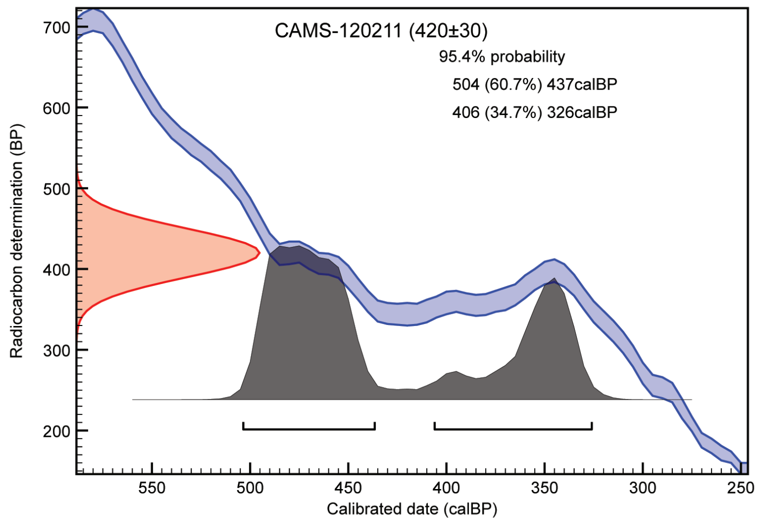

Figure 4.12: Plot of calibrated BP (2 sigma) date from the 2004 excavation at AK47 shelter using OxCal v4.1.3 Bronk Ramsey (2009) and the SHCal04 southern hemisphere atmospheric curve (McCormac et al 2004).

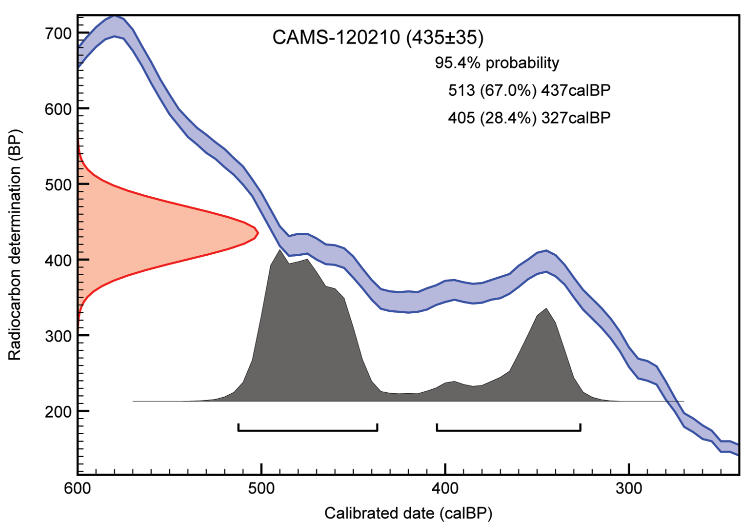

Figure 4.13: Plot of calibrated BP (2 sigma) date from the 2004 excavation at AK47 shelter using OxCal v4.1.3 Bronk Ramsey (2009) and the SHCal04 southern hemisphere atmospheric curve (McCormac et al 2004).

These three new dates pushed back the initial occupation of AK47, as well as pushed forward the terminal occupation, providing a record of repeated occupation of the rockshelter for a span of about 100 years. In addition, discussed below, this expanded record of occupation became even more important when expanded dates were obtained from Botlhano Fela.

3. DAGGA, THE SECRET POLICE, AND A THIEVING MONKEY

Wednesday, 29 July was an interesting day for us. What we thought would be a normal day of excavating with chilled bones from the cold late-winter winds turned out to be nothing but. We arrived at Thamaga hill as usual, parked the Hilux at the base, and began our early morning climb up the hillside carrying our excavation gear and lunch supplies to AK47 shelter. As the morning progressed, we noticed a vervet monkey in a tree on the hill in the distance watching us, and since Lawrence was waiting for some sediment to screen, he took the opportunity to harass the monkey a bit by using our meter stick, inside an orange padded sleeve to appear like a gun and making firing noises at it. The monkey was unimpressed, and Lawrence gave up his taunting. Moments later, we fell victim to their plan to distract us while another one swooped into the rockshelter and swiped our loaf a bread in a blur of fur, bread and dust.

Lawrence was furious, made even worse by the monkey's next act, to perch itself on a boulder just up the hill from us where it proceeded to tear into the plastic bag and look down on us as it furiously stuffed its cheeks with wheat bread (locally referred to as "brown bread"). Still reeling, Lawrence began to hurl stones at it, ultimately resulting in him getting some satisfaction when the monkey dropped the loaf of bread down into a deep crevice where it could not retrieve it, and looked at it sadly below.

Lunch that day was scant, having only our usual slurry of tinned beef with onions and tomatoes, and we were still hungry. With stomachs grumbling, we worked into the afternoon until suddenly, two men quickly turned the corner and entered the rockshelter.

"*Dumelang borra*," said the police officer, followed by a man in plain clothes. We were a bit startled.

It turned out that someone from the village chief's family had decided to complain to the police about our truck parking near the cemetery fence every day and, being a prominent family in town, they were forced to investigate. The second man was a member of the "secret police", and he had been brought along because the police were convinced that we were hiding on the hill to smoke *dagga* (Setswana word for marijuana) and that they would catch us in the act and arrest us. Instead, they were more surprised to find us not doing that, and stayed for a little while to watch us excavate and ask questions about what we were doing and finding. They assured us that since the chief knew we were there and what we were doing, that they didn't see any problem with us parking where we did. Regardless, I parked a little further from the fence after that as not to ruffle any feathers in town since everyone in the village knew our truck and the *lekgoa* ('white guy') who was driving it.

4. BOTLHANO FELA EXCAVATION

Discussed in Chapter 3, the test excavation we conducted in 2004 after finishing at AK47 shelter yielded results that were more interesting and had more time depth to them than we expected. In addition, a single date obtained from a sheep bone (*Ovis aries*) from the excavation of the ashy pit, 310±30 (uncalibrated, CAMS-120208; Figure 4.14), placed the lower sedimentary levels of a herder/farmer occupation at Botlhano Fela in line with the terminal occupation of AK47 shelter. This date was also the first and earliest directly-dated instance of a sheep in southeastern Botswana, but very likely not the oldest.

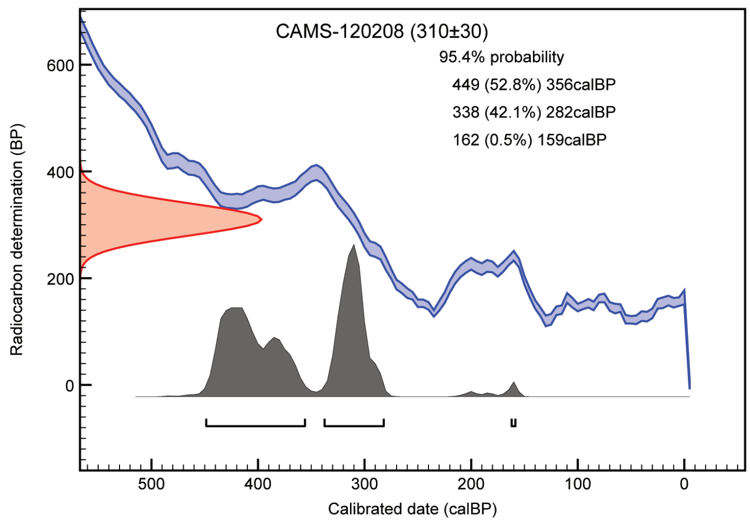

Figure 4.14: Plot of calibrated BP (2 sigma) date from the 2004 test excavation at Botlhano Fela using OxCal v4.1.3 Bronk Ramsey (2009) and the SHCal04 southern hemisphere atmospheric curve (McCormac et al 2004).

After the 2003 survey phase of this research, I began the process of applying for a Dissertation Improvement Grant from the National Science Foundation to fund the excavation phase. After an unsuccessful first attempt, I received the Andrew and Mary Rocca Thomson Scholarship from the Center for African Studies at the University of California, Berkeley, and used this money to cover the cost of the 2004 excavation at AK47 and test excavation at Botlhano Fela. After that, I reapplied for NSF funding with the proposed intention of committing two field seasons to the excavation of Botlhano Fela and analysis of excavated materials. In 2007, I finally received NSF funding for excavation and analysis, but because of the time that had passed, the excavation plan necessarily was condensed into one field season and reduced in scope. The goal of the 2007 excavation at Botlhano Fela was to:

1) expand on the test excavation of 2004 to develop a better understanding of the stratigraphic deposits

2) sample different locations of the site to determine the extent and intensity of occupation

3) obtain a more representative sample of archaeological materials from the different occupations of the site, especially those that might indicate interaction with foraging groups

4) attempt to reach bedrock or sterile deposit

5) create a plan map of the hilltop and its many constructed stone features

4.2 EXCAVATION AND DOCUMENTATION

When we arrived on 5 July to the top of Thamaga hill, the hilltop looked very different than it did in 2004. The summer rains had not been good, and there was very little grass cover on top of the site, making it very easy to see materials on the surface, as well as all of the stone alignments scattered throughout the area. This year I was conducting a field school for University of Botswana students studying archaeology, and had four with me (Thabo Motshwari, Phidelia Dintwe, Goleba Lesoba, and Baone Ramaselele) along with a fellow graduate student from UC-Berkeley (Lee Panich) and later joined by a local professional archaeologist (O'boy Kalanke) who assisted with previous aspects of the Berkeley-Botswana Archaeological Project. I proceeded to find the subdatum that I had placed in 2004, and with little searching it was still in place covered with just a little layer of sediment since I had pushed it into the ground to lessen the chance of a curious person walking away with it. The test excavation unit, 1002N/999E from Operation 1, had not fared as well. Before we left in 2004, we backfilled the test unit. Unfortunately, this freshly dug square hole was just too tempting for a local villager to resist, and much of the test unit was dug out, in addition to digging horizontally into the ashy deposit that I had hoped to expand on (Figure 4.15) due to its possible association with a domestic context. Incidentally, the same thing happed to our backfilled excavation at AK47 shelter.

Figure 4.15: Dusty work in 2004. Test unit dug out by someone, 2007.

To begin, we laid meter tapes on a north-south and east-west axis and spread out to repeat the 'cat hole' testing process that we had done in 2004 since I had lost my record of this from the prior test excavation at the site. Spacing out at 2 meter intervals, we dug small holes to test for archaeological materials and recorded the materials found at each hole before filling them again. Based on surface features and this subsurface testing, three areas were selected for excavation, far less than the original scope of the project, but realistic based on the amount of time and personnel available.

4.2.1 Operation 2

Due to the density of materials just below the surface and proximity to the test excavation unit and a semi-circular stone feature that might have served as a windbreak, a 2 x 2 meter area was designated, consisting of four excavation units: 1002N/1001E, 1002N/1002E, 1003N/1001E, and 1003N, 1002E (see Appendix for profile drawings). This area is Operation 2 (Figure 4.16).

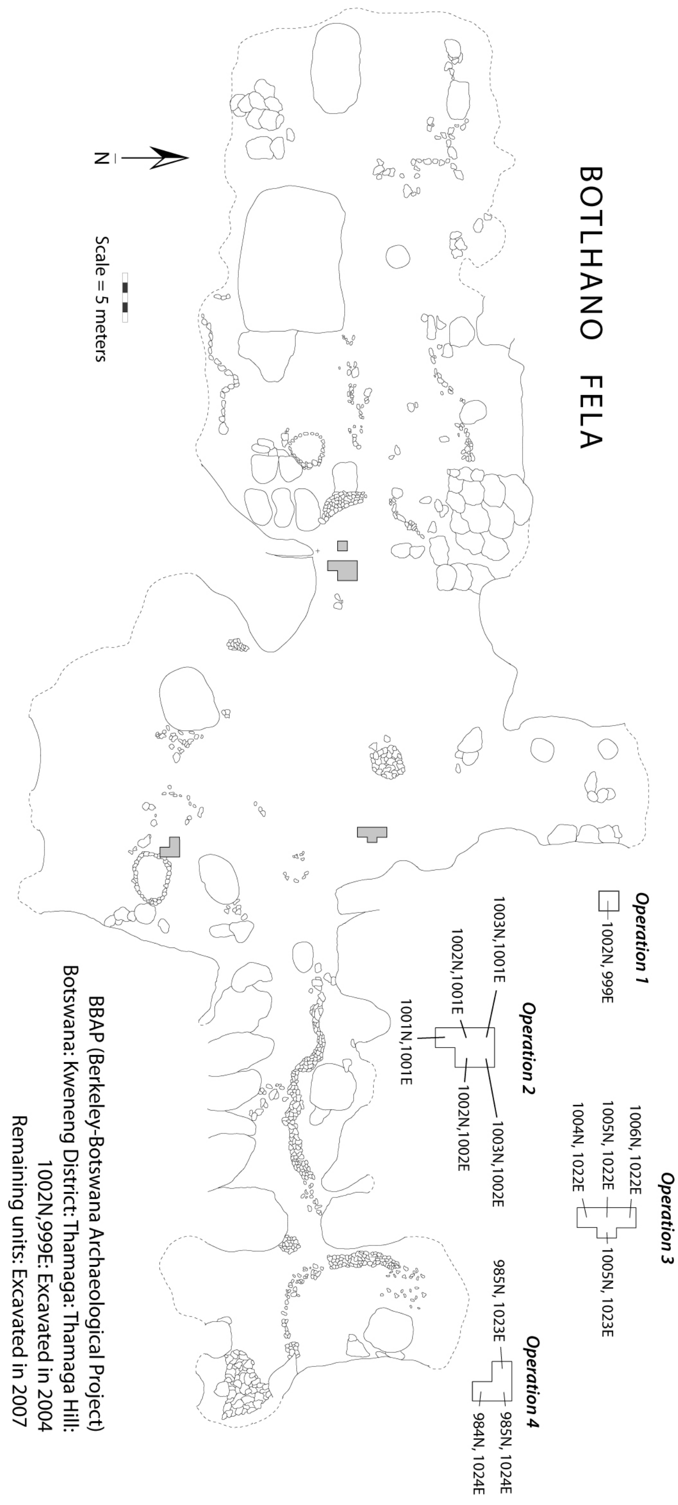

Figure 4.16: Plan drawing of Botlhano Fela, top of Thamaga Hill. Operations are indicated by shaded areas.

Keeping with the excavation methodology used in the 2004 excavation, arbitrary levels of 5 centimeters were excavated and all sediment was screened through a 1/16" inch screen. In addition, stratigraphic changes were recorded using a zone designation (ex. Zone 101) that could be correlated across contiguous units and the site, and changes in sediments were excavated and screened separately when encountered within the same arbitrary level. The stratigraphy, however, was almost level.

In this operation, three distinct stratigraphic deposits were recorded.

> Zone 101: 10YR 3/2, surface sediments and just below. Fine-grained sediment with small amounts of gravel
>
> Zone 102: 10YR 5/3; lighter and powdery fine-grained sediment with areas of small white gravel
>
> Zone 103: 5YR 4/3, darker, increasingly more compact sediment with greater amounts of small reddish-brown gravel and larger stones in the deeper portion of the deposit

Within the first two levels, a variety of objects were found—ceramic sherds, bone fragments, bone points, ostrich eggshell beads, and glass beads—and continued until about Level 8/9 with the stratigraphic change to Zone 103 and sediments containing little more than flaked stone. In Level 7 of 1003N/1002E we encountered an area of compacted sediment (*Feature 3)* a few centimeters thick that covered about half of the unit, with the rest likely extending into the sidewall. This could possibly have been a living surface or other type of constructed platform surface formed from air-dried clay or dung, such as the floor to a hut or patio area outside of a home, and the possible surface was left intact while the rest of the unit was excavated to the next level, as well as the adjoining unit 1002N/1002E to uncover more of it (Figure 4.17).

Figure 4.17: End of Level 8 (possibly Level 9) in 1003N/1002E with compacted surface (*Feature 3*) left intact, 2007.

No other possible surfaces were encountered during the excavation, and the certainty of the one we found couldn't be bolstered. The second major human modification of the sediments that we encountered was in Level 13 of unit 1002N/1001E when we encountered the flexed knees of the individual, now referred to as Burial I. In the southern sidewall of the unit (northern edge of 1001N/1001E), a pit feature (*Feature 4*) was visible coming from Zone 101, but it was not visible during the horizontal excavation, and puzzlingly, seems to end just above the positioning of Burial I (Figures 4.18 & 4.19).

Figure 4.18: Profile drawing of unit 1002N/1001E South wall.

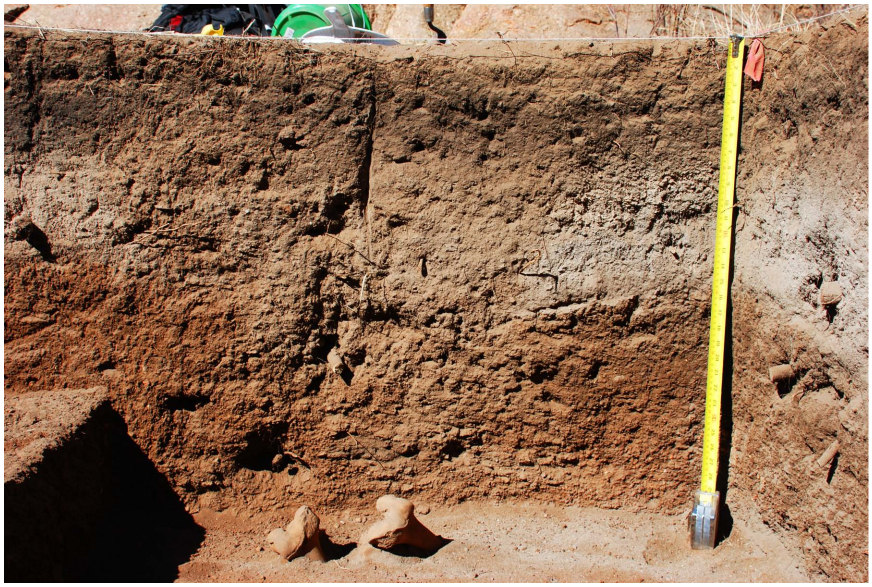

Figure 4.19: Photo of South wall of unit 1002N/1001E showing three distinct stratigrahic layers, cut by a pit feature that tapers at the base. The distal ends of the femurs from Burial I are visible at the bottom of the image. 2007.

Once we encountered *Burial I* and realized what it was, I decided that unit 1001N/1001E would need to be excavated since it appeared that the lower portions of the individual's legs were protruding into that unit. I had not expected to encounter burials in the excavation, and was even more surprised when we later encountered two more. Thus, a discussion of the burials at Botlhano Fela is presented later in this chapter.

The final aspect of *Operation 2* was to attempt to reach bedrock to sterile deposits. Zone 103 was very hard and compacted, and for the most part was a conflated deposit of nothing but flaked stone and small gravel with very little sediment. Excavating through this deposit was very slow, and in hindsight, I wish that we had stopped excavating it earlier than we did to devote more time to other areas of the site. However, the mass of flaked stone tools and debitage (discussed in Chapter 7), very likely all dating to the Middle Stone Age period (200,000/100,000-35,000 years ago), were given to Anna Myrer, a student at the University of Oslo, Norway for her Masters thesis. At the end of Level 26 in 1002N/1002E, 130 centimeters below the present-day ground surface, I excavated a small hole in the center of the unit to try to reach the end of the cultural deposits (Figure 4.20).

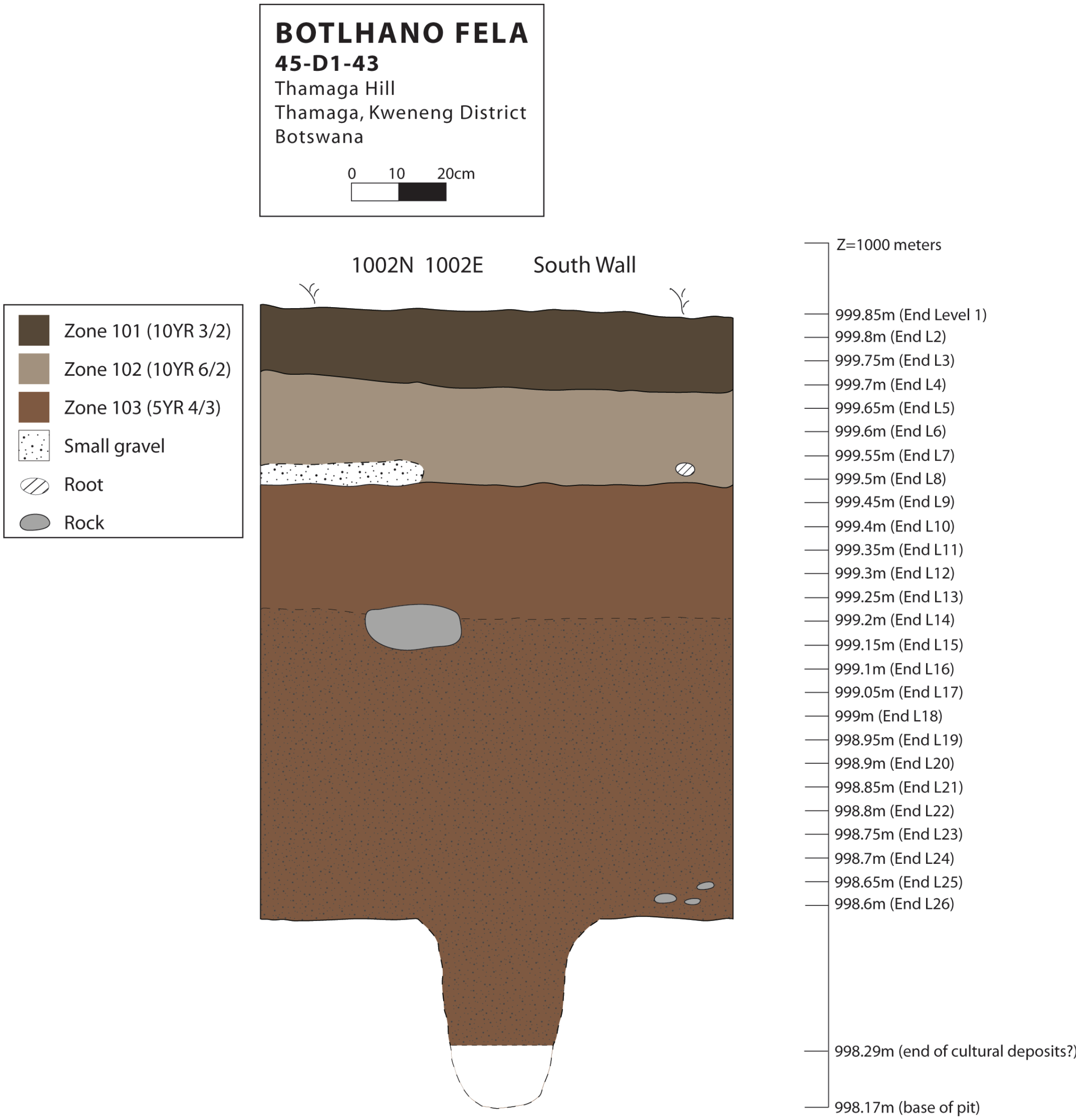

Figure 4.20: Profile drawing of unit 1002N/1002E Southern wall.

The hole was excavated to a depth of 173 centimeters, and it appears that at 161 centimeters, sterile sediment was reached. Unfortunately, no datable organic materials were found in the Middle Stone Age levels to obtain radiocarbon dates. Regardless, this very deep cultural deposit from a likely long-occupied site on an open area high on a hilltop represents the first excavated MSA site in southeastern Botswana with a long occupational hsitory, and an interesting open-air forager site.

4.2.2 Man with a plan

At the end of the day on 10 July, 2007, we climbed down the hillside as usual, excavation gear and artifact bags from the day in hand. We loaded the Hilux, and began to drive away from the hill and join the dirt road that encircles it when we were flagged down by an elderly man riding a bicycle. Pulling the truck alongside him and rolling down the window, he began to angrily yell at us in Setswana, while the students translated for me. He told us that he wanted to confront us for "taking things from the people of Thamaga." Reaching inside the pocket of a very worn tweed suit jacket, he produced a folded scrap of cardboard and showed it to us, explaining what each part of the drawing on it was. He described a plan that he was going to propose that involved building, at the base of the hill near the royal cemetery, a conference center, restaurant, hotel, and swimming pool. In addition, he told us that they would build a museum and wanted to display objects from Thamaga hill, which comprised what he and others had seen sitting on the surface. The largest part of his plan was to construct a cable car that would carry visitors from the base of the hill to the top (where Botlhano Fela is) so that people could see the stone walls there.

While it was nice to finally meet a person in Thamaga that showed any interest in what we were doing and the history there, it was unfortunate that it came under this circumstance. We attempted to talk to the man, explaining who we were and that we were working there in collaboration with the National Museum and with permission from the government and the kgosi. His reply continued to be very adamant that we were stealing. So, at the suggestion of the students, the man agreed to go to the kgotla with us to talk to the kgosi to attempt to resolve the conflict, a traditional way of settling matters there. He rode his bicycle the short distance to the kgotla, and on the drive there, I kept thinking to myself about ways that I could turn this into a positive meeting and develop an opportunity out of finding someone interested in the history that we were looking at.

The kgosi was not in since it was the end of the day, but the court officer there told us that the kgosi's brother was available as a representative. The meeting with the kgosi's brother turned out badly for the man, but I feel that it did for me as well. Not speaking Setswana well enough to communicate effectively about the situation with the man and the kgosi's brother, one of the students had to translate for me so I received his version of the conversation and I am not sure that he really communicated what I was asking him to say for me. The kgosi's brother explained to the man that we had permission to do what we were doing and that he should trust that we are not stealing since the conditions of my research permit and the country's laws protect any artifacts found there. This response was very unsatisfactory to the man and he decided that he would leave the meeting, likely feeling that he was not being taken seriously.

The next morning, we went to the kgotla to speak with the kgosi about the situation and be certain that we were not causing any conflicts or issues in the village. The kgosi, like his brother, brushed the encounter off, describing the man as a little crazy and affirming that since we had permits and his permission that we shouldn't worry about anything. After we left, I was a bit angry about the whole situation. For the tribal leaders, it was all an issue of proper documentation and bureaucratic approval instead of listening to the concerns of the people they represent. I still think about what I could have done in the situation, with my limited ability to communicate, to more effectively advance my hopes at more community collaboration and support. As an aside, sadly, the kgosi's brother suddenly died a few weeks later. Since I now have a belief in local traditions of 'witchcraft', I was sincerely worried and hope that our involvement in this frustrating encounter did not play a role.

4.2.3 Operation 3

While Burial I was being excavated, two new 1 x 1 meter units were designated, 1005N/1022E and 1004N/1022E, and the students began excavating them using the same methodology as Operation 2. At about 10 centimeters below the surface, artifacts were encountered, and in Level 3 the artifact density became high, with a large amount a flaked stone. Not long after the excavation began in this area, we encountered Burial II in Level 6 of unit 1005N/1022E. At this point, all of the students started to refer to me as a *sangoma* (traditional healer/witchdoctor) since I seemed to know exactly where to place my excavation units to encounter burials. Since it appeared that a forensic anthropologist who had been working on Iron Age burials in Botswana was interested in looking at Burial I, I decided that we could benefit from removing Burial II to gain a better understanding of the physical health and other information about the people that lived at Botlhano Fela.

To excavate Burial II, one unit was opened to the south, 1004N/1022E, and later 1005N/1023E as a 1 meter x 50 centimenter unit. While excavating in 1004N/1022E, we encountered bones from a disarticulated human foot that we thought belonged to Burial II, but on further excavation it became clear that from the positing of Burial II it was from a different individual, Burial III. Both of these are discussed later.

In this operation, two distinct stratigraphic deposits were recorded (see Appendix for profile drawings).

> Zone 110: 10YR 3/2, fine-grained surface sediments and just below
>
> Zone 111: 10YR 3/2, darker organic sediment with small- and medium-sized gravel

Given that the top of Burial II was so close to the present-day ground surface, it is likely that the archaeological materials from the upper levels were not in situ, and are instead the result of digging up sediment for the burial(s). This material was used for site characterization purposes only and not fully integrated with all of the other artifacts from the site.

4.2.4 Operation 4

While the Burials were being excavated and less than a week left in the field season, a fourth operation was defined at the site with three 1 x 1 meter units: 985N/1023E, 985N/1024E, 984N/1024E. These units were placed just outside of the surface remnant of a circular hut, represented by a stone circle and a raised floor, and would only be excavated down to the potential layer dense with stone tools if it existed in this part of the hilltop. In these units, excavated to Level 8, the same types of materials were found with the addition of iron ore and slag, providing an indication that the occupants of the site may at some point have practiced mining and metal smelting. Combined with others from the excavation, will be discussed in Chapter 7.

In this operation, only one distinct stratigraphic deposit was recorded (see Appendix for profile drawings).

Zone 120: 10YR 3/2, fine-grained surface sediments and just below

4.2.5 Burials

Finding three human burials was unexpected and unplanned for, and provided another interesting aspect of the archaeology at Botlhano Fela. On the surface of the site, there is a large stone cairn that I believe marks at least one burial since it is a common practice in Botswana today, as in the past, to cover burials with stones even if there is a headstone. When surveying in 2003, we climbed around the hills of Dimawe, known as the place of intense fighting between a group of Bakwena and Boers, and saw a number of stone cairns that very likely marked burials. At Botlhano Fela, I made certain to not excavate near the large stone cairn since I did not have any plans to excavate a burial nor anyone lined up to consult on one.

During Operation 2, while excavating in unit 1002N/1001E, at the end of Level 13, some larger bones were uncovered but it was not immediately apparent what they were when Lee Panich came upon them. Proceeding further in the unit, it soon became apparent that the bones were the distal ends of both femurs and the proximal ends of the tibia and fibula, hinting to us that we had likely encountered a person buried in a flexed position. In addition, the sediment, while not a very distinguishable difference in color, was much softer and less compacted than the surrounding Zone 103 sediment, making distinguishing the well-defined boundaries of the burial pit easy. A little further down we encountered the cranium. While it started to become apparent that the burial was mostly in 1002N/1001E, unit 1001N/1001E was necessarily excavated down to the level of the burial so the lower portion of the legs and feet could be exposed.

No grave goods were found with the individual in Burial I except for a triple strand of ostrich eggshell beads as a belt worn around the individual's hips (Figure 4.21; further discussed in Chapter 7). This might have been a decorative waist belt around a leather *kaross* (apron-like garment) the person was wearing.

Figure 4.21: Triple strand of ostrich eggshell beads around the waist of the person in Burial I at Botlhano Fela, 2007.

From a basic examination of the skeleton, the individual was a male of about two meters tall (based on general comparison to Baone) with no signs of arthritis in his joints or any other degenerative disease, and had intact and healthy-looking teeth, leading us to conclude that he was a young-full adult. The bones are in excellent condition, showing no signs of post-depositional modifications. He was buried in a flexed position and faced to the east, interesting because most burials at farming villages in the area have been found facing west toward the setting sun. His feet rested on a large granite bedrock boulder, most of which in exposed on the surface, that would have been encountered by the people digging the hole for the burial (Figure 4.22) ending at a depth of 121 cm below the present ground surface.

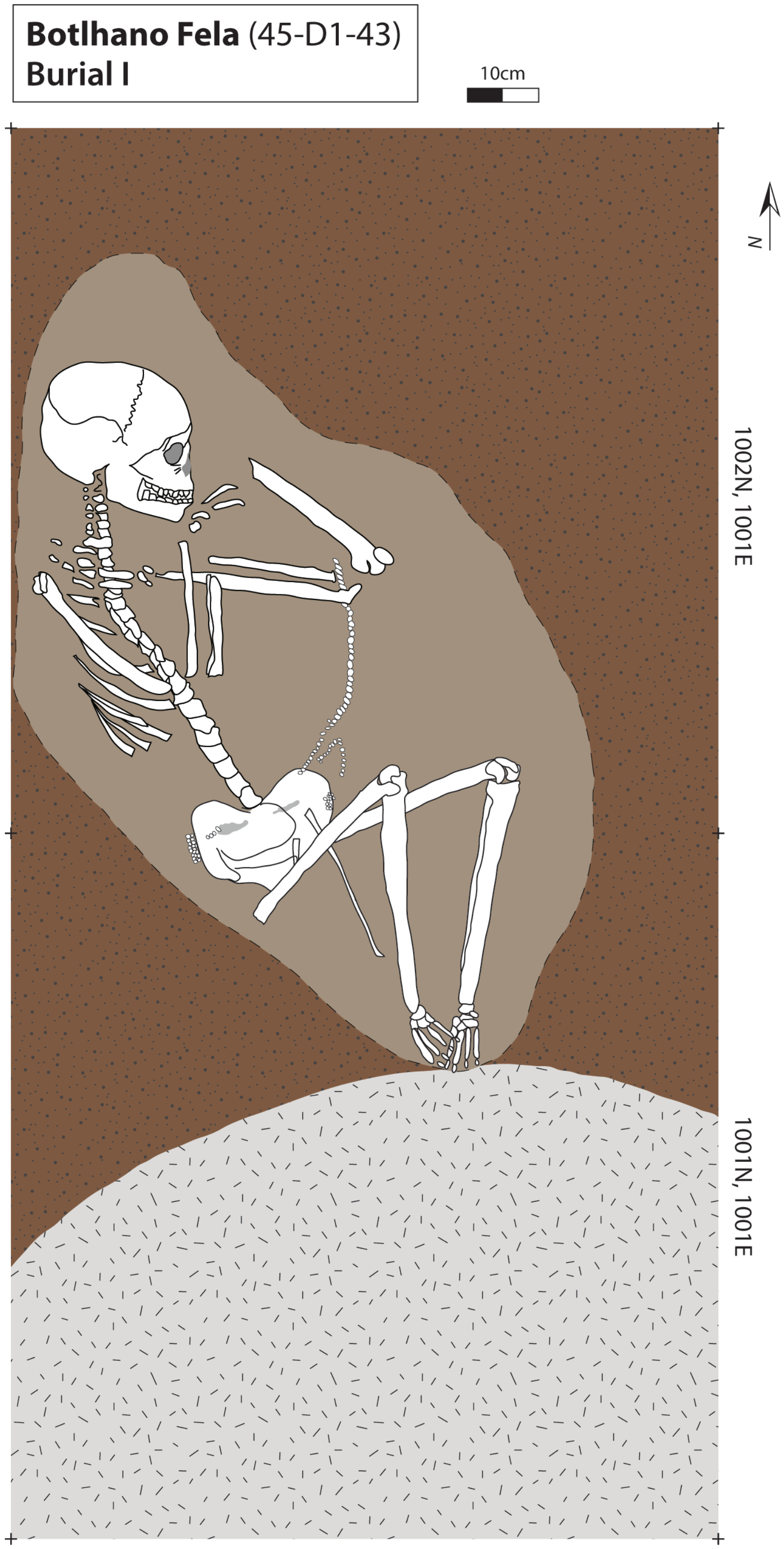

Figure 4.22: Drawing of Burial I at Botlhano Fela in *Operation 2*, 2007.

It is possible that his hips had been twisted when he was interred so that the lower limbs would face upward since not enough space could be made for them due to the boulder. Currently, I am still waiting for a complete report from a forensic anthropologist in Botswana, Dr. Morongwa Mosothwane. The burial was recorded completely with detailed descriptions, in situ drawings, and photographs throughout the excavation process. The burial and ostrich eggshell beads is now resting in the archaeological storage area of the Botswana National Museum in an area sectioned off for excavated burials as of 23 July, 2007.

While Lee was excavating Burial I, Operation 3 began with the excavation of 1005N/1022E and 1004N/1022E. Not long into the excavation, in Level 6 of unit 1005N/1022E, Baone encountered Burial II, the individual's right hand lying flat. Initially, based on the positing and bones that were exposed, we thought that this was a foot. After deciding to excavate the second burial, since Morongwa was interested in examining them, I opened up unit 1006N/1022E since it appeared that the cranium of the individual should have been in that unit, which it was not. In exposing Burial II, the knees of the individual were heavily impacted by the excavator's trowel. This hinted as to the condition of the bones, not very good and fragile. This was interesting, given that this burial was contemporaneous to Burial I and its excellent preservation, likely due to the high concentration of ash around Burial I, producing alkaline sediments that are good for bone preservation.

After finally exposing the burial and opening a 1 meter x 50 centimeter unit, 1005N/1023E, to uncover the remainder, the burial was recorded completely with detailed descriptions, in situ drawings, and photographs throughout the excavation process.

A very interesting aspect of Burial II was the positioning of the individual. When we encountered the burial, we first found the right hand lying flat. Excavating further, we found that individual's body was buried in a flexed position facing eastward, with the right arm extended upward. This was an odd find, and we discussed various ways that the arm could have gotten into this position. Finally, I made a decision, based on the very fragile nature of the bones, that after the recording process we would cover the individual with the excavated sediments and leave them in place since removing the bones would have likely broken most of them into pieces.

Lastly, while excavating in 1004N/1022E for Burial II, we encountered bones from a human foot that we initially thought belonged to that individual, but on further investigation, determined that it belonged to another individual. Thus Burial III was designated, but no further excavation was conducted to find the rest of the individual. The remains of Burial III are now resting in the archaeological storage area of the Botswana National Museum in an area sectioned off for excavated burials.

The effect of the burials on the integrity of the deposits presents an interesting point that must be noted. With Burial II, noted previously, all excavated material from this area is being considered as stratigraphically mixed due to how close the burial was to the present-day ground surface (approximately 30cm). With Burial I, if the pit feature seen in the south wall profile of 1002N/1001E (Figure 4.17) is assumed to be associated with the burial, then it can also be assumed that the cultural materials found in most of units 1001N/1001E and 1002N/1001E are likely stratigraphically mixed as well. However, if the pit feature is from the burial then the digging of the pit itself can be assigned to the same date as Burial I, which also means that the top of the pit, about 12 cm below the present-day ground surface is a temporal marker for a point in the stratigraphy of Zone 101. From this reasoning, it might be that the approximately 10 cm of deposit above the burial pit in 1001N/1001E and 1002N/1001E are in fact in situ, but as with the excavated materials from Operation 3, these will be treated separately. In addition, the materials from the pit feature will be treated and discussed separately.

4.2.6 More dates for Botlhano Fela

Upon consultation with a forensic anthropologist and head of the archaeology unit at the Botswana National Museum, the suggestion was made to directly date bones from the three burials that we encountered at Botlhano Fela. These bones were sent to the NSF supported AMS Radiocarbon Laboratory at the University of Arizona for analysis. Burial I, from Operation 2 at the site, yielded a date of 356±40 bp (uncalibrated, AA78184; Figure 4.23). Burial II, from Operation 3, yielded a date of 372±41 bp (uncalibrated, AA78186; Figure 4.24). Finally, Burial III, also from Operation 3, yielded a date of 663±41 bp (uncalibrated, AA78185; Figure 4.25).

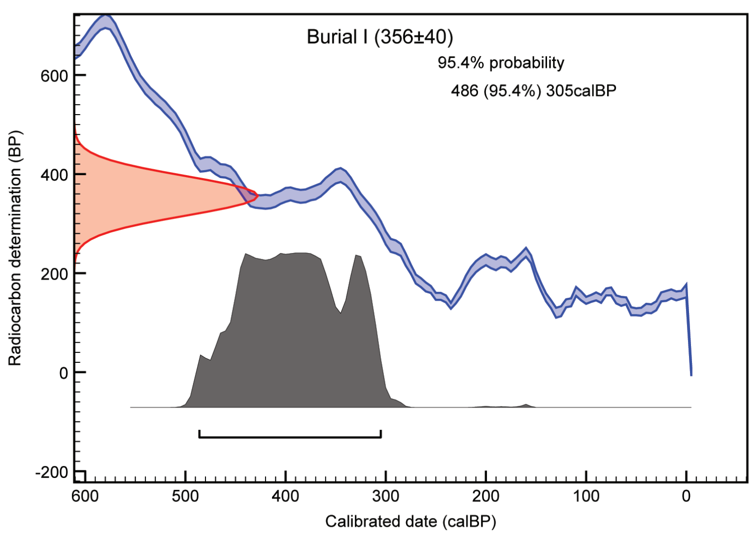

Figure 4.23: Plot of calibrated BP (2 sigma) date from Burial I at Botlhano Fela, 2007. OxCal v4.1.3 Bronk Ramsey (2009) and the SHCal04 southern hemisphere atmospheric curve (McCormac et al 2004).

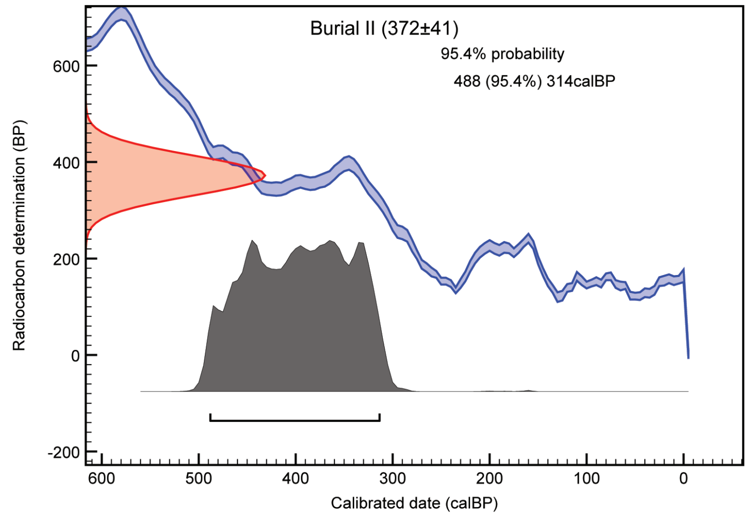

Figure 4.24: Plot of calibrated BP (2 sigma) date from Burial II at Botlhano Fela, 2007. OxCal v4.1.3 Bronk Ramsey (2009) and the SHCal04 southern hemisphere atmospheric curve (McCormac et al 2004).

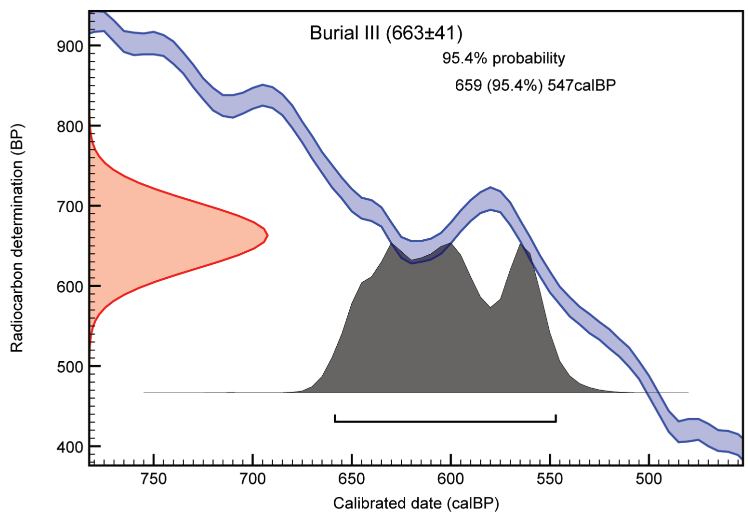

Figure 4.25: Plot of calibrated BP (2 sigma) date from Burial III at Botlhano Fela, 2007. OxCal v4.1.3 Bronk Ramsey (2009) and the SHCal04 southern hemisphere atmospheric curve (McCormac et al 2004).

5. MATERIALS FROM OTHER SITES

In addition to the excavated materials from AK47 shelter and Botlhano Fela, I wanted to expand my research beyond these two sites to be able to ask questions that related to the Metsemothlaba river valley in general. To facilitate this, I received permission to export sherds of decorated ceramics from all of the excavations, some of which were very limited in scope, that had taken place in southeastern Botswana. These materials consisted of 89 ceramic sherds:

- Moritsane: 18 sherds
- Manyana Rockshelter III (45-D3-4): 3 sherds
- Dithejwane (45-A4-18): 3 sherds
- Dithubaruba (45-A4-1): 6 sherds
- Broadhurst (45-D2-4): 13 sherds
- Magagarape (45-A4-21 & 45-A4-22) I: 9 sherds
- Thamaga Rockshelter I (45-D1-5): 17 sherds
- Radiepolong: 4 sherds
- Ostrich shelter: 10 sherds
- Rocky shelter: 6 sherds

These sherds were combined with excavated sherds from AK47 shelter and Botlhano Fela in XRF provenience analyses, discussed in Chapter 6. With ceramics forming the bulk of extra material incorporated from previously excavated sites into this study, other materials were ostrich eggshell and glass beads (Chapter 7), bone points (Chapter 5), and unanalyzed fauna from Moritsane (Chapter 5).

6. ORAL HISTORIES AND TRADITIONS

The last aspects of fieldwork I conducted, woven into the narrative of the Metsemothlaba River valley, are oral histories and traditions recorded during my 2005 fieldwork in southeastern Botswana. This phase was undertaken in my desire to possibly find some knowledge of the area and people that had been passed down to bring some possible stories to my interpretations of the archaeological sites in Thamaga.

In various conversations during the survey and excavation phases of this research, we often heard bits of knowledge that people had about the groups that had lived there before the Setswana-speakers had migrated *en mass* into southeastern Botswana during the 1800s, the 'San' and the 'Bakgalagadi'. Knowing that any group self-identifying as 'San' had been pushed into the Kgalagadi Desert or intermarried into 'Bakgalagadi' or other groups, I was intrigued with the conglomerate group of the 'Bakgalagadi' and the lack of knowledge of the histories in the area of the various groups that compose it today. Often, we would be told that all of these people had moved to Moshweng, a village (population of 976, in 2001) about 60km west of Molepolole, into the Kgalagadi, and in 2005 we traveled there to talk to the people living there to record their perspectives on the past of the area and their own group histories.

This aspect of my research was very interesting for not just what we learned, but also the difficulty in acquiring this knowledge. The passing on of oral histories and traditions is almost a lost system of knowledge in the places we visited, and it was almost always the oldest man in the village that people would direct us to after telling us, almost sadly, that they never learned the histories. In some instances, while we were conducting the interviews, other, generally younger people, would circle around and ask questions of the speakers themselves as they acquired this new knowledge.

All conversations were recorded, and digital and printed copies will be deposited in the Botswana National Archives. After completing this short aspect of my research, I wish that it had been a much larger part and that I had been able to devote more time to this since it is such an important archive of knowledge.

Since the village of Thamaga, where the sites being examined in this research are located, was settled for the last time in the early 1920s by a group of Bakgatla baga mmanaana after splitting off from the larger group that had been living just to the south in Moshupa, almost all of the present-day inhabitants do not feel that they are connected to the archaeological history there. Instead, they view the objects and places of the past in the area as remnants of the people who came before them: the 'San', then the 'Bakgalagadi', and lastly various groups of Setswana-speakers such as the Bakwena and Balete in the recent past.

Of these events and arrival of the Bakgatla baga mmanaana into present-day Botswana, a conversation with Sabata Keagile Matsila (b.1914) discusses the group's movements:

> **LM (Lawrence Masoga):** (In Setswana) *Gare ka botsa fela ka ditso tsa batho baba nnang fa, okare bolelelang fela ka bone, ditso tsa batho baba mo Thamaga? Like gore ba tswa kae ba goroga jang jalo?*
>
> (English translation) What can you tell us about the history of this area? Where are the people in Thamaga from and how did they arrive here?
>
> **SKM (Sabata Keagile Matsila):** *Go goroga ga rona, re dule kwa, kwa Transefala, ka 1852 mme ra nna dingwaga dile some, Schele a sena go gotswa mo Kolobeng lemo Dimawe . Re kopanetse le Mokgosi ko Ga-Kgatla, rabo reya go nna ngwaga dile some mo kweneng, rabo re tswa , erile Mokgosi a ya go aga ko ga Malete kwa , rona rebo reya ko Moshopa ka 1875.*
>
> We arrived here [in present-day Botswana] from the Transvaal in 1852, and we stayed for 10 years after Sechele [leader of the Bakwena] was from Kolobeng and Dimawe. We met Mokgosi [a Balete chief of Ramotsa, Otse, Gabane] in Ga-Kgatla [village along

Molepolole-Thamaga road], and we stayed for 10 years in Kweneng [District] and then moved. When Mokgosi went to GaMalete, we moved on to Moshupa in 1875.

LM: *Ke batla go itse gore gale goroga, a gone gona le batho ba ba neng ba nna fa ba ba satlholeng bale teng?*

When you arrived here, were there other groups living here?

SKM: Merafe e mentsi kana e nnile moga Thanaga

Many tribes stayed in Thamaga.

LM: Jaanong a ba setse ba dule?

Have they moved?

SKM: Ee ba setse ba dule, jaanong gotswa ko Moshopa ene ele ka dikgotlang tsaga Bathoen yo mosha le Gobuwamang yo mogologolo, ke gone gare tla kgaogana retswa koga Moshopa ka 64 retla go thibelela fa, ka gore erile ka 33 Gobuwamang a tshwarwa, Bangwaketse ba tsile koo koga ngwaketse ka metse leka dikgomo gore batle go aga mo go rona bare laola ko moshopa kwa, motse ke yole kwa wa tlapa la mogau, jaanong ebile batla ka kgosana ya bone morwa Bome gote Letototo.

Yes, they were already gone. Now from Moshupa it was due to the conflicts between the new Bathoen [BaNgwaketse chief] and the old Gobuwamang [Bakgatla chief]. That's when we split from Moushupa in 1864 and settled here, because in 1933 Gobuwamang was imprisoned. The BaNgwaketse settled in Moshupa, then came with their livestock, and their headman, the son of Bome called 'Letototo'.

…

LM: *Sa bofelo pele re tsamaya ke gore a gona le sengwe fela seo kare se bolelelang ka Thamaga gongwe bogosi jwa teng, tlholego ya teng, sereto gore se tlile jang,sengwe fela ka Thamaga sa ditso, se eleng gore gongwe re ka batla go se itse.*

Last one before we go, is there anything you would like to tell us about Thamga. Maybe the chieftanship, their origin, the story behind their totem. Anything historical about Thamaga?

SKM: *Rona re bina kgabo, re Bakgatla baga mmanaana, gale kaya go feta ko kgosing fale, kgomo e naana yele kega re kgaogana le Bakgatla bale baba kwa Mochudi kwa Sehikile,re kgaoganetse ko Sehikile kgosi ya rona eee re ntshitseng mo ene ele Kgatle, Kgatle ke ene yo o tsetseng Seepapitso, Seepapitso a tsala Mosiga, Mosiga a tsala Koontle.*

Our totem is the vervet monkey, we are Bakgatla baga mmanaana. If you go past the kgotla, you will see a drawing. That's when were splitting with the Bakgatla from Moshudi in Sehikile. Our chief then was Kgatle, Seepapitso's father. Then Seepapitso gave birth to Mosiga and then Mosiga gave birth to Koontle.

LM: *Sehikile ke kwa kae, kemo Botswana?*

Is Sehikile in Botswana?

SKM: *E ntse ele teng kakwa,kwa aferika borwa, kwano go tsile Mosielele morwa Koontle, bone ba buseditse ka kwa bale eleven, kwa ntle gaga Kgatle,bana baga Kgatle.*

No, still in South Africa. Here came Mosielele, the son of Koontle. Eleven of them ruled in South Africa except for Kgatle.

…

This part of one interview from 2005 provides some idea of the migration and leadership history of the Bakgatla baga mmanaana, and their social position in the past, and to some degree the present in Botswana, as they are currently imposed upon under the Bakwena leadership of the Kweneng District based out of Molepolole. Further aspects of the interview, along with others, relating to group histories and the 'Bakgalagadi' will be discussed later.

7. CONCLUSIONS

In the following Chapters, I present artifact-based interpretations that, combined with those from Chapters 3 and 4 based on contexts and features, form the basis for answering research questions and supporting arguments of this project. Every effort was made to find specialist collaborators in Botswana and South Africa that could analyze materials with which I was not as familiar, such as glass beads and lithics. Unfortunately, many of these soft commitments from other archaeologists fell through due to their own research projects and teaching commitments, and I have tried as best as I can to present the information I could attain about these artifacts in Chapter 7 so that the information can be useful not only in my own interpretations, but also for others.

Chapter 5: Zooarchaeological analyses

In this chapter I present the various analyses that I conducted on recovered faunal remains, as well as tools made from bone. Combined, these archaeological remains provide information about not only the people that lived at Botlhano Fela and AK47 shelter, but also about the animal populations that were living in the area and the environment while these places we being inhabited. In addition, ethnohistoric and personal accounts of animals in the area, will provide a temporal perspective in the greater Metsemothlaba River valley.

I analyzed all fauna according to standard zooarchaeological procedures (Reitz and Wing 1999) and used the type-specimen collection (Figure 5.1) in the Department of Archaeozoology, Transvaal Museum (Pretoria, South Africa) for skeletal comparisons. Bovid size classes follow those proposed by Brain (1974). Following the quantification method of Plug & Plug (1990), numbers of identified specimens (NISP) is used here for statistical comparisons instead of minimum numbers of individuals (MNI).

Figure 5.1: Zooarchaeological comparative collections at the Transvaal Museum, 2006.

1. RECOUNTING ANIMALS OF THE PAST

Although AK47 shelter and Botlhano Fela were occupied a few hundred years ago, travellers and missionaries during the 1800s often recorded information about the natural world they encountered. Ethnohistoric observations such as these can aid in archaeological interpretations of the more recent past, and in this instance, to think about how animal populations and possibly local environments have changed over time.

In 1826, Andrew Geddes Bain described the area as full of wildlife, with a huge herd of zebra, and many rhinoceros, giraffe, and buffalo. Bain observed two hunts of the Ngwaketse army taking place between Moshupa and Molepolole, just southwest and west of Thamaga, on their way to slaughter the entire Mantatee tribe living at Dithubaruba and collect all of their cattle (at least 2,000) and some sheep. In the first hunt, they killed 33 zebra, wildebeest, and eland combined (Lister 1949:61). In the second, they killed 70 zebra and wildebeest combined, and 3 eland (63).

In the late 1840s, Dr. David Livingstone, from his mission at Kolobeng about 13km east of Thamaga Hill, described seeing "very great numbers of large game, buffaloes, zebras, giraffes, tsessébes, kamas or hartebeests, kokongs or gnus, pallahs, rhinoceroses, etc., congregated at some fountains [springs] near Kolobeng (1858: 28)." He also mentions seeing members of the Bakwena tribe who were living near the mission using a *gopo*, a hunting technique that used constructed high vegetation fences to drive animal herds into a deep pit, killing 60-70 animals in a week.

A few years later, Roualeyn Gordon-Cumming (1856), a British hunter, also provides some accounts of the local fauna and details of the landscape while passing through in the early 1850s while stopping at Kolobeng to visit Dr. Livingstone:

> (After following the Kolobeng river through the mountains) "Emerging from this valley, we entered upon a more level country, still, however, densely covered with forest-trees and bushes in endless variety: here water was very abundant. We crossed several streams and marshes, the margins of which were the spoor of wild animals, that of rhinoceros, buffalo, and camelopard [giraffe] being most abundant—at one stream the fresh spoor of a troop of lions was deeply imprinted in the wet sand (156)."

On the eastern side of the mountain escarpment, opposite where the mission at Kolobeng was located, Gordon-Cumming describes the Ngotwane river environment:

> "On clearing the romantic valley of Bakgatla we descended into another beautiful valley, through which meandered the crystal

> waters of the Ngotwani, an interesting stream, which, flowing in a north-easterly direction, falls into the Limpopo about sixty miles below its junction with the Mariqua; the Ngotwani contains several varieties of fish, which are of good flavor, and afford the angler steady average sport both with bait and fly. After following for some distance the finely-wooded banks of this river, and having twice crossed its stream, we entered upon an extensive open tract of country adorned with a carpet of the most luxuriant herbage. This plain was beautifully wooded towards the mountain ranges which bound it on every side, and the Ngotwani twined in a serpentine course along the middle of it, forming in one part an extensive vley or marsh about four miles long and a quarter of a mile in breadth. This vley was now beautified with a dense crop of waving green reeds, averaging about fourteen feet in height, and forming a favorite resort of buffaloes and their invariable attendants the lions (1856: 252)."

In the same way that ethnohistories are useful, oral histories can be a valuable resource as well. One informant, Rra. Kalanke (b. 1940s) told me that when he was a boy in the Gabane area, he remembers seeing an elephant nearby and a few other game animals, but no large herds (as described by Livingstone about 100 years earlier). Rra. Matsila (b.1914), an informant living in Thamaga, helped hunt herds of small antelopes in the area using a *gopo* as a child. He didn't remember seeing any larger antelopes or other large game in the area.

Today, most people living in the Metsemothlaba River valley find it hard to believe that animals of the sort that most of them only see on television or tourism billboards lived there in the past. While there are a great number and diversity of animals living in Botswana today, most of them are concentrated in the northern areas near permanent water sources of the Okavango river delta and the Chobe River, and some are scattered throughout the Kalahari desert. In the area today, "animals like otter, waterbuck, bushpig, ostrich, brown hyaena, caracal, side-striped jackal, and civet remain, but in such small numbers that they are hardly ever seen." Also seen occasionally are "kudu, impala, leopard, bushbuck, mountain reedbuck, warthog, black-backed jackal, duiker, steenbok, klipspringer, baboons, and vervet monkeys" (Campbell and Main 2003: 36-37)".

Hunting practices that the inhabitants of AK47 shelter and Botlhano Fela might have used and the animals that they may have encountered, as documented in later oral and ethnohistories, give a picture of some of the possibilities for interpreting the archaeological faunal assemblage. They also have the potential, in some instances, to evidence possible changes in environments and animal populations over time, as will be discussed here.

2. FAUNA FROM AK47 SHELTER

The excavated faunal assemblage from AK47 shelter weighs about 0.85 kg

(n^1=210). Of this, 0.4 kg (n=64), or 23% were identifiable to some classificatory level (Table 5.1, below), with the rest classified as NIDs (Non Identifiable).

Since no sedimentary layers were visible at AK47, and the excavation was carried out in arbitrary 2.5 cm levels, I will present the fauna from this site organized using two different methods: 1) by looking at change based on arbitrary divisions of about 10 cm of vertically excavated deposits; and 2) by looking at changed based on estimated cultural layers based on correlations with radiocarbon dates.

2.1 TAPHONOMY

As a whole, the excavated faunal assemblage was in a fair to good condition of preservation, with no signs of weathering (Beherensmeyer 1978; Lyman 1994; Lyman and Fox 1989). However, in some instances, bone leaching (Henderson *et al.* 1983; Sillen 1989) was noted as a major problem in some of the assemblage, with some bones falling apart and crumbling as they were being excavated and removed, and likely indicative of a slightly acidic sediment.

Bones that show signs of burning or were found in ash deposits are some of the best preserved, comprising about 23% of the assemblage. Burning colours range from partially blackened due to light scorching to grey and white from exposure to higher temperatures (Shipman *et al.* 1984; Steiner *et al.* 1995; Taylor *et al*. 1995). Burning is not consistent in any of the excavated units and was likely caused by the bones being roasted during culinary processing, discarded into combustion features, or possibly later exposed to secondary heat from fires placed on the surface above them.

2.2 CULINARY PROCESSING

The high fragmentation percentage of the assemblage, 61%, is likely the result of culinary processing in the form of butchery and marrow extraction. Overall, gleaning some types of information and species identifications from the AK47 shelter bones was rather difficult. This is due to the very high amount of NID bone splinters and moderate preservation, a common problem with assemblages like this one since major landmarks for identification are mainly on the articular ends. This may cause particular skeletal elements and in turn animal species to be under represented in the assemblage since, as Enloe notes (1993: 86), bone splinters are likely the shafts of upper long bones (humerus, radius, femur, tibia) smashed open to extract marrow.

Marrow extraction and possibly bone grease processing, can clearly be seen in a smaller portion of the bones. Marrow and bone grease are some of the most reliable fat sources that would have been available to the people living at AK47 shelter. Numerous factors should be considered in determining the degree and

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[1] I use *n* to indicate absolute numbers of individual bones. Where quantification methods used, such as NISP and MNI, these will be indicated.

cultural practices of marrow extraction in an archaeological faunal assemblage, much of which was very difficult to establish in this case. More evidence of this would have likely been apparent, such as more specific breakage patterning (Enloe 1993: 86), making evidence of fracture and standardized breakage patterns scant.

Ethnographic work with three different San-speaking groups living in the Kalahari (Botswana) discusses methods for culinary processing with the goal of maximum marrow extraction, a likely goal for the people living at AK47 shelter as well. Working with !Kung peoples, John Yellen (1991) observed that in butchering animals that had more marrow, such as a larger antelope, metapodials were split open and eaten raw. Metapodials do not have much tissue surrounding them and lack meat, so accessing the marrow is much easier than in some other elements. Larger appendicular elements were sometimes briefly roasted. This is similar to what Susan Kent observed at Kutse, that bones were sometimes warmed slightly before breaking them open (1993: 338). This caused the outer edge of the marrow to slightly liquefy to make it easier for it to be sucked out. In another ethnographic study, this time with a Kua group, Lawrence Barham (1993) noted that with larger bones, obtaining the marrow and grease was more difficult and resulted in more smashing and a higher fragmentation rate, possibly further explaining the high fragmentation at AK47 shelter.

In the assemblage, all of the metapodials show signs of being longitudinally split open. Metapodials are a source of marrow that is accessed fairly easily and quickly, but don't provide returns as high as other limb bones (see Lupo 1998). They all show signs of burning as well, which might be a result of roasting to soften the marrow. In addition to metapodials, all of the 1st phalanges, all from larger bovids, were also longitudinally split to extract the marrow inside. The 1st phalanx of most of the animals consumed at AK47 shelter contains marrow, while the 2nd only contains a small amount and may not have been worth the effort to split them open. In addition, the 1st phalanges have a fatty pad, the digital cushion, which would have likely been consumed as well (Lupo 1998: 662; see also Binford 1978: 148). These two fat sources are not insignificant and would have been quickly and easy attained as seen in Karen Lupo's (1998) experimental work in East Africa. For example, one front foot of a male wildebeest produced 78.82g of fat in only 99 seconds of processing (663).

2.3 ARBITRARY LAYERS

Looking at the excavated faunal collection based on arbitrary divisions into layers of about 10 cm of vertically excavated deposits, five layers are present (Table 5.1): Layer 1 (surface - 100cm Below the Datum); Layer 2 (100cm BD – 110cm BD); Layer 3 (110cm BD – 120cm BD); Layer 4 (120cm BD – 130cm BD); Layer 5 (130cm BD – base of excavation). Radiocarbon dates for the site therefore come from the base of Layer 1 and Layer 5, placing the occupation of Layer 2, 3 and 4 likely between about 368-402 years calBP at 2 sigma (between 315±35 and 380±60 uncalibrated BP).

Table 5.1: Number of identified specimens (NISP) / Minimum Number of Individuals (MNI) from the AK47 assemblage by arbitrary 10 cm layers.

	(L1)	(L2)	(L3)	(L4)	(L5)
Domestic animals					
Bos taurus (cattle)	1/1	-	-	2/1	1/1
Ovis aries (sheep)	-	-	2/1	3/1	-
Large (100-1000 kg)					
Bovid III	7/1	2/1	-	3/1	4/1
Taurotragus oryx (eland)	-	-	1/1	-	-
Alcelaphus buselaphus (red hartebeest)	-	1/1	-	-	-
Connochaetes taurinus (blue wildebeest)	-	2/1	-	-	-
Medium (30-100 kg)					
Bovid II	-	3/1	3/1	1/1	1/1
Paoio ursinus (baboon)	1/1	-	-	-	-
Struthio camelus (ostrich)	-	1/1	-	-	1/1
Small (5-30 kg)					
Bovid I	-	1/1	-	-	-
Sylviacapra grimmia (common duiker)	-	-	-	1/1	-
small/medium bird	1/1	1/1	1/1	-	-
Varanus sp. (monitor lizard)	-	10/1	-	-	-
Very Small (0.5-5 kg)					
frog/toad	1/1	2/1	-	-	1/1
amphibian/reptile	2/1	3/1	-	1/1	-
micromammal	-	-	1/1	-	1/1
Carnivores					
Caracal caracal (caracal)	-	1/1	-	-	-
medium carnivore	-	2/1	-	-	-
TOTALS	13/6	29/12	8/5	11/6	9/6
Ivory	-	3/1	-	-	-
NID	23	54	17	18	9

The identified animals represent a wide variety of species being hunted/snared/collected and consumed during the shelter's occupation. Conducting a significant amount of statistical analyses on this faunal assemblage is not possible due to the small sample size, however some basic trends can be observed. During the relatively short occupation of about 100 years, fluctuation in the contribution of animals, based on %NISP (Figure 5.2), to the inhabitants' diets over time can be seen with some classes of animals.

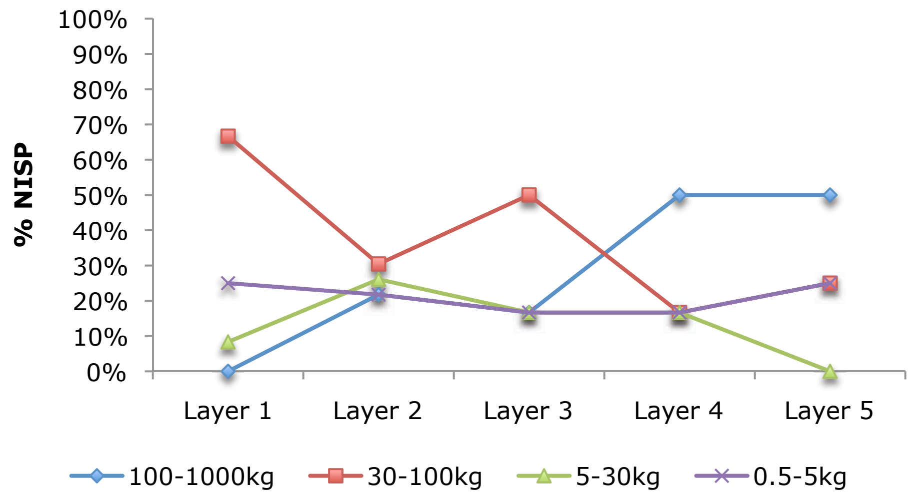


Figure 5.2: Dietary meat contribution of identified wild fauna at AK47 over time organized by body weight (kg) and based on NISP.

Obviously, smaller animals did not contribute as much meat to the diet as larger ones, so their representation is exaggerated here. However, this does not effect the relative fluctuations of size classes of animals. The frequency of small (5-30kg) and very small (0.5-5kg) animals in the assemblage remained fairly consistent throughout the occupation, with a marked increase after the initial occupation and a similar decrease before the shelter was abandoned. The most interesting fluctuations over time in the assemblage are in the medium (30-100kg) / large (100-1000kg) animal body size classes, essentially showing an inverse correlation in their frequency: 25%/50%; 17%/50%; 50%/17%; 30%/22%; 67%/0%.

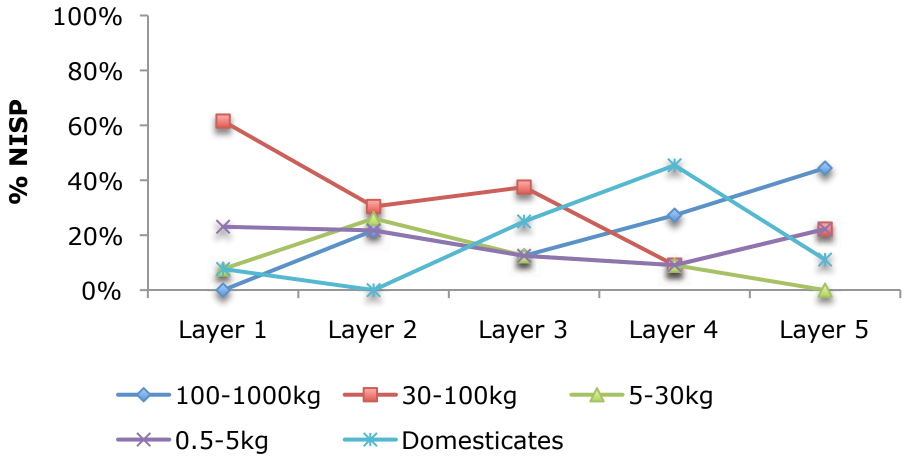


Figure 5.3: Dietary meat contribution of all identified fauna at AK47 over time organized by arbitrary layers, body weight (kg), and based on NISP.

Domesticated animals, at first cattle (*Bos taurus*) and then sheep (*Ovis aries*), were consumed by the shelter's inhabitants in small numbers from the earliest occupation, continuing for most of the occupation. Their contribution to the diet during the about 100 year occupation at AK47 shelter (Figure 5.3 above; see also Figure 5.4 below) was not very significant in terms of numbers, but the volume of meat and secondary products that these animals provided should not be overlooked since at some points much smaller animals skew the proportion of meat from wild animals.

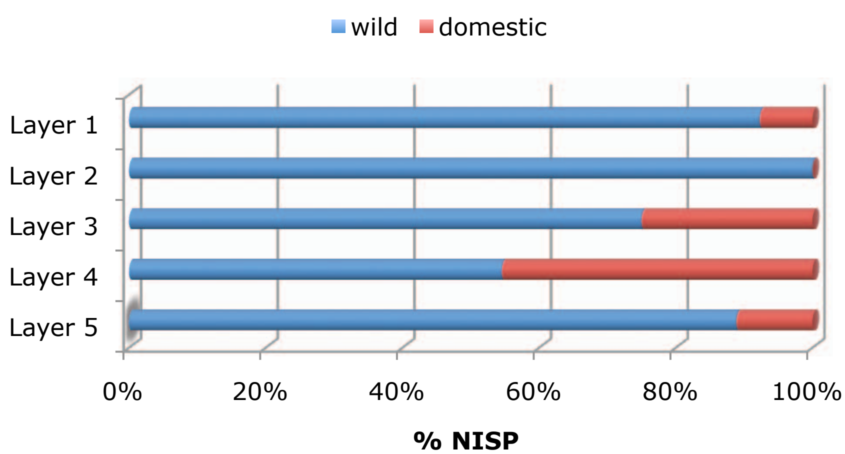


Figure 5.4: Dietary meat contribution of identified wild vs. domesticated animals at AK47 over time organized by arbitrary layers and based on NISP.

During the initial occupation when cattle are present, there appears to be a decreased amount in large wild game and an increased amount of medium wild game. How this correlates with cattle is uncertain since large game does not increase once cattle disappear, instead trending downward toward the terminal occupation of the shelter where it is absent. Medium-sized wild game in contrast follow a gradual process of increasing in importance throughout the occupation of the shelter, dipping lower in Layer 4 when domesticates are more prominent.

It is possible that the fauna identified only to Bovid II could be from sheep since no other medium-sized bovids were identified from the assemblage. If this were the case, sheep would have been present in the assemblage from the initial occupation of the shelter but absent in the terminal Layer. The dietary contribution of domesticates would increase drastically in some cases (Figure 5.5), having the most impact on the medium-sized animals category (Figure 5.6), making them almost absent in the assemblage.

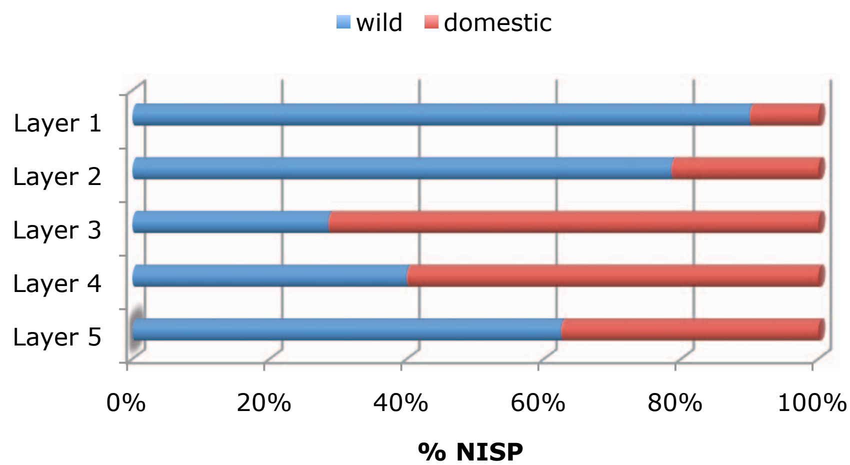


Figure 5.5: Dietary meat contribution of identified wild vs. domesticated animals at AK47 over time organized by arbitrary layers and based on NISP with Bovid II being identified as *Ovis aries* (sheep).

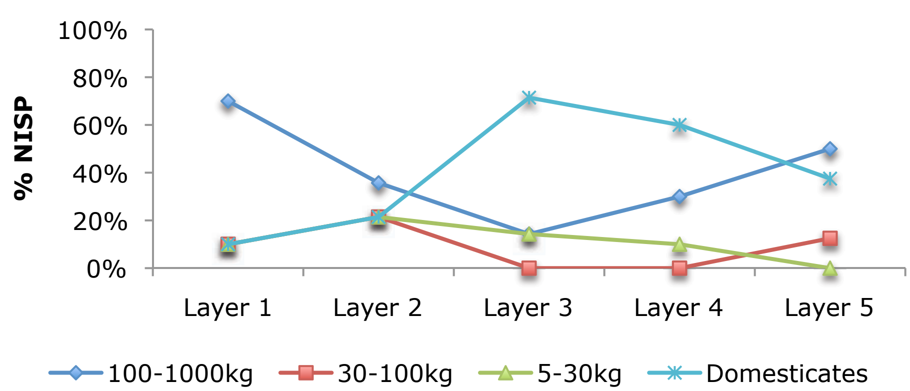


Figure 5.6: Dietary meat contribution of identified wild fauna at AK47 over time organized by arbitrary layers, body weight

(kg), and based on NISP with Bovid II being identified as *Ovis aries* (sheep).

With the increase in sheep, an inverse correlation appears between domesticates and large-sized animals, steadily decreasing as domesticates increase, and reversing in their absence. This could be seen as a lack of focus by the site's inhabitants on hunting large game, instead devoting their time to herding domesticated animals, a possibility that will be discussed in Chapter 8 as it relates to questions about the modes of production being practiced by the people that occupied AK47 shelter.

2.4 ESTIMATED CULTURAL LAYERS

Looking at the excavated faunal collection based on estimated cultural layers correlated with radiocarbon dates, five layers also are present:

• Cultural Layer 1 (surface – 99 cm Below Datum / 315±35 uncalibrated BP / 282-453 calBP at 2 sigma using ShCal04)

• Cultural Layer 2 (99.1 cm BD – 133 cm BD / 380±60 uncalibrated BP / 302-453 calBP at 2 sigma using ShCal04)

• Cultural Layer 3 (133.1 cm BD – 141 cm BD / 400±40 uncalibrated BP / 324-496 calBP at 2 sigma using ShCal04)

• Cultural Layer 4 (141.1 cm BD – 145 cm BD / 420±30 uncalibrated BP / 437-503 calBP at 2 sigma using ShCal04)

• Cultural Layer 5 (145.1 cm BD – base / 435±35 uncalibrated BP / 438-512 calBP at 2 sigma using ShCal04).

However, using this method the two lowest ones, Cultural Layers 4 and 5, did not yield any faunal remains (Table 5.2).

Table 5.2: Number of identified specimens (NISP) and Minimum Number of Individuals (MNI) from the AK47 assemblage by estimated radiocarbon layers.

	(C. Layer 1)	(C. Layer 2)	(C. Layer 3)
Domestic animals			
Bos taurus (cattle)	-	3/1	1/1
Ovis aries (sheep)	-	5/2	-
Large (100-1000 kg)			
Bovid III	7/1	8/2	2/1
Taurotragus oryx (eland)	-	1/1	-
Alcelaphus buselaphus (red hartebeest)	-	1/1	-
Connochaetes taurinus (blue wildebeest)	-	2/1	-
Medium (30-100 kg)			
Bovid II	-	7/2	-
Paoio ursinus (baboon)	1/1	-	-
Struthio camelus (ostrich)	-	1/1	1/1
Small (5-30 kg)			
Bovid I	-	1/1	-
Sylviacapra grimmia (common duiker)	-	1/1	-
small/medium bird	1/1	2/1	-
Varanus sp. (monitor lizard)	-	10/1	-
Very Small (0.5-5 kg)			
frog/toad	1/1	3/1	1/1
amphibian/reptile	-	4/1	-
micromammal	-	1/1	1/1
Carnivores			
Caracal caracal (caracal)	-	1/1	-
medium carnivore	-	2/1	-
TOTALS	10/4	53/20	6/5
Ivory	-	3/1	-
NID	12	107	6

The majority of identified animals from the assemblage utilizing estimated cultural layers are from Cultural Layer 2 (NISP=53), with little coming from the other Cultural Layers (combined NISP=16). This conglomeration, as well as the lack of faunal remains from Cultural Layers 4 and 5, make for a skewed comparison over time at the shelter. However I present it here for illustration (Figures 5.7 and 5.8).

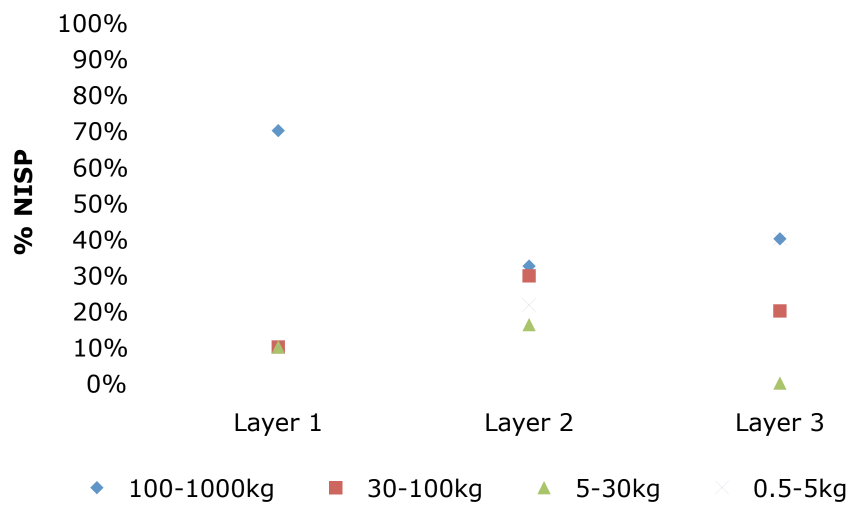


Figure 5.7: Dietary meat contribution of identified wild fauna at AK47 over time organized by estimated cultural layers, body weight (kg), and based on NISP.

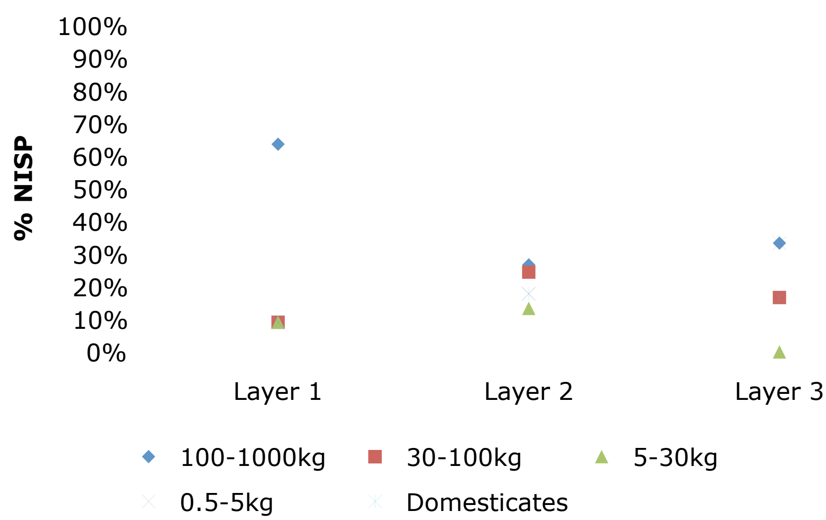


Figure 5.8: Dietary meat contribution of all identified fauna at AK47 over time organized by estimated cultural layers, body weight (kg), and based on NISP.

From this view, all size classes of animals remain fairly consistent for the majority of the shelter's occupation, with a downward trend in the terminal occupation, Cultural Layer 1, with the exception of large-sized wild animals which increase significantly. The contribution of wild vs. domestic animals to the diet shows the same general pattern as the arbitrary layers (Figure 5.9).

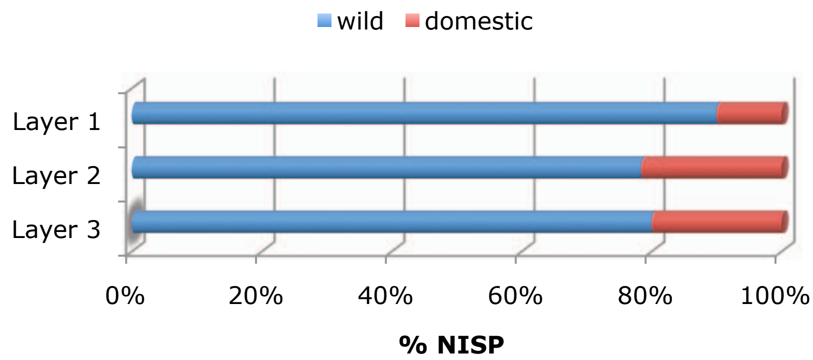


Figure 5.9: Dietary meat contribution of identified wild vs. domesticated animals at AK47 over time organized by estimated cultural layers and based on NISP.

Using the estimated cultural layer organizational method, almost the entire excavated faunal assemblage falls within the stratigraphy of Cultural Layer 2, thus is it worthwhile to look closer at this Cultural Layer and the composition of the animal-based diet during this occupational time span at AK47 shelter (Figure 5.10). Also, using the same reasoning as with the arbitrary layers and assigning Bovid II to sheep (Figure 5.11).

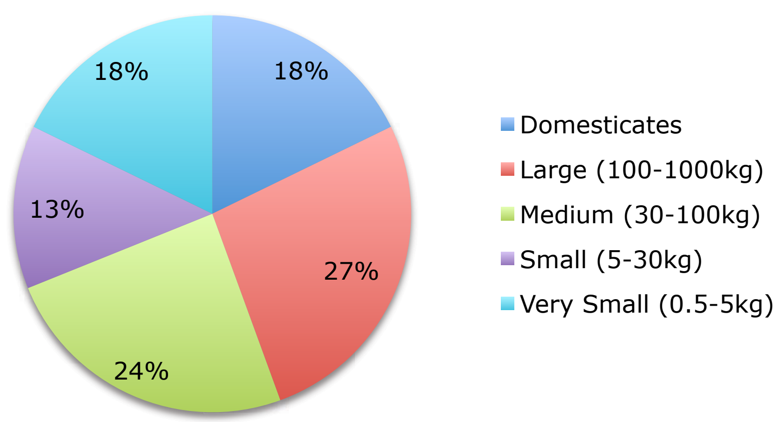


Figure 5.10: Percent contribution of different size classes of animals to the diet at AK47 shelter during estimated Cultural Layer 2 depositional events based on NISP.

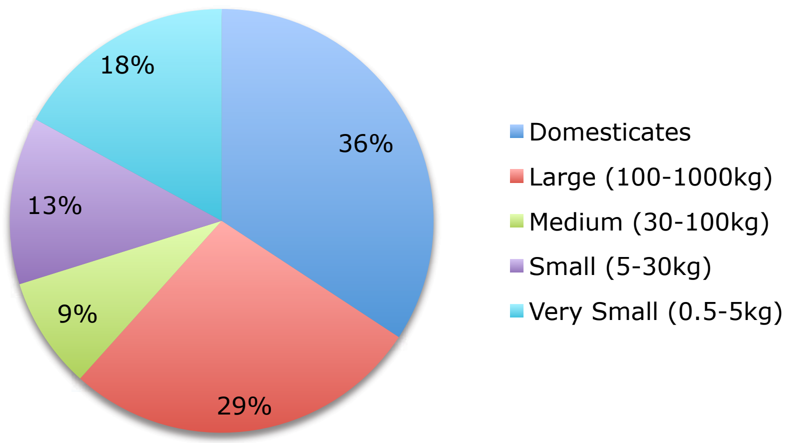


Figure 5.11: Percent contribution of different size classes of animals to the diet at AK47 shelter during estimated Cultural Layer 2 depositional events based on NISP with Bovid II being identified as *Ovis aries* (sheep).

While temporal trends in animals from AK47 shelter are more apparent and possibly more meaningful when organizing the assemblage by arbitrary layers, it is undeniable that knowing the actual time span is also helpful. Discussed below, after the presentation and discussion of the fauna from Botlhano Fela, will be an examination of the possible animal-based connections between the sites since the later occupations of AK47 shelter correlate with the occupation at Botlhano Fela.

2.5 SKELETAL ELEMENT FREQUENCY

One final aspect of the faunal assemblage from AK47 shelter that will be discussed is the frequency of the appearance of particular skeletal elements. This information is important when looking at questions of animal butchery, carcass transport, culinary processing, discard practices, and animal sharing/exchange between locales, among other things. Since the sample size is so small, I will discuss the fauna as a whole over the course of the shelter's occupation.

It is generally the case that domesticates are killed and butchered close to where they are kept, presumably very close to where people live. With AK47 shelter, there is no evidence for an animal kraal close to the site, but it is assumed here that the same principal applies, that these animals should appear in an archaeological assemblage as more skeletally complete than other animals since they a much less likely to be subject to decisions about transporting body parts from a kill/butchery site to one's home (Figure 5.12 and 5.13).

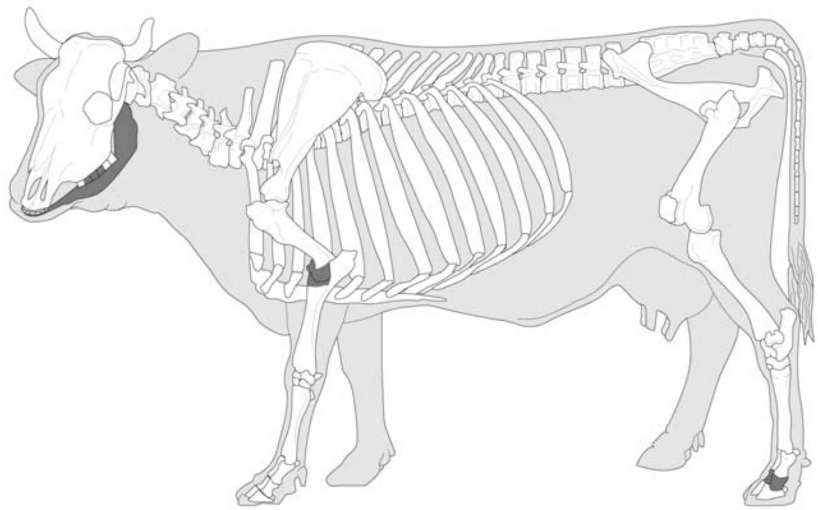


Figure 5.12: Skeletal elements (shaded) of *Bos taurus* found at AK47 during the site's occupation. Digital drawing by M. Coutureau (inrap) d'après R. Barone, Anatomie comparée des mammifères domestiques, T1, éd. Vigot, 1976.

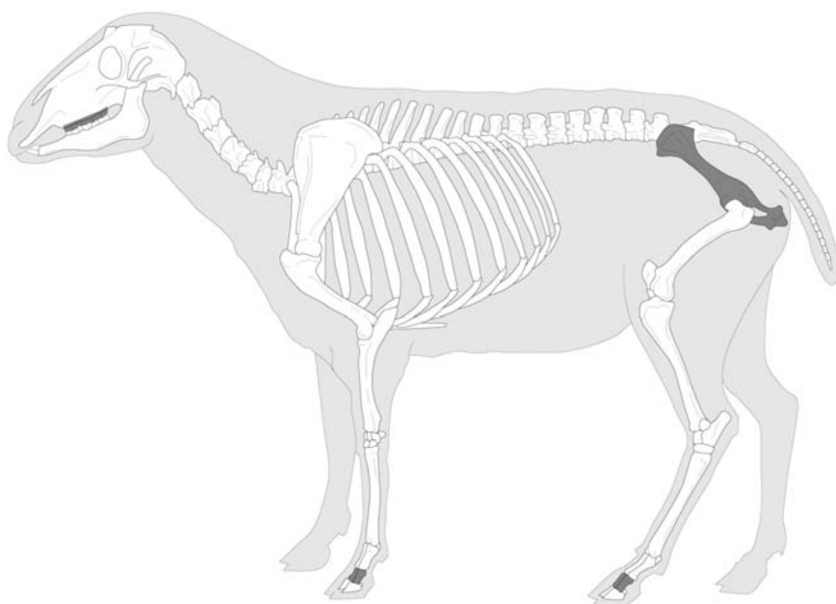


Figure 5.13: Skeletal elements (shaded) of *Ovis aries* found at AK47 during the site's occupation. Digital drawing by M. Coutureau (inrap) d'après R. Barone, Anatomie comparée des mammifères domestiques, T1, éd. Vigot, 1976.

In general, the identified skeletal elements of domesticates from this assemblage do not represent complete skeletons as would be expected if they were being slaughtered and butchered on-site, however this might be due to the low sample size, poor preservation, and discard practices. When the identified Bovid II elements are combined with those from sheep, a more complete skeleton is represented (Figure 5.14).

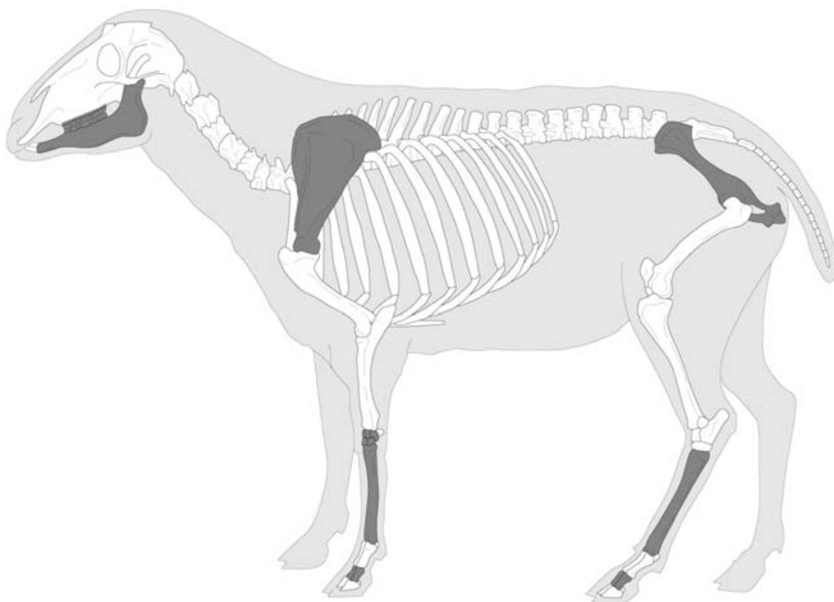


Figure 5.14: Skeletal elements (shaded) of *Ovis aries* and Bovid II found at AK47 during the site's occupation. Digital drawing by M. Coutureau (inrap) d'après R. Barone, Anatomie comparée des mammifères domestiques, T1, éd. Vigot, 1976.

Combining the identified skeletal elements from all Bovid size II and III from the site, there is a visible trend toward more portions of animals being brought back to the site from the head, forequarters, forefoot, hindfoot, and foot (Figure 5.15).

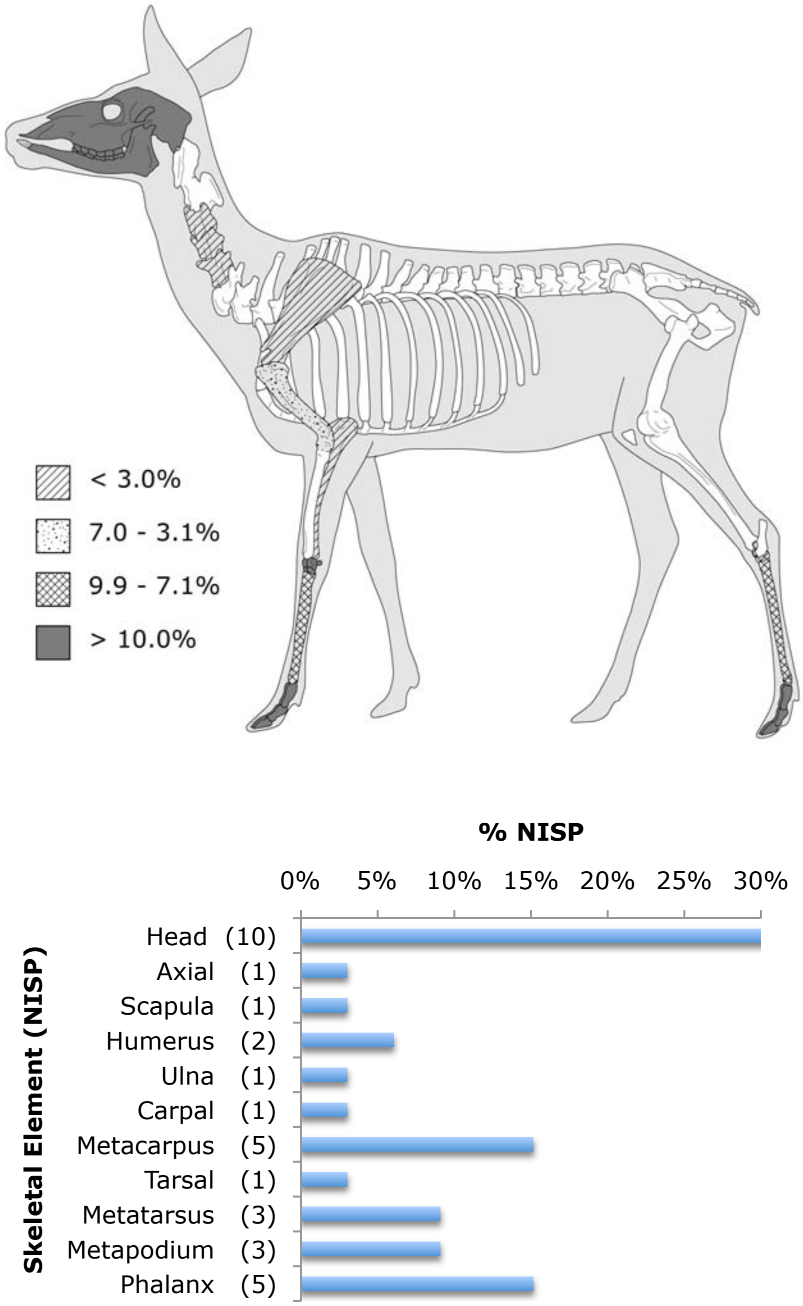


Figure 5.15: Skeletal elements (shaded) of all Size II and III non-domestic Bovids found at AK47 during the site's occupation. Digital drawing by M. Coutureau (inrap) d'après R. Barone, Anatomie comparée des mammifères domestiques, T1, éd. Vigot, 1976.

This is representative mainly of the limbs being carried to the site from where the animals were butchered. The NISP for bones from the head (cranial fragments, teeth, mandible, maxilla) slightly skew the analysis due to their high rate of identification, and should not likely represent such a large amount of the skeletons found in the assemblage. A quick survey of the skeletal elements is slightly indicative also of the post-depositional survival of skeletal elements that likely have a higher bone density, or Volume Density (Reitz and Wing 1999: 220; Lyman 1994), but VD data is not available for these bovid species, so no definitive determination can be made.

In general, all of the information about skeletal frequency at AK47 shelter points to three possible explanations. First, that intensive smashing during culinary processing and poor post-depositional preservation means that many of the elements can not be identified. Second, cultural discard practices, such as disposing of bone waste outside of the household area of the shelter, would highly skew the sample of identified skeletal elements. Finally, skeletal elements could represent parts of animals that were obtained from other groups, possibly those living at Botlhano Fela, and possible correlations between species and skeletal elements from both sites will be discussed below.

3. FAUNA FROM BOTLHANO FELA

The excavated faunal assemblage from Botlhano Fela weighs 4.63 kg and is composed of 6724 bone fragments. Of this, 96 bones were identifiable to species or general classes (Table 5.3), with the rest, 98.6%, classified as NIDs (Non Identifiable).

Table 5.3: Number of identified specimens (NISP) from the Botlhano Fela assemblage by stratigraphic zone.

	(*110*)	(*120*)	(*103*)	(*102*)	(*101*)	Total NISP
Domestic animals						
Bos taurus (cattle)	-	-	4	3	3	10
Ovis aries (sheep)	-	1	-	3	-	4
Large (100-1000 kg)						
Bovid IV	-	-	-	-	1	1
Bovid III	2	1	4	11	8	26
Alcelaphus buselaphus (hartebeest)	-	1	1	-	-	2
Equus burchelli (zebra)	1	-	-	2	2	5
Oryx gazella (gemsbok)	-	1	1	-	-	2
Taurotragus oryx (eland)	-	-	-	1	1	2
Tragelaphus strepsiceros (kudu)	1	-	-	-	-	1
Medium (30-100 kg)						
Bovid II	1	1	4	4	10	20
Aepyceros melampus (impala)	1	-	-	-	1	2

Orycteropus afer (aardvarkk)	1	-	-	-	-	1
Small (5-30 kg)						
Bovid I	-	-	-	1	1	2
Oreotragus oreotragus (klipspringer)	-	-	-	-	1	1
Sylvicapra grimmia (common duiker)	-	-	-	-	1	1
Very Small (0.5-5 kg)						
Procavia capensis (rock dassie)	-	-	2	-	-	2
Pedetes capensis (springhare)	-	-	3	2	4	9
small tortoise	-	-	-	2	1	3
freshwater mussell	-	-	-	1	-	1
fish scales	-	-	-	-	1	1
Carnivores						
Crocuta crocuta (spotted hyena)	-	-	-	-	1	1
TOTALS	7	5	19	30	36	97
NID	16	3	23	16	38	96

At this point, what follows is a listing of identified fauna from each *Operation* conducted at Botlhano Fela and a discussion of preliminary interpretations and observations, expanded upon at the end of this chapter when looking at the faunal remains from the site and cultural layers as a whole.

3.1 FAUNA FROM OPERATION 1

The first unit, 1002N/999E, excavated during this operation as a test of the deposits at Bothlano Fela yielded a rich and abundant record of the animals hunted, raised, and consumed by the people that had lived there. In the upper levels, now correlated with stratigraphic Zone 101 in *Operation 2*, faunal remains (*n*=29) are scarce in comparison to the earlier deposits, discussed below. Identified fauna from this more recent deposit (Table 5.4) does not lend itself to a significant amount of interpretation due to the small amount of bone identified to species (Figure 5.16).

Table 5.4: Number of identified specimens (NISP) and Minimum Number of Individuals (MNI) from stratigraphic Zone 101 in unit 1002N/999E grouped by average body weight.

	NISP/MNI
Large (100-1000 kg)	
Bovid III	1/1
Equus burchelli (zebra)	1/1
Medium (30-100 kg)	
Bovid II	5/1
Very Small (0.5-5 kg)	
Pedetes capensis (springhare)	1/1
Carnivores	
Crocuta crocuta (spotted hyena)	1/1
TOTALS	9/5
NID bone fragments	20

Figure 5.16: Horizontal positioning overlay (*x* and *y* coordinates) of excavated faunal material at the end of Zone 101 in unit 1002N/999E, 2004.

At this point of the occupation, the inhabitants were hunting and snaring wild animals of all sizes, and all fauna were identified based on teeth. Most notable is the find of a spotted hyena canine, a dangerous animal that was likely not normally hunted. This tooth, and the connection to the animal and what it may have represented to its collector, could have been important as a source of power in divining activities as part of a magical toolkit (such as at Bosutswe; Denbow 1999, Plug 1996). No other materials were found with the canine to buttress this idea, but with no other evidence for hyena skeletal remains, this might give strength to the argument for its curation as a ritual object.

In the middle levels, now correlated with stratigraphic Zone 102 in *Operation 2*, faunal remains (*n*=53) were more abundant than the later deposits. Identified fauna from this deposit (Table 5.5) presents a different image for the dietary contribution of meat to the inhabitants' diets than seen in the later occupation from this unit (Figure 5.17).

Table 5.5: Number of identified specimens (NISP) and Minimum Number of Individuals (MNI) from stratigraphic Zone 102 in unit 1002N/999E grouped by average body weight.

	NISP/MNI
Domestic animals	
Bos Taurus (cattle)	2/1
Ovis aries (sheep)	2/1
Large (100-1000 kg)	
Bovid III [could also possibly be *Bos taurus*]	1/1
Equus burchelli (zebra)	1/1
Medium (30-100 kg)	
Bovid II [could also possibly be *Ovis aries*]	1/1
Small (5-30 kg)	
Oreotragus oreotragus (klipspringer)	1/1
TOTALS	8/6
NID bone fragments	45

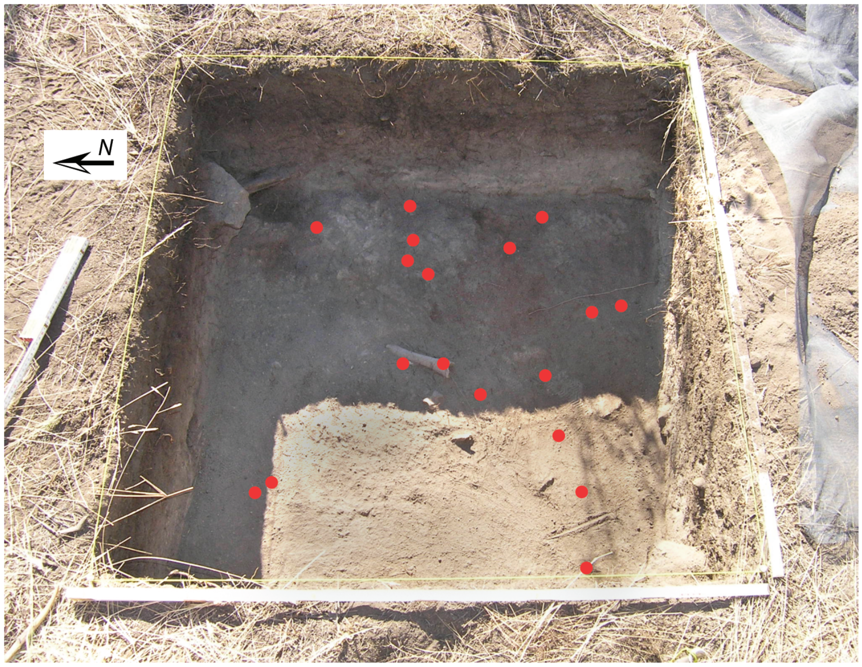


Figure 5.17: Horizontal positioning overlay (*x* and *y* coordinates) of excavated faunal material at the end of Zone 102 in unit 1002N/999E, 2004.

This occupational period at Bothlano Fela provides direct evidence for the presence of domesticates at the site and the likely associated herding practices of the site's inhabitants. The identification of cattle, sheep, zebra, and a klipspringer were based on teeth and phalanges, so no further argument can be made for the representation of particular portions of the animal at this point, but will be considered later when looking at *Operation 1* and *Operation 2* combined, as well as the site as a whole.

At the base of the Zone 102 deposits, a fairly clear distinction in the stratigraphy was seen in the northern unit profile where the pit for *Feature 2* was dug, and is treated here as a separate depositional event, but will later be discussed as part of the Zone 102 cultural deposits related to the trends in animal consumption at the site.

3.2 FEATURE 2

Discussed in Chapter 3, *Feature 2* was an ashy pit encountered in 1002N/999E that contained numerous faunal remains (*n*=91) and reached a depth of about 120 cm below the ground surface at its base. *Feature 2* was at least bisected, and it is likely that many more bones are in the remainder of the deposit in unexcavated unit 1003N/999E (Figure 5.18), or at least were until someone decided to dig into it after we left the site in 2004.

Figure 5.18: Horizontal positioning overlay (*x* and *y* coordinates) of excavated faunal material from *Feature 2* in unit 1002N/999E, 2004.

This pit was likely a singular or short-lived feature for refuse disposal from an associated domestic context, and provides a glimpse in time of the animal consumption that took place during a short period. Presented in Chapter 4, a single radiocarbon date (310±30 uncalibrated BP; CAMS-120208) was obtained from the second phalanx of a sheep (*Ovis aries*), calibrated to two different intercepts (2 sigma): 356 calBP (52.8% probability) and 282 calBP (42.1% probability). A cattle (*Bos taurus*) second phalanx was also submitted for AMS dating, but did not yield enough carbon to obtain a date. The animals that were consumed during that time at the site are representative of a wide range of activities (Table 5.6).

Table 5.6: Number of identified specimens (NISP) and Minimum Number of Individuals (MNI) from *Feature 2* grouped by average body weight.

	NISP/MNI
Domestic animals	
Bos taurus (cattle)	4/1
Ovis aries (sheep)	1/1
Large (100-1000 kg)	
Bovid III [could also possibly be *Bos taurus*]	5/1
Alcelaphus buselaphus (hartebeest)	1/1
Medium (30-100 kg)	
Bovid II [could also possibly be *Ovis aries*]	4/1

Small (5-30 kg)	
Oreotragus oreotragus (klipspringer)	1/1
Very Small (0.5-5 kg)	
Procavia capensis (rock dassie)	2/1
TOTALS	18/7
NID bone fragments	73

Cattle and sheep identified in this deposit account for 36% of the total consumption, based on NISP, of domesticated animals from the excavated faunal remains at the site. Looking at the identified skeletal elements, which in turn can give an indication of the portion of the animal (e.g. the cut of meat) that was consumed, no clear pattern emerges. The skeletal elements represented can provide information about particular segments of the animals that were consumed and division of a carcass among households (not accounting for the internal organs). In this case, meat from cattle is represented by femurs, thoracic and lumbar vertebrae, and a first phalanx, indicating that the meat possibly came from the hindquarters of the animal (Figure 5.19), with at least one whole limb. The sheep was represented by a second phalanx, representative of a lower limb.

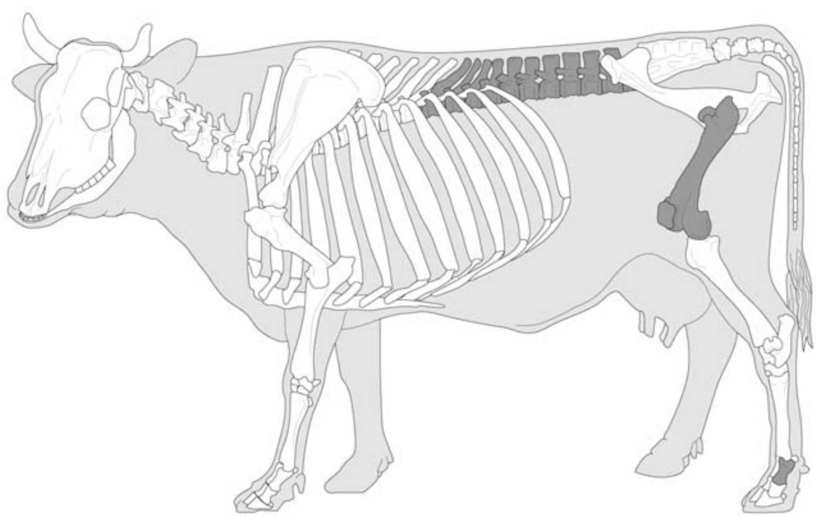


Figure 5.19: Skeletal elements of *Bos taurus* found in *Feature 2*. Digital drawing by M. Coutureau (inrap) d'après R. Barone, Anatomie comparée des mammifères domestiques, T1, éd. Vigot, 1976.

Some of the fragmentary skeletal elements, NIDs (*n*=73), that could not be assigned to species are likely all from the three medium/large bovid species from the pit, and are the by-products of the fragmentation that results from butchery and smashing to extract marrow (discussed later).

The wild species from the pit are indicative of a range of hunting activities. The hartebeest would have likely been hunted with a bone (or possibly stone) tipped arrow or assegai, while the klipspringer and rock dassie were more likely to have been caught using snares or another type of trap that would have been left out and checked periodically for animals that became trapped. Today, rock dassies live all over Thamga Hill in cracks and crevices, coming out during the day to sit on top of the rocks to warm themselves in the sun, and this was likely the case in the past as well when people were living on the hill.

Overall, the identified faunal assemblage from *Feature 2* is representative of the site assemblage as a whole, with a slightly higher amount of dietary meat contribution coming from domesticated animals.

3.3 OPERATION 2

Faunal remains were found in all five of the units excavated as part of this operation, and show a wide range of animals, wild and domesticated, that were consumed by the people living at Botlhano Fela. The pit for Burial I was intrusive to the deposits in units 1001N/1001E and 1002N/1001E. Since it was dug into the Zone 103 deposits during the occupation of Botlhano Fela that resulted in the sedimentary deposits that comprise stratigraphic Zone 102, and no faunal remains were found in the Zone 103 deposits, I decided to treat the faunal remains from these units the same as the rest of the excavated deposits.

Identified fauna from the more recent deposit of Zone 101 in the excavation units (Table 5.7), combined with those from *Operation 1*, present a clearer and more robust indication of animal use by the previous inhabitants of Botlhano Fela. The identified faunal remains from both *Operations* were grouped together since it is very likely that it all came from the same domestic refuse context.

Table 5.7: Number of identified specimens (NISP) and Minimum Number of Individuals (MNI) from stratigraphic Zone 101 in *Operation 2* grouped by average body weight. Also, combined with the fauna from *Operation 1*.

Zone 101	NISP/MNI	COMBINED NISP/MNI
Domestic animals		
Bos taurus (cattle)	2/1	2/1
Ovis aries (sheep)	1/1	1/1
Large (100-1000 kg)		
Bovid IV	1/1	1/1
Bovid III	6/2	7/3
Bovid III (nondomestic)	2/1	2/1
Equus burchelli (zebra)	1/1	2/1
Taurotragus oryx (eland)	1/1	1/1

Medium (30-100 kg)		
Bovid II	5/1	10/2
Aepyceros melampus (impala)	1/1	1/1
Small (5-30 kg)		
Bovid I	1/1	1/1
Sylvicapra grimmia (duiker)	1/1	1/1
Very Small (0.5-5 kg)		
Lepus sp. (hare)	3/1	4/2
small tortoise	1/1	1/1
Carnivore		
Crocuta crocuta (spotted hyena)	0/0	1/1
Medium carnivore	1/1	1/1
TOTALS	27/15	36/19
NID bone fragments	2659	2667

These combined identified faunal remains provide evidence for the continued consumption of domesticates during the terminal occupation(s) of the site, albeit in small numbers, 9% of the identified fauna (Figure 5.20). In addition to cattle and sheep, the inhabitants were hunting, snaring, collecting, and consuming a wide variety of animals that would have been available in the scrub grassland that likely characterized the Metsemothlaba River valley area at the time. Compared to the Zone 102 occupation (discussed below) that is possibly more closely associated with a domestic context in Operation 2, the consumption of medium-sized animals increases significantly (from 12% to 34%). However, a possibility is that some of the unidentified Bovid II skeletal remains are from sheep, which could push the numbers much higher toward the consumption of domesticates as high as 37%.

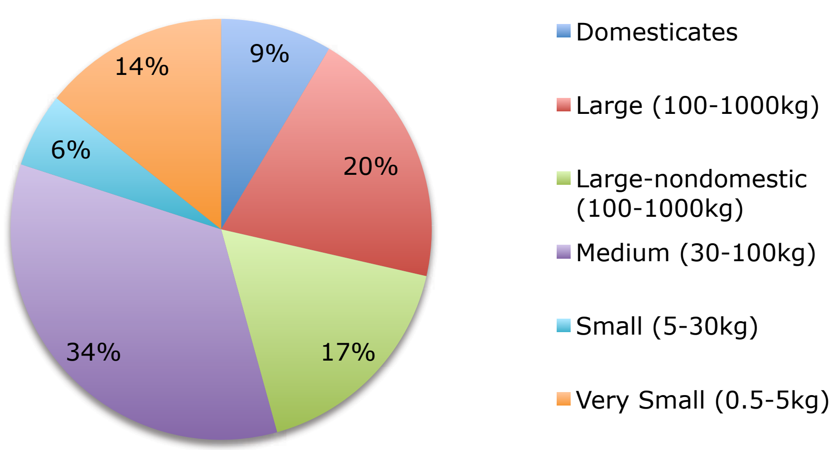


Figure 5.20: Relative contribution of different size classes of animals to the diet during the Zone 101 depositional event from Operations 1 & 2 at Botlhano Fela based on % NISP.

Identified fauna from the cultural deposit of Zone 102 (Table 5.8), is combined here with that from *Operation 1*, as well as *Feature 2* to develop an overall idea of the consumption and practices during that occupation of Botlhano Fela. The identified faunal remains from both *Operations* and *Feature 2* were grouped together since it is very likely that it all came from a temporally and spatially contiguous domestic refuse context, possibly associated with a household (*Feature 3*).

Table 5.8: Number of identified specimens (NISP) and Minimum Number of Individuals (MNI) from stratigraphic Zone 102 in *Operation 2* grouped by average body weight. Also, combined with the fauna from *Operation 1* and *Feature 2*.

Zone 102	NISP/MNI	COMBINED NISP/MNI
Domestic animals		
Bos taurus (cattle)	4/1	10/3
Ovis aries (sheep)	4/1	7/3
Large (100-1000 kg)		
Bovid III	11/2	17/4
Bovid III (nondomestic)	2/1	2/1
Equus burchelli (zebra)	1/1	2/2
Oryx gazella (gemsbok)	1/1	1/1
Taurotragus oryx (eland)	1/1	1/1
Alcelaphus buselaphus (hartebeest)	0/0	1/1
Medium (30-100 kg)		
Bovid II	3/2	8/4
Small (5-30 kg)		
Bovid I	1/1	1/1
Oreotragus oreotragus (klipspringer)	0/0	2/2
tortoise	5/1	5/1
Very Small (0.5-5 kg)		
Lepus sp. (hare)	5/2	5/2
Provacia capensis (rock dassie)	0/0	2/1
Unionidae (freshwater mussel)	1/1	1/1
Carnivore		
small carnivore	1/1	1/1
TOTALS	40/16	66/29
NID bone fragments	1139	1257

These combined identified faunal remains for Zone 102 in Operations 1 & show a significant contribution of domesticates to the diets of people that lived at Botlhano Fela, at least 26%, based on NISP (Figure 5.21). In addition to cattle and sheep, the inhabitants were hunting, snaring, collecting, and consuming a wide variety of animals. As with the identified fauna from Zone 101, the possibility exists that some of the unidentified Bovid II skeletal remains are from sheep, which could push the numbers much higher toward the consumption of domesticates as high as 38%, and even higher if the same assumption was made for cattle with some of the unidentified Bovid III skeletal elements.

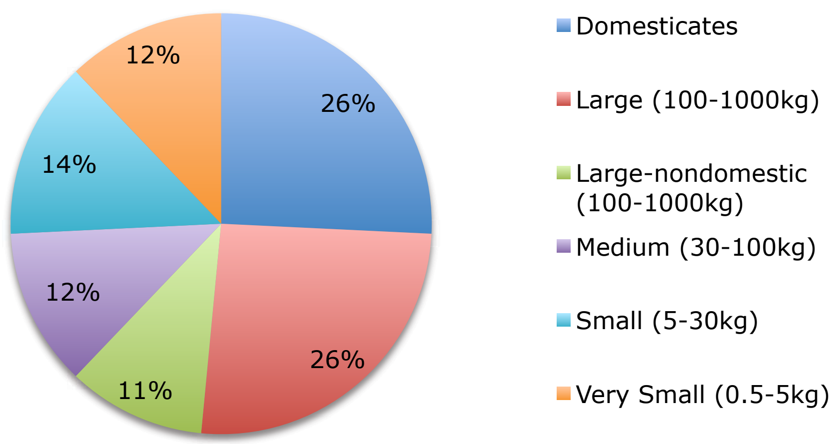


Figure 5.21: Relative contribution of different size classes of animals to the diet during the Zone 102 depositional event from Operations 1 & 2 at Botlhano Fela based on % NISP.

3.4 TAPHONOMY AND CULINARY PROCESSING

Overall, the condition of bones from all zones of Operation 1 and 2 are generally good, with ones coming from ashy deposits in better condition. Burned bone is not common in this assemblage, and those that are appear as grey with some white from exposure to high, possibly indirect, heat. The faunal remains are highly fragmented in both Zones, likely the result of culinary processing and marrow extraction. Only two skeletal elements in this Operation bear any signs of cutting: a humerus and an innominate, both from Bovid IIIs in Zone 102, were chopped open, but it is indeterminate whether if was a stone or iron tool that was used.

3.5 SKELETAL FREQUENCY

As previously discussed with the faunal assemblage from AK47 shelter, I will present and discuss the skeletal element frequency for the Botlhano Fela assemblage to develop a better understanding of the food-based practices of the site's inhabitants.

3.5.1 Zone 101

In Zone 101, very few skeletal elements were identified from cattle (n=2) and sheep (n=1), so no diagrams are presented here. Skeletal elements from Large and Medium size classes, however, were more abundant (Figure 5.22).

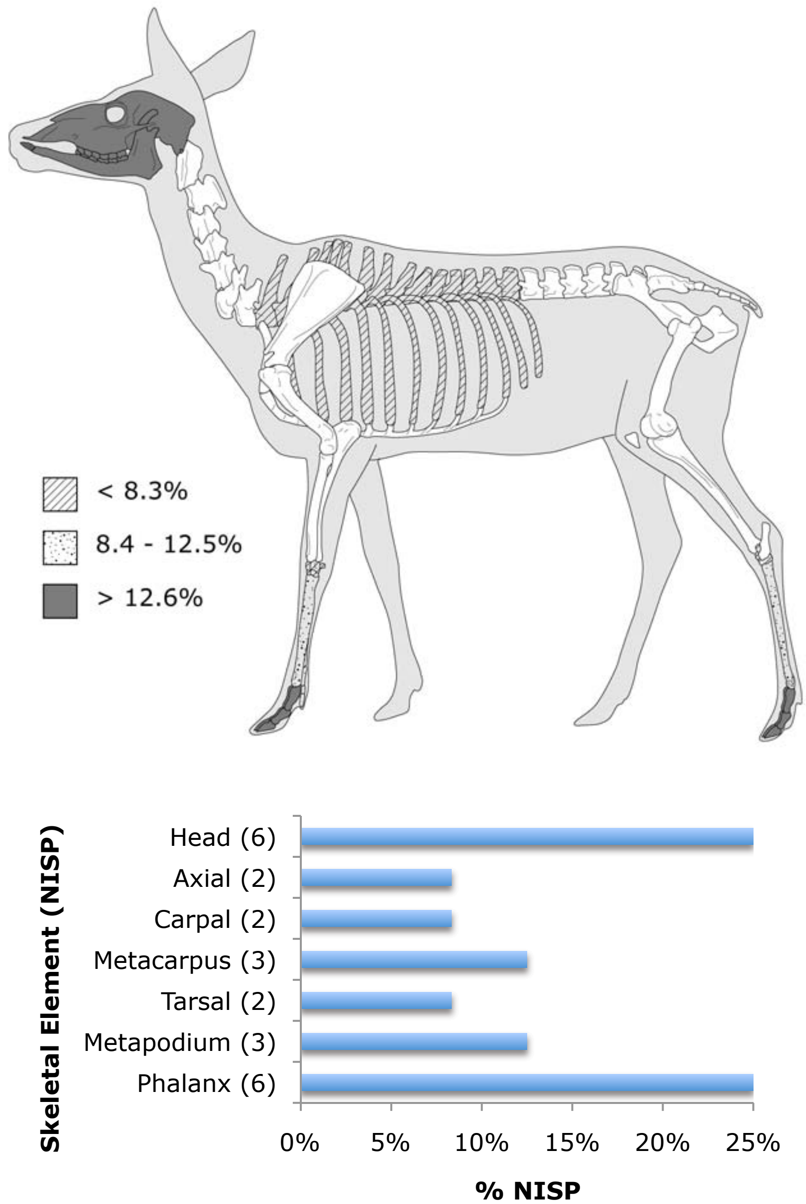
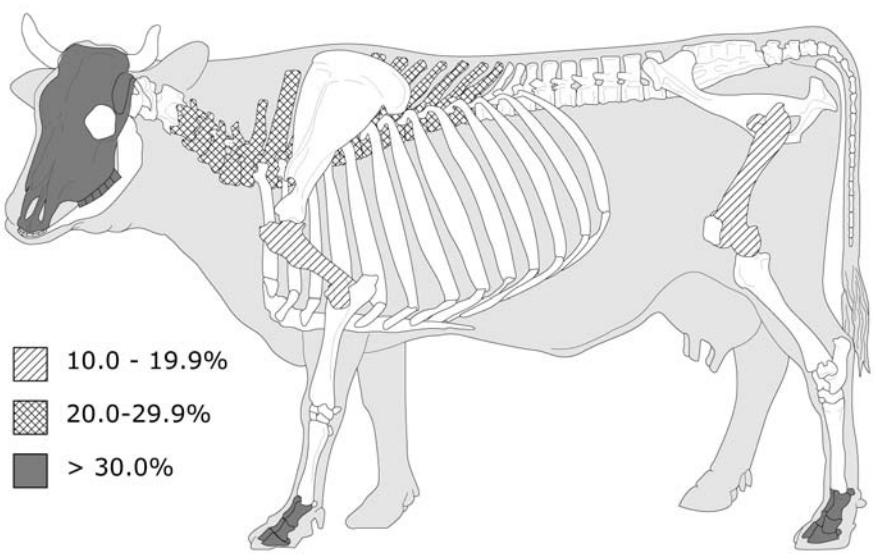


Figure 5.22: Skeletal elements (shaded) of Large- and Medium-sized animals from Zone 101 of Operations 1 & 2. Digital drawing by M. Coutureau (inrap) d'après R. Barone, Anatomie comparée des mammifères domestiques, T1, éd. Vigot, 1976.

These animals are mainly from the Bovid II & III size-classes, with the contribution of two molars from zebras. Most of the sleletal elements come from fore and hind limbs (67%), and represent less skeletally complete animals than if they were killed and butchered close to the site (i.e. the “schlep effect”; Perkins and Daly 1968). The high instance of phalanges gives more support to the idea that whole limbs were likely transported back to Botlhano Fela, and the upper limb bones may have been smashed intensely for marrow extraction and possible bone grease processing.

3.5.2 Zone 102

In Zone 102, skeletal elements from cattle identified in the Botlhano Fela assemblage, while small in number, are indicative of a more complete animals being butchered and consumed at the site (Figure 5.23), a likely scenerio with domesticated animals since they are easily herded near a domestic area if they are not already being kept nearby.



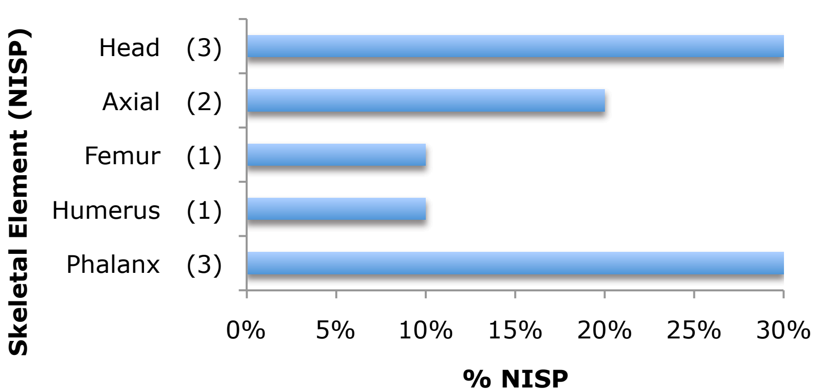


Figure 5.23: Skeletal elements (shaded) of *Bos Taurus* from Zone 102 of Operations 1 & 2. Digital drawing by M. Coutureau (inrap) d'après R. Barone, Anatomie comparée des mammifères domestiques, T1, éd. Vigot, 1976.

This same argument for skeletal completeness of domesticates, however, does not seem to ring true for sheep identified from the Zone 102 deposits of Operations 1 and 2 (Figure 5.24), being represented almost completely by phalanges from the hind and forefoot.

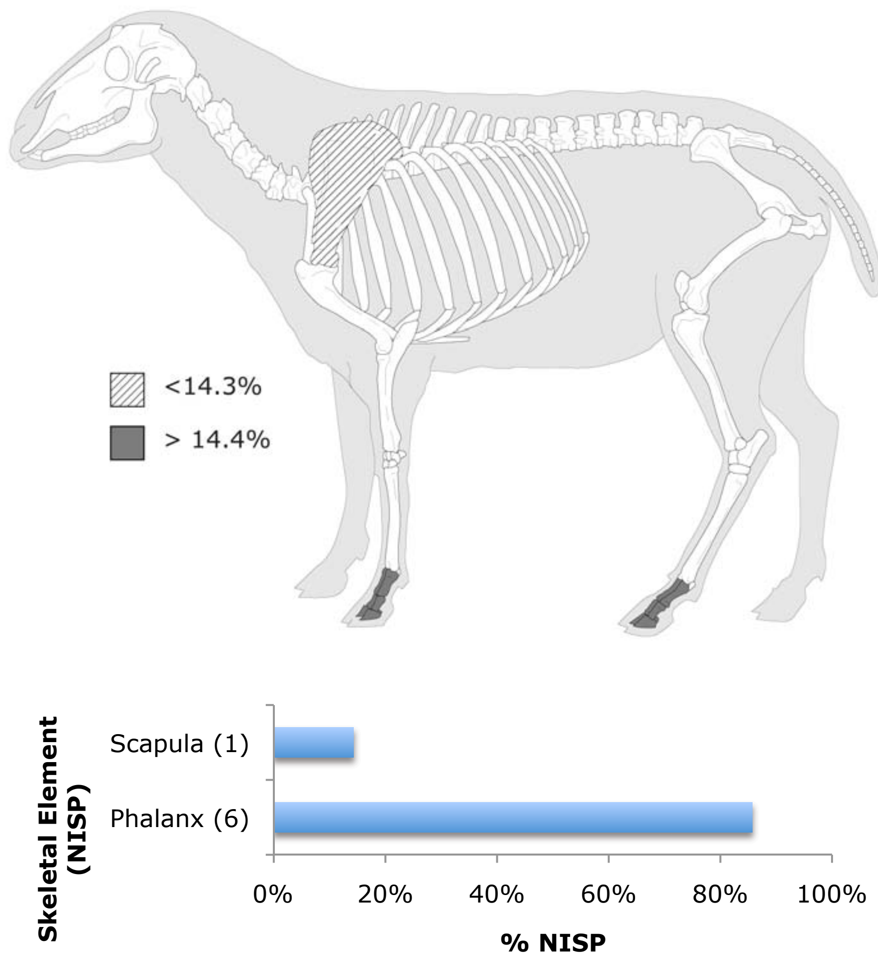
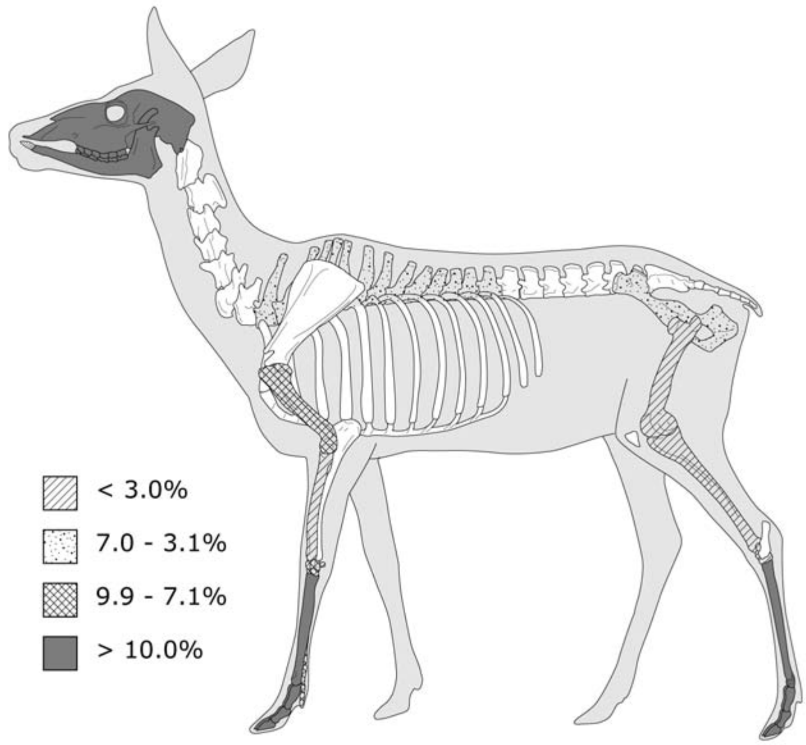


Figure 5.24: Skeletal elements (shaded) of *Ovis aries* from Zone 102 of Operations 1 & 2. Digital drawing by M. Coutureau (inrap) d'après R. Barone, Anatomie comparée des mammifères domestiques, T1, éd. Vigot, 1976.

The lack of identified skeletal elements representing sheep at Botlhano Fela, animals that were very likely to have arrived at the site whole, might be explained by the abundance of Bovid II skeletal elements (*n*=8) with no other animals of that size class being identified in the site. When looking at the skeletal elements from all Large- and Medium-sized animals from this occupation (Figure 5.25), it would appear that many of these animals were brought back whole to the site since the overall trend is toward skeletal completeness.



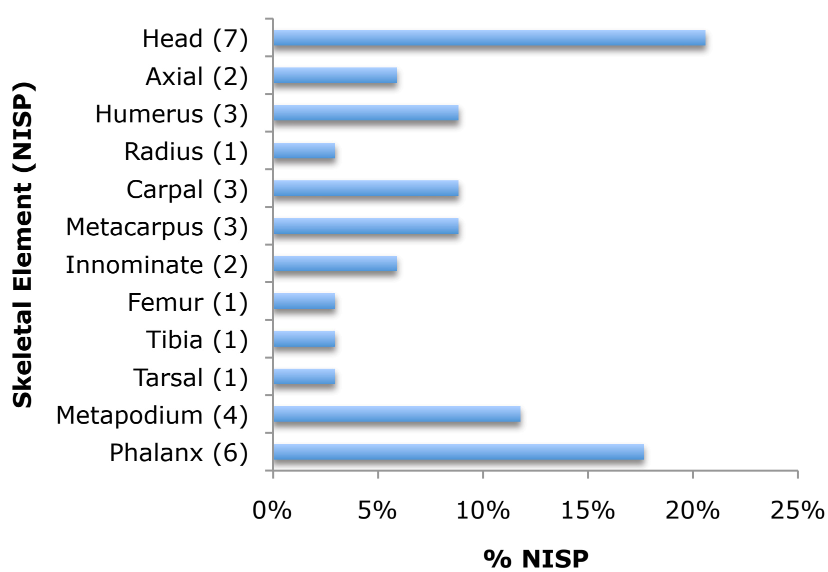


Figure 5.25: Skeletal elements (shaded) of Large- and Medium-sized animals from Zone 102 of Operations 1 & 2. Digital

drawing by M. Coutureau (inrap) d'après R. Barone, Anatomie comparée des mammifères domestiques, T1, éd. Vigot, 1976.

If in fact the elements identified only to Bovid II do come from sheep, then more complete sheep skeletons would be represented in the assemblage, buy only slightly with the addition of some metacarpus, a tibia, some phalanx, and a humerus (Figure 5.26).

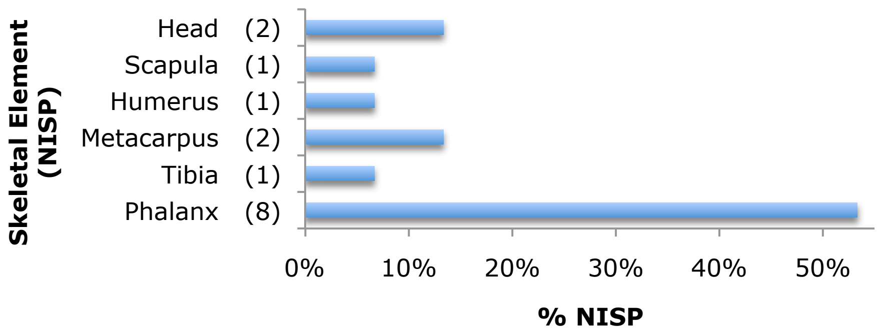


Figure 5.26: Skeletal elements of *Ovis aries* and Bovid II combined from Zone 102 of Operations 1 & 2.

3.6 OPERATION 3

A bit of a challenge was created when it comes to the fauna from *Operation 3*. Since some of the area of the units in this *Operation* was likely modified by Burial II, thought must be given to determining what faunal remains can be considered to be in situ. Looking at the distribution of faunal remains in these units, most of the identified bone fragments (Table 5.9) come from the lower levels in units 1005N/1022E and 1005N/1023E. Based on the depth and positioning of the burial, the overlying sediment, and lack of faunal remains from the area that was likely fill for the burial pit, all of the identified faunal remains likely correlate with an occupational period of Zone 102 in *Operations 1 & 2*, with the exception of an impala (*Aepyceros melampus*) from Level 2 in 1005N/1023E, which likely correlates with Zone 101.

Table 5.9: Number of identified specimens (NISP) and Minimum Number of Individuals (MNI) from *Operation 3* grouped by average body weight.

	NISP/MNI
Upper layer	
Medium (30-100 kg)	
Aepyceros melampus (impala)	1/1
TOTAL	1/1
NID bone fragments	1003
Lower layer	
Large (100-1000 kg)	
Bovid III	2/1
Equus burchelli (zebra)	1/1
Tragelaphus strepsiceros (kudu)	1/1
Medium (30-100 kg)	
Bovid II	1/1
Orycteropus afer (aardvark)	1/1
TOTALS	6/5
NID bone fragments	684

The identified faunal remains from these deposits expand on the range of wild fauna consumed at the site with the addition of kudu (*Tragelaphus strepsiceros*) and aardvark (*Orycteropus afer*). The aardvark is particularly interesting, and I had a very difficult time identifying it from its first phalanx, so I am very grateful that Ina Plug happened to be at the Transvaal Museum that day to put our heads together. Aardvarks are burrowing nocturnal insectivores, and not often encountered by people.

One of the Bovid III bones, an unfused proximal ulna indicating a sub-adult animal, was found in close association with the second phalanx used to identify the kudu, and could be from that individual. A Bovid II femur from the lower portion of the deposit was also unfused and representative of a sub-adult animal, but did not belong to the impala (*Aepyceros melampus*) identified in the deposit from a tibia just below the surface.

3.7 OPERATION 4

The upper layer of the deposit from *Operation 4* in the three units that were excavated is likely associated with the domestic structure, *Hut 1*, visible on the surface of the site. Unfortunately, no species could be identified in this deposit (Table 5.10) since the bone was small and fragmentary. This is likely because, in a domestic context, the area just outside of the home would have been swept and cleaned, leaving only small occupational debris behind if any. This can be seen in contrast to the midden deposit from *Operation 2* and possible domestic structure (*Feature 3*) associated with it, where the midden would have been just outside of the main living space.

Table 5.10: Number of identified specimens (NISP) and Minimum Number of Individuals (MNI) from *Operation 4* grouped by average body weight.

	NISP/MNI
Upper layer	
NID bone fragments	759
Lower layer	
Domesticated animals	
Ovis aries (sheep)	1/1
Large (100-1000 kg)	
Bovid III (nondomestic)	1/1
Orix gazella (gemsbok)	1/1
Alcelaphus buselaphus (hartebeest)	1/1
Medium (30-100 kg)	
Bovid II	1/1
TOTAL	5/5
NID bone fragments	479

The fauna from the lower layer, likely not associated with *Hut 1*, but rather with an earlier occupational deposit, presents a similar pattern as with the other contemporaneous excavated deposits from the hilltop. Domesticates are present in the form of a sheep, along with wild antelopes, gemsbok and hartebeest, all animals that are well represented in the occupational deposits from Botlhano Fela. With such a small number of identified animals in the area, the discussion of fauna from this Operation will not be analyzed further by itself, but will instead be discussed as it relates to the occupations of Botlhano Fela as a whole.

3.7.1 Taphonony, skeletal elements, and culinary processing

In both the upper and lower layers of Operation 4, there was intensive smashing of bone that is likely the result of marrow extraction and bone grease processing. Some bone identified to element only were long bone shafts that were likely broken open in this process. In addition, trampling could have also played a role in making the smaller, smashed pieces even smaller. None of the bone shows signs of being burned, and the preservation was good to poor. In contrast to Operation 1/2 where many of the bones were well preserved in alkaline, ashy deposits, this area had none and the sediment was likely much more acidic resulting in the less ideal bone preservation. Finally, a sheep astragalus bore the only signs of cutmarks, likely the result of skinning in the process of disarticulating the limb from the axial skeleton. Identified skeletal elements are two phalanx, a molar, two shaft fragments, an astragalus, and a sesamoid.

3.8 ANIMAL CONSUMPTION AT BOTLHANO FELA

Grouping all of the faunal remains together from the contemporaneous occupational deposits at Botlhano Fela allows for the discussion of general trends related to the consumption of animals by the site's inhabitants over time. Evidenced in the identified fauna, cattle and sheep were raised by the people living at Botlhano Fela during the occupations discussed here. On the surface of the site, a few stone kraals are visible, upon which would have been stacked thorny shrubs and branches to serve as walls to protect the animals from carnivores. The kraals, at least in the later occupation on the hilltop would have been used to keep the animals penned close to the village, with the animals likely being herded out during the day for food and water before returning to the hilltop at night.

3.8.1 The terminal Iron Age occupation, Zone 101

The contemporaneous occupational deposits at the site that correlate to stratigraphic *Zone 101*, most of which came from the deposits in *Operation 2*, show a broad range of animals represented in the consumption debris during this time. The high rate of bone fragmentation, >99% (*n=4429*), likely due to butchery, marrow extraction and trampling, resulted in only a few animals being identified and presents an interesting situation. The small amount of evidence for the consumption of animals at the site can be interpreted in a few different ways. On the surface of Thamaga Hill, there are only three visible stone circles that would have served as the bases for huts where people would have lived, in addition to at least two small stone kraals that may have held small herds of sheep and cattle, along with a few other stone constructions. This lack of domestic architecture, combined with the small number of animals consumed during this occupational period, might indicate a low population density at the site, possibly indicative of an extended family group.

Meat consumption during this time was heavily reliant on wild hunted and snared game, comprising 91% of the animals consumed based on NISP. Only a few domesticates being consumed is a strategy that fits well with a group reliant on domesticated animals like sheep and cattle for secondary products, such as milk, as well as who see these animals as sources of wealth on the hoof—economic, political, and social—as seen in Solway's (1986:219) discussion of 'Bakgalagadi' pastoralists, stating that "the emotional attachment people have to their animals is not based on the animal's having any pet qualities, but in the social and economic benefits deriving from the animals." Based on the diversity of wild game during this time, these domesticated animals were likely either consumed because of age- or illness-related death or as a result of ritual or feasting activities.

During this occupation and the significant reliance on hunted meat in the diet, looking at the contributions of animals from different size classes can provide some information about hunting practices as well as local environments (Figure 5.27).

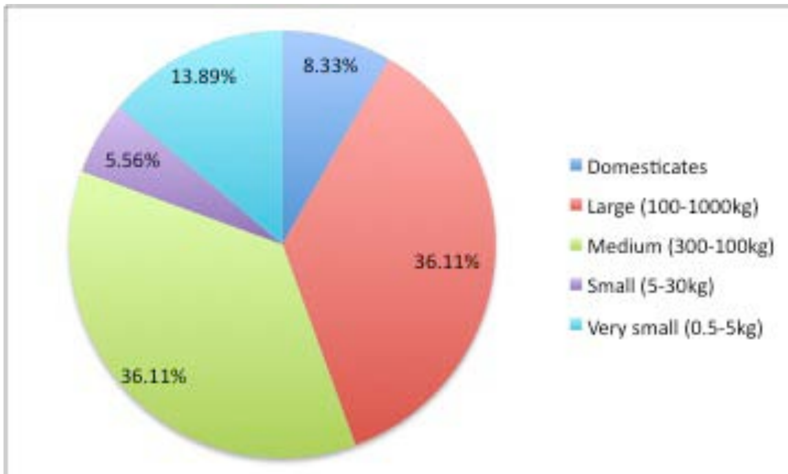


Figure 5.27: Relative contribution of different size classes of animals to the diet during the Zone 101 depositional event at Botlhano Fela based on % NISP.

The majority of the wild game being consumed was equally from large- and medium-sized bovids: zebra (Equus burchelli), eland (*Taurotragus oryx)*, and impala (*Aepyceros melampus*). With a larger sample size, an additional question could be posed to look at possible preferential hunting/consumption of a particular species, but is not possible here. Smaller wild animals that contributed to the diet during this time are ones that were likely snared (duiker and hare) or collected (tortoise), and could be the product of efforts of children or elderly individuals.

The large- and medium-sized bovids give some possible indication about the local environment and the general local climactic conditions during this time period. Zebra are a water-dependent species and generally live within approximately 25 km of a water source in open plains/mixed savanna, Eland are often found in acacia savanna, impala often live in mixed savanna and are water-dependent, and all of these animals congregate in sizable herds. Previously mentioned in ethnohistoric accounts, these animals, with the exception of the eland, were still common in the area at least until the mid-1850s, and the local environment today remains a mixed acacia savanna. Some year-round springs are still active in the area, but likely not as many as in the past.

The geophysical form of the nearby Metsemothlaba River, meaning ‘sandy water’ in Setswana, is similar to that of the Shase-Limpopo river system discussed by Huffman (2008), and might have also helped in building a plant-rich environment for supporting large herds of animals, as described earlier by Gordon-Cumming (1856). Huffman notes that the Shase is a sandy river with water underneath (like the Metsemothlaba), and when it floods silts are deposited on the floodplain as it backs up. Unlike colluvial soils, the alluvial soils of floodplains are able to hold water for longer time periods, making a more productive environment for vegetation. This process, along with numerous springs described earlier by David Livingstone (1858) may have helped to create a local environment capable of sustaining the variety of large-herd bovids identified at Botlhano Fela.

Today, this area receives 500-550mm of rainfall a year (Silitshena & McLeod 1994), making it one of the most productive areas of Botswana for native vegetation. Even at the nearby London Missionary Society mission of Kolobeng in the 1800s, when crops would not grow and the Kolobeng River dried up because of a few seasons of drought, abundant game still lived on ground water and vegetation in the area (Livingstone 1858).

If an extended family group did live at Bothlano Fela during this time, looking at the distribution of skeletal elements of all animals consumed might be some indicator since based on Tswana ethnographic accounts, animal carcasses were (and in some cases still are) differentially divided among households. Looking at the skeletal elements found from each area of the site from wild bovids of different size classes as well as domesticated animals, no clear differences in the distribution of carcasses can be made. Most of the remains are from the appendicular skeletons, with a few vertebrae, rib facets, and molars from the axial skeleton. Had there not be such a high rate of bone fragmentation, more could be said about this aspect of the collection. However, it might have been the case that as an extended family group, skeletal meat would have been divided and consumed equally, and possible differences in distribution could have been in the form of the internal organs.

Looking at the represented skeletal elements in the assemblage, especially differences in hunted/snared animals vs. domesticated, differences can sometimes be seen that allow for discussion on the transport of animal carcasses from the location of their kill to their final domestic disposal context. For example, if the sheep and cattle were kept in the stone kraals on the hill when not out grazing, when one was slaughtered it was likely nearby and the resulting bone debris would account for more skeletal elements and possibly skew their contribution to the inhabitants’ diets. Most larger wild game, on the other hand, would have been too heavy to carry back as whole animals to the village to be butchered and consumed, so only certain parts appear in the faunal assemblage due to size and weight of the animals, distance of the kill from Botlhano Fela, and butchery decisions (e.g. O’Connell *et al* 1988, 1990; Metcalfe & Barlow 1992). Discussed earlier, most of the skeletal remains from wild game are from the appendicular skeleton, and would be an important indicator of the limbs being brought back to the site after primary butchery took place where the animal was killed. However, a similar skeletal element representation exists for domesticates as well, with some teeth from both domesticates and wild animals, making this type of observation difficult due to the small sample size.

3.8.2 The pre-terminal Iron Age occupation, Zone 102

The contemporaneous occupational deposits that correlate to stratigraphic *Zone 102*, most of which came from the deposits in *Operations 1 and 2*, show a broad range of animals represented in the consumption debris during this time. Like with the *Zone 101* occupation, there was a high rate of bone fragmentation, >96% (*n*=2420), likely due to butchery, marrow extraction and trampling.

Meat consumption during this time was mainly reliant on wild hunted and snared game, comprising 76.62% of the animals consumed based on NISP (Figure 5.28). As discussed before, since no other Bovid II species were identified, these bones could possibly then be from sheep, raising the contribution of domesticated animals to 36.36%

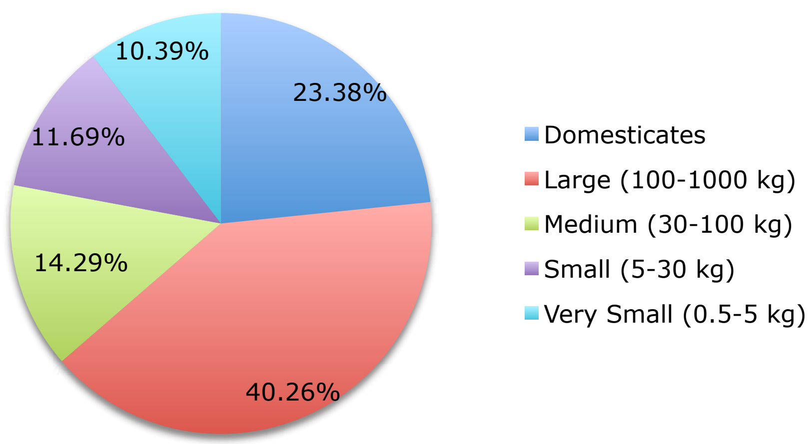


Figure 5.28: Relative contribution of different size classes of animals to the diet during the Zone 102 depositional event at Botlhano Fela based on % NISP.

The majority of the wild game being consumed (40.26%) was from large-sized bovids: zebra (Equus burchelli), eland (*Taurotragus oryx)*, gemsbok (*Oryx gazella*), hartebeest (*Alcelaphus buselaphus*), and kudu (*Tragelaphus strepsiceros*). All of these animals would have likely been found in the local environment in the Metsemothlaba River valley at the time, as discussed with the *Zone 101* occupation, and are indicative of animals that would have been hunted with projectile technology, such as bone points or stone points, or herded into a *gopo*.

The frequency of skeletal elements in the assemblage is not comparable across the different excavated areas of the site due to the low sample size in *Operations 3* and *4*. However, from the elements found in these areas, it appears that the same animal body parts would be represented there as well, and this scenario would be indicative of a situation where sharing was taking place across the site among its inhabitants.

4. OVERLAPPING ANIMAL HISTORIES

An aspect of this zooarchaeological analysis focuses on the time period when there was likely an overlap in the occupation of AK47 shelter and Botlhano Fela (approximately 300-380 uncalibrated BP), and how the animals at each of these site was similar and differed. Using the estimated cultural layers method presented earlier for AK47 shelter, the occupation represented in Layers 1-3 overlap temporally with *Zone 102* at the nearby Botlhano Fela.

The relative contribution of domesticates to the diets at both sites is close. At AK47, for most of the occupation domesticates make up just over 20% of the diet, falling to about 10% in the terminal occupation, averaging 14.06% (Figure 5.29). At Botlhano Fela, domesticates contribute 23.38%.

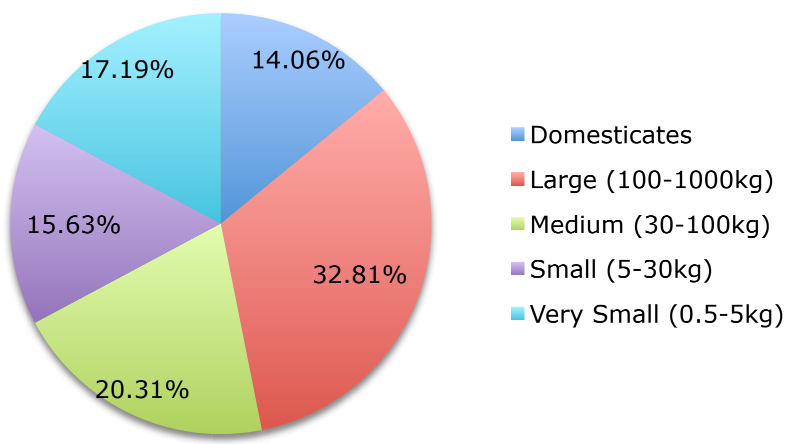


Figure 5.29: Relative contribution of different size classes of animals to the diet during the estimated cultural layer 1-3 depositional events at AK47 shelter based on % NISP.

If at both sites bones classified as Bovid II are interpreted as being from sheep, the contribution of domesticates at AK47 would jump to 25%, and to 36.36% at Botlhano Fela. This would then indicate a slightly higher contribution of domesticated animals to the inhabitants' diet at Bothano Fela.

Species identified from both sites are relatively the same with a few exceptions: zebra at Botlhano Fela, and more small animals (birds, amphibians, reptiles) at AK47. Overall, the inhabitants of both sites show a preference toward larger wild bovids. Finally, looking at skeletal frequency, no definitive pattern is evident that would indicate animals being shared between the inhabitants of the sites due to the small sample size at AK47 shelter. Animals at AK47 shelter are mostly represented by teeth, mandibles, phalanx, and metapodiam. Cattle bones from AK47 are not indicative of a complete skeleton as they are at Botlhano Fela, and if a larger sample was available might provide some insight into the idea of sharing between sites. If the sheep numbers are boosted by the Bovid II bones, the skeletal elements indicate the presence of almost complete animals at AK47, just as they do at Botlhano Fela.

5. BONE PROJECTILE TECHNOLOGIES

In addition to the animal bones recovered from the excavation at Botlhano Fela, the deposit contained at least 14 bone points and 16 link shafts in various stages of production (for an explanation of the manufacturing process see Smith and Poggenpoel 1988). No bone points were found during the excavations at AK47 shelter. Bone points are not uncommon to find at Iron Age villages since iron points and assegais may not have been as available and wooden arrows and spears would not have preserved.

In southern Africa, Goodwin (1945) identified traditional arrow types used by ‘Bushmen’, later elaborated on by Desmond Clark (1977) that are useful in looking at this Iron Age village assemblage (see also Schapera 1927, 1963; and Backwell *et al.* 2008): *Type 1* are arrows made by affixing stone microliths into mastic on a foreshaft; *Type 2* are blunted wooden arrows used for hunting birds; *Type 3* are long, sharp bone points that are part of a detachable three piece linkshaft that would have had a poisoned tip which would detach in an animal (see Figure 5.30); and *Type 4* is a long, more robust bone point that is firmly affixed to the shaft and was also poisoned.

Of these, *Type 1 and Type 3* are represented in the collection from Botlhano Fela. *Type 1* points were found in the lower levels at Botlhano Fela and are discussed in Chapter 7. Backwell *et al.* (2008: 1571), based on an historical account, believe that ‘Bushmen’ used poisoned bone points for larger game.

In Gordon-Cumming’s (1856) account, he describes seeing these in use to hunt ostrich in the Kgalagadi Desert:

> “These insignificant looking arrows are about two feet six inches in length they consist of a slender reed with a sharp bone head thoroughly poisoned with a composition of which the principal ingredients are obtained sometimes from a succulent herb having thick leaves yielding a poisonous milky juice and sometimes from the jaws of snakes. The bow barely exceeds three feet in length its string is of twisted sinews. When a Bushman finds an ostrich's nest he ensconces himself in it and

there awaits the return of the old birds by which means he generally secures the pair. It is by means of these little arrows that the majority of the fine plumes are obtained which grace the heads of the fair throughout the civilized world (106)."

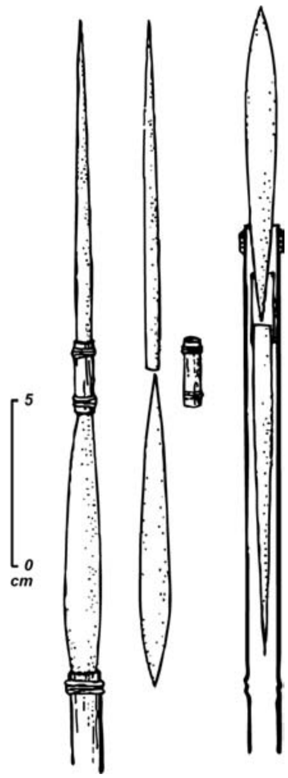


Figure 5.30: Three views of Type 3 bone points. From left to right: ready for use; deconstructed; and reversed position for poisoned arrows not in use (after Goodwin 1945; adapted from Clark 1977).

Within the assemblage of 14 bone points, some are unfinished. The unfinished points have the greatest degree of rough striations on the surface that run the length of the point, made from shaving and grinding down a blank into a point. These points are in various stages of finishing, but for the purposes of this discussion, they are classified as finished since they would have been functional. The finished points have a smooth surface with micro striations visible under magnification due to being ground smooth on an abrasive surface to shape them into their final form. As a final preparation technique, the inhabitants of Botlhano Fela appear to have burned some of the points (n=5) in order to harden them. The lengths of the points range from 17.74mm-52.61mm with a mean of 34.38mm, while maximum diameter ranges from 3.67mm-5.74mm with a mean of 5.06mm (Figure 5.31; Table 5.11).

Table 5.11: Measurements of *Type 3* points and linkshafts (LS) from Botlhano Fela by *Operation* and unit. Unfinished and broken ones have diameter measurements only.

	unit	**level**	**stratigraphic zone**	**type**	**length (mm)**	**diameter (mm)**
Operation 2						
	1001N, 1001E	2	101	3	40.38	5.55
	1001N, 1001E	2	101	LS	-	5.74
	1001N, 1001E	3	102	LS	-	5.82
	1001N, 1001E	4	102	LS	-	5.13
	1001N, 1001E	6	102	3	28.81	5.56
	1002N, 1001E	1	101	LS	-	5.46
	1002N, 1002E	5	101	LS	-	5.74
	1002N, 1002E	7	102	3	38.26	3.67
	1003N, 1001E	4	102	LS	-	6.75
	1003N, 1001E	5	102	3	28.44	5.57
	1003N, 1001E	6	102	3	32.99	5.06
	1003N, 1001E	7	102	3	40.61	4.75
	1003N, 1002E	1	101	3	47.32	4.47
	1003N, 1002E	1	101	LS	-	5.52
	1003N, 1002E	2	101	LS	-	5.07
	1003N, 1002E	3	101	3	33.95	4.81
	1003N, 1002E	4	101	3	26.82	4.99
	1003N, 1002E	4	101	3	17.74	5.46
	1003N, 1002E	4	101	LS	-	5.66
	1003N, 1002E	6	102	3	52.61	5.54
	1003N, 1002E	8	103	LS	-	4.03
Operation 3						
	1004N, 1022E	6	110	LS	-	3.47
	1004N, 1022E	9	110	LS	-	5.96
	1006N, 1022E	5	110	LS	-	5.79
Operation 4						
	985N, 1023E	5	120	3	32.83	4.39
	985N, 1023E	6	120	3	30.63	5.25
	985N, 1023E	6	120	LS	-	4.18
	985N, 1024E	5	120	LS	-	5.91
	985N, 1024E	6	120	LS	-	-
	985N, 1024E	7	120	3	29.34	5.74

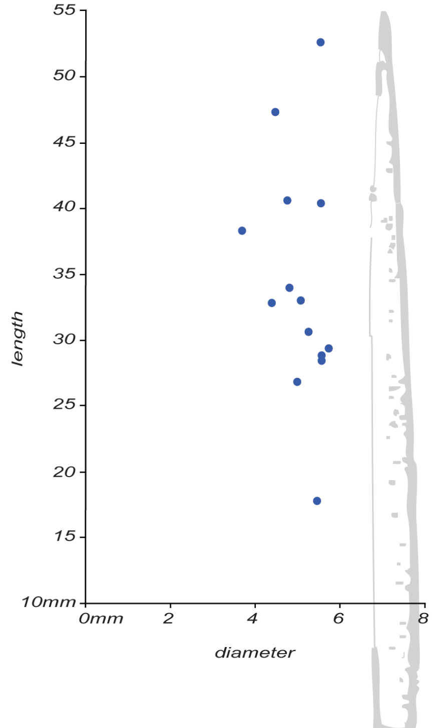


Figure 5.31: Measurements of complete *Type 3* bone points from Botlhano Fela.

The points from Botlhano Fela fall just below the size range of bone points reported by Andrew Smith and Cedric Poggenpoel (1988) in Later Stone Age archaeological assemblages and San ethnographic collections, possibly indicative of a group preference or stylistic difference, but still are of the same technological form. For comparative purposes (Figure 5.32), I analyzed a collection of 66 bone points and 4 linkshafts from the village at Moritsane, the points having a range from 14.76mm-47.28mm with a mean of 29.07mm, and a maximum diameter range from 2.32mm-6.39mm with a mean of 5.23mm. The points from Botlhano Fela trend toward being slightly longer, but overall they group with the Moritsane points and the general size of bone points excavated and reported thus far in southeastern Botswana.

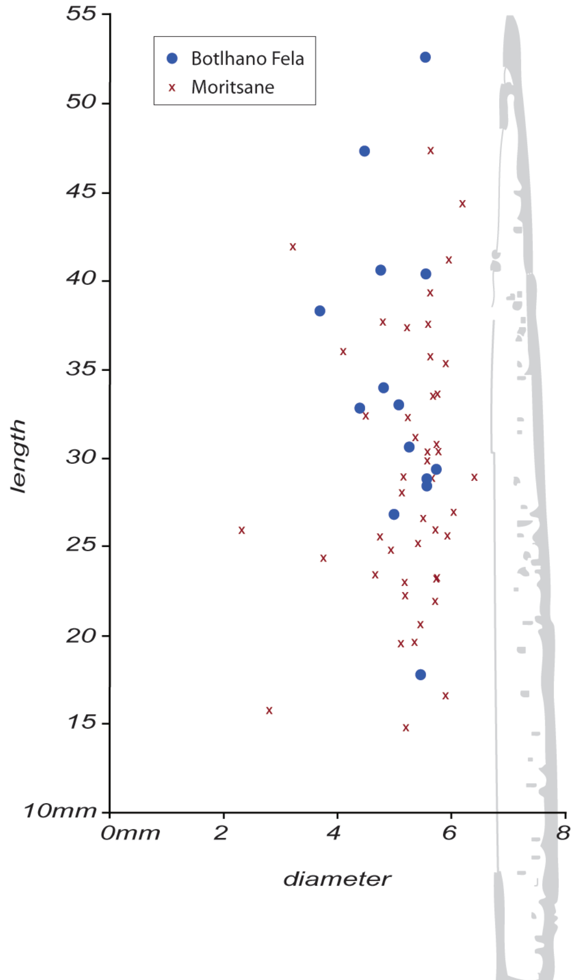


Figure 5.32: Measurements of complete *Type 3* bone points from Botlhano Fela compared to Moritsane.

In addition to the collection of *Type 3* points, there are a few linkshafts from Botlhano Fela (*n*=16). These range in diameter from 3.47mm-6.75mm having a mean of 5.35mm (Table 5.11).

6. SUMMARY

In brief, the analyzed fauna from both AK47 shelter and Botlhano Fela provide information about the people that lived at these sites and the animals they consumed, both domesticated and wild. In addition, the identification to species of the animal populations that were living in the area give some indication of the local environment at the time these sites were occupied. In addition, ethnohistoric and personal accounts of animals in the area, provided a temporal perspective in the greater Metsemothlaba River valley. Combined, all of this information will be used in Chapter 8, along with information about all of the other artifacts from these sites, to present a story about the lives of these people that lived on Thamaga Hill.

Chapter 6: Ceramic Use and Exchange in the Metsemothlaba River Valley

1. INTRODUCTION

Understanding and interpreting ceramics, especially in southern Africa, is a somewhat daunting task, but nonetheless an important one for interpreting Iron Age archaeological materials and evidence for group migrations and trade. This chapter presents the results of my ceramic research in the Metsemothlaba River valley area. To achieve this, I analyzed the ceramic assemblage from the Thamaga sites, as well as other previously excavated ones using standard methods as well as using portable energy dispersive X-ray fluorescence (pEDXRF). In addition to analytical techniques, I conducted a small ethnographic study with contemporary potters in the area.

2. ETHNOGRAPHIC OBSERVATIONS AND ORAL HISTORY ACCOUNTS OF CERAMIC PRODUCTION IN THE METSEMOTHLABA RIVER VALLEY

As part of this overall research project, I wanted to gain some insight into ceramic production in the local area: knowledge of ceramic production and trade in the past; sources of clays and tempers for a geochemical provenience study; the continuity and transmission of production in present-day commercial ceramic centers and cultural villages. For this aspect of my research, I spent some time in 2006 and 2007 meeting these goals in and around Kanye, Thamaga, Molepolole, and Gabane (Figure 6.1).

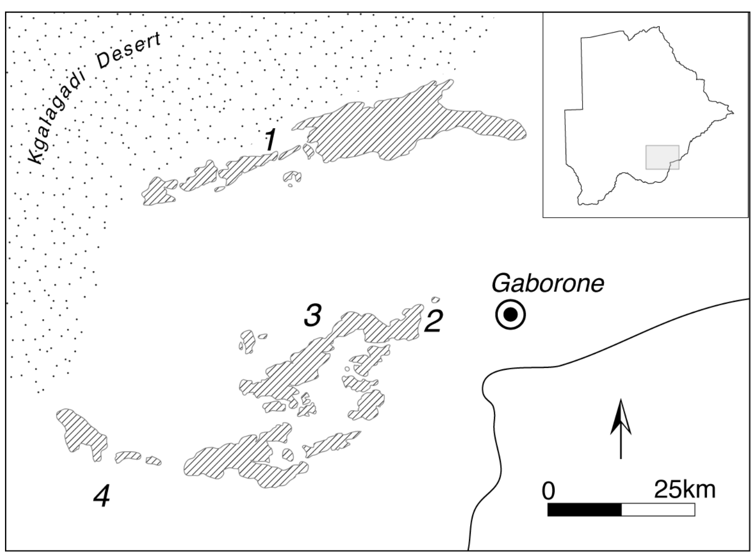


Figure 6.1: Map of locations of ceramic production and oral history interviews in the greater Metsemothlaba River valley; (1) Molepolole, (2) Gabane, (3) Thamaga, (4) Kanye

2.1 ORAL ACCOUNTS OF CERAMIC PRODUCTION AND TRADE

From my time spent in the Metsemothlaba River valley area, I had learned of locations where local potters still practiced (Molepolole and Kanye), and spent some time locating these women to speak with them about their knowledge of ceramic production, how they had learned to produce their ceramics, and where their raw materials were acquired. All of the ceramics produced by these women were slab-built from clay (*letsopa*) and temper (*moraga*) that they had collected and processed themselves to sell on a small-scale.

The first interview (conducted in Setswana by Lawrence Masoga, translated by O'boy Kalanke; 19 August 2006) about traditional ceramic manufacturing took place in Thamaga with Sekao Ramakadi (age unknown) with some input from the daughter of Sabata Keagile Matsila (her brother, b.1914), Mma. Ramakadi's niece:

> **Sekao Ramakadi** [SR]: *Ee dipitsana kana nkgwana o epa letsopa obe ole thuga, gao sena gole thuga reya morageng, seolo.*
>
> To make pots you look for *letsopa* [clay], and then you crush it and mix it with *moraga* [temper].
>
> **Lawrence Masoga** [LM]: *Moraga yo ke seolo?*
>
> Is this *seolo* [an anthill or termite mound]?
>
> **SR**: *Seolo, rebo re tlhakanya re tlhakanya,kamoso reya gole duba o duba, gao sena go kopanya, obo o bopa, obo o goga o goga, gae le kana o bo o rema ko godimo o dira molomo wa nkgwana,wadi bopa o di bopa obo oya dibing gosena go oma, nkgwana ye keya e ritela kebo ke tsya letsoku ke tshasa, gadi sena go oma kebo keya makwating le dibi kebo ke epa, ke tshegela ka makwati.*
>
> *Seolo*. And then the following day you mix them to make a pot, and then you cut it at the top to shape the rim. And then you go and look for cow dung after they have dried. Then you can apply some letsoku. Then after they have dried I'll go and look for some cow dung. And then I will dig and support with tree bark.
>
> **LM**: *Ke botse teng foo gore mmu yo lene leo tsaya kae, agona le lefelo fela le gampieno leka supa fela gore keko bo nna nne?*
>
> Where did you get this clay? Is there any place even today where you can get the clay from?
>
> **SR**: *Ee ke kwa fela ko kgakala ko Sefatlhane*
>
> It is vary far in Sefatlhane.
>
> **LM**: Gao ya ko Moshaweng?
>
> Is that toward Moshaweng?

SR: Nyaya ke gore ko masimong a rona re tsaya ko Sebotseng ampo teng fo masimong a rona, ke gore etlaare o tla itse gore ke sone, e tlaare ose riana, obo o bona go phatsima phatsima ekete tshipi. Kamoso di dule di budule jaanong kea thuga gape jaanong ke bopa ee kana.

No. In our lands we take it from Sebotseng. We look for *seolo*, then take some and mix it in our hands with saliva. If it is the right one, it will be shiny like iron. Tomorrow they will be ready, then I can make another one.

LM: *Jaanong gona le fo reka o bonang teng one mmopa o kana ene ele dilo tsa bogologolo di fedile.*

Is there a place where we can collect this clay, or is it finished?

SR: *Gao kake wa fela kana ke lefatshe.*

It cannot finish because it is land.

LM: *Goraya gore gona le fo re ka obonang teng?*

So it means that there is a place were we can find it?

SR: *Ee leka o bona*

Yes you can find it.

LM: *Lona lena le one teng fa?*

Do you have it here?

SR: *Nnyaya*

No

LM: Galena legaele letsoku le gaele eng?

Not even *letsoku* [reddish soil used as pigment that is crushed into a powder]?

SR: *Nnyaya*

No

LM: *O bonwa kae?*

Where can we find it?

SR: *Letsoku ke golo mogo shibidu mo, o kare letlapa jaana, go makgabanyana.*

Letsoku is something red, looks like a rock and it has a course texture.

LM: *Letsoku etla ele mmala yo kana etla ele lona le tsenyang mmala gore go nne go brown jaana*

Does letsoku come this color, or do you do something with it to make it brown?

Daughter of Sabata Keagile Matsila [DSKM]: *Letla le ntse jaana lele leshibidu*

It is just red like this.

SR: *Garekere o go tshasa go ise go butswe obo ogo ritela ogo ritela.*

You apply it when it is still wet.

O'boy Kalanke [OK]: *Kene kere ke botse teng foo gape rakgadi gore a gagona sepe gape se le akong lese tsenye mo morageng lemo letsopeng go thatafatsanyana?*

Isn't there anything you put in beside *moraga* and *letsopa* to make it hard?

SR: *Nyaya, re tsenya moraga le letsopa fela, jaanong kgabisa ya teng ene ele sebilo, re tshasa jaana.*

No, we only put in *moraga* and *letsopa*, and we put *sibilo* [specularite] on as a decoration.

OK: *Abo o baya letsoku mo godimo ga sebilo?*

You put letsoku on top of sebilo?

SR: *Nnyaya, sebilo se nna go sele gore diye go ntsha mmala sentle, fela jaaka o kgabisa o tsaya mmala yole le yole*

No, you put them on different places to come up with a nice decoration.

The people interviewed are members of the Bakgatla baga mmanaana tribe who settled in Thamaga during the 1920s. Despite Mma. Ramakadi's discussion of how they made pottery when she was younger, she had no examples of old pots and confirmed to us that nobody was making traditional ceramics in the village anymore. Also, her discussion of the manufacturing process revealed that *seolo* (soil from termite mounds) was used instead of having a clay (*letsopa*) deposit, hinting at the possibility of this process in the past in Thamaga, but could also be the product of discontinuous occupation of the area by pottery-makers and lack of transmitted knowledge of clay sources.

In Kanye, at the newly-built Motse Lodge and associated cultural village, we conducted a more complete interview about the process of traditional ceramic production, raw material sources, and the potters' knowledge of the past. The interview was conducted on 20 August, 2006 by O'boy Kalanke and Lawrence Masoga with my input, and the respondents were Gotlolwang Masupane and an unknown woman [Mma 2] who make ceramics with tourists in the new cultural village:

> **Gotlolwang Masupane** [GM]: *Are pote kafa re tle re bone sentle, mo ke letsopa, ga lentse jaana re a le thuga, ke raya gore le tseye sengwe le sengwe fela ka tlhamalalo gore le bopi jo motho oa bo a simolotse jang, ke gore ga lentse jaana ga o tsoga o thuga kamoso oa le kolobetsa, o lala ole kolobeditse, kagore ga lentse jaana gale thugege sentle, lea bo le santse lele thata, ele majwe fela. Jaanong o tsenya fela mo kikeng obo o thuga, gale sa kolobediwa gale thugege sentle, gale butswe ka mokgwa wa teng. Re thuga fela go fitlhela le na flawa fela,jaanong gale sena go thugega jaana rea le fefera gore go seka ga nna majenyana, flour fela jaaka o e itse flour, gonne boletaleta. Gare tswa fa rea fale rea go tlhakanya, mixture wa teng ke one o.*
>
> Let's move to this side so that you can see. This one is letsopa, which we crush to make it powdery. I want you to get everything. When it is in this state, we wet it a bit if we know that tomorrow we will be crushing it so that it can be easily crushed in a *kika* (mortar). After crushing it, we sieve it because we want it to be fine like flour. From here, we move there and mix.
>
> **Lawrence Masoga** [LM]: *Mo ke eng?*
>
> What is this?
>
> **GM**: *Ke moraga, mo ke letsopa mo ke moraga, jaanong rea tlhakanya rebo re duba re duba rebo re simolola go bopa jaaka o bona ke bopa jaana.*
>
> It's called *moraga*. This is *letsopa*, this is *moraga*. We mix them and start molding.
>
> **LM**: *Moraga o leo bona kae?*
>
> Where do you get the moraga?
>
> **GM**: *Moraga yo rra reo bona ko Maologane, fo gare ga Kanye le Lobatse, ke gore ga otswa mono oya Lobatse ogo fitile.*
>
> We get it from Maologane, between Lobatse and Kanye.
>
> **LM**: *Lene le rutiwa ke mongwe kana le ithutile?*
>
> Who taught you how to make this?

GM: *Nna mmemogolo one a bopa, ke gore ke simologile ke nna le mmemogolo a bopa, mme le Mme le ene a bopa, Mme le ene o santse a bopa le jaana o santse ale teng, kabo ke tsaya botsipa mogo bone jaana ka ebile kene ke ba selela dibi jaana, jaanong ke ntse ke tsaya botsipa jaana, ga aya go rekisa jaana ka dikoloi tsabo kgothokgotho, retswa foo re olela mabele, dinkgwana retswa kwa retla re rwele dikgetse tsa mabele, rebo retla go ja fela resa reke.*

I learned this from my maternal aunt when I was staying with her. But even my mother made pots (*dinkgwana)*, and even now she still makes them. So I got the experience from them. I used to go with them when they were traveling using wagons to sell them. And we would leave there with a lot of sorghum (*mabele*).

LM: *Ka mantswe a mangwe lene le reka mabele ka dinkgwana?*

In other words you were trading pots for sorghum?

GM: *Rene re reka mabele ka dinkgwana, ke gore ga nkgwana e ntse jaana a e ratileng o tlaabo ae tlatsa mabele, wena obo o tsaya mebele , ene abo a tsaya nkgwana, ebo ele fa a rekile, go tshwana fela fa o mongwe a batla go reka ka madi o reka ka madi, kana pudi, kana koko o bala fela palo eo tsayang gore e tlaabo ele selekanyo. Jaanong gare sena go dira jaana re fetsa go di fetsa, ke besetsa fa, go bidiwa leswaswa, fago besetswang teng.*

Yes. When a woman liked a pot, she would fill it with sorghum and then you would take the sorghum and they would take the pot. But when someone wanted to use money, a chicken, etc. you would count how many you wanted based on the pot. After finishing them, I fire them here (pointing to a firing pit).

O'boy Kalanke [OK]: *Ketle pele mmamane o ise o tsamaye, golo mo ke mmu wa seolo kana ke eng?*

Before you go, is this soil from a seolo?

GM: *Nnyaya ntate, ke letsopa, ke gore go epiwa mo molapong, ke mmaene fela fa le epiwang teng ke gore gale gongwe le gongwe, o feta o gogomela fela mo teng gago ka seka ga digwa leriba le la teng ke banna, ka gore gape go fa gare ga majwe, jaanong golo fale tsewang teng go ko teng jaanong gago ka seka ga bona banna bago digela jaana, go epa banna ka dipeke, monna ga a sa batle go diga leriba lele o tla betsa fosholo a ntse jaana ka noka.*

No it is *letsopa*, dug from a river. It is just a mine where it is dug. If no one has broken the overhanging cliff, you dig under. And it is sometimes inbetween boulders so it is deep where we get it. It needs men to break the overhanging cliff.

OK: *Jaanong o wa moraga o? ke gore kene ke tlile ka utlwa ba bangwe bare gona lefo ba dirang ka seolo teng?*

What about the *moraga*? I heard others saying that they use *seolo*.

GM: *Ee seolo gona le fo seolo se atleng se dire teng, mme gase seolo sengwe le sengwe sese dirang, ke gore gona le seolo sese kgonang go dira lese se kgoneng go dira.*

There are times when you can use *seolo*, but it is not that you can use each and every *seolo*. There is one type that you can use.

OK: *Jaanong o wa lona ke seolo kana leo fitlhela fela foo?*

And this one *seolo*, where do you find it?

GM: Nnyaya rra ke lefatshe fela le foo, lefelo fela lele go fitlhelwang moraga yo o diang yo, ke gore gao oo lebile jaana o ka tloga ware ke mmu o wa matlo o mme gase one, gape one o gao kake wao dirisa mo lebotaneng jaana o goba ka one, o farologanye.

No, it is just part of the land. When you look at it, you might think that it is the soil we use for our houses, but it is not the one. This one you can not use for building houses.

OK: *Goraya gore baba dirisang seolo keba ba senang mmu o kwa ga bone?*

So those who are using *seolo* are the ones that do not have this type of soil in their area?

GM: *Ee go goraya gore ke bone baba nna ba batla seolo se bone ba itseng gore seka kgona.*

Yes, it is them who look for the proper type of *seolo* to use.

OK: *Moo ao di tsenya kwa tlase ebo o baya ko godimo?*

[referring to the firing pit] Here do you put the pots at the bottom or on top?

GM: *Ke gore fela jaaka ke simolola, ke simolola kago di ritela, gape e kab o nnile pele kaya go tsaya ya sekai, ke batla o bona tsame tsotlhe fela gore jang. E siame jaanong e omile, ke e ritetse jaanong gore abo ke e tsenya mo isong, ke gore gake e besa ke simolola kago tsenya dibi ko tlase kebo ke baya tsone dinkgwana mo godimo, kabo ke bowa ke baya dibi mo godimo, go khabara nkgwana kabo ke tsenya molelo, mantsiboa, mokgwa wa tsone di besiwa mantsiboa, mo motshegareng mo reabo re iterelela fela ka gore re batla madi fela oa bo o* *patelesegile. Jaanong tsone di besiwa mantsiboa fela di lala di butswa, ga o tsoga phakela ke gone wabo o di ntsha.*

I start off by smoothing them. If you give me a chance to go and get a sample, because I want you to see what types of pots I make. This one is ok. It is ready to be fired. I start off by putting the cow dung at the bottom, then the pots, then another layer of cow dung on top to cover, then start the fire. Normally it is done in the evening. During the day like this, we are just doing it because we want money. But it is normally done in the evening, and then leave them to smolder overnight, then remove them in the morning.

OK: *Ehe di lala fela moo bosigo di sha?*

Oh, they burn overnight?

GM: *Di lala fela mo le molelo wa tsone obo o timela mogo tsone fela di ntse di butswa.*

Yes they burn overnight.

OK: *Jaanong mo one o ntse o kgabisa ka eng?*

And here, (referring to a pot) what were you using to decorate?

GM: *Mo ke letsoku mo, ao a le itse letsoku la batsetsi, ke lone le.*

This is *letsoku*, do you know *letsoku*?

OK: *Mo go sweu mo yabo e nna eng?*

What is this white stuff? (pointing to a finished and decorated pot)

GM: *Mo ke lone fela ke gore ke tshasitse mafura, ga ke sena go tshasa mafura, ke ritela fela jaana gobo go phatsima.*

It is just *letsoku*. It is only that I have applied some fat. After applying some *mafura* (fat), I smooth it to make it shiny.

OK: *Mafura ao raya mafura fela a cooking oil kana a eng?*

So do you mean animal fat or cooking oil?

GM: *Mafura a nku.*

Sheep (*nku*) fat.

OK: *Lemipi*?

(Fat covering the intestines)

GM: *Mafura a nku le gaese lemipi fela, mafura a nku, a ritela go ritela mo gongwe go gaisa mafura a mangwe, ke gore mokgwa wa tsone ke mafura a nku, a mangwe a rea bo re pateletsa fela ga a dumalane le tsone*.

Sheep fat, not necessarily *lemipi*, it is very good for smoothing. The other fat is not that good, so we prefer sheep fat.

OK: *Jaanong ka bogologolo gone go sena di beisane one oya go dirisa eng teng foo?*

So what were people using in the past [to form the pottery base] before there were metal bowls (*beisane*)?

GM: *Dibeisane? Dilo tse go laola fela gore o batla go direla mo go eng, o bona ee fale yele, ke epile feal fatshe kebo ke e direla foo.*

Metal bowls? It just depends on what you want to use. Do you see that one over there? I just made a hole in the ground and started it from there.

OK: *E tona ee mo mosimeng yele.*

You mean that big one in the hole?

GM: *Ke gore ga di ntse jaana o kgona gore obo o dira lesodunyana fela, ke gore o epa lefutinyana fela size ye otlaabo o batla go e dira. Bo Mme bane ba dira masudinyana, lwapa le lentse jaana babo ba epa, ba a dila ka mmu babo ba kgapha, ba direla mo teng. O direla ka sengwe le sengwe le gaele moritshana o wa pitsana o, o bopela mo go one, ao sekhurumelo ao eng fela. Gape le gone o kgona go iterela beisane ya teng fela o bo o direla mo go yone, jaaka o bona ee fa e keya letsopa mme ea bopela le yone.*

When they are like this, you can make a small hole in the ground, the size you require. My parents used to dig those small holes around our compound and smoothed the inside to form the bases of pots. Sometimes you can even make your own clay bowl so that you can use it as your starting point.

OK: *Ke tla nna ke botsa thata ke boela ko bogologolong, gore lene le ritela ka eng ka gore tshipi ke dilo tse dineng di tla le basweu?*

I will keep asking about the old things (*bogologolong*), like what were potters in the past using before iron (*tshipi*) tools?

GM: *Legopo fela la kgomo ke lone fela lene le bereka, go tshwana fela le polanka,ke gore logong fela o kgona gole betla gore o dire ka lone. Mme bagolo bone fela bane ba dirisa logopo la kgomo le phana, ao a e itse phana, yone ee nwelang bojalwa fela e bane bae kgaola jaana.*

A cow (*kgomo*) rib (*logopo*) works fine, or just a piece of wood. Or sometimes you can carve your own wood to use it, but our parents were using a cow rib or a piece of gourd (*phana*).

OK: *Gone go sanke go diragala gore nngwe e dutle o sena go nna o dira fela e fedile?*

So was it not common for the pots to break?

GM: *Goa diragala gore e ranyege ko isong, obona yele gore ke kabile ka pente, semente le sone sea bereka o kgona go kaba ka sone gobo go sa tlhole go dutla.*

Sometimes they crack in the fire. You see that one over there? I used paint to fill the crack. Even cement can work.

OK: *Jaanong bagologolo bone bane ba dirisa eng go ise gonne le dipente jaana?*

So what were people in the past using since they did not have these things?

GM: *Bogologolo dine disa thubege jaaka di thubega jaana, nkgwana tsa bogologolo ga oka di bona dine disa tshwane letsa rona, rona kana re bana, tsele dine di direga fela sentle go sena bothata ka gone go bopa bagolo go sa tlhakatlhakana le dirathana, kana bana dilo tsa bone ganke di siama.*

They were not breaking in the past like they are breaking now. Pots from the past were not the same as ours. We are just kids. Theirs were just fine because they were made by our parents, not *dirathana* ("mongrels") like us.

Unknown woman [Mma 2]: *Gape gone go ilelwa, segologolo lesudu le lene lesa nne fa, lene le nna fela ka kwantle ka kwa le ageletswe go tsena mmopi fela.*

It was a taboo to go into the firing pit. It was made outside the compound and fenced.

OK: *Ga o mongwe aka tsena?*

You happens if someone goes in?

Mma 2: *Maoto a gagwe ga aye go siama goya go thubega.*

They are going to affect the pots and they will break.

OK: *Goya go thubega nkgwana, ene ga aye go diragalelwa ke sepe?*

Is it only that the pots will break? What happens to the person who went inside?

Mma 2: *Nnyaya ene ga a kake.*

Nothing happens.

OK: Jaanong go raya gore ga a nthuta kele ngwana wa gagwe?

What is she is teaching me?

Mma 2: *Nnyaya ga a ro ruta fela ole ngwana wa gagwe go siame, mme gona le nako ee leng gore gao le mosetsanyana sebaka sele teng ga o tsene. Akere o utlwile gore ke raya jang.*

She is teaching you there is nothing wrong with it. You can just go in. But when a woman is menstruating, she does not go in. Did you understand?

OK: *Ee Mma ke tlhalogantse.*

Yes, I understand.

LM: *Nna kana ke lebile gore o tlile go e ntsha jang.*

I am waiting to see how you are going to remove it. (directed to GM, who has been forming a small pot in the metal bowl)

GM: *Ehe o lebile gone,Nnyaya e santse ele metsi ke santse ke e simolola, gake santse ke e simololola jaana e tsile go tlhola fela fa le kamoso e tlaabo entse ele mo beisaneng, ke gore e oma fela gore e nne tshetla, gae sena go nna tshetla jaaka e nneng kelo e kaela e.*

Oh, you are waiting for that? It is still wet. I am still working on it. It is going to stay in here until tomorrow. I wait for it to dry, then I can take it out when it is dry.

LM: *Ee nna kare ao ae ntsha.*

I thought that you were taking it out.

GM: *Nnyaya gae tswe mo, e tlile go tlhola letsatsi le le kamoso ebo ele gone di kgaoganang, e santse e iketlile fela mo beisaneng e.*

No, I am not taking it out. It will be here today, and then I will take it out before I leave tomorrow.

OK: *Ebo ele gone oka e ntshang o rethefatsa marago?*

And then you take it out and smooth the bottom?

GM: *Ebo ele gone keka e ntshang ke rethefatsa marago fela a nna borethe, ebo ke e ritela, gae kake ya nna nkgwana e santse ele mo beisaneng, ke e ritela fela etswa mo abo keya go e besa.*

Yes, I smooth it until it becomes perfectly smooth. It won't be a pot while it is still in this bowl. I smooth it when I take it out of this bowl, then fire it.

Mma 2: *O bona ga entse jaana, di santse ditla oma dibo di imanolola mo beisaneng, tse ketsa maabane mme gadi ise di ome.*

You see, when they are like this [wet] they stick to the bowl, but when they dry they contract.

OK: *Oentsha jang teng foo?*

How do you take it out?

Mma 2: *Etlaabo e omile.*

It will be dry.

OK: *Ehe ga e oma e tlogela beisane?*

So when they are dry the contract?

Mma 2: *E tlogela beisane, gao e tshwara fela jaana e tlaabo e tswa.*

Yes, they contract, and when you hold them like this they just come out.

OK: *Jaanong makgabisa o a direla ruri ke bona o setse o kwadile.*

So do you make the decorations when it is still wet like this?

Mma 2: *Ee ga go ntse jaana makgabisa oa direla ruri.*

Yes, you make them while it is still wet.

OK: *Le one a go direlwa ruri a santse ele fa?*

Even this one?

Mma 2: *Ee e santse ele fa, akere o bona e jaaka e ntse jaana, e fedile e emetse gone gore etswe mo beisanebg fela, ebo e ritelwa e ritelwa mokgabisa one o ntse jaaka o ntse jaana.*

Yes, you see this one, it is ready to come out of the bowl and be smoothed with decorations like this.

OK: *Alo atle le kgabise ka letsoku le lona? Le tshsediwa ruri e santse ele metsi jaana?*

Do you ever use *letsoku* for decorations? Do you apply it when it is still wet like this?

GM: *Nnyaya o tsasa e sena…*

No you apply it…

OK: *Go gwamanyana?*

After drying?

GM: *O bona yone ye keneng kego e bontsha yele, ke e direla sengwe le sengwe e sena go oma bo letsoku bao ke eritela pele ga keya go e besa ke e ritetse, ga etswa koo, ga e satlho etwe sepe fela e berekela sengwe le sengwe se o tlaabo ose batla.*

See that one that I was showing you? I did everything after it dried. I applied the *letsoku* before I fired it, after that there is nothing that you can do to it. It is ready to be used for anything.

Mma 2: *Akere o bona ye gore entse jaana one ae ntsha mo beisaneng abo a dira jaana gore marago a a gagamale, ebo e ritelwa e sala e tshwana le e tona ye.*

You see this one? She took it out and did this to it to make the bottom stiff, and then smoothed it afterwards.

OK: *Ebo e tshasiwa mafura a nku?*

And then apply sheep fat?

Mma 2: *Ehee, ebo e tshasiwa mafure a nku ntate, ga a she.*

Yes, and then you apply sheep fat. It doesn't burn.

OK: *Ga a she, ke ne ke santse ketla botsa kana?*

Oh it doesn't burn? I was about to ask you that.

Mma 2:*One ga a she a dirira nkgwana khibidu, fela, ae dira borethe fela jaana, a mangwe a motlhoro fela aa kakoga , jaanong one ga a kakoge.*

It doesn't burn, it only makes the pot red and smooth. Other types of fat are just light.

LM: *Makgabisa lene le a dira jang ga ke bona a farologanye jaana, a o tsenya mongwe le mongwe oo eletsang kana ke a mo motseng wa Kanye, ke a ngwao ya lona?*

How did you make the decorations? Do you just decorate, or are these decorations from Kanye?

GM: *Ke gore mokgabisa wa nkgwana ga o bopa wena, ke gore ea bo ele pattern fela ya gore wena o kgabisa jang.*

You just come up with your desired pattern.

LM: *Go raya gore ye yalona gale e dire kagore e ntse e dirwa mo motseng wa lona wa Kanye?*

So you are not making these decorations because this is how it was done in Kanye?

GM: *Nnyaya, re dira fela kagore, gompieno jaana ke ka dira fela kagore ke ofe oke o akantseng gore nka kgabisa jang mo nkgwaneng, obo keo dira.*

No. Even today I can just make any other pattern I can think of.

OK: *Lene le sanke le dira ka sebilo, bane ba sanke ba leka go kgabisa ka sone?*

Was *sebilo* used for decorating?

GM: *Ee bagologolo bane ba dira ka sebilo.*

Our parents and grandparents sometimes used *sebilo*.

OK: *Ele lekgabisa fela akere?*

Just as a decoration?

GM: *Ee lele phatsimang, ye kana e setse e ritswe e emetse one molelo fela, gore e tsene mo dibing e nne khibidu jaaka tse.*

Yes a shiny one. This one has been smoothed and is ready to burn. (referring to a dried and smoothed pot)

OK: *Ke gore tse ditona tona tse motho o tsaya malatsi ale kae a ntse ae dira?*

How many days does it take to build the big pots?

GM: *Tseo ke tsone tsa bagolo, gase tsa rona tseo, rona kana rebo mgogoshane, o fetsa beke fela o ntse oe bopa, mme le gale dilo tse gotswa fela gore mabogo a gago a tlwaetse gole kae.*

Those ones are for parents, not for us. We are amateurs. You might take a week building one. But sometimes it depends on how you feel.

OK: *Wena ono o ise oe leke e kana?*

So you have never tried building a big one like that?

GM: *Nnyaya Rra kene ke ise ke e leke mme ke atle ke felele fago e lekanag le tsele, letse di fetang yele ke atle kedi leke. Mme ese gore go a pala, ke gore botshwakganyana le bone, batho baba neng ba dira dilo tse bane bale thata gore gaisa, nna kana re merogobela fela…*

No I have never tried. But sometimes I make larger ones. But not meaning that I cannot make them, it is only that sometimes we are lazy to do it…

…Ke gore gao e dira jaana o ane oe baya fala gore e utlwe phefonyana e gamoge, obo o nna oe boelela. Jaanong ga e ntse jaana e setse e fedile, ke go baakanya molomo o fela gore ke e rete e nne borethe.

…As you are building it, you sometimes leave it in the wind to dry a bit, then go back to working on it. So when it is like this, it is almost complete. I am left with smoothing the rim.

LM: *Gae motlhofo tiro e.*

That's not an easy job.

Mma 2: *Gago motlhofo ke gore batho bana le go tsaya gore go motlhofo, le madinyana a teng abo a nna kwa tlase, mme mmu o thba ka mmele wa gago.*

It is not easy, but some people think that it is easy. Even the money is too little.

LM: *Ke eng o direla mo kgetsaneng o sa direle fela fa, kan e go thusa ka sengwe.*

Why are you building them on that tarp?

GM: *Mo ke dira nama o sa tshwere fela mo, gape gaketla ke kolobetsa jaana go nna maphatshapatsha fela a metsi, jaanong mokgwa wa teng gone go direlwa fela mo mmetong wa bogologolo kana saile, saile ke tsone tse di siameng, kagore mo go nna maragaraga fela a metsi, go nna seretse…*

This is only temporary. If I was not using this it would be messy. In the past they used a sack from natural fibers…

…Ampo lo batla go bopa, go a theogelwa fa, motho oa intsha, fa ke mathata fa, mme bone batla fela ba dira, makgowa ba a dira, kana bone ba atle ba patereke selo fela gore e nne sone se ba se batlang.

…Or you want to build some? It is not easy. But whites normally come here to make them because they like trying out things.

OK: *Ba dira mme gone goye teng?*

Did they make nice ones?

GM: *Ba dira, di teng mo le bana ba sekolo ba dira ke gore gotswa fela gore le batla go dira lele kae, ampo e kare batla batla go dira bale babedi, mme makgowa o filthela batla ba ithela bale bantsi. Wena o tshwanetse wabo ole setshwakga.*

They are there in the house. Even the school children sometimes come here. It depends on how many they want to make. Sometimes there will be two on one pot, but whites come in large numbers.

OK: *Jaanong mo teng ga gore sepe fela ga go rialo?*

What about the inside?

GM: *O raya mo teng mo,ke gore gake sena go bona gore o kare ea oma, ke tlaabo ke falafala mo teng ka golo mo ke e fokotsa bokete, ebo ke e ritela mo mo teng. Gape le ga ke sa e ritela mo teng ga ena bothata, ga ena bothata.*

When I see that it is becoming dry, I take this and scrape the inside to make it a bit lighter. It is ok even if it is not smooth inside.

…

GM: *Ee, ke gore gake tla go duba ke lebelela gore ke thugile letsopa lele kae, kabo kele tabolela ka selikanyo sese kae,gae le emere ye ya 20 l ke tabola ka beisane, ke meta moraga ka yone kebo ketla go tlhakanya.*

Yes, when I mix I look at how much *letsopa* I have, then I take the required size of *moraga*. If it is a 20 liter, I measure *moraga* using a basin.

OK: *Sese nnang sentsi go raya gore ke eng?*

Which one do you use more of?

GM: *Letsopa ke lone le nna lentsi,moraga kana one o montsi le ga o bona o kare o monyenyane jaana o bogale, ga o ka o tsaya ole montsi o tlile go nyeletsa letsopa ka ebile mmala wa teng o mohibidu, gao battle go fetisiwa o batla go nna mo selekanyong sa one fela, ke one o tsolopaganyang, gore letsopa le utlwane.*

Letsopa. *Moraga* is too much even though you think that it is just a little. If you take more of it the color will change because it is red, so you don't need to add more. It is what holds everything together (referring to the binding of the temper).

OK: *Ke gore gampore seloko mmu o?*

Is it *seloko*? (another type of clay)

GM: *Ee kagore lega o o tshwara jaana ka letsogo oa utlwa gore gawa tshwara mmu fela o wa rona wa setswana o re dirang dipota ka one o, wa utlwa fela gore o thick o bogagale.*

Yes, even if you are holding it you can feel that you are not holding an ordinary soil like the one we use for building. You can feel that it is thick.

…

GM: *Keye e feletse, jaanong ga entse jaana e letetse goya fa tsatsing, ga phefonyana fela e riana go a oma, go fitlhela ebo ketla goe ntsha mo beisaneng.*

Now it is ready and only waiting to go to the wind and sun to dry up, until I take it out of this bowl.

OK: *E tsaya malats ale kae, go raya gore kamoso e fedile?*

How long does it take? Does it mean that it is ready tomorrow?

GM: *Ke gore e tsile go tlhola gompieno, e tlaare kamoso ke tshaisa kebo ke e ntshitshe*.

It is going to be here today, and then I will take it out tomorrow.

Around 1930, Isaac Schapera gathered information for ethnographies about the people who were living in southeastern Botswana at the time. In addition to his written work, he took photos of the daily tasks he observed, and of relevance here are images of the forming of a slab-built ceramic vessel (Figure 6.2) and an open firing of dried ceramic vessels in a hole dug into the sand of the Kgalagadi Desert (Figure 6.3).

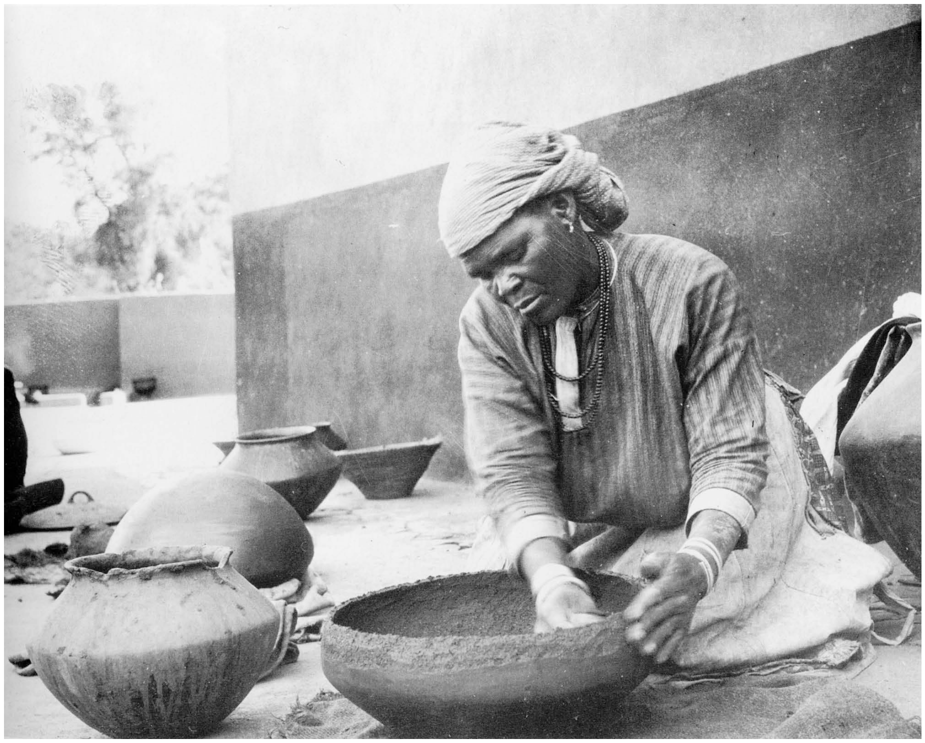


Figure 6.2: Plate 2.16 Woman making pot, II [RAI-3880] (taken by Isaac Schapera in southeastern Botswana during the 1930s, from Comaroff *et al.* 2007, reproduced with permission from the Royal Anthropological Institute)

Figure 6.3: Plate 2.19 Pots being placed in firing-hole [RAI-5816] (taken by Isaac Schapera in southeastern Botswana during the 1930s, from Comaroff *et al.* 2007, reproduced with permission from the Royal Anthropological Institute)

In Molepolole, a woman[1] who lives there makes small, unglazed reddish-colored pots in an only slightly different way from those described by my informants in Thamaga and Kanye. She sells finshed pots in the gift shop at a local museum about the history of the Bakwena people in Molepolole. She learned to make ceramics from her mother when she was younger, but told us that today, she was the only person that she knew of in Molepolole that still makes pottery, an assertion that was confirmed to us by the museum staff. To begin, she collects a deep red dried clay from pits just outside of the village to the west on the edge of the Kgalagadi, and temper from just outside of the village to the northeast. After collecting the raw materials, she crushes the clay in a mortar (*kika*) to a fine grained consistency, and sieves it through a metal kitchen strainer to remove any impurities.

The temper that she uses is a blue-colored asbestos (fibrous actinolite or fibrous tremolite), and the process for refining it from a hard stone to a usable form is exactly as described by Khudu-Petersen *et al* (2000) for its use in pottery manufacturing by a potter in a different village:

> "it is pounded in a mortar and then winnowed using a winnowing basket. The potter sits on the ground, with a mat between her outstretched legs. The pounded material is repeatedly thrown into the air separating the granular lumps from fine powder, which falls onto the mat held on the lap of the potter. The potter is surrounded by dust, coughs frequently, and her face is usually covered with powder. The process takes approximately 30 min and is carried out every other day, depending on the number of pots to be made" (137)

Their research was into the use of asbestos for traditional ceramic manufacturing in Botswana and the potential health risks to women. Further, the process is briefly described whereby the potter mixed the winnowed asbestos "by hand with a reddish brown loamy soil, broken off from termite hills to produce a clay which is shaped into pots, dried and fired…[and] the finished pots are sold to tourists and other buyers" (Khudu-Petersen *et al.* 2000:137). In this case, the potter was using *seolo*, a soil collected from termite mounds, since there is likely no pure clay source available to them (*seolo* is discussed in the Thamaga interview).

The Molepolole potter, mixes the refined clay and temper together in a large metal bowl, and breaks off smaller pieces to form slabs that she uses to create a rough shape for a pot, using a small metal bowl to shape and contain the base. When the shape is complete, wets her hands and smoothes the pot on the inside and outside, then uses a metal knife to trim the opening to create a straight edge. From here, she described to us the process of using a pointed stick to incise lines

[1] Unfortunately, the recording of the interview with this potter was accidentally erased before it could be transcribed, so her name and the exact conversation cannot be presented here.

around the neck and shoulder of the pot to create a design, the pot drying, being removed from the bowl, painted with a black pigment she makes from crushed charcoal in the incised design, then firing the pots with cow dung in a hole located near the corner of her compound. Asking her about the design that she uses on the pots, we found that she created it herself, and it was not influenced by any traditional designed that she had learned. Samples of the hard clay, temper, and mixture were collected.

Today in Thamaga, commercial ceramics are the only ones produced at Thamaga pottery (Botswelo Centre, Pty Ltd), established in 1976 by a Catholic aid organization and now supported by the United States African Development Foundation (USAID). It is a community run operation that produces kiln-fired glazed ceramic tableware made form commercial white clays from South Africa, and has no institutional knowledge about ceramic production in Thamaga in the past.

Lastly, in Gabane, coincidentally at the base of the hill where the Middle Iron Age site of Moritsane is located, is Gabane Pottery, a small-scale commercial ceramic production facility and shop. The ceramic production is done by a small group of women, using clay that was collected near Lobatse, close to the clay source used by the women at Motse Lodge in Kanye, and not very close to Gabane. The potters said that there was not a clay source nearby, so they had to purchase the one they use. This clay is crushed and sieved to remove larger particles, and then *seolo*, the soil from local termite mounds (Figure 6.4), is added as temper since it contains tiny, rounded stones, and looks very much like some of the archaeological ceramic fabrics in this study. Finished ceramic vessels are painted with colored glazes and kiln fired at the shop. In the shop, they have a large basket of small ceramic sherds that they collected nearby (from the base of the hill of the site of Mortisane) and sell to anyone that wants a piece of archaeological ceramic.

Figure 6.4: Bags of *seolo*, soil from termite mounds, collected and waiting to be crushed and used as temper at Gabane Pottery. Gabane, Botswana, 2007.

With instances such as in Gabane, where clay sources may not have been close, trade in ceramics most likely occurred to obtain them, but may have also been exchanged as gifts or acquired for the aesthetic qualities that particular potters achieved. Oral traditions recorded by Gary Okihiro in Molepolole (2000), discuss not only the trade in ceramics, but numerous other goods, as well as soil in the c. 1890s:

> "Bangwaketse women brought a red stone (*letshoko*), rubbed on pottery to give it a reddish color and found in Ga-Ngwaketse, to Molepolole to purchase grain from Bakwena women at a rate of one measure of *letshoko* for four to six equivalent measures of sorghum. In turn, Bakwena women traveled to Manyana with sacks of sorghum to buy large pots made by famous potters like Mma Morobeng, who created a style known as *mmamorobeng* and whose earthenware pots were renown for their strength and fine quality. The price of a pot depended upon its size, generally fetching its capacity in sorghum. Women, through this trade, were able to accumulate fowls, herds of goats, and even cattle for themselves" (98)

> "Bashaga and Babolaongwe ['Bakgalagadi' groups] women initiated a parallel trade with Bakwena women. At Luzwe, women dug for and gathered a kind of blue colored soil called *thyalanyane* which was used by

> Bakwena women to decorate their homes. They molded the *thyalanyane* into brick slabs measuring about thirteen by eight by three centimeters, and traded them at Molepolole where each slab fetched about one basin-full of sorghum" (133)

In Moshaweng, we interviewed people who fall within the contemporary grouping of 'Bakgalagadi', and spoke briefly about ceramics. They did not make them where they live now, and historically acquired them from the Bangwaketse to the southeast (Kanye area):

> (Interview with Keiithaetse Kekwaletswe, b.1914; 22 August, 2006; conducted in Setswana by Lawrence Masoga, translated into English by O'boy Kalanke)
>
> **Lawrence Masoga**: *Gare ntse re tsamaya jaana rene re ntse re bona dipitsa, jaanong re batla go itse gore, ale kwano di teng kana gone gona le notho yo oneng a di bopa , ga ale teng one a tsaya kae mmu?*
>
> While we were doing our research, we came across some pots. Were there any people making them here? If there were, where did they get the clay?
>
> **Keiithaetse Kekwaletswe**: *rene re di reka mo bathong baba tswang kafo ga ngwaketse, kwaga Mosiiwane batla badi belesa ka ditonki, ka kwano ga re itse letsopa la teng fole leng teng.*
>
> We were buying them from people from Ngwaketse in Mosiiwane. They were carrying them with donkeys. We don't know where the clay is.

Discussed later in this chapter, is my attempt to begin the process of looking at the movement of ceramics in this area (and possibly much further away) via geochemical studies of ceramics, clays, and tempers, to establish the existence of these trade connections in the past between ceramic producing and non-producing communities.

3. CURRENT KNOWLEDGE OF ARCHAEOLOGICAL CERAMICS IN SOUTHEASTERN BOTSWANA

> "[O]ur knowledge of early farming peoples in the south eastern part of Botswana has been speculative, derived from associations of pottery styles found on sites, with pottery from the more elaborate chronology of settlements in South Africa…a great deal of confusion about the history of early farmers in south eastern Botswana results from attempts to link pottery from sites

> in Botswana to settlement activities in South Africa, without real understanding of whether these were culturally related developments or reflections of more sporadic exchange relations where pottery was simply part of the repertoire of goods exchanged." (Segobye 1998:110)

Local ceramic traditions in southeastern Botswana are not as well known as in adjoining regions of South Africa, for example. This is the result of the disjointed and unpublished archaeological investigations that have taken place in the area. The first archaeological ceramics from the area were reported by Laider (1938) after he conducted (unpublished) excavations at Dithejwane (near Molepolole) and further north in the area the present-day town of Serowe, grouping them into a western variant of his 'Early African' ceramic style. Schofield, having never conducted excavations in Botswana, later reclassified these based on his own scheme to account for stylistic variations of Iron Age ceramics in the broader region and linked them in varying forms to archaeological sites in South Africa (1948).

The first Iron Age site to be dated in southern Botswana was Broadhurst (Denbow 1981), in Gaborone, a single-occupation site that dated to the 14th century (1360±50 uncalibrated a.d., Wits-837). Conducting a standard ceramic analysis, James Denbow identified a number of attributes of these ceramics. These incised and comb-stamped ceramics with often thickened rims (Figures 6.5, 6.6, 6.7), combined with those from the nearby site of Moritsane (Denbow 1981), were typologically linked by Denbow to earlier Iron Age ceramic styles in the Transvaal (South Africa) at sites such as Eiland (Evers 1975) and Silver Leaves (Klapwijk 1974; Klapwijk and Evers 1987).

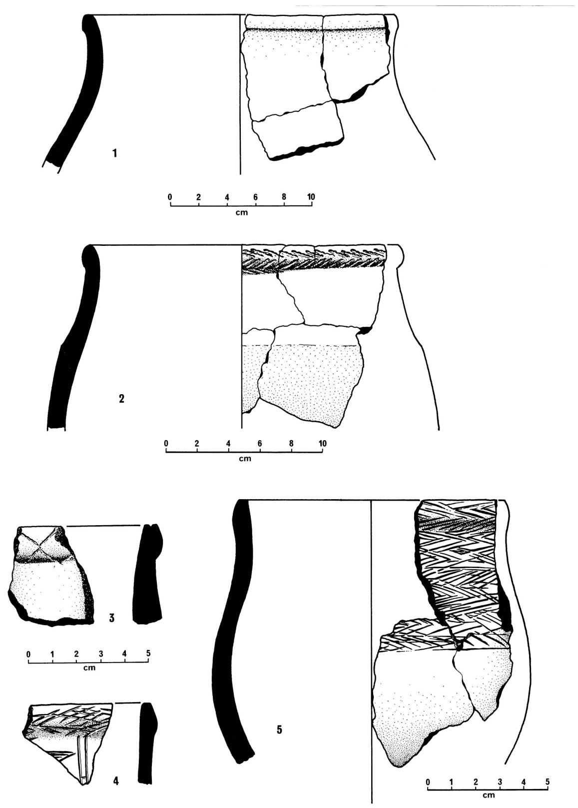


Figure 6.5: Ceramics from Broadhurst (after Denbow 1981)

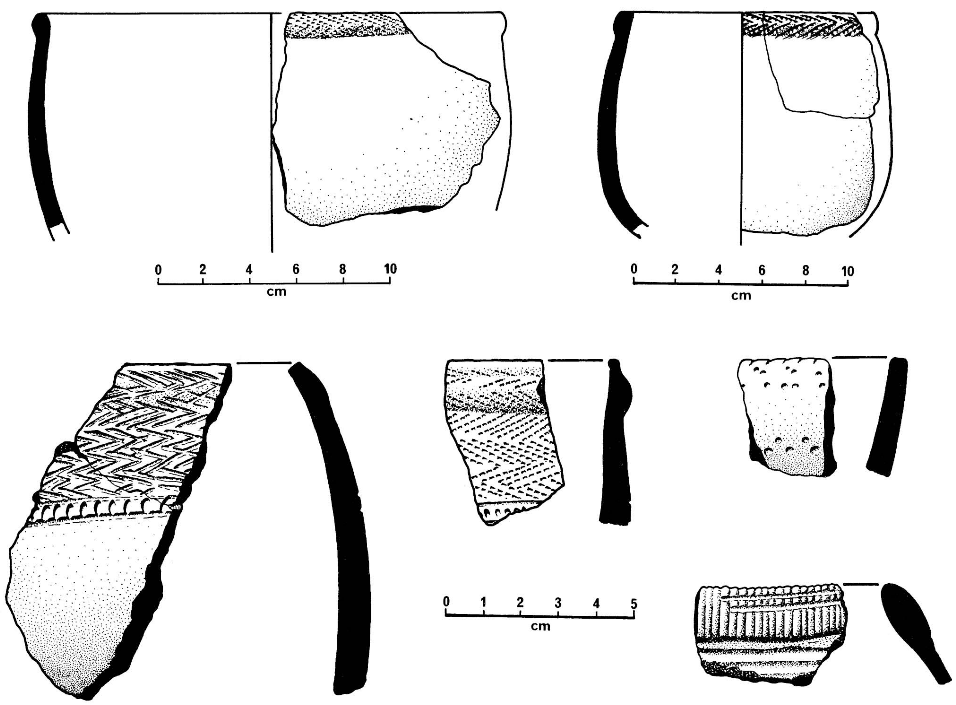


Figure 6.6: Ceramics from Broadhurst (after Denbow 1981)

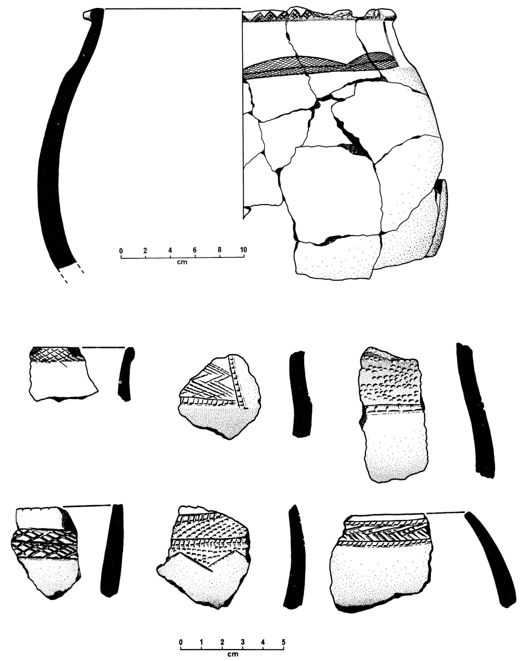


Figure 6.7: Ceramics from Moritsane (after Denbow 1981)

Tom Huffman (2007:227) places the Moritsane ceramics into the Eiland facies (AD 1000-1300 / Aukema 1989; Denbow 1981; Evers 1981; Hall 1985; Klapwijk & Evers 1987; Lane 1996; Loubser 1991, 1994) that spanned east into the Transvaal (Figure 6.8) and is characterized by fine herringbone with ladder stamping. Paul Lane (1996) describes it as having combstamping, thickened rims, and grooved or nicked lips as well (21). According to Huffman, the Eiland facies derives from the Happy Rest sub-branch of the Kalundu Tradition (458).

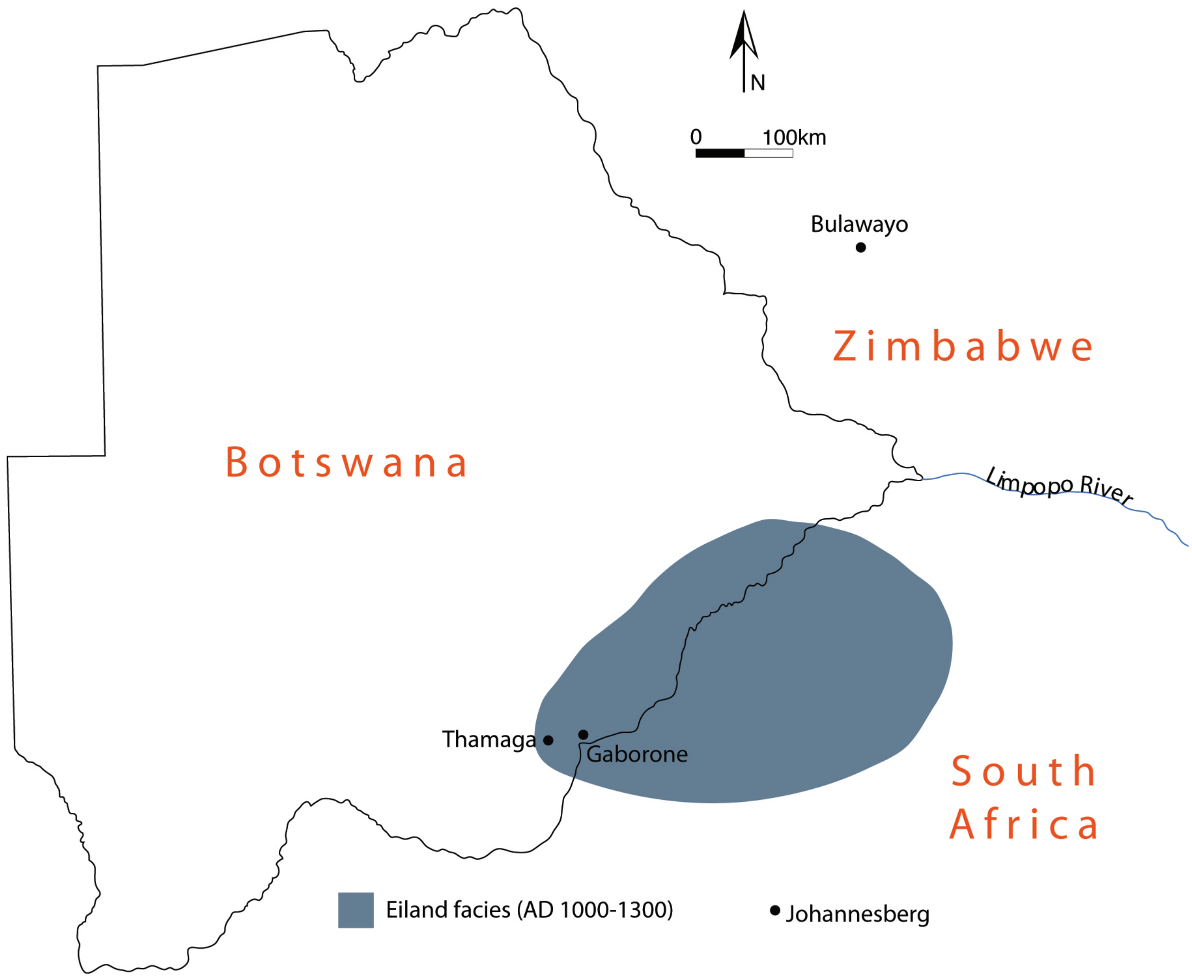


Figure 6.8: Geographic area where Eiland facies ceramics have been found (adapted from Huffman 2007). AD 1000-1300.

Huffman (2007:231) sees the Broadhurst ceramics as belonging to their own facies, derived from the Eiland facies, occurring from AD 1300-1430 at the sites of Broadhurst, Fikeng, and Gammelesi, all in the area between Gaborone and Kanye (Figure 6.9 / Campbell, Holmberg, & Van Waarden 1991; Denbow 1981; Denbow & Campbell 1980; Schofield 1948). The Broadhurst ceramic style is characterized by finely incised lines and stamped herringbone, visually similar to the Eiland style of decoration.

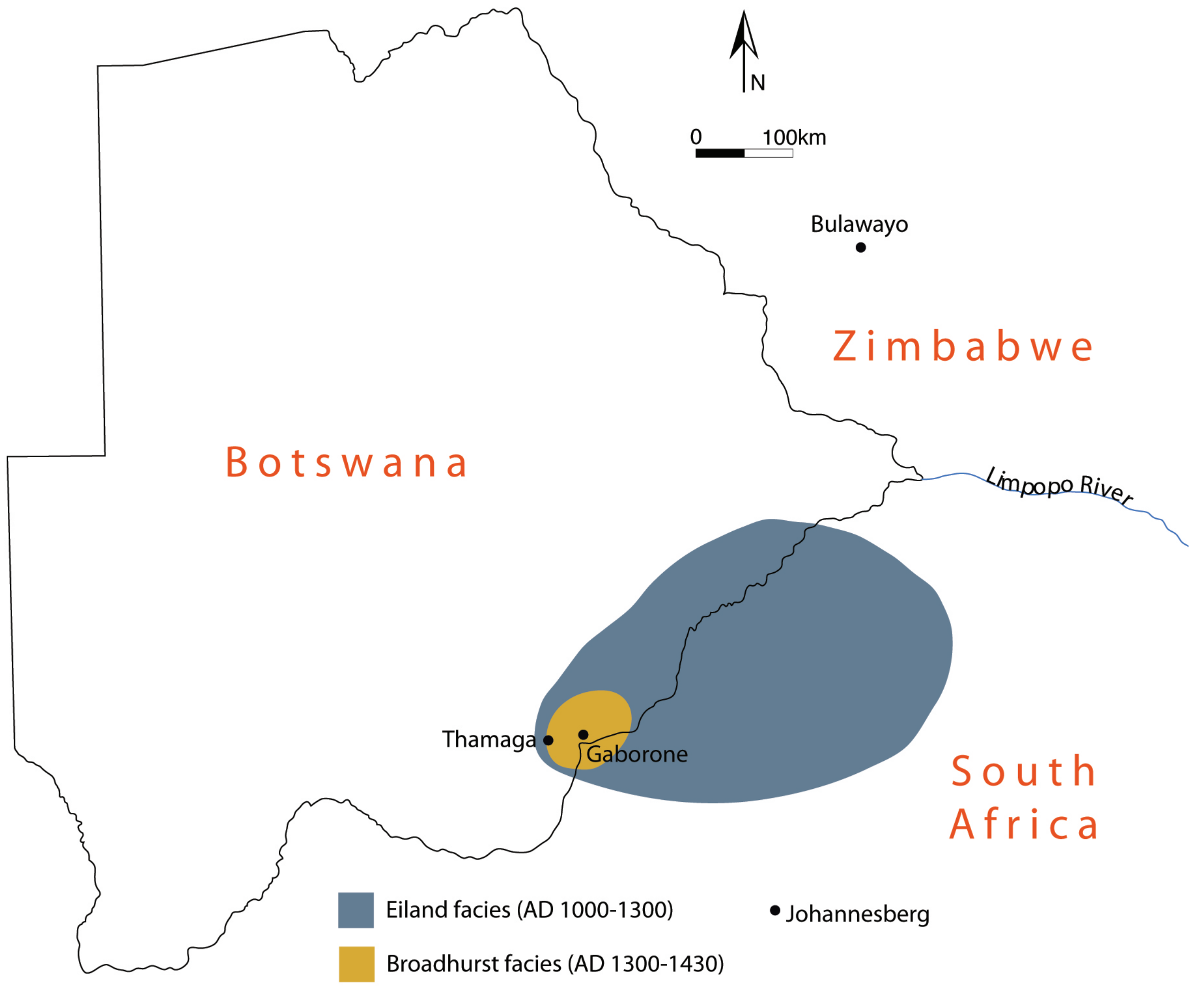


Figure 6.9: Geographic area where Broadhurst facies ceramics have been found (adapted from Huffman 2007). AD 1300-1430.

Denbow argued that based on the later occurrence at Broadhhurst (14th century), a continuity of Eiland-style "stylistic trends" is likely in southern Botswana that spans from at least from the occupation of Moritsane (11th century) and "represents a later phase and separate regional faces of a general Early Iron Age tradition…[indicating] that Early Iron Age peoples maintained their cultural identity well into the second millennium A.D. along the margins of the Kalahari" (1981:73), something he believes was possible due to having vast wealth in the form of large herds of cattle. The 'Early Iron Age' period that Denbow refers to in relation to the Botswana sites is now classified as the 'Middle Iron Age' period.

Alec Campbell (Campbell *et al.* 1991) has argued that the Eiland ceramic tradition can be attributed people ancestral to the 'Bakgalagadi' groups in Botswana today, and it appears to continue into the 17th and 18th centuries. In discussing the late occurrence of Eiland ceramics at Broadhurst, Klapwijk and Evers (1987) note that "some stylistic elements are simplified or missing. For example the decoration of jars and bowls is often restricted to the rim whereas a rim-shoulder layout was common earlier, and the filled arcade is missing. The latter is so characteristic of Eiland style that sample size alone is unlikely to explain this lack. It is possible that Broadhurst is representative of a simplified late Eiland phase" (43).

During the 12th to 14th century AD in neighboring South Africa, a new style of ceramic called Moloko began to appear with increasing frequency as Eiland ceramics declined (Klapwijk and Evers 1987:43). Lane (1996) notes that the major diagnostic feature of this newer style is the "greater use of colour, and particularly bands of graphite or ochre burnish. These are frequently separated by a variety of hatched, incised or stamped triangular or arcaded motifs, particularly during the earlier phases of the tradition" (21). In southern Botswana, it might be present as early as the 13th century AD (Campbell *et al*. 1991), but it co-occurs at sites in this area (Lane 1996; Van Waarden 1990) at least until the mid-17th century AD. While Paul Lane (1996) suggests that this might represent two distinct communities living at the same settlements (22), he recognizes that these new ceramics may have been acquired through exchange networks that have not yet been documented. I believe the later is a more likely explanation and shows the need for work to be done on ceramic provenance studies via geochemistry and petrography, as I present and discuss below.

This is also possibly another, as yet unrecognized local ceramic facies since the co-occurrence of Eiland and Moloko ceramic styles at some of the sites occurs in the form of attributes of both styles occurring on the same vessel, such as those discussed by Denbow (1981) for site 55-B1-8 (Figure 6.10), where he notes that it "combines the shapes, slightly thickened rims, bosses, combstamped herringbone and other motifs clearly related to Broadhurst with 'later' Iron Age traits such as trianguloid panels executed in contrasting colours on the body of pots and bowls…The combination of both Early and later Iron Age elements on pottery from the 55-B1-8 site, as well as other later Iron Age sites in the area, suggests a blending of ceramic traditions" (71-72).

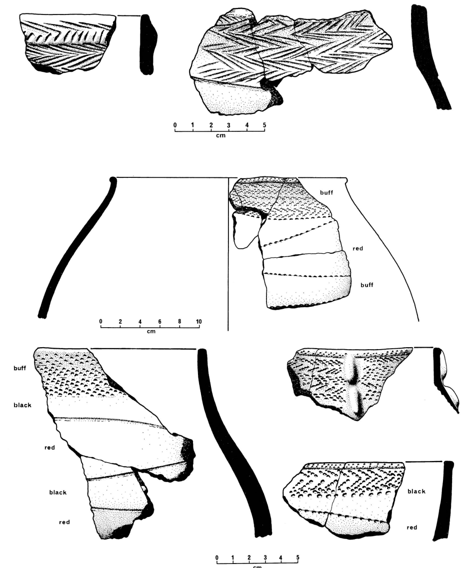


Figure 6.10: Ceramics from site 55-B1-8 in southeastern Botswana (after Denbow 1981)

The Moloko ceramic style is a branch of the Urewe Tradition and its production is generally linked to Sotho-Tswana speaking farmers (Huffman 2007:183, 428-439) who arrived later into southeastern Botswana. Of this branch, appearing at the sites discussed in this research are the Letsibogo facies (AD 1500-1700 / Figure 6.11 / Campbell, Kinahan & Van Waarden 1996; Huffman & Kinahan 2002/2003; Van Schalkwyk 2000) located to the northeast, the Madikwe facies to the east (AD 1500-1700 / Figure 6.12 / Hall 1985; Huffman 2006; Mason 1986; Pearson 1995), the Rooiberg facies to the east (AD 1650-1750) / Figure 6.12 / Hall 1985), the Buispoort facies to the southeast (AD 1700-1840) / Figure 6.12 / Mason 1962, Pearson 1995), and the Uitkomst facies to the southeast (AD 1650-1820) / Figure 6.12 /Mason 1962, 1986).

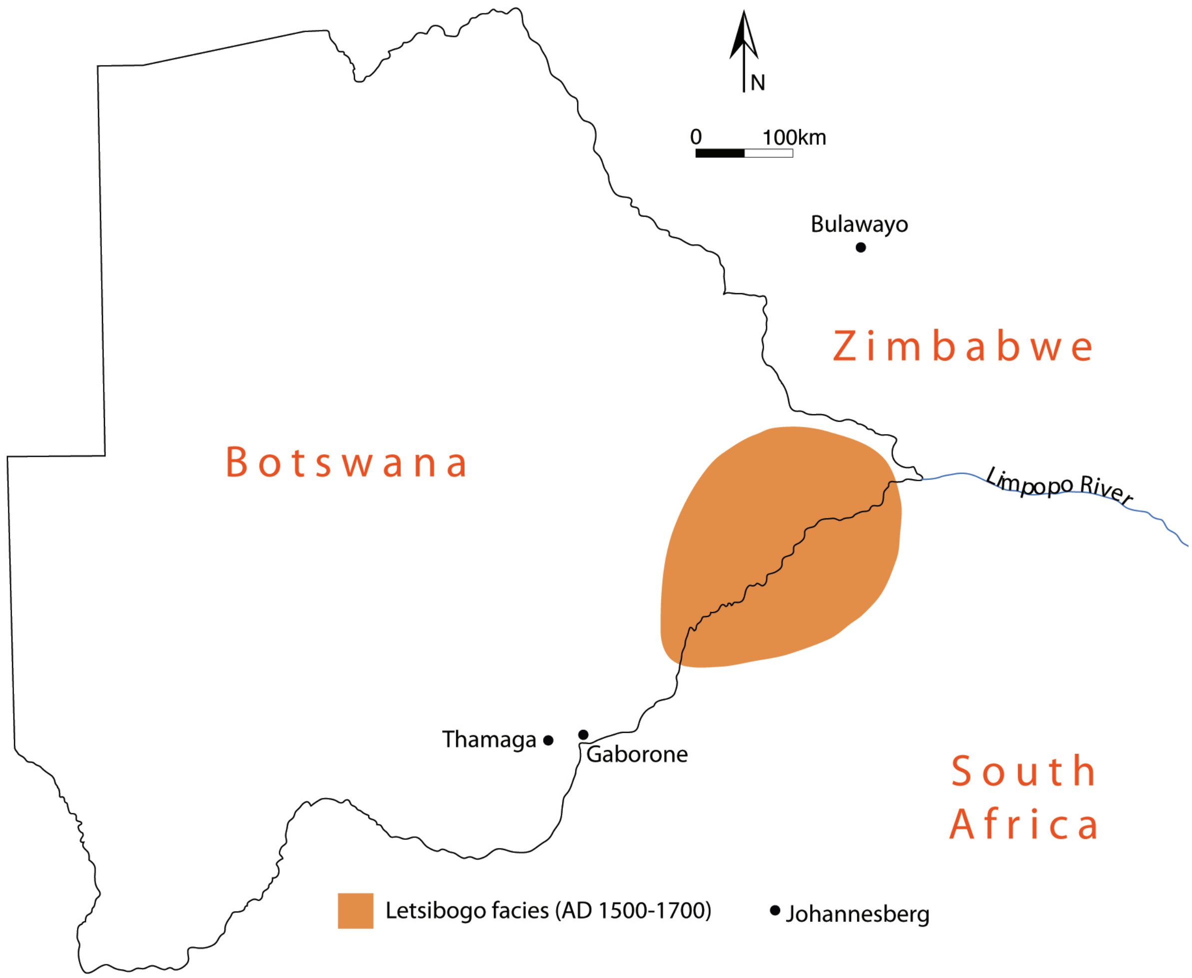


Figure 6.11: Geographic area where Letsibogo facies ceramics have been found (adapted from Huffman 2007). AD 1500-1700.

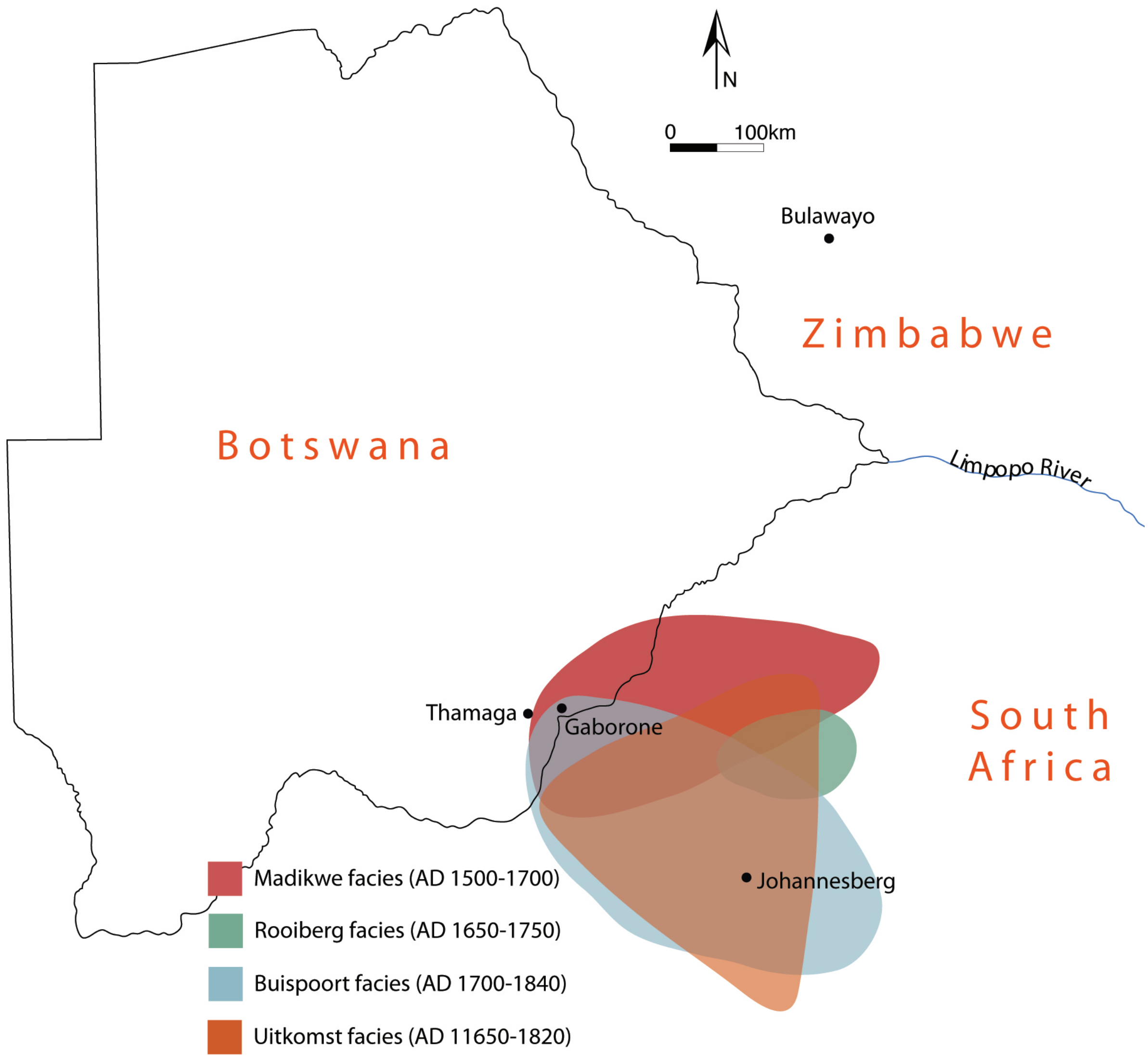


Figure 6.12: Geographic area where Madikwe, Rooiberg, Buispoort, and Uitkomst facies ceramics have been found (adapted from Huffman 2007). AD 1500-1700, AD 1650-1750, AD 1700-1840, AD 1650-1820.

A second aspect of ceramic research in the Iron Age periods, especially the later ones, that should be noted has been the attribution of particular ceramic styles to specific contemporary groups of people, or at least their ancestors, a practice that has southern African roots in the 1930s with the work of Gertrude Caton-Tompson (1931), P.W. Laider (1938), and J.F. Schofield (1948). As Innocent Pikirayi (2007) notes, "Iron Age archaeologists are expected to identify ceramic sherds using already established typological sequences, or archaeologically defined culture units usually equated with ethnic groups" (287). He further makes the point that "[a] major limitation with African Iron Age archaeology in general is the treatment of pottery as if it is the only evidence found on sites, and yet ceramics are only meaningful within a given cultural context. Pottery relates to, and communicates with, other material culture" (288).

In this research, since it is not wholly focused on ceramics, I acknowledge that a more complete study of the decorative styles in the area should be discussed (cf. Pikirayi 2007), but it is beyond the scope of this project, relying more on ceramic identification based on typological sequences and their connection to larger, conglomerate group 'identities', the 'Bakgalagadi' and the 'Tswana'.

4. METHODS OF ANALYSIS

The analysis of the ceramics from AK47 shelter and Botlhano Fela were conducted using standard techniques (e.g. Rice 1987). This included recording vessel lips and rims, vessel shapes based on stances and opening diameter, decorative motifs and techniques, and observations about compositional fabrics. Attempts were made to join potsherds before analysis began so as not to overestimate particular forms or decorations, but almost all were too fragmentary to enable this process. Ceramic decorative styles were defined based on published studies of ceramic groupings that were recently collected by Huffman (2007), as well as a few other published articles noted previously.

The second aspect of my analysis was a preliminary attempt at applying the techniques of geochemical provenience to archaeological ceramics from AK47 shelter and Botlhano Fela, as well as samples from previously excavated and surveyed sites in the area for a broader geographic comparison, only some of which are presented here. These sites were Broadhurst, Moritsane, Ostrich/Damp Shelter, Radiepolong, Thamaga I, Manyana rockshelter III, Dithubaruba, Dithejwane, and Magagarape. A total of # ceramic sherds were selected from AK47 shelter, # from Bothlano Fela, and # from the other sites for geochemical analysis. These samples were chosen based on: 1) suitable size for pEDXRF analysis; 2) decoration; and 3) well documented archaeological proveniences. At the time my geochemical study began, no such research had been undertaken in the area, but a recent article (Wilmsen *et al.* 2009) used optical petrography on ceramics from archaeological sites in northern Botswana to source their likely origins of manufacture.

Geochemical data was collected on the ceramic samples using a NITON XLt-592 portable EDXRF (energy dispersive X-ray fluorescence) spectrometer. This produced measurements in parts per million (ppm) for a suite of 20 elements: Sr, Rb, Fe, Mo, Zr, Pb, Se, As, Hg, Zn, Cu, Ni, Co, Mn, Ti, Ca, K, Cr, V, and Sc. Of these elements, readings for Mo, As, Hg, Cr, and Sc were consistently below the levels of detection and/or detected levels were within the margin of error on all samples, thus these elements were omitted from reporting and analysis for this study. All samples were exposed for 240 seconds. Since the NITON XLt-592's exposure window is 1cm x 2cm, all selected sherds were necessarily larger than the window, and the flattest portion of each ceramic sherd was placed on the exposure window for analysis.

Following the methodology established in Morgenstein and Redmount (2005), Strontium (Sr), Rubidium (Rb), and Iron (Fe) were selected for comparison. This suite of three elements represent common earth elements and their variations are distinctive in sediments, with Sr demonstrating carbonate content, Rb indicating volcanics and micas, and Fe reflecting non-carbonate silt detritus (derived mainly from igneous rocks) was selected for comparison. Using the statistical package of JMP version 7.0, the readings from the ceramic samples were analyzed against each other and grouped into hierarchical clusters based on averages. To test the validity of these clusters, the results were subjected to a discriminant function analysis to predict group membership, tested against the clusters, based on a linear combination of the interval variables. Finally, the suite of Sr, Rb, Fe (divided by 500 to normalize the numbers) were placed on a ternary plot of visually represent the distances and groupings of each of the clusters.

5. CERAMICS FROM AK47 SHELTER

The ceramics from AK47 shelter number an estimated a minimum of 14 vessels (MNV), based on rim sherds. In addition, 15 sherds were decorated but did not contain any rim. Lastly, 166 body sherds (22.54 kg) were not included in this analysis since it could not be determined which ceramic form they were part of.

5.1 CONSTRUCTION, FORMS, AND DECORATION

The techniques used to construct the vessels found in all of the *cultural layers* were likely all produced using slab building techniques, possibly using parts of broken vessels or preformed holes created in the ground as molds to form the base. This is based on the ethnographic information presented earlier, as well as no visual evidence for another production technique, such as coil building, in the ceramic assemblage. The inside of most of the ceramics evidence finishing techniques of scraping to smooth the inside of the pot, in the form of smooth grooves, and some show this on the outside as well. Ethnographic interviews mention that cow ribs were often used for this in the past since their ends have a natural spatula form suited for this task, but no definitive conclusions as to the tool used on these ceramics can be reached.

Some of the ceramics from this assemblage appear to have been burnished only, with most having a slip applied to them first. Slips are color additions that are applied in a thin coating after a vessel has dried before firing, and are “a fluid suspension of clay (and/or other materials) in water” (Rice 1987:149) typically a different color from the body of the vessel and easily be seen in the cross section of a sherd. In this assemblage, the slips are either red or black. A few of the sherds have a slip applied to both the outside and inside, and was likely applied by the potter with their hands or an absorbent pad such as a piece of fur. On a few of these, specularite was finely crushed and added to the slip, which would have caused the vessel to shimmer in the light. Of the ethnographic examples presented earlier, only the potter in Molepolole uses a slip, created from the same clay as the vessel body (called a self-slip), and at Gabane Pottery they use commercial glazes.

Since these ceramics were likely low-fired using cattle dung in an open firing, the slips would have been applied after the vessel had dried completely and burnished for better adherence (Rice 1987:150) On some vessels, fireclouding (burned area) is evident, whether intended or not, from combustible material resting directly on the vessel during the firing process. In some ethnographic examples of ceramic production throughout the world, fireclouding is very desirable and is the intended result of the firing process (cf. Panich 2009). However, the possibility exists that the fireclouding is the result of the vessel's direct contact with fire during it's use-life.

A few of the vessels in this assemblage, in addition to the application of slips, also have incised designs that were created when the surface was wet, but rigid, and after the application of the slip on those that have it. The incisions would have been made with a pointed stylus. The last decorative technique, seen on a few of the sherds, is painting, occurring in black (likely from charcoal), graphite, and possibly red (likely from the addition of *letshoku* or powdered hematite).

Post firing, the clays appear to be red, yellowish-red, and black. This color variation generally results from the iron content of the clays, particle sizes, oxidation, and firing temperature. The black coloring may be the result of high amounts of naturally occurring Manganese (Mn), as noted in kaolin deposits south of Kanye (Ekosse 2001). Today in southeastern Botswana, the clay groups are kaolin, smectite, and illite (Dr. Bernard Vink, personal communication).

5.2 CERAMIC GROUPINGS: CULTURAL LAYER 1

As with the analysis of other classes of artifacts, the AK47 shelter ceramic assemblage is divided into *cultural layers* based on radiocarbon dates. The ceramics are further divided into clusters based on the geochemistry of the vessels and their likely common links to a particular clay source that used to manufacture them. For the ceramics in *cultural layer 1*, the sherds sorted into four distinct clusters (Figure 6.13), and are spatially visible (Figure 6.14).

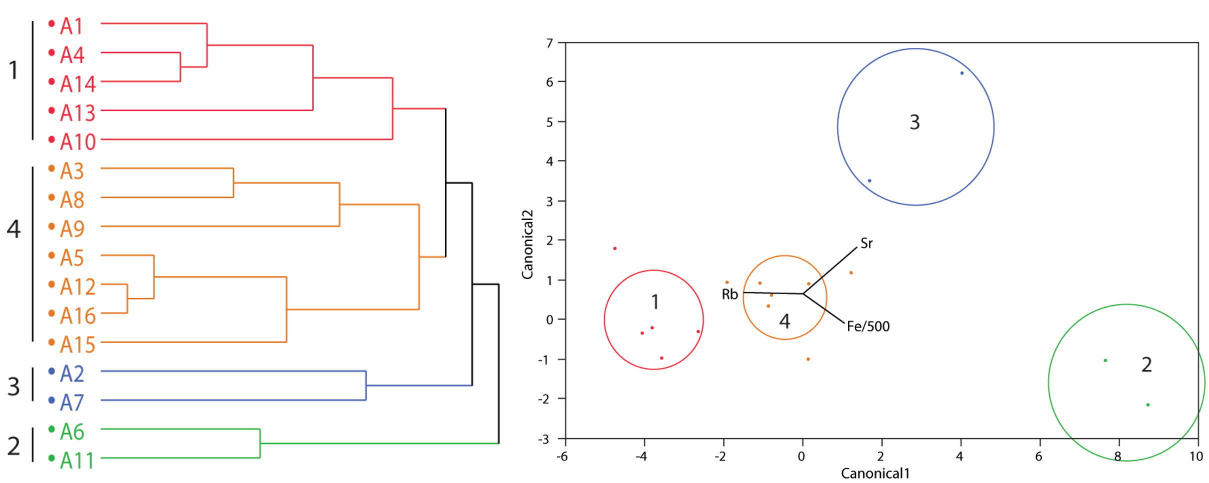


Figure 6.13: Hierarchical clusters of ceramic clusters and discriminant analysis from pEDXRF readings on Sr, Rb, Fe/500 from AK47 shelter *cultural layer 1*. Cluster numbers are indicated.

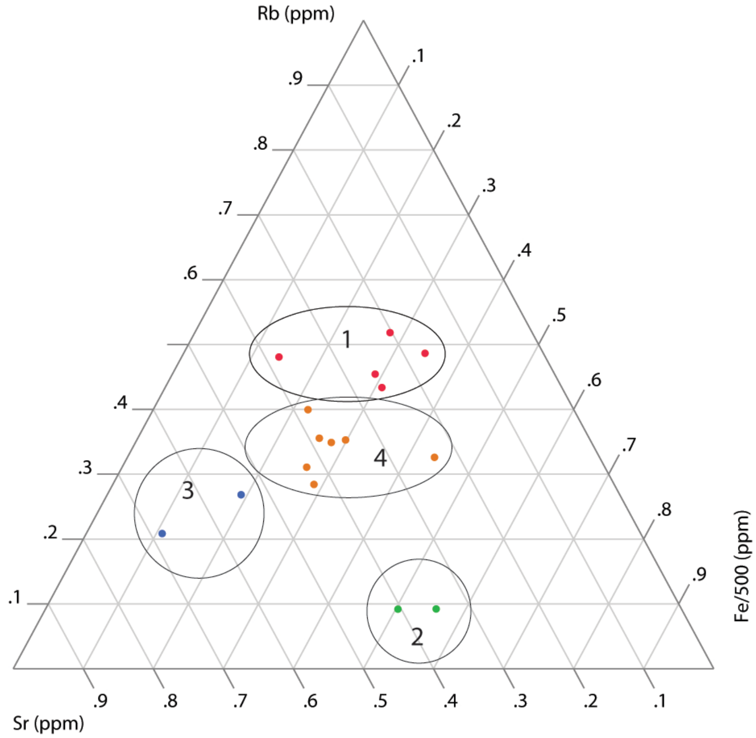


Figure 6.14: Ternary plot of ceramic groups based on pEDXRF readings (ppm) on Sr, Rb, Fe/500 from AK47 shelter *cultural layer 1*. Cluster numbers are indicated.

5.2.1 Cluster 1 based on pEDXRF results

Ceramics in Cluster 1 (Figure 6.15) fall under the likely classification of the Moloko branch (A13, A1, A14) and Letsibogo facies (A4) based on their surface decorations:

A13: thick-ware, rounded rim, rim band of finely-incised diagonal lines, application of a burnished red slip (2.5YR-3/3)

A1: thick-ware, beveled rim, circular indentations on the exterior of the rim, application of a black slip (2.5YR-2.5/1)

A4: thin-ware, outward protruding rounded rim with indentions, application of red and black paints alternating between punctate linear incisions

A14: thin-ware, undecorated body sherd, application of a burnished red slip

Figure 6.15: Ceramic Cluster 1 from AK47 shelter in Cultural Level 1 based on EDXRF.

5.2.2 Cluster 2 based on pEDXRF results

Ceramics in Cluster 2 (Figure 6.16) belong to the Rooiberg facies:

A6: thin-ware, stamped band separating burnished red (5YR-3/3) and black paint over a red slip (5YR-3/1)

A11: thin-ware, comb-stamped rim band (horizontal and diagonal), application of a burnished red slip below the stamped rim band (5YR-3/3)

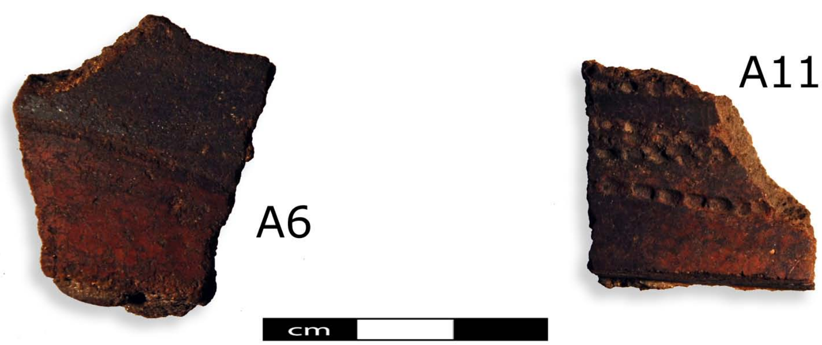


Figure 6.16: Ceramic Cluster 2 from AK47 shelter in Cultural Level 1 based on EDXRF.

5.2.3 Cluster 3 based on pEDXRF results

Ceramics in Cluster 3 (Figure 6.17) are non descript in their decoration, but appear not to be from the Moloko branch, and more likely form part of the Moritsane-Broadhurst facies:

A2: thick-ware, beveled rim, loosely-incised hatching on rim band, burnished, 2.5YR-4/3

A7: thick-ware, no decoration

Figure 6.17: Ceramic Cluster 3 from AK47 shelter in Cultural Level 1 based on EDXRF.

5.2.4 Cluster 4 based on pEDXRF results

Ceramics in Cluster 4 (Figure 6.18) are non descript in their decoration, but appear not to be from the Moloko branch, and more likely form part of the Moritsane-Broadhurst facies:

A9: thin-ware, beveled rim, single incised line just below the lip; shallow bowl/plate

A15: thick-ware, application of a burnished dark red slip

A5: thin-ware, rounded rim

A12: thin-ware, line of triangular punctuates, possible application of black paint or fireclouding

A16: thick-ware, rounded rim, incised diagonal lines on rim

Figure 6.18: Ceramic Cluster 4 from AK47 shelter in Cultural Level 1 based on EDXRF.

5.3 CERAMIC GROUPINGS: CULTURAL LAYER 2

For the ceramics in *cultural layer 2*, the sherds sorted into five distinct clusters (Figure 6.19), and are spatially visible (Figure 6.20).

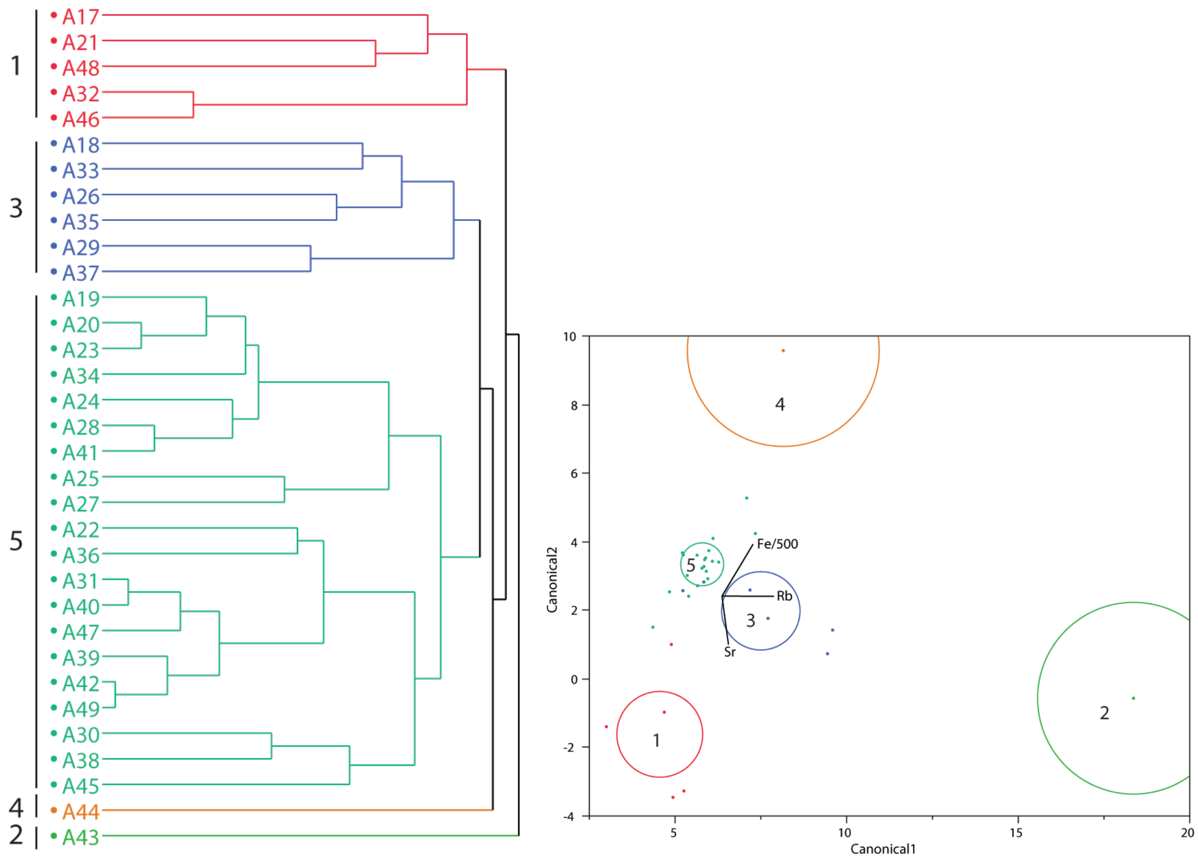


Figure 6.19: Hierarchical clusters of ceramic groups and discriminant analysis from pEDXRF readings on Sr, Rb, Fe from AK47 shelter *cultural layer 2*. Cluster numbers are indicated.

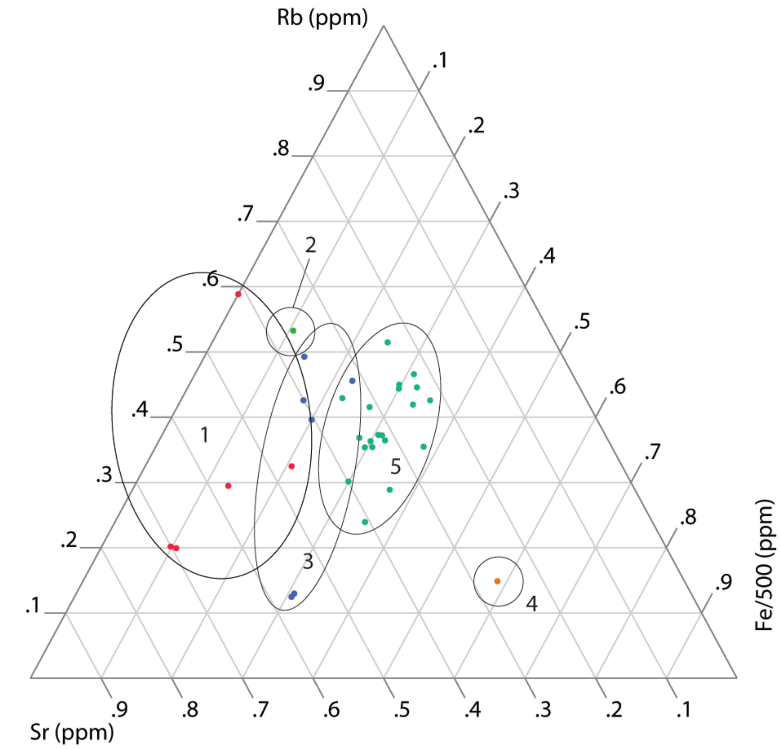


Figure 6.20: Ternary plot of ceramic groups based on pEDXRF readings (ppm) on Sr, Rb, Fe /500from AK47 shelter *cultural layer 2*. Cluster numbers are indicated.

5.3.1 Cluster 1 based on pEDXRF results

Ceramics in Cluster 1 (Figure 6.21) cannot be absolutely identified to a particular ceramics facies, but two may be from the Moloko branch or Rooiberg facies (A32, A48):

A32: thin-ware, beveled rim, incised band separating burnished red (2.5YR-4/3) and black paint over a red slip (10R-4/4)

A10: thick-ware, undecorated body sherd

A48: thin-ware, application of a burnished red slip (2.5YR-4/3)

A46: thin-ware, rounded rim, undecorated

Figure 6.21: Ceramic Cluster 1 from AK47 shelter in *cultural level 2* based on EDXRF.

5.3.2 Cluster 2 based on pEDXRF results

Ceramics in Cluster 2 (Figure 6.22) cannot be absolutely identified to a particular ceramics facies:

A43: thin-ware, appears to have a thin black slip (10R-4/4)

Figure 6.22: Ceramic Cluster 2 from AK47 shelter in *cultural level 2* based on EDXRF.

5.3.3 Cluster 3 based on pEDXRF results

Ceramics in Cluster 3 (Figure 6.23) are non descript in their decoration:

A35: thin-ware, rounded rim, no decoration, burnished black clay (5YR-2.5/1)

A33: thin-ware, rounded rim, no decoration, painted black (5YR-2.5/1)

A20: thick-ware, rounded rim, no decoration, application of a thin brown slip

A37: thin-ware, rounded rim, no decoration, burnished black clay (5YR-2.5/1)

A29: thin-ware, rounded rim, no decoration, burnished black clay (5YR-2.5/1)

A18: thin-ware, rounded rim, no decoration, burnished red clay

Figure 6.23: Ceramic Cluster 3 from AK47 shelter in Cultural Level 2 based on EDXRF.

5.3.4 Cluster 4 based on pEDXRF results

Ceramics in Cluster 4 (Figure 6.24) are non descript in their decoration:

A44: thin-ware, rounded rim, no decoration

Figure 6.24: Ceramic Cluster 4 from AK47 shelter in Cultural Level 2 based on EDXRF.

5.3.5 Cluster 5 based on pEDXRF results

Ceramics in Cluster 5 (Figure 6.25) are non descript in their decoration, with vessels possibly belonging to the Moloko branch or Rooiberg facies (A42 & A39), the Rooiberg facies (A40, A38, A23), and the Moritsane-Broadhurst facies (A31), with the rest non-descript enough for possible identification:

A42: thin-ware, application of a burnished dark red slip with fireclouding

A41: thick-ware, rounded rim, 2.5YR-4/3

A45: thick-ware, undecorated

A39: thick-ware, application of a red slip (2.5YR-4/3)

A19: thin-ware, rounded rim, application of black paint

A20: thin-ware, rounded rim decorated with rounded indentations on exterior of lip, application of black paint

A23: thin-ware, rounded rim, incised bands separating alternating color bands of a burnished red slip and black paint over the red slip

A28: thin-ware, rounded rim decorated with straight indentations on the top of the lip, burnished with the application of a black paint

A31: thin-ware, rounded and thickened rim decorated with diagonal incisions, application of a black paint

A34: thick-ware, rounded rim, no decorations

A38: thin-ware, decorated with stamped bands separating alternating color bands of a burnished red slip and black paint over the red slip

A40: thin-ware, decorated with incised bands separating alternating color bands of a burnished red slip and black paint over the red slip

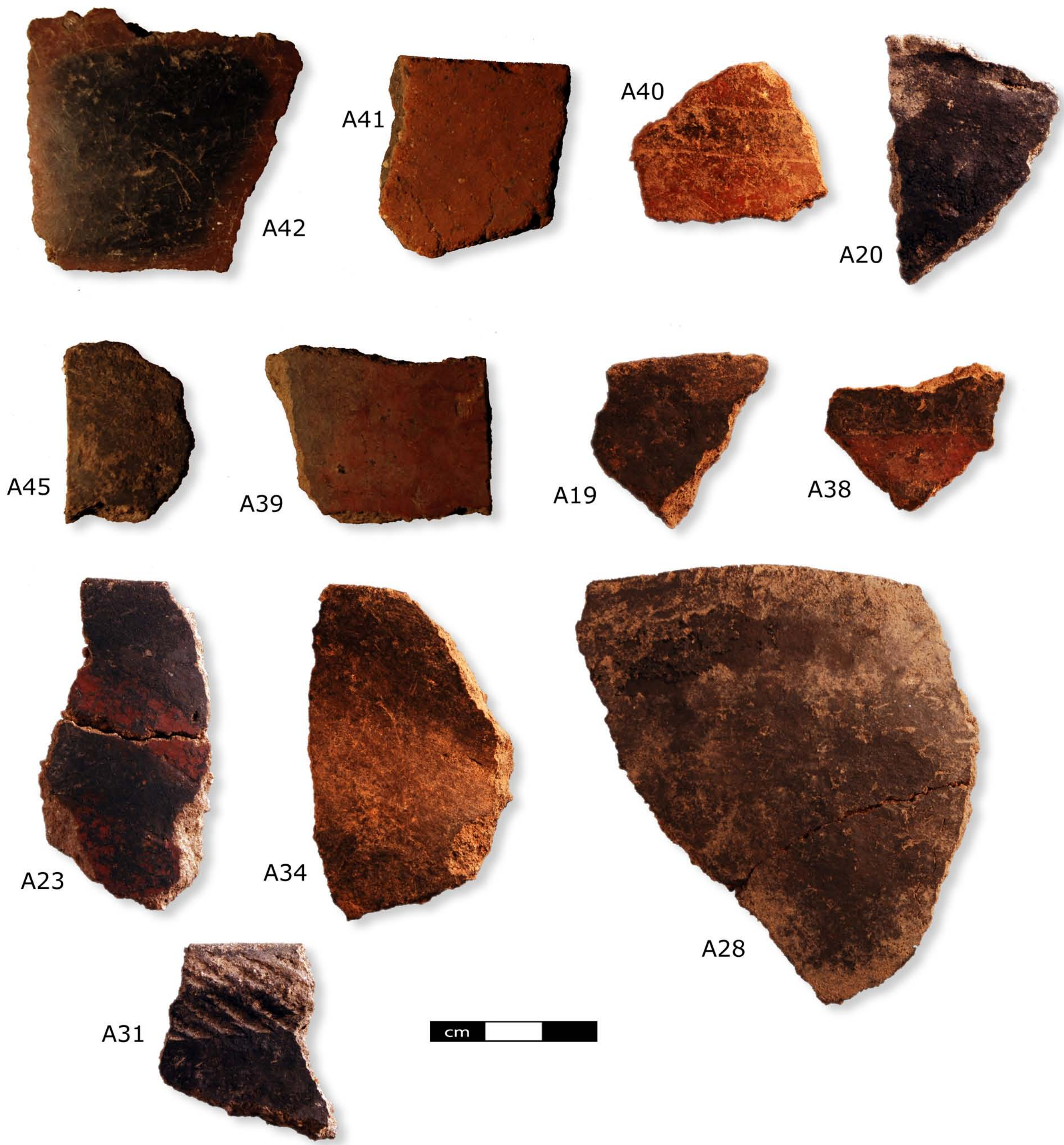


Figure 6.25: Ceramic Cluster 5 from AK47 shelter in *cultural level 2* based on EDXRF.

5.4 CERAMIC GROUPINGS: CULTURAL LAYER 3

For the ceramics in *cultural layer 3*, the sherds sorted into five distinct clusters (Figure 6.26), and are spatially visible (Figure 6.27).

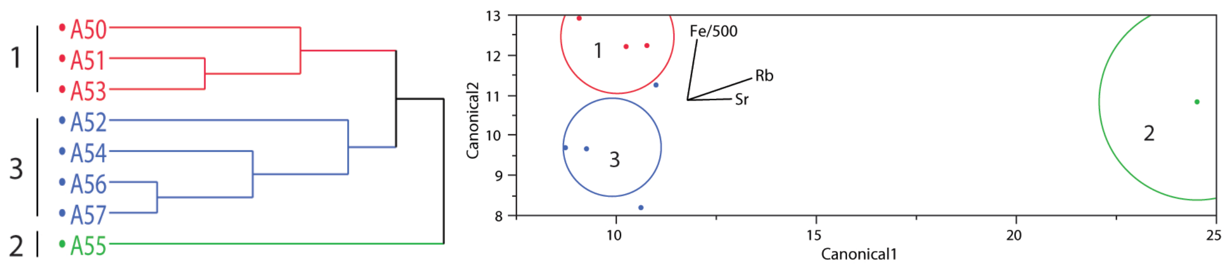


Figure 6.26: Hierarchical clusters of ceramic groups and discriminant analysis from pEDXRF readings on Sr, Rb, Fe from AK47 shelter *cultural layer 3*. Cluster numbers are indicated.

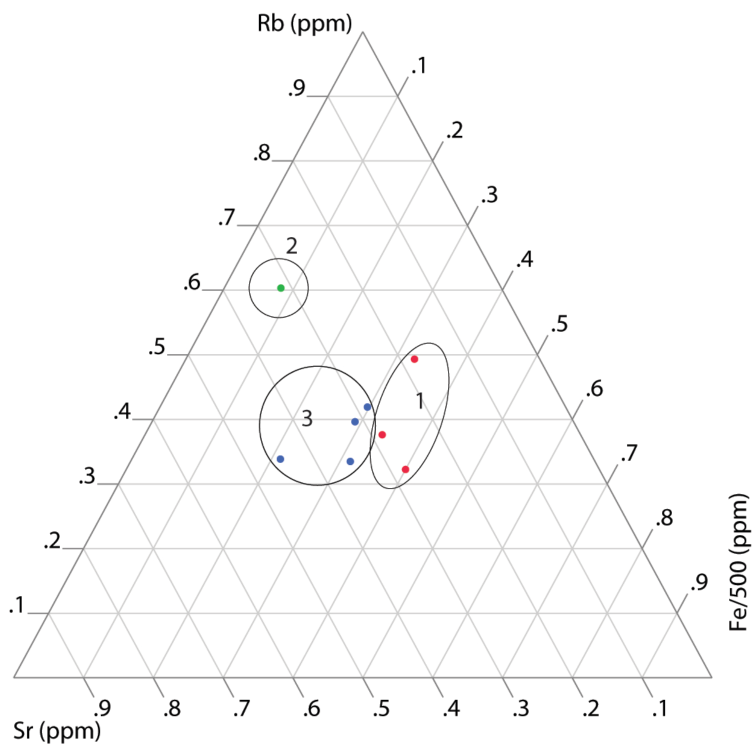


Figure 6.27: Ternary plot of ceramic groups based on pEDXRF readings (ppm) on Sr, Rb, Fe /500from AK47 shelter *cultural layer 3*. Cluster numbers are indicated.

5.4.1 Cluster 1 based on pEDXRF results

Ceramics in Cluster 1 (Figure 6.28) likely belong to the Moloko branch (Icon-derived) ceramic style (A53), with the other being nondescript (A50):

A53: thin-ware, narrow rounded lip, incised decoration with the application of an alternating burnished red slip (2.5YR-2/3) and black paint over red slip (2.5YR-2.5/1)

A50: thin-ware, outward protruding rounded rim with small rounded indentations on the outer lip, application of black paint

Figure 6.28: Ceramic Cluster 1 from AK47 shelter in *cultural level 3* based on EDXRF.

5.4.2 Cluster 2 based on pEDXRF results

Ceramic in Cluster 2 (Figure 6.29) is classified in the Moritsane-Broadhurst facies:

A55: thick-ware, thickened rounded rim, application of a thin black slip (5YR-2.5/1)

A55

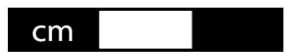


Figure 6.29: Ceramic Cluster 2 from AK47 shelter in *cultural level 3* based on EDXRF.

5.4.3 Cluster 3 based on pEDXRF results

Ceramics in Cluster 3 (Figure 6.30) possibly belong to the Rooiberg facies or the Moloko branch (A56), the Moritsane-Broadhurst facies (A54), and the other is nondescript (A57):

A54: thin-ware, rounded rim, incised rim band with chevron motif, application of black paint (5YR-2.5/1), small ball-shaped vessel

A56: thin-ware, incised line with an alternating burnished red slip (2.5YR-2/3) and black paint over red slip (2.5YR-2.5/1)

A57: thin-ware, rounded rim with a protruding exterior lip, no decoration

Figure 6.30: Ceramic Cluster 3 from AK47 shelter in Cultural Level 3 based on EDXRF.

5.4 DISCUSSION

The ceramic assemblage from AK47 shelter, as a whole represents a significant amount of diversity in decorative style and geochemical composition. When all of the samples from the assemblage, from all layers are combined, 7 possible clusters are visible (Figures 6.31 & 6.32), with clusters 1, 6, and 7 grouping closer than clusters 2, 5, 3, and 4.

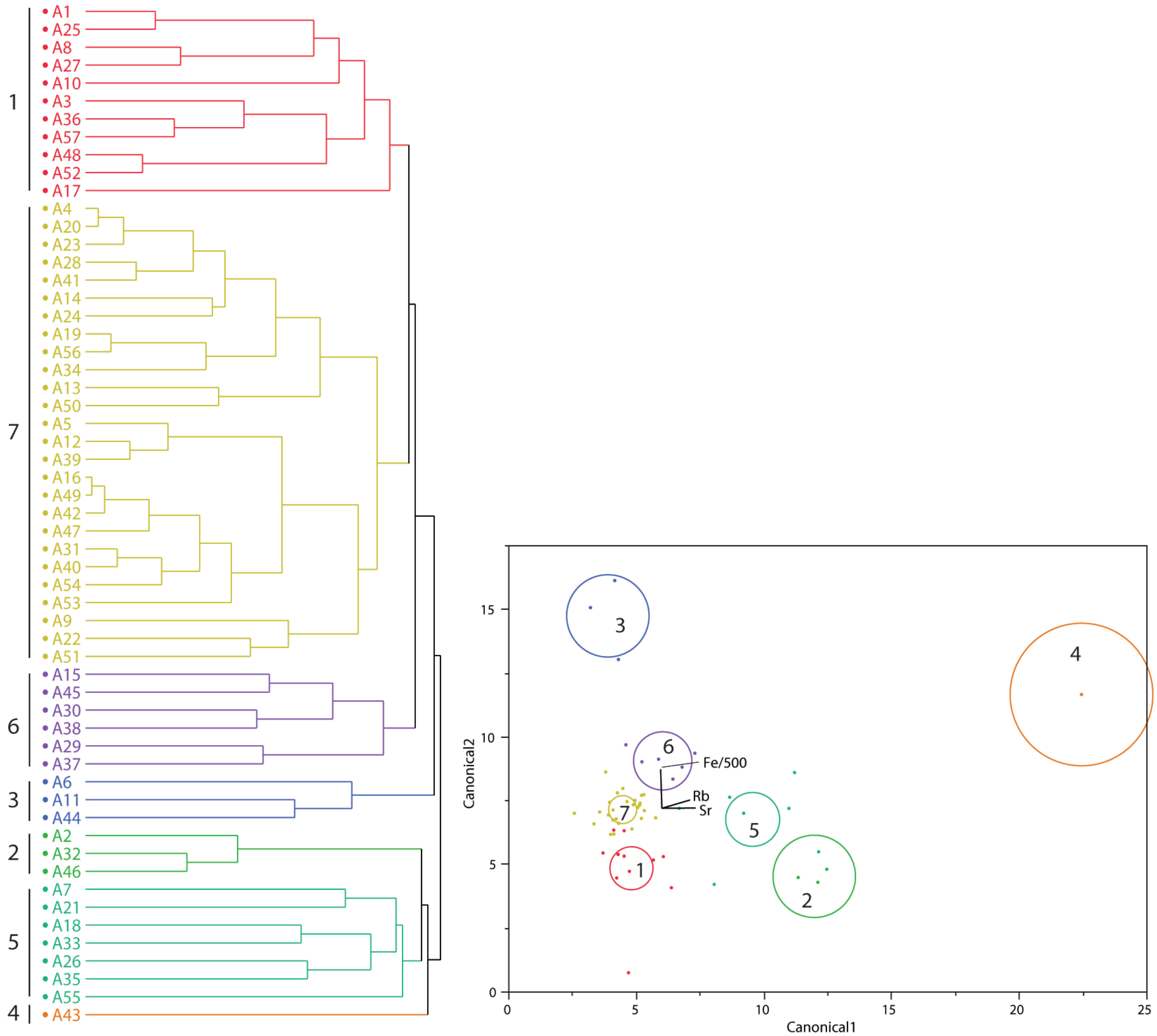


Figure 6.31: Hierarchical clusters of ceramic clusters and discriminant analysis from pEDXRF readings on Sr, Rb, Fe/500 from all AK47 shelter ceramics. Cluster numbers are indicated.

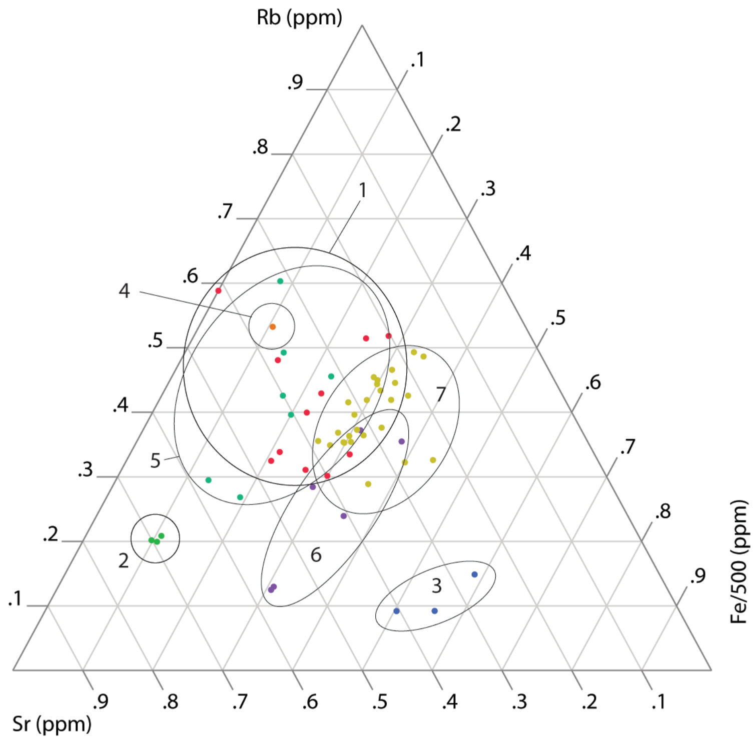


Figure 6.32: Ternary plot of ceramic groups based on pEDXRF readings (ppm) on Sr, Rb, Fe/500 from all AK47 shelter ceramics. Cluster numbers are indicated.

Looking at vessel decorations, many of them are from ceramic facies that, at this point in our knowledge, seem to originate to the east in present-day South Africa: Rooiberg facies and Moloko branch. These ceramics would have been traded westward, with products from the Kgalagadi Desert or possibly specularite from Sebelong mine being exchanged for ceramics and likely goods that they held. Most of the vessels were smaller in size and thin-walled, potentially making them easier to be transported as trade goods and possibly even manufactured for that specific purpose. None of the clays collected match with the ceramic clusters, so no local source could be established, but cluster 7 is potentially representative of a local clay source based on the numbers of ceramics that fall within it. In addition, ceramics with the stylistic attributes of the Broadhurst facies remain constant throughout the deposit, and are likely indicative of the persistence of that tradition and the occupation of southeastern Botswana by the group(s) who manufactured it, likely ancestral 'Bakagaladi' groups.

The potentially local Broadhurst facies ceramics, I argue, are indicative of the foragers living at AK47 shelter interacting on a local-scale with ceramic-producing farmers and acquiring these ceramic vessels and their contents for traded goods or even payment for services such as rainmaking, healing, or even labor. Ceramics that are coming from further away, indicate the participation by the foragers living at AK47 shelter in more extended trading networks to the east (Rooiberg facies, Moloko branch) and to the northeast (Letsibogo facies) that connected them to a larger network and could be the source of glass beads found in the deposits (discussed in Chapter 7).

6. CERAMICS FROM BOTLHANO FELA

As with the AK47 shelter ceramic assemblage, the same analytical process was used to approach the Botlhano Fela assemblage. I have included here the artifacts from *Operation 3* for comparative purposes, but since the deposit may be highly mixed, it is not used to discuss any temporal changes.

The ceramics from Botlhano Fela number an estimated a minimum of 24 vessels (MNV), based on rim sherds. In addition, 49 sherds were decorated but did not contain any rim, so they were not included in the minimum number of vessel calculation, but some are likely not part of the vessels that were counted and would increase the total number. Lastly, 3540 body sherds (23.69 kg) were not included in this analysis since it could not be determined which ceramic form they were part of.

6.1 CONSTRUCTION, FORMS, AND DECORATION

The techniques used to construct and decorate the vessels found in all of the cultural layers were the same as described earlier for those from AK47 shelter.

6.2 CERAMIC GROUPINGS: OPERATIONS 1 & 2 COMBINED, ZONE 101

As with the analysis of other classes of artifacts, the Botlhano Fela ceramic assemblage is divided into *Operations* and *stratigraphic zones* based on radiocarbon dates. The ceramics are further divided into clusters based on the geochemistry of the vessels and their likely common links to a particular clay source that used to manufacture them. For the ceramics from *Zone 101* in *Operations 1 & 2*, the sherds sorted into two distinct clusters (Figure 6.33), and are spatially visible (Figure 6.34).

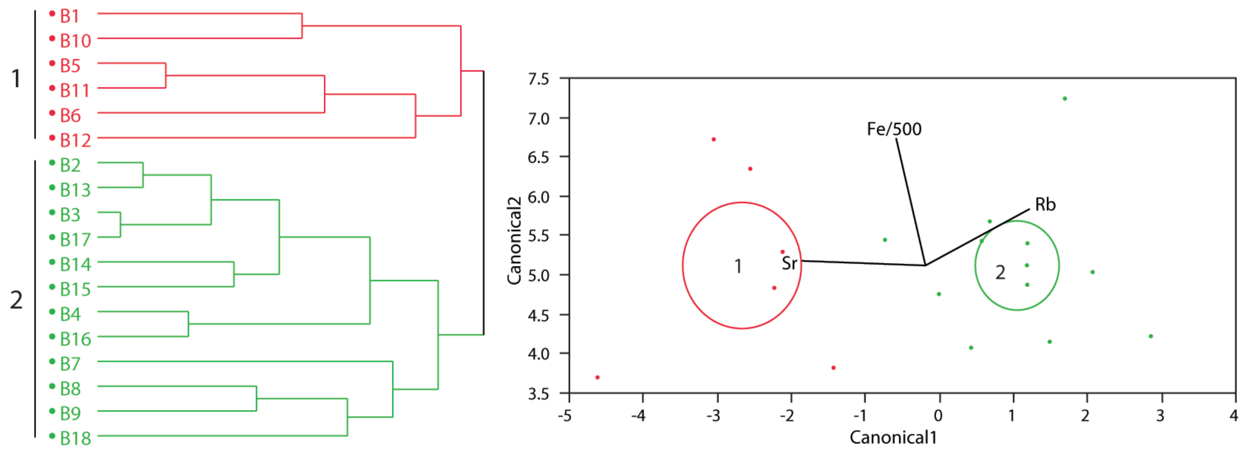


Figure 6.33: Hierarchical clusters of ceramic clusters and discriminant analysis from pEDXRF readings on Sr, Rb, Fe/500 from Botlhano Fela, *Operations 1 & 2, Zone 101*. Cluster numbers are indicated.

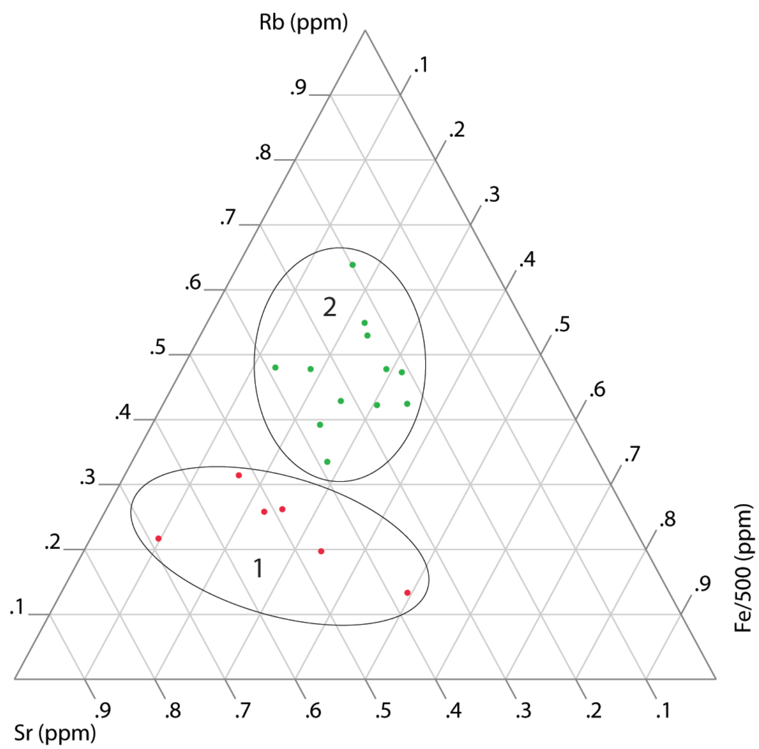


Figure 6.34: Ternary plot of ceramic groups based on pEDXRF readings (ppm) on Sr, Rb, Fe/500 from Botlhano Fela, *Operations 1 & 2, Zone 101.* Cluster numbers are indicated.

6.2.1 Cluster 1 based on pEDXRF results

Ceramics in Cluster 1 (Figure 6.35) likely classify as part of the Madikwe facies or Letsibogo facies:

B1: thick-ware, punctate incised band separating alternating burnished red slip and black paint applied over red slip

B5: thick-ware, application of red slip

B11: thin-ware, rounded rim, incised bands just below the rim

B6: thick-ware, ladder stamped band, application of a red slip

B12: thin-ware, rounded rim, no decoration

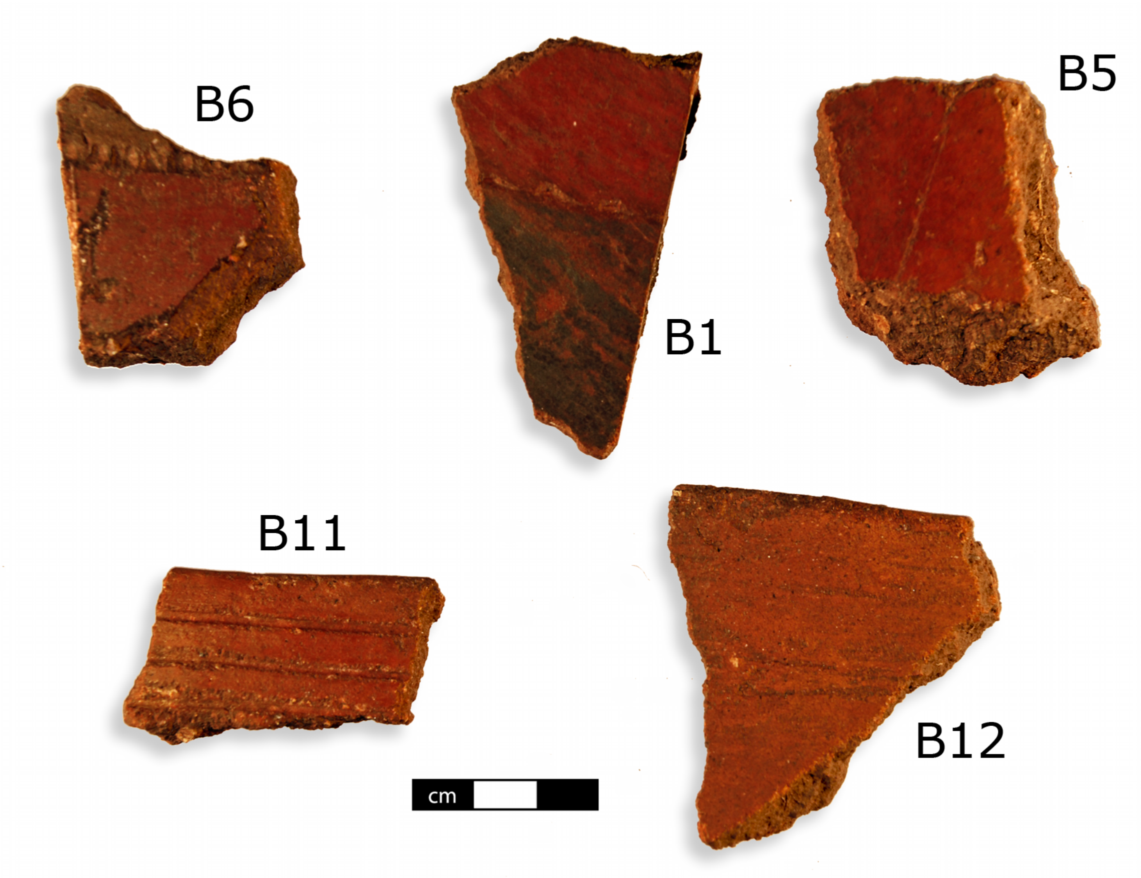


Figure 6.35: Ceramic Cluster 1 from Botlhano Fela in *Operations 1 & 2, Zone 101* based on EDXRF.

6.2.2 Cluster 2 based on pEDXRF results

Ceramics in Cluster 1 (Figure 6.36) are mostly nondescript, with two belonging to the Moritsane-Broadhurst facies (B18, B8):

B2: thick-ware, no decoration

B4: thin-ware, no decoration

B7: thick-ware, application of black paint

B8: thin-ware, combstamped shapes

B9: thin ware, beveled rim, closely-spaced incised lines just below the rim

B13: thin-ware, rounded rim, no decoration

B14: thin-ware, rounded rim, broken incised line just below the rim, burnished outer surface (5YR-4/4)

B15: thick-ware, application of a burnished red slip

B16: thin-ware, ladder incising, possible graphite paint

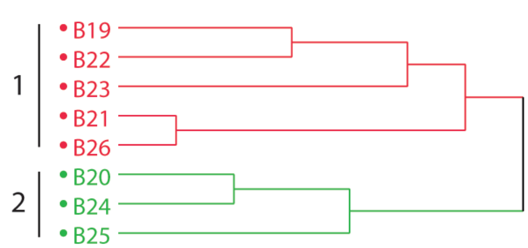
B17: thick-ware, application of black paint

B18: thin-ware, appliqué of finely incised herringbone on body of vessel, application of a thin layer of red slip

Figure 6.36: Ceramic Cluster 2 from Botlhano Fela in *Operations 1 & 2*, *Zone 101* based on EDXRF.

6.3 CERAMIC GROUPINGS: OPERATIONS 1 & 2 COMBINED, ZONE 102

For the ceramics from *Zone 102* in *Operations 1 & 2*, the sherds sorted into two distinct clusters (Figure 6.37), and are spatially visible (Figure 6.38).



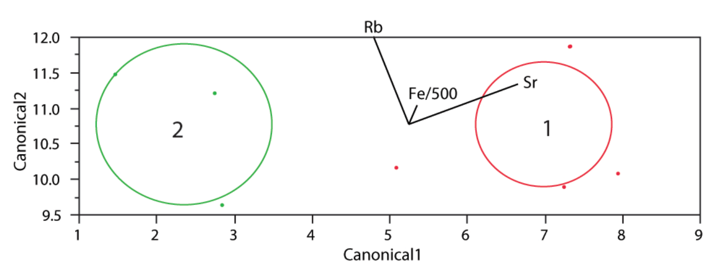


Figure 6.37: Hierarchical clusters of ceramic clusters and discriminant analysis from pEDXRF readings on Sr, Rb, Fe/500 from Botlhano Fela, *Operations 1 & 2, Zone 102*. Cluster numbers are indicated.

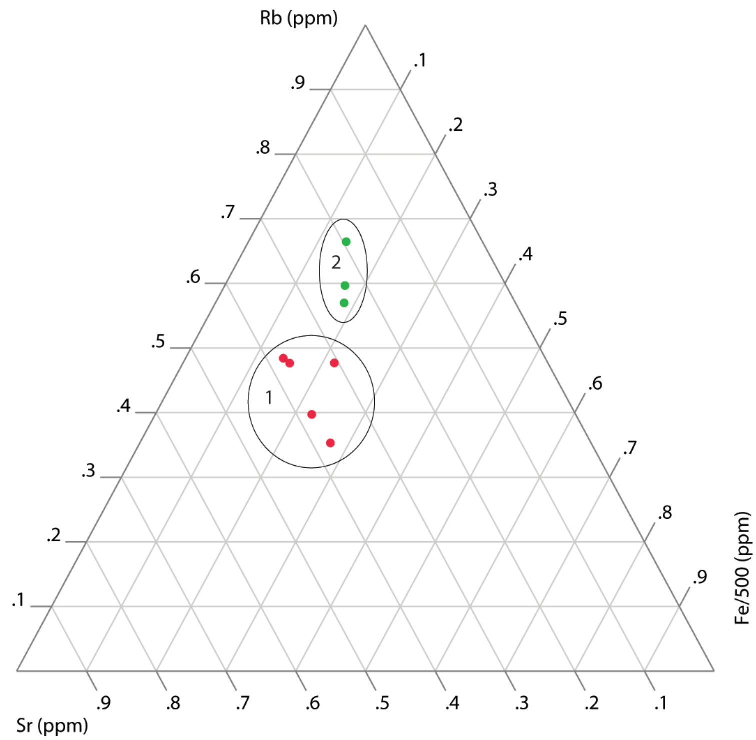


Figure 6.38: Ternary plot of ceramic groups based on pEDXRF readings (ppm) on Sr, Rb, Fe/500 from Botlhano Fela, *Operations 1 & 2, Zone 102.* Cluster numbers are indicated.

6.3.1 Cluster 1 based on pEDXRF results

Ceramics in Cluster 1 (Figure 6.39) belong to the Moritsane-Broadhurst facies (B26, B21, B19, B22) and the remaining one is nondescript (B23):

B19: thin-ware, finely incised diagonal (possibly crosshatched) lines

B22: thin-ware, combstamped herringbone

B23: thick-ware, burnished exterior surface with an application of a red slip

B21: thin-ware, finely incised crosshatched lines

B26: thin-ware, finely incised horizontal line above/below finely incised herringbone/crosshatching

Figure 6.39: Ceramic Cluster 1 from Botlhano Fela in *Operations 1 & 2*, *Zone 102* based on EDXRF.

6.3.2 Cluster 2 based on pEDXRF results

Ceramics in Cluster 2 (Figure 6.40) belong to the Uitkomost facies (B20), Moritsane-Broadhurst facies (B25), and the Madikwe facies (B24).

B20: thin-ware, rounded rim, appliqué of discs on neck band

B24: thin-ware, rounded rim, application of a black base paint and red paint on top to form a now faded design

B25: thin-ware, combstamped herringbone

Figure 6.40: Ceramic Cluster 2 from Botlhano Fela in *Operations 1 & 2*, *Zone 102* based on EDXRF.

6.4 CERAMIC GROUPINGS: OPERATION 4, UPPER

For the ceramics from the *Upper* layer in *Operation 4*, the sherds sorted into three distinct clusters (Figure 6.41), and are spatially visible (Figure 6.42).

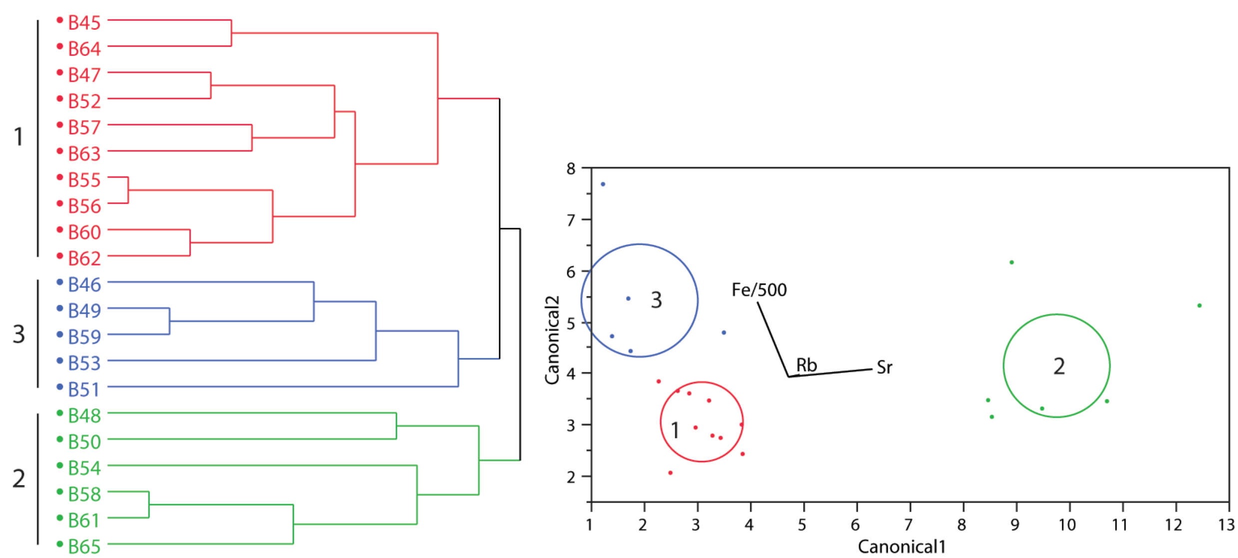


Figure 6.41: Hierarchical clusters of ceramic clusters and discriminant analysis from pEDXRF readings on Sr, Rb, Fe/500 from Botlhano Fela, *Operation 4, Upper*. Cluster numbers are indicated.

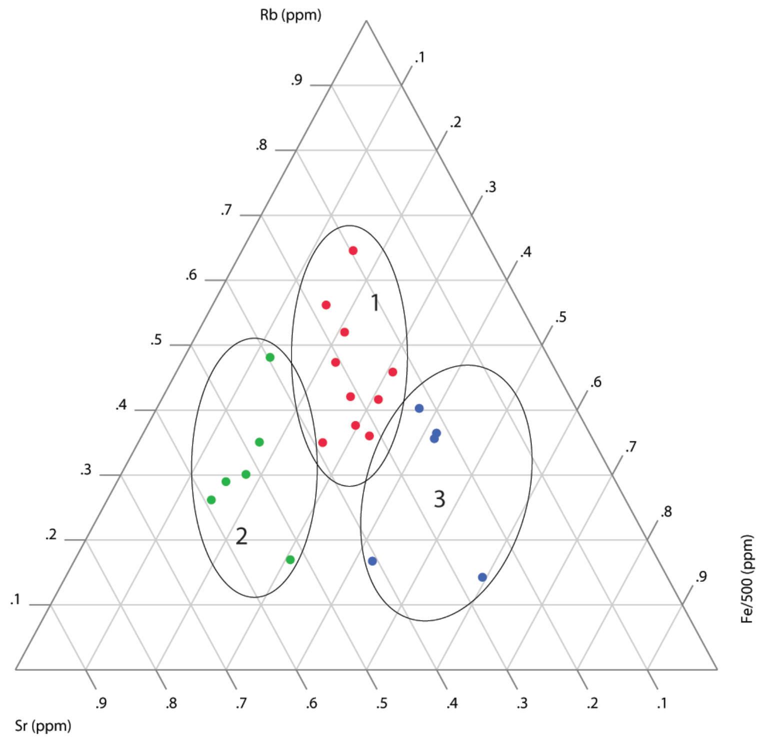


Figure 6.42: Ternary plot of ceramic groups based on pEDXRF readings (ppm) on Sr, Rb, Fe/500 from Botlhano Fela, *Operation 4, Upper.* Cluster numbers are indicated.

6.4.1 Cluster 1 based on pEDXRF results

Ceramics in Cluster 1 (Figure 6.43) are mainly associated with the Moritsane-Braodhurst ceramic style (B45, B60, B56, B64, B55), with the rest being nondescript:

B45: thin-ware, thickened rounded rim with finely incised herringbone on body of vessel

B60: thin-ware, multiple bands of combstamping

B56: thin-ware, decorated with combstamping

B47: thin-ware, application of a red slip

B57: thin-ware, rounded rim, no decoration

B64: thin-ware, rounded rim, ladder stamping on the rim neck

B55: thin-ware, finely incised crosshatching

B63: thin-ware, finely incised line

B52: thick-ware, rounded rim, no decoration

B62: thick-ware, no decoration

Figure 6.43: Ceramic Cluster 1 from Botlhano Fela in *Operation 4*, *Upper* based on EDXRF.

6.4.2 Cluster 2 based on pEDXRF results

Ceramics in Cluster 2 (Figure 6.44) are of the Moritsane-Broadhurst facies (B58, B65), the Uitkomst facies (B50), the Madikwe facies (B54, B48), with B61 remaining a mystery and unidentifiable to a particular style with any certainty:

B54: thin-ware, finely incised straight lines

B50: thin-ware, rounded rim, double combstamped band on the rim neck and single diagonal combstamped band

B48: thick-ware, finely incised straight lines with the application of black paint between them

B58: thin-ware, diagonal combstamped lines bounded on one side by a single finely incised straight line, application of a red slip

B65: thin-ware, diagonal combstamped lines on a thickened portion of the body bounded by finely incised straight lines that create an additional thin band of diagonal combstamping

B61: thin-ware, (mixed decoration techniques) diagonal combstamping in triangular motifs and incised diagonal lines separated by ladder stamping and incised lines

Figure 6.44: Ceramic Cluster 2 from Botlhano Fela in *Operation 4*, *Upper* based on EDXRF.

6.4.3 Cluster 3 based on pEDXRF results

Ceramics in Cluster 3 (Figure 6.45) possibly belong to the Buispoort facies (B51) and the rest are unidentifiable to a particular facies with any certainty:

B46: thin-ware, very thin incised straight line separating burnished red slip from black paint over red slip

B53: thin-ware, rounded rim, light combstamping

B49: thin-ware, rounded rim, no decoration

B51: thin-ware, rounded rim, broadly incised diagonal punctuates on rim neck, application of a burnished red slip

Figure 6.45: Ceramic Cluster 3 from Botlhano Fela in *Operation 4*, *Upper* based on EDXRF.

6.5 CERAMIC GROUPINGS: OPERATION 4, LOWER

For the ceramics from the *Lower* layer in *Operation 4*, the sherds sorted into three distinct clusters (Figure 6.46), and are spatially visible (Figure 6.47).

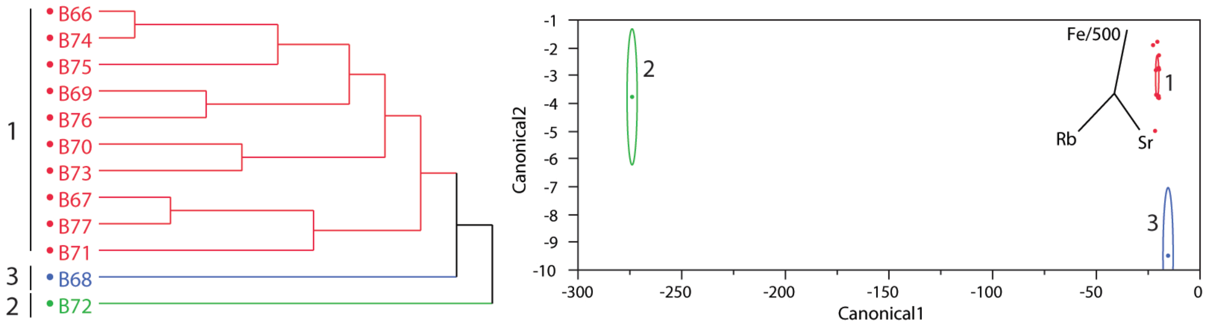


Figure 6.46: Hierarchical clusters of ceramic clusters and - discriminant analysis from pEDXRF readings on Sr, Rb, Fe/500 from Botlhano Fela, *Operation 4, Lower*. Cluster numbers are indicated.

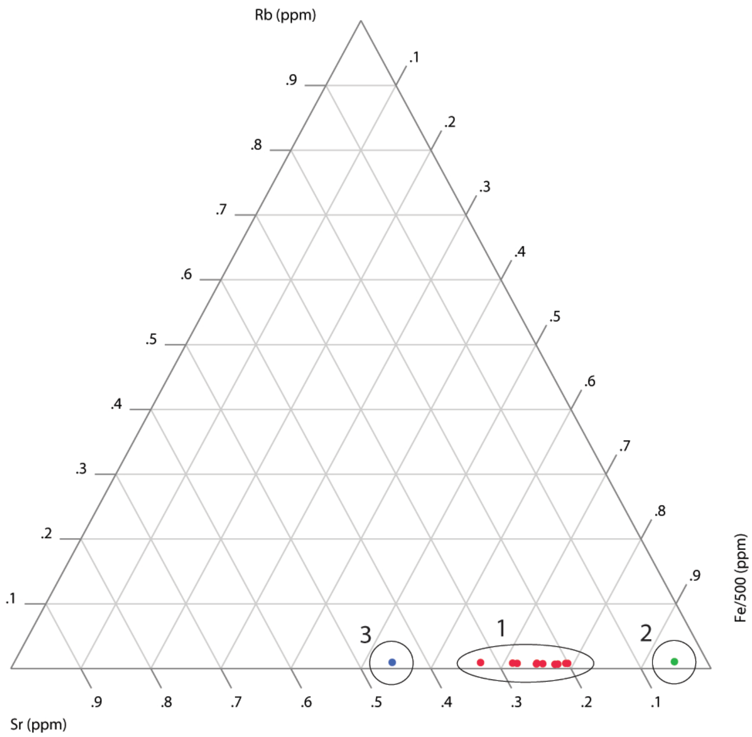


Figure 6.47: Ternary plot of ceramic groups based on pEDXRF readings (ppm) on Sr, Rb, Fe/500 from Botlhano Fela, *Operation 4, Lower.* Cluster numbers are indicated.

6.5.1 Cluster 1 based on pEDXRF results

Ceramics in Cluster 1 (Figure 6.48) are mostly identifiable to the Moritsane-Broadhurst facies (B69, B74, B75, B71, B76, B77), one vessel (B70) appears to have a decorative motif seen on the earlier Baratani facies (identified close to Thamaga, but much earlier than Botlhano Fela; AD 850-1000):

B69: thin-ware, combstamped herringbone

B74: thin-ware, combstamped herringbone bounded on one side by ladder stamping

B75: thin-ware, combstamped herringbone bounded on one side by ladder stamping with a series of parallel punctates

B71: thin-ware, diagonal combstamping (possibly herringbone)

B73: thin-ware, no decoration

B67: thick-ware, nondescript linear incisions on the body of the vessel, fireclouding

B76: thick-ware, combstamped herringbone bounded on one side by an incised straight line

B77: thin-ware, combstamped herringbone bounded on one side by ladder stamping

B70: thin-ware, rounded rim, decoration on rim neck consists of finely incised lines and punctuates that appear similar to ladder stamping, just below is a similar diagonal motif of punctuates transected by a single finely incised line

Figure 6.48: Ceramic Cluster 1 from Botlhano Fela in *Operation 4*, *Lower* based on EDXRF.

6.5.2 Cluster 2 based on pEDXRF results

The ceramic vessel in Cluster 2 (Figure 6.49) is of the Moritsane-Broadhurst facies decorative style:

B72: thin-ware, combstamped diagonal line motifs (possibly herringone) separated and bounded by finely incised straight lines

Figure 6.49: Ceramic Cluster 2 from Botlhano Fela in *Operation 4*, *Lower* based on EDXRF.

6.5.3 Cluster 3 based on pEDXRF results

The ceramic vessel in Cluster 3 (Figure 6.50) is of the Moritsane-Broadhurst facies decorative style::

B72: thin-ware, combstamped herringbone motif

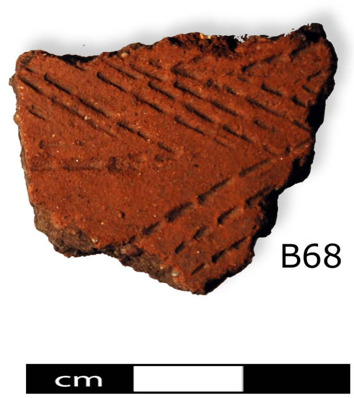


Figure 6.50: Ceramic Cluster 3 from Botlhano Fela in *Operation 4*, *Lower* based on EDXRF.

6.6 CERAMIC GROUPINGS: OPERATION 3

For the ceramics from *Operation 3*, the sherds sorted into three distinct clusters (Figure 6.51), and are spatially visible (Figure 6.52). It should be kept in mind that this deposit may be mixed, so no temporal/stratigraphic sequence is presented here other than that these belong to the later Iron Age.

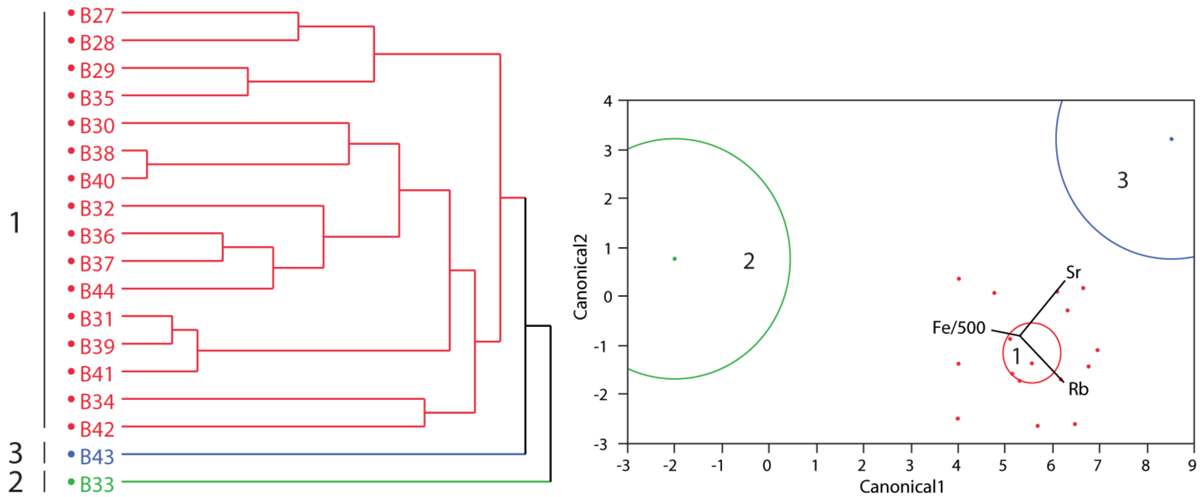


Figure 6.51: Hierarchical clusters of ceramic clusters and discriminant analysis from pEDXRF readings on Sr, Rb, Fe/500 from Botlhano Fela, *Operation 3*. Cluster numbers are indicated.

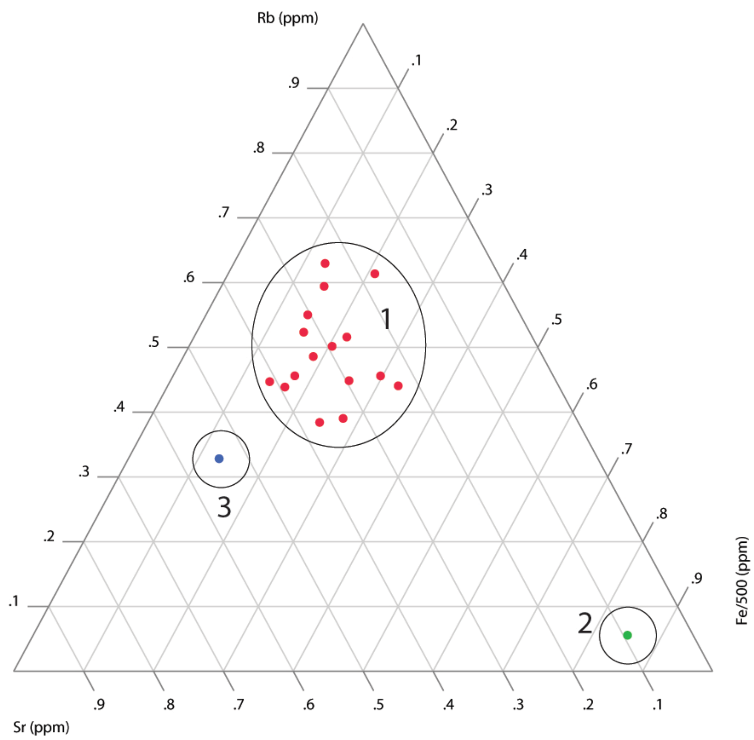


Figure 6.52: Ternary plot of ceramic groups based on pEDXRF readings (ppm) on Sr, Rb, Fe/500 from Botlhano Fela, *Operation 3.* Cluster numbers are indicated.

6.6.1 Cluster 1 based on pEDXRF results

Ceramics in Cluster 1 (Figure 6.53) all fall within the Moritsane-Broadhurst facies based on their decorations:

B41: thin-ware, triangular areas of incised herringbone and ladder stamping separated by incised straight lines

B38: thin-ware, combstamped motif

B37: thin-ware, combstamped herringbone motif bounded on one side by ladder stamping

B39: thin-ware, line of parallel incised punctates

B29: thin-ware, rounded rim, incised criss-cross motif on outer rim

B27: thin-ware, parallel bands of three lines of combstamping

B40: thin-ware, finely incised lines likely in a herringbone motif

B32: thin-ware, single incised line

B30: thin-ware, line of parallel incised punctates

B31: thin-ware, rounded rim, incised criss-cross motif on outer rim bounded below by a since incised straight line

B35: thin-ware, combstamping

B41: thin-ware, finely incised diagonal lines bounded by ladder stamping (Eiland-style, but likely Moritsane-Broadhurst)

B28: thin-ware, rounded rim, two parallel lines of combstamping on outside of rim

B36: thin-ware, combstamped herringbone motif bounded by incised lines

B42: thin-ware, rounded rim, triple bands of ladder stamping with combstamped diagonal lines between the upper two bands

Figure 6.53: Ceramic Cluster 1 from Botlhano Fela in *Operation 3*, based on EDXRF.

6.6.2 Cluster 2 based on pEDXRF results

The ceramic vessel in Cluster 2 (Figure 6.54) cannot be attributed to a ceramics facies:

B33: thin-ware, rounded rim, vertical striations on outer surface possibly from smoothing

Figure 6.54: Ceramic Cluster 2 from Botlhano Fela in *Operation 3*, based on EDXRF.

6.6.3 Cluster 3 based on pEDXRF results

The ceramic vessel in Cluster 3 (Figure 6.55) likely is of the Uitkomst facies:

B33: thin-ware, rounded rim, appliqué disc-like decoration

Figure 6.55: Ceramic Cluster 3 from Botlhano Fela in *Operation 3*, based on EDXRF.

6.7 DISCUSSION

Unlike in the ceramic assemblage from AK47 shelter, the majority of the ceramics from Botlhano Fela are of one type, the Broadhurst facies, thus pushing this persistence of the Eiland ceramic branch decorative style further forward in time. In addition, based on their compositional geochemistry the majority of them cluster together, suggesting they were made from the same clay source. In turn, this group could represent local ceramics made by the women living at Botlhano Fela. Unfortunately, none of the clay samples I collected cluster with this grouping.

The ceramics at Botlhano Fela that came from other areas in the region show a similar pattern to that of the terminal occupation of AK47, a possibly expanding regional exchange network with ceramic-producing farmers to the east. In the earlier, *Zone 102* deposits, imported ceramics were coming from the east (Uitkomost facies) and northeast (Madikwe facies), and the later deposits evidence a greater distance for the exchange of ceramics and likely goods inside, coming from further to the northeast (Letsibogo facies) and to the southeast (Buispoort facies). An increase in imported ceramics at the site might be indicative of the westward movement and increasing population of Tswana groups toward the Kgalagadi Desert that lead to the abandonment of AK47 shelter (c. mid-1600s) and later, Botlhano Fela (c. 1700) by the ancestral 'Bakgalagadi' group living there. A final point about the increasing distance that ceramics were coming from shows not only the potential greater distances people covered to exchange goods, but might also be indicative of the inhabitants of the Thamaga sites possessing goods that were desired: goods from the Kgalagadi Desert, specularite from Sebilong, and iron tools.

6.7.1 Operations 1, 2, & 4 combined, Zone 101

All of the sherds from the *Zone 101* deposits from *Operations 1, 2, and 4* were combined to look at possible spatial trends in the ceramics across the site.

The sherds sorted into six distinct clusters (Figure 6.56), and are spatially visible (Figure 6.57). The ceramics from *Operations 1 & 2* are represented by a square, and those from *Operation 4* by an X.

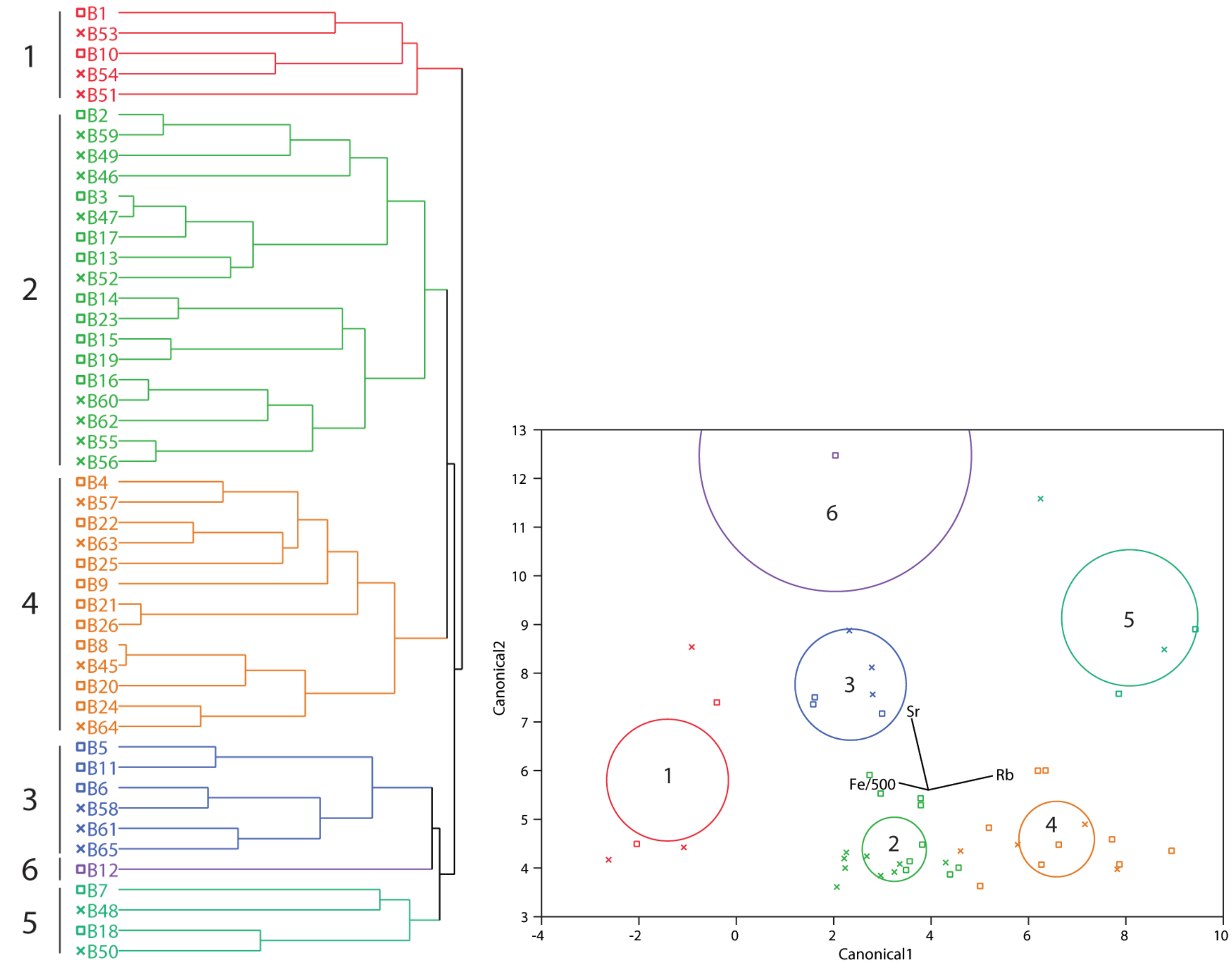


Figure 6.56: Hierarchical clusters of ceramic clusters and discriminant analysis from pEDXRF readings on Sr, Rb, Fe/500 from Botlhano Fela, *Operations 1, 2* (square) & *4* (x), *Zone 101*. Cluster numbers are indicated.

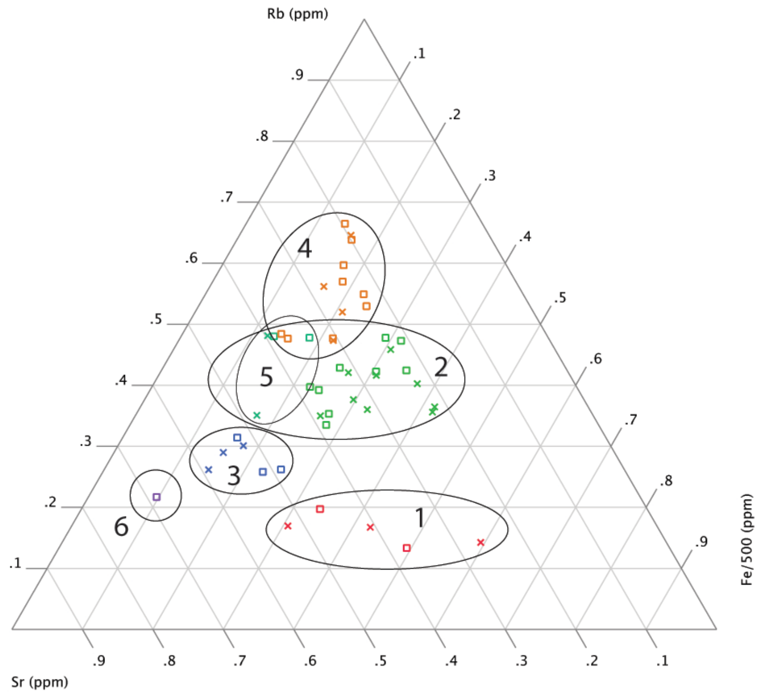


Figure 6.57: Ternary plot of ceramic groups based on pEDXRF readings (ppm) on Sr, Rb, Fe/500 from Botlhano Fela, *Operations 1, 2* (square) & *4* (x), *Zone 101.* Cluster numbers are indicated.

While there is no apparent spatial distribution of particular types of ceramics in this deposit, the distinctness of the geochemical composition can be seen with clusters 3, 5, and 6 being almost exclusively comprised of ceramics styles that are not part of the Broadhurst facies: Madikwe facies, Lesibogo facies, and Uitkomost facies. In addition, cluster 1 appears as relatively distinct in composition as well, with some of the vessels being identified as Madikwe facies, with the rest being unidentified, but likely are of the same facies.

6.7.2 Operations 1, 2, & 4 combined, Zone 102

All of the sherds from the *Zone 102* deposits from *Operations 1, 2, and 4* were combined to look at possible spatial trends in the ceramics across the site.

The sherds sorted into four distinct clusters (Figure 6.58), and are spatially visible (Figure 6.59). The ceramics from *Operations 1 & 2* are represented by a square, and those from *Operation 4* by an X.

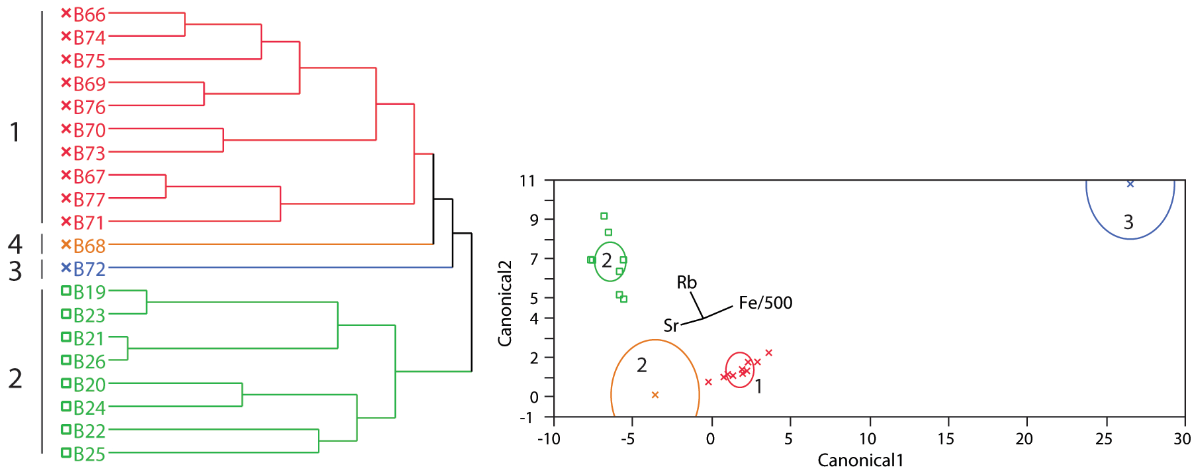


Figure 6.58: Hierarchical clusters of ceramic clusters and discriminant analysis from pEDXRF readings on Sr, Rb, Fe/500 from Botlhano Fela, *Operations 1, 2 & 4, Zone 102*. Cluster numbers are indicated.

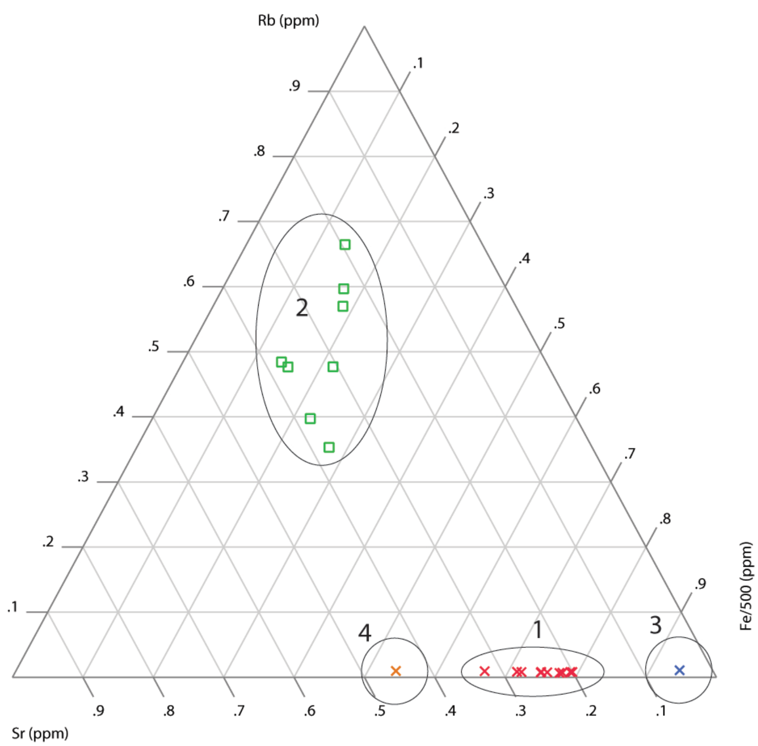


Figure 6.59: Ternary plot of ceramic groups based on pEDXRF readings (ppm) on Sr, Rb, Fe/500 from Botlhano Fela, *Operations 1, 2 & 4, Zone 102.* Cluster numbers are indicated.

These clusters are very interesting in that they group spatially, with clusters 1, 3 and 5 coming from *Operation 4* and cluster 2 from *Operations 1 & 2*. What this means is still unclear, but if both of these areas are representative of different domestic contexts, which they possibly are, then it could be indicative of differential trade and access at the site. In *Operation 4*, all of the ceramics are of the Broadhurst facies, while those from *Operations 1 & 2* are of the Broadhurst facies (from a different clay source), and two other vessels of the Uitkomost facies and Madikwe facies. While the numbers of non Broadhurst facies ceramics are not significant enough to designate any sort of pattern, it is still notable.

7. GEOCHEMICAL AND STYLISTIC COMPARISON OF CERAMIC ASSEMBLAGES FROM THE METSEMOTHLABA RIVER VALLEY

While it would be easy to attribute a particular ceramic style (or facies) to a specific center of manufacture and raw material source, archaeological ceramics do not always conform to this clear cut pattern.

7.1 BROADHURST AND MORITSANE

To view some of this variability, I tested 13 sherds from Broadhurst (AD 1315) and 16 sherds from Moritsane (AD 1165), both excavated by Jim Denbow in the 1980s (Denbow 1981). Based on ppm readings of Sr, Rb, and Fe/500, the ceramics grouped into four clusters (Figures 6.60 and 6.61), with the majority falling within two different clusters that are not specific to each site and likely represent two local clay sources. The ceramic designs from both of these sites are very similar and representative of the persistence of a ceramic tradition for 100-300 additional years, and by inference, a cultural one as well. These samples did not cluster with the ethnographic clay samples I collected.

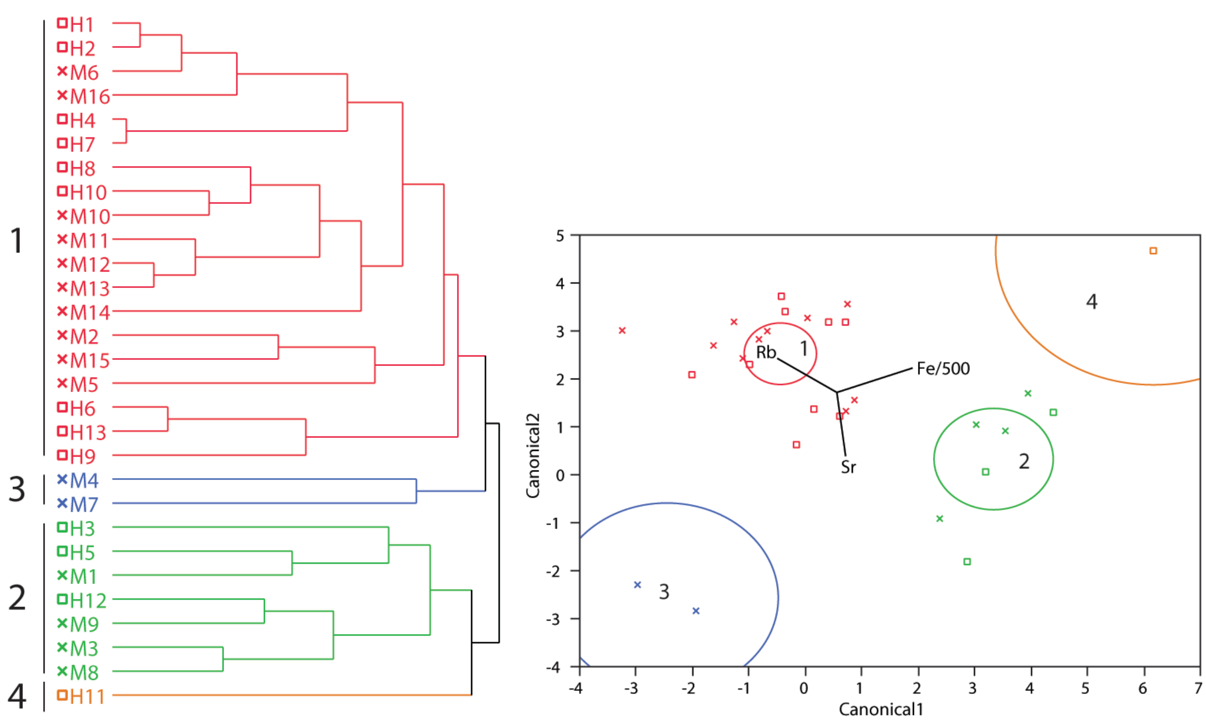


Figure 6.60: Hierarchical clusters of ceramic clusters and discriminant analysis from pEDXRF readings on Sr, Rb, Fe/500

from Broadhurst (H) and Moritsane (M). Cluster numbers are indicated.

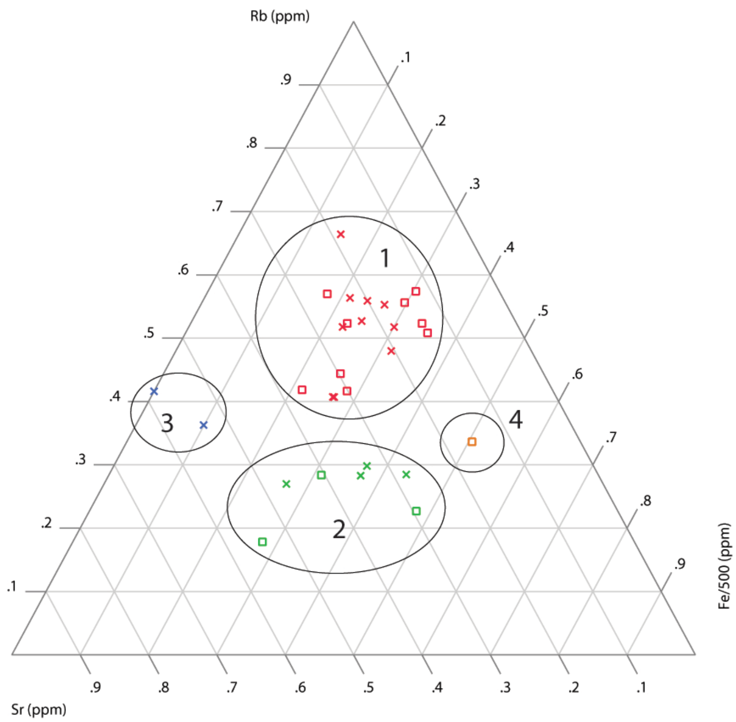


Figure 6.61: Ternary plot of ceramic groups based on pEDXRF readings (ppm) on Sr, Rb, Fe/500 from Broadhurst (square) and Moritsane (x). Cluster numbers are indicated.

7.2 THE THAMAGA ROCKSHELTERS

The second comparison is that I want to present are the ceramic assemblages from the various rockshelters in Thamaga that have been excavated: AK47 shelter (A), Ostrich/Damp Shelter (O), Rocky shelter (K), Radiepolong (R), and Thamaga I (T). Based on ppm readings of Sr, Rb, and Fe/500, the ceramics grouped into three clusters (Figures 6.62 and 6.63), with the majority falling within two different clusters that are not specific to any site. The ceramic designs from both of these sites are very similar and representative of the persistence of a ceramic tradition for 100-300 additional years, and by inference, a cultural one as well. These samples did not cluster with the ethnographic clay samples I collected.

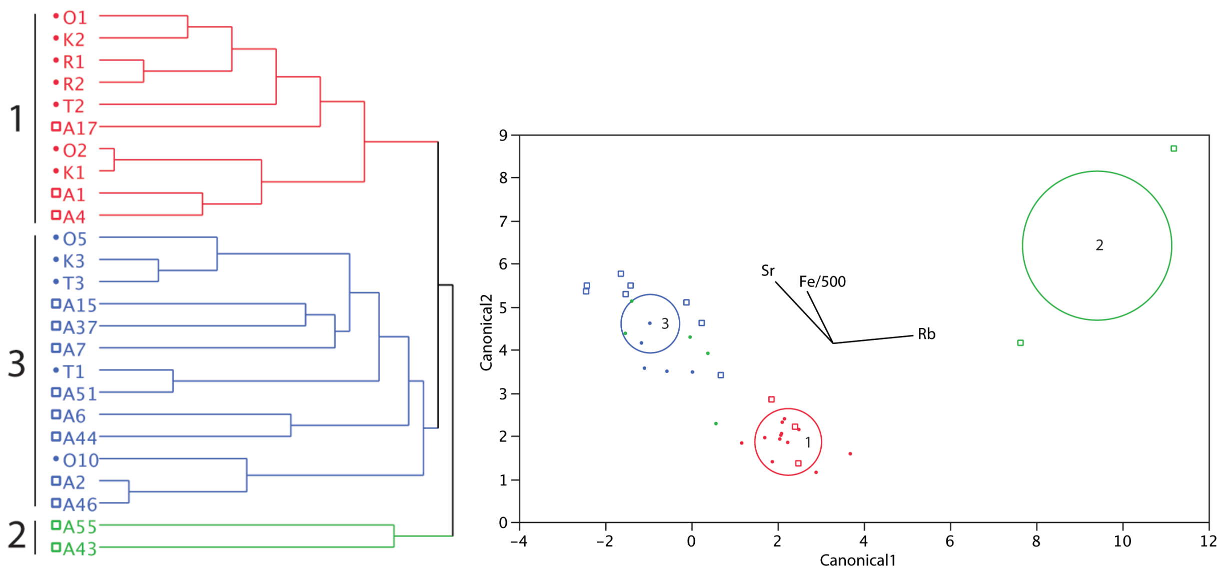


Figure 6.62: Hierarchical clusters of ceramic clusters and discriminant analysis from pEDXRF readings on Sr, Rb, Fe/500 from AK47 shelter (A), Ostrich/Damp Shelter (O), Rocky shelter (K), Radiepolong (R), and Thamaga I (T). Cluster numbers are indicated, and AK47 shelter is noted with a square symbol.

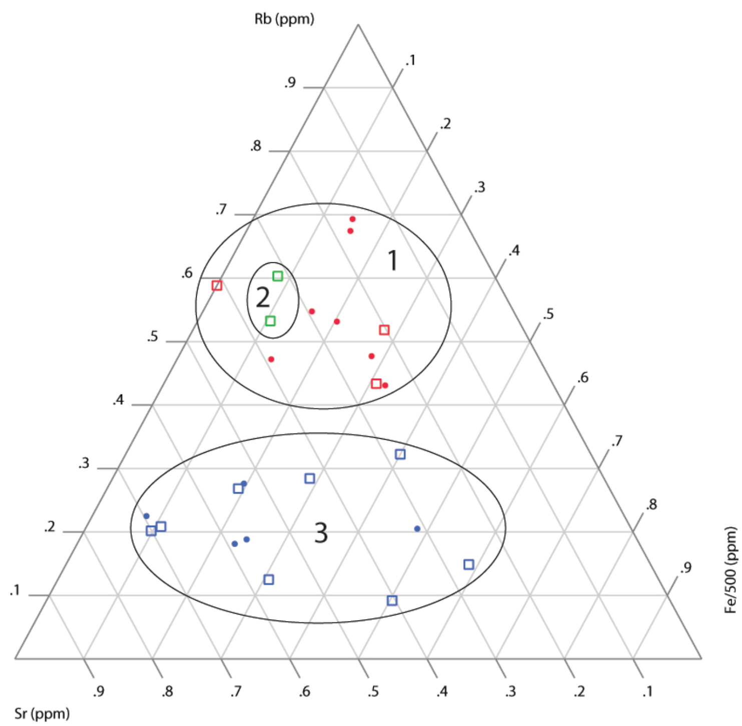


Figure 6.63: Ternary plot of ceramic groups based on pEDXRF readings (ppm) on Sr, Rb, Fe/500 from AK47 shelter (A), Ostrich/Damp Shelter (O), Rocky shelter (K), Radiepolong (R),

and Thamaga I (T). AK47 shelter is noted with a square symbol. Cluster numbers are indicated.

This comparative analysis shows the diversity of ceramics being brought into and used in the Thamaga rockshelters. While there are three main clusters, 1 and 3 are very diverse in their composition and likely indicate ceramics coming from many more than just three sources.

8. SOME OBSERVATIONS

Due to the lack of other archaeological excavations and detailed analysis and publication of ceramics from Iron Age sites in the area, there is little comparative data available, especially at sites contemporaneous to the ones in the study. Thus, the goal of this analysis was not to definitively present the ceramics and their implications, but rather lay more of the foundational work for the area in ceramic design style and chronology building.

The Eland-derived > Moritsane-derived > Broadhurst facies ceramics that are predominant in the assemblage from Botlhano Fela likely represent the persistence of a long tradition of ceramic decoration, a style that is attributed to the ancestral 'Bakgalagadi'. Other vessels at Botlhano Fela that bear a different decorative style likely were brought to the site as traded goods and even the container for other goods as noted previously in ethnohistoric examples in the area. Since there is no evidence for the manufacture of ceramics by foragers in the area, it is most likely that all of the ceramics found in the assemblage from AK47 shelter are the products of trade, and groupings based on geochemistry and decorative styles show a greater diversity than in the assemblage from Botlhano Fela.

One aspect of this preliminary study that needs to be refined is the obvious case of the clusters containing, in some cases, more variation in the stylistic aspects conforming to a particular ceramic facies than would be expected for one clay source. While this is not impossible, such as if raw materials for ceramic production were being traded (hinted at in Okihiro's ethnohistory presented earlier) or multiple groups were inhabiting the same landscape and utilizing the same clay source, more refinement in evaluating the geochemistry may help with this question. For example, the suite of elements (Sr, Rb, Fe) selected for their common occurrence and good readings may just be too common and not as variable between clay sources as hoped, and the inclusion of different elements to the analysis may aid in this process. Also, the expansion of clay sourcing and geochemistry, as well as the application of optical petrography on ceramic thin-sections in the future will be a great step in further developing and understanding of local ceramic traditions in southeastern Botswana and the connections to the wider region. This is a future goal of my research in the area, and an important step for evaluating the movement of people and goods, and the long-distance connections between groups of people in the region.

Chapter 7: Lithics, Metals, Beads, and Other Small Finds

INTRODUCTION

This chapter details all of the other artifacts recovered in the excavations of AK47 shelter and Botlhano Fela: lithics (flaked stone and grounstone), metals, beads (ostrich eggshell and glass), and other small finds.

1. FLAKED STONE

Lithics in the form of flaked stone is an often-discussed indicator in southern African archaeology, or 'index fossil' of sorts, of the presence of foragers at sites. However, with the appearance of iron tools at 'forager' sites, and stone tools at 'farmer' sites, a distinct classificatory system based on iron/stone tool use begins to erode. With this symptom, artifacts are no longer easily attributable to 'forager' and 'farmer', and materials such as stone tools become poor indicators of identification. Some researchers (e.g. Hall 2000; Wadley 2001) have attempted to explain the occurrence of large amounts of stone scrapers at Iron Age 'farmer' villages as indicators of a 'forager' labor-force hired to process hides, with stone tools being created and used for these labor activities. But it is also likely that stone tools may have been made by 'farmers' themselves to be used in various daily tasks (cf. Thebe 2004; also Denbow 1999), thus the "role of lithics in materializing identity should not be considered static and immutable" (Silliman 1993:399). Iron was in a sense more an ideological concept than an everyday practicality, its use based on various constraints: availability, production skills, etc. At AK47 shelter and Botlhano Fela, the presence and absence of lithics provides an interesting case study.

1.1 LOCAL GEOLOGY

Thamaga Hill is located in the relatively flay Metsemothlaba River valley, less than 1km from the river to the east, and to the west, just beyond the Molepolole area lies the Kgalagadi Desert. Dotted across this relatively flat valley are solitary or small groupings of hills, or *kopjes*, composed of Thamaga ("rapakivi") granite boulders resulting from a large Precambrian plutonic intrusion rising out of the Gaborone Basement Complex (c. 2780 million years ago), into the landscape. Rapakivi granite is a fairly uncommon type of granite, and is a hornblende-biotite granite that contains large rounded crystals of orthoclase and oligoclase, with this variation being very coarse grained with huge feldspar crystals. The Gaborone Basement Complex is also composed of Kgale equigranular granite, Nthlantlhe microgranite, and Kanye Volcanics. The Gaborone Basement Complex is locally covered by Waterberg sandstones/quartzites (c. 1800-1900 mya) and some sediments of the Transvaal Supergroup (c. 2600-2100 mya) comprised mainly of dolomites mixed with substantial amounts of quartz, minor quartzites, shales, and chert breccias (Bernard W. Vink, personal communication; also Lagerstedt 1994).

Given the great diversity in rock types and formation processes, in the local area can be found sedimentary (e.g. chalcedony, jasper, agate), metamorphic (e.g. quartzite), and igneous rocks (e.g. quartz), and this diversity of stone is reflected in the raw materials selected by the inhabitants of the Thamaga Hill sites.

1.2 BOTLHANO FELA

The cultural deposits on the Botlhano Fela hilltop hold an immense volume of stone tools and manufacturing debris. In just the upper deposits analyzed as part of this research, almost 20,000 pieces of flaked stone were found and recorded, weighing about 85.54 kilograms.

I made a decision to treat the deposits from stratigraphic *Zone 103* as a separate entity for analysis. After beginning to excavate volumes of flaked stone from the very compact, conflated sedimentary deposit, it became clear that the types of tools and methods of knapping were different than those from the more recent deposits at the site. After consulting with Sheila Coulson[1], it was determined that we were looking at stone debris very likely from the Middle Stone Age period. She mentioned that she was working with a Master's student at the University of Oslo, Anna Myrer, looking for a project, and these excavated flaked stone materials ultimately ended up as the basis for her research. This division was possible since these deposits are much older than those from the Later Stone Age and Iron Age periods that form the basis for my research. To maintain the analyses I had already conducted from *Operation 1*, I decided to incorporate the lithics from the initial arbitrary levels of *Zone 103* since these materials appeared to belong to a later tool industry, likely what is classified as the 'Later Stone Age', that was distinct from the lower Middle Stone Age deposits due to the microlithization of the stone tool technology. In all, counts on flaked stone from *Operations 1, 2,* and *4* at the site run about 3,000 pieces (11.45kg) in *Zone 101*, a little over 15,600 pieces (72.7kg) in *Zone 102*, and almost 300 pieces (1.39kg) in the small portion of the *Zone 103* deposit included in this research due to a small amount of ceramics being found in this transitional deposit.

1.2.1 Identified tool types

As I will discuss below, no typological reference for stone tool assemblages exists from sites designated as being occupied during the 'Iron Age' by 'farmers', and many interpretations of stone tools at these types of sites are explained in various ways to belong to 'Later Stone Age' ' foragers'. More recently, better attention has been paid to the occurrence of stone tools at these types of archaeological sites and their creation and use by the farmers themselves (cf. Thebe 2004). In addition, ethnographic research, such as Steven Brandt *et al*.'s work with Ethiopian hideworkers (Brandt 1996; Brandt *et al*. 1996; Brandt and Weedman 1997; Weedman 2005) provides some analogues to think about lithics and supposedly iron tool-using farmers in the past.

For this analysis, a few basic categories of stone tools, based on the typologies that have been used for Later Stone Age lithic assemblages, were identified. Lithic analysis is sometimes subjective in assigning tool types, so if someone else looked at the assemblages being discussed here, they might be more

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[1] Sheila Coulson is a professor at the University of Oslo, lithic analysist, and colleague who has been conducting archaeological research with her graduate students in northern Botswana.

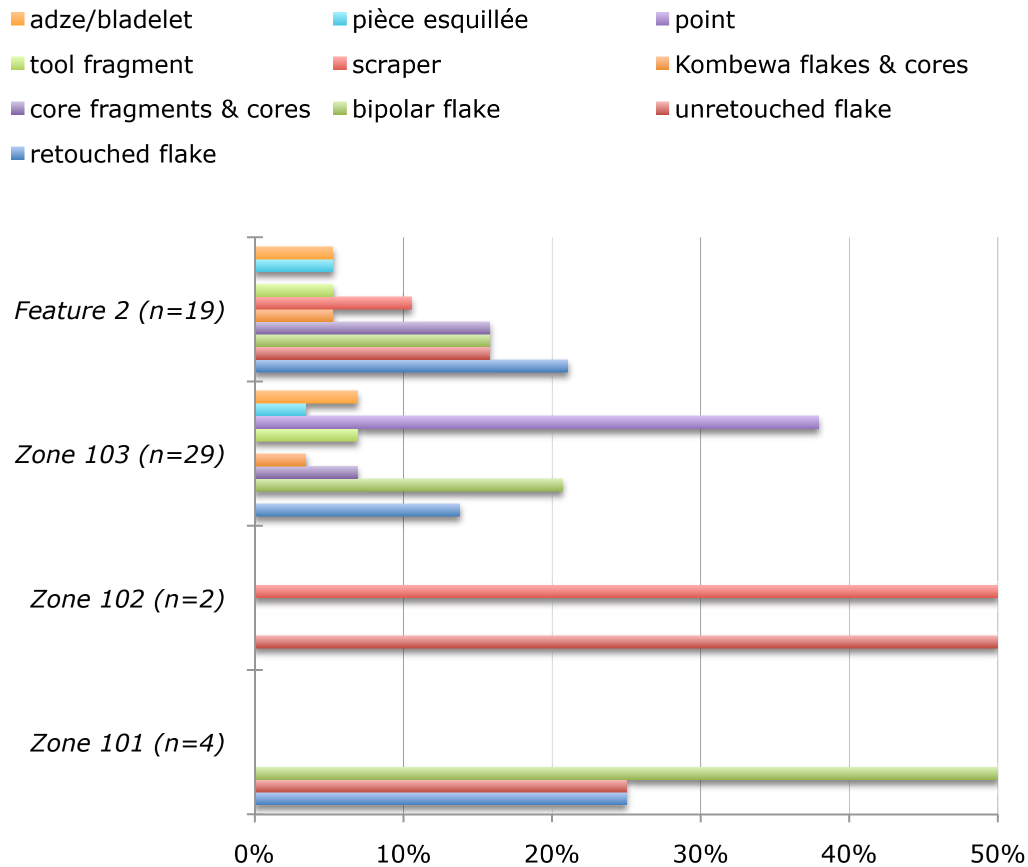
specific in their classifications, such as identifying something as an "endscraper" or "thumbnail scraper", that I have only identified as a "scraper". For the purposes of this study, these small details are insignificant since the discussion works just as well with the broader designation.

The identified tools from each *Operation* will be presented separately as a whole, and will also be broken out by stratigraphic *Zone* to look at potential changes over time during the occupations of Botlhano Fela.

1.2.1.1 Operation 1

The identified stone tool assemblage from *Operation 1* begins to tell the story about stone tool manufacture and use at the site (Figure 7.1).

Operation 1



	Zone 101 (n=4)	Zone 102 (n=2)	Zone 103 (n=29)	Feature 2 (n=19)
adze/bladelet			6.90%	5.26%
pièce esquillée			3.45%	5.26%
point			37.93%	
tool fragment			6.90%	5.26%
scraper		50.00%		10.53%
Kombewa flakes & cores			3.45%	5.26%
core fragments & cores			6.90%	15.79%
bipolar flake	50.00%		20.69%	15.79%
unretouched flake	25.00%	50.00%		15.79%
retouched flake	25.00%		13.79%	21.05%

Figure 7.1: Identified stone tool types and their frequencies in *Operation 1* from Botlhano Fela.

In this *Operation* very few tools were identified from the deposits of *Zone 101* (*n*=4) and *Zone 102* (*n*=2), the later occupations of the hilltop from the past few hundred years. The identified stone tools from these layers were flakes—retouched, blanks, and ones evidencing bipolar percussion—and scrapers. When combined with the contiguous deposits from *Operation 2*, presented below, a better picture of the stone tool use during this time emerges.

The stone tool-rich occupational deposits that comprise *Zone 103* contain Later Stone Age type tools in their initial occurrence, and give way to a much more robust deposit of Middle Stone Age. The small sample of these deposits, the first few arbitrary layers, were selected to be included in this study to evidence the very likely presence and practices of stone tool-using foragers living on the hilltop prior to its habitation by herder-farmers.

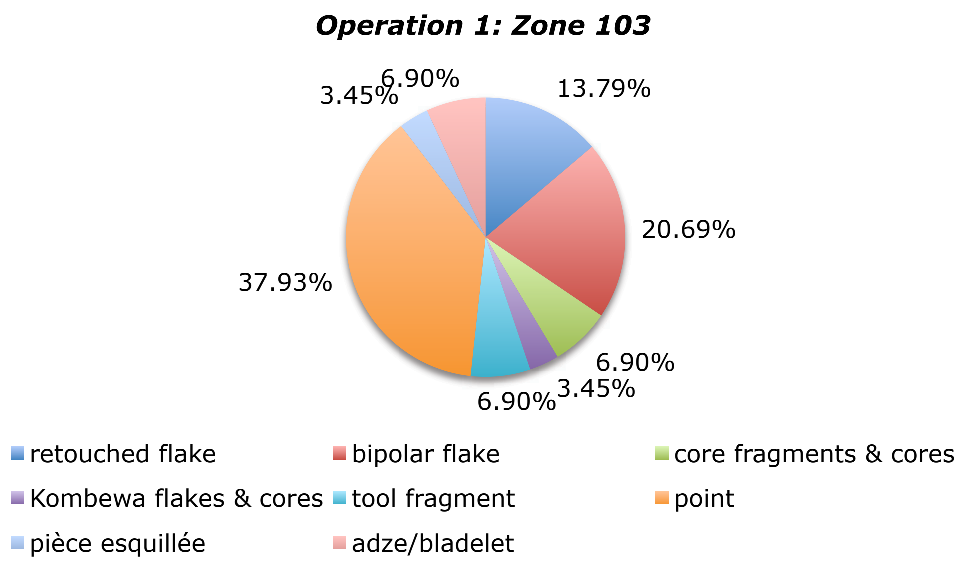


Figure 7.2: Identified stone tool types and their frequencies in *Feature 2* of *Operation 1* from Botlhano Fela.

The *Zone 103* identified stone tools (*n*=29; Figure 7.2) show the greatest variety in tool-types, and are indicative of a range of activities having taken place during this occupation of the hilltop. Techniques in use at this time were bipolar percussion, Kombewa flaking, as well as retouching flakes to be used as informal tools.

The dominant identified tool-type from this depositional event are points (*n*=11). These flaked stone points are one of four traditional types of arrowhead recognized in archaeological assemblages from southern Africa (Goodwin 1945) and some throughout the continent (Clark 1977): *Type 1 points*, stone segments mounted in mastic on a wood or bone foreshaft (Figure 7.3). J. Desmond Clark (1977) discussed how these curved, triangular points, later made from flaked glass, were retouched on the edges and then mounted in the mastic at opposing angles to come together into a point. He also noted that this form is seen in archaeological assemblages from Egypt and other parts of north Africa.

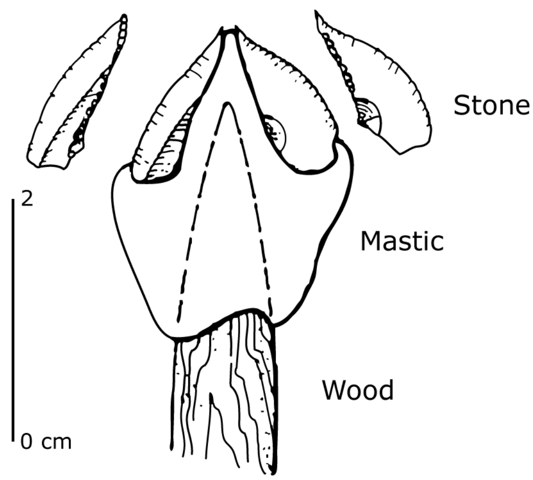


Figure 7.3: Drawing of *Type 1* points and how they were mounted on a shaft to form an arrow (adapted from Clark 1977).

In 1880, an ethnohistoric account by E. J. Dunn in the southern Kalahari describes seeing the *Type 1* arrows being made:

> "While in Bechuanaland, an old Bushwoman, living on the Leek River, showed me one of the methods adopted in affixing stone tips to arrows; two small triangular flakes were detached from a piece of hard stone, they were as nearly alike as possible, the point of the shaft was then flattened and coated with resin obtained from a small pelargonium, this resin is softened with heat, and the two flakes pressed on the opposite sides of the flattened tip of the shaft, the points being carefully brought together; the bases of the arrow-heads were some distance apart" (16).

Dunn's account is also interesting as it relates to discussions of archaeological stone tool assemblages around the world and the unassumed role of women in their production and use (cf. Weedman 2005). Stow (1905: 69) noted that in the 1870s, the Orange River Bushmen "used invariably small chips of chalcedony etc. for making the sharp points of their poisoned arrows," going on to describe that these points were fitted into a notch cut into a shaft and secured with mastic. Most of the points from this deposit at Botlhano Fela are made of chalcedony, with a few made from milky quartz (this could alternatively be a very translucent chalcedony).

The stone tool assemblage from *Feature 2* contained mixed sediments from the pit that was dug during the *Zone 102* occupation, and most likely contains the lithics from the upper *Zone 103* levels, possibly mixed with some from *Zone 102*. Because of this mixture, this assemblage is treated separately (Figure 7.4).

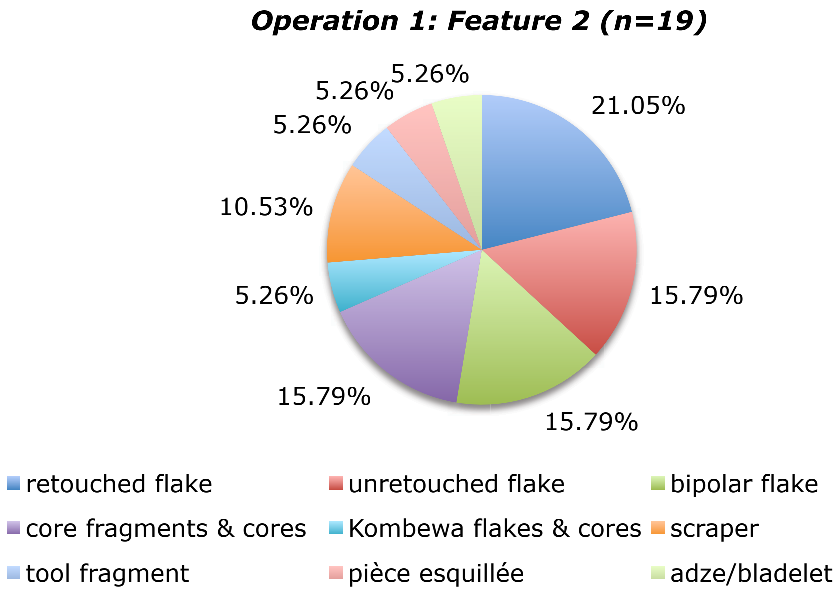


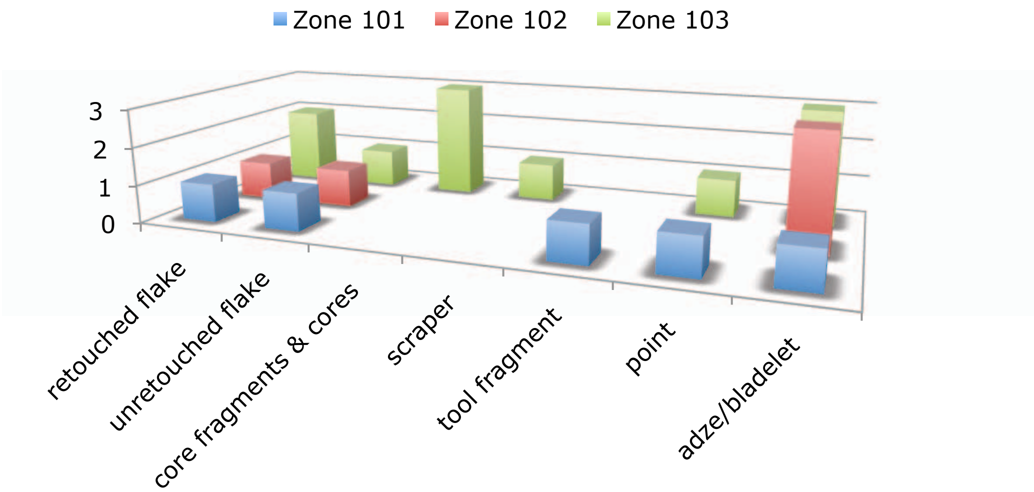
Figure 7.4: Identified stone tool-types and their frequencies in *Feature 2* of *Operation 1* from Botlhano Fela.

The *Feature 2* assemblage, like with that from *Zone 103*, contains the remnants of a variety of tools being manufactured and utilized at the site. No one tool-type really dominates the assemblage, but scrapers (*n*=2) are present.

1.2.1.2 Operation 2

In the lithic assemblage from *Operation 2*, only 21 tools were identified (Figure 7.5). Most of these came from the *Zone 3* deposits (Layers 6-8), containing retouched flakes, cores, a scraper, a point, and adzes/bladelets. In comparison to the *Zone 103* assemblage from *Operation 1*, this one contains the same diversity in types and the activities they represent.

Operation 2



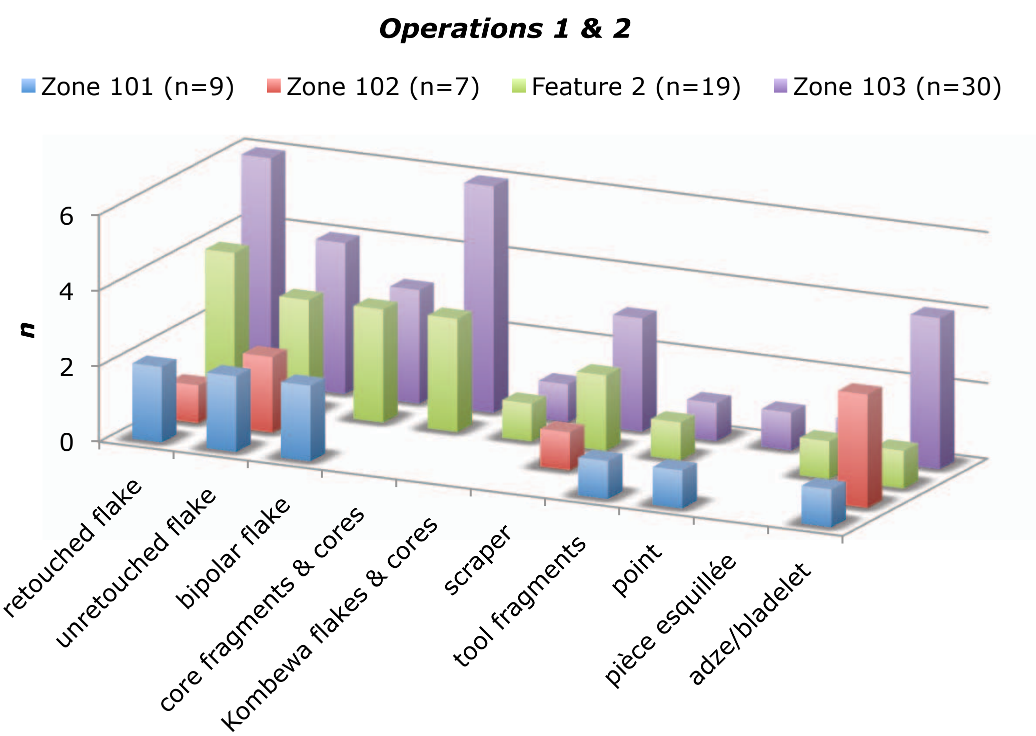
	retouched flake	unretouched flake	core fragments & cores	scraper	tool fragment	point	adze/ bladelet
Zone 101	1	1			1	1	1
Zone 102	1	1					3
Zone 103	2	1	3	1		1	3

Figure 7.5: Numbers of identified stone tool-types in *Operation 2* from Botlhano Fela.

The identified stone tool-types from *Zone 101* and *Zone 102* are few, and point toward the use of expediently made flakes and retouched flakes, but with such a small sample size this argument is not very strong. The occurrence of a point in the *Zone 101* deposits is interesting, since this technology is generally seen as one utilized much earlier, largely replaced by bone point technology and indicating that this point represents mixing of the sediments or movement from another area of the hilltop. However, this can not be assumed since, as discussed earlier with Dunn's ethnohistoric account, the knowledge of and production of this technology was still alive and well in the late 1800s.

For illustrative purposes, the identified stone tool-types from the contemporaneous stratigraphic *Zones* of *Operation 1* and *Operation 2* are presented here (Figure 7.6) to show the relative proportions of types based on their numbers.

Figure 7.6: Numbers of identified stone tool types and their numbers in *Operation 1* and *Operation 2* from Botlhano Fela.



	retouched flake	unretouched flake	bipolar flake	core fragments & cores	Kombewa flakes & cores	scraper	tool fragments	point	pièce esquillée	adze/bladelet
Zone 103 (*n*=30)	6	4	3	6	1	3	1	1	1	4
Feature 2 (*n*=19)	4	3	3	3	1	2	1	-	1	1
Zone 102 (*n*=7)	1	2	-	-	-	1	-	-	-	3
Zone 101 (*n*=9)	2	2	2	-	-	-	1	1	-	1

As expected with most archaeological stone tool assemblages indicative of having been manufactured at a site (discussed below), flakes that could have been utilized and those that have been modified for use outnumber identified formal tools, indicating that the goals of their production was not always to achieve a finished form, but rather could have just been a usable edge or some other characteristic that goes unrecognized.

1.2.1.3 Operation 3

Looking at the identified tools from *Operation 3*, the small sample (*n*=63), most of which are retouched flakes, may be indicative of a wide range of activities that utilized stone tools (Figure 7.7).

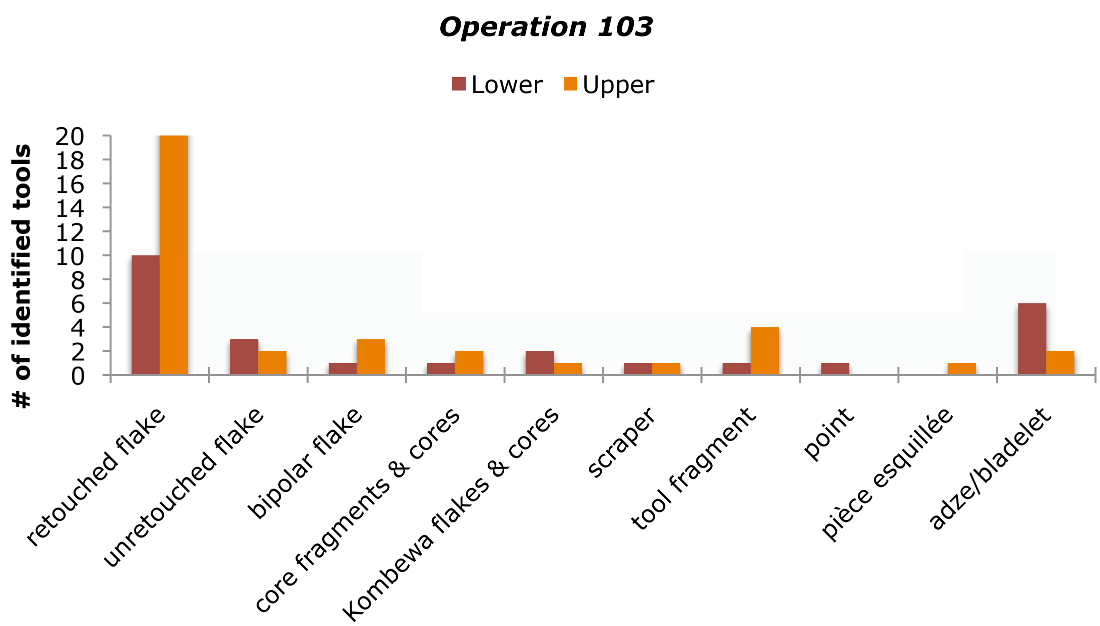
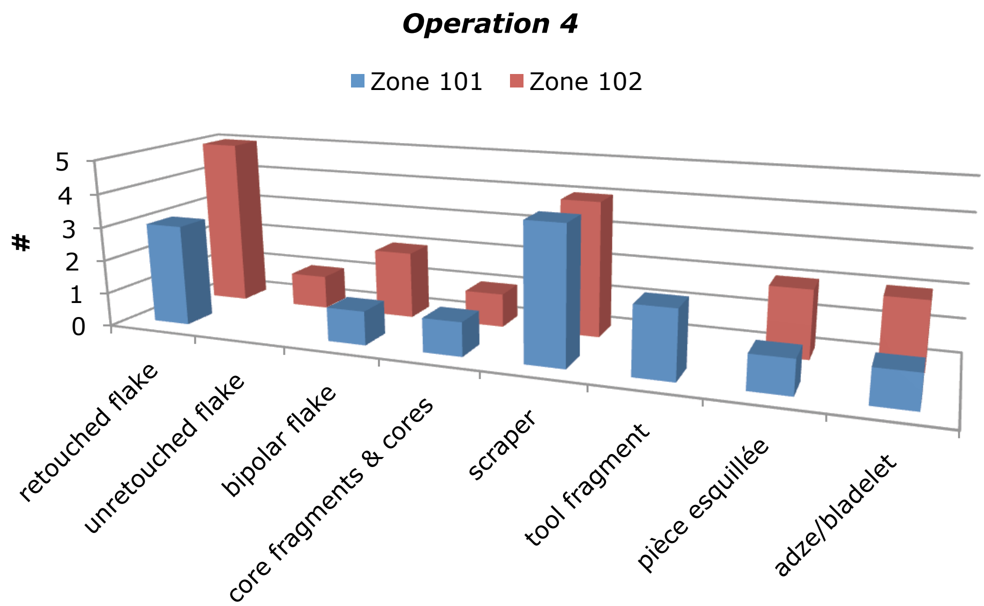


Figure 7.7: Number of identified stone tool types from *Operation 3* from Botlhano Fela.

However, due to the possible mixed sediments from this *Operation* are included here as part of the general reference sample only.

1.2.1.4 Operation 4

In the lithic assemblage from *Operation 4*, only 13 identifications were made from *Zone 101/upper*, and 17 in *Zone 102/lower*, many of which were retouched flakes (*n*=8) (Figure 7.8).



	retouched flake	unretouched flake	bipolar flake	core fragments & cores	scraper	tool fragments	pièce esquillée	adze/bladelet
Zone 102 (n=*17*)	5	1	2	1	4	-	2	2
Zone 101 (n=*13*)	3	-	1	1	4	2	1	1

Figure 7.8: Number of identified stone tool types and their numbers in *Operation 1* and *Operation 2* from Botlhano Fela.

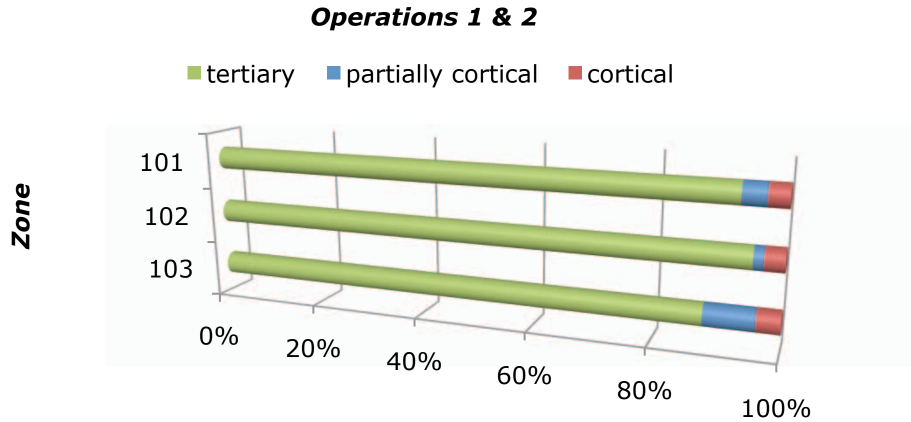
In the *Zone 101* deposits in this area of the site, there appears to be more variety in stone tool production and use in comparison to the *Zone 101* deposits from the *Operation 1* and *Operation 2* areas of the hilltop. This is the case because this cultural deposit very likely associated with the domestic space of *Hut 1*. Scrapers are the predominant identified tool-type in this context and would have been used in the process of scraping animal hides to prepare them for reuse as clothing and bedding, or possibly as trade goods. The number of identified scrapers (*n*=4) in the *Zone 102* deposits remains the same, and could have been used on the skins from red hartebeest, gemsbok, or sheep identified in the faunal assemblage (Chapter 5). All of the other identified tool-types were more abundant in the earlier deposits, but are not necessarily associated with the domestic context of the later deposits. The stone utilized for tools in the *Zone 101* deposits covered a variety, while those from *Zone 102* were made from chalcedony and possibly other cryptocrystalline rock types.

1.2.2 Mass debitage analysis

The majority of flaked stone artifacts at archaeological sites around the world are unretouched debris, or debitage, typically at least 95%. At Botlhano Fela, this is no exception, and with any mass of debitage from an archaeological assemblage, they should always be gleaned for what useful information they can provide about the people that created the mess. While most of these small flakes likely lie as they fell during the knapping process, it is also important not to forget that even those flakes that are not retouched, and therefore grouped into a category of utilized flakes and formal tools, may have been just as useful. George Odell (2003:120) points out that based on ethnographic studies and some archaeological research, "that stone tool-using people employed unretouched flakes in a large variety of activities. In fact, they often favored unretouched flakes for specific tasks because their edges were sharper; therefore it is extremely likely that some of the debitage at any habitation site was utilized".

Thus, the analytical approach taken in this study, to make some sense out of the large number of seemingly unutilized pieces of flaked stone, is to process large quantities of flakes simultaneously en masse, versus a single flake attribute analysis approach. A mass debitage analysis approach (Andrefsky 1998; Odell 2003) is appropriate for this study since the flaked stone at the site are seen more as elements of the whole package of the daily lives for the people living at Botlhano Fela at different points in time.

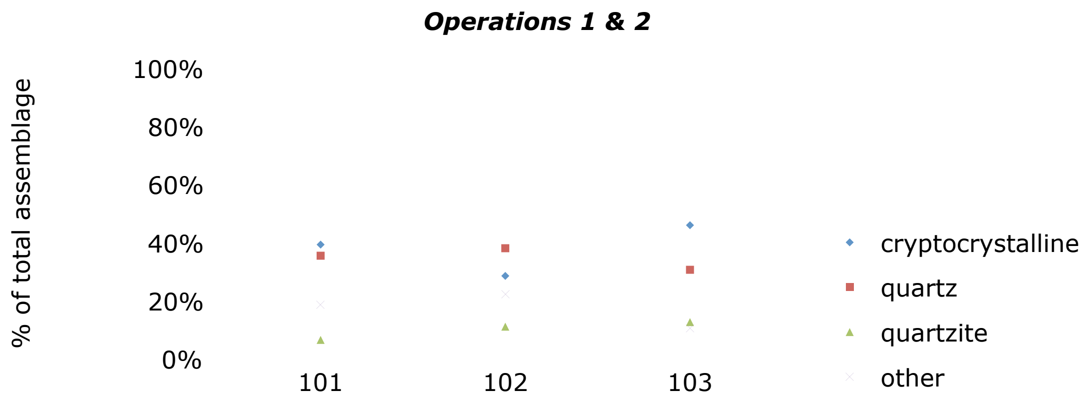
In Operation areas 1 & 2, the majority of flake types (Figure 7.9) from all of the occupational periods are tertiary, the internal core flakes that result from secondary reduction and the retouch of flakes and formal tools. Cortical (or primary) and partially cortical (or secondary) flakes, are the products of the initial stages of reduction, and make up only a small percentage of the debitage during each of the occupational periods. For this study, cortical flakes are defined as having a dorsal surface with 100-75% cortex present, partially cortical flakes have 74-5% of the cortex present, and tertiary flakes have >5% cortex.



	103	102	101
tertiary	88.09%	95.24%	92.93%
partially cortical	8.15%	1.59%	3.80%
cortical	3.76%	3.17%	3.26%

Figure 7.9: Results of mass debitage analysis, by flake type, sorted by *Zone* in *Operations 1* & *2* combined.

Most of the raw material likely utilized during the occupations of Botlhano Fela came from medium-sized cobbles, today found scattered throughout the hilltops, in erosion ditches, and in the sandy riverbed of the Metsemothlaba River. Looking at the trend in the use of different material types over time (Figure 7.10), the ratios and amounts hold fairly steady, likely indicating that raw materials were used as they were encountered in the landscape, and the inhabitants were not seeking out quarries to acquire one particular type of raw material. Cryptocrystalline rocks (chalcedony, jasper, agate) and quartz contribute most to the assemblages, and most of the identified tools are on chalcedony or another type of cryptocrystalline stone. Other, stone types that could not be identified are possibly siltstone, limestone, basalt, and possibly others.

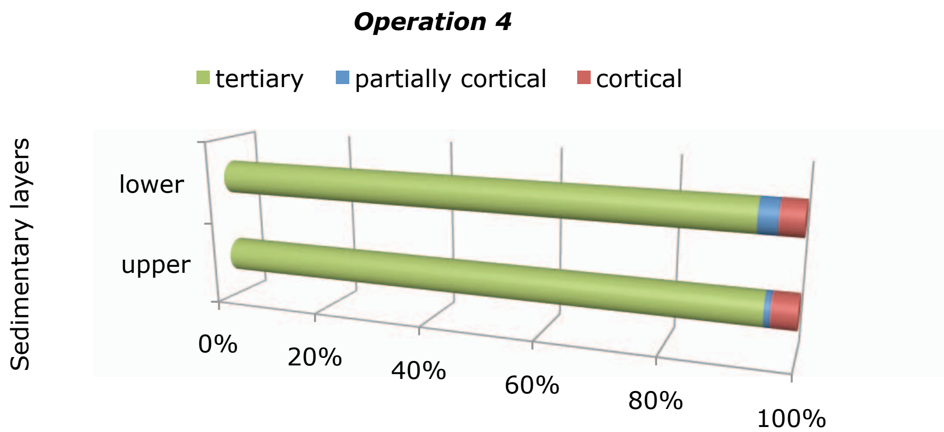


	101	102	103
cryptocrystalline	39.34%	28.57%	46.02%
quartz	35.52%	38.10%	30.68%
quartzite	6.56%	11.11%	12.68%
other	18.58%	22.22%	10.62%

Figure 7.10: Results of mass debitage analysis, by material class, sorted by *Zone* in *Operations 1* & *2* combined.

As a raw material, quartz in very hard and not as easy to create a sharp edge as with chalcedony, for example, so the high proportion of quartz use is interesting and could have been a cultural preference in the area since the numbers stay fairly consistent over time. Also possible, is that it was readily available around the site and served its purpose as a hard-edged tool and not for always creating formally retouched tools as was likely the case for quartzite.

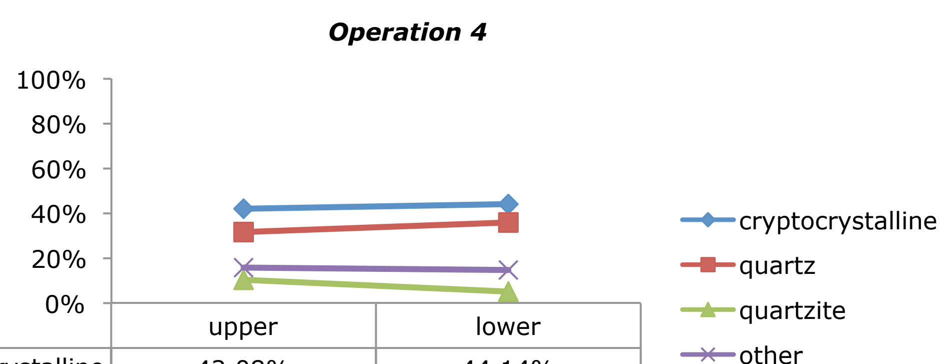
In *Operation 3*, as a whole, similar proportions of materials and flake types exist, but due to the likely mixed sediments from the internment of Burial II, are separated here from the analysis. *Operation 4*, similar to the debitage assemblage from *Operations 1* and *2*, is dominated by tertiary flakes, with only a small percentage having any cortex on them (Figure 7.11).



	upper	lower
tertiary	95.02%	93.24%
partially cortical	1.00%	3.03%
cortical	3.98%	3.73%

Figure 7.11: Results of mass debitage analysis, by flake type, sorted by *Zone* in *Operations 4*.

In addition to the similarities in flake type, raw materials identified in the debitage from *Operation 4* show a similar pattern, with cryptocrystallines and quartz being the dominant materials represented, and little variation over time (Figure 7.12).



	upper	lower
cryptocrystalline	42.08%	44.14%
quartz	31.68%	35.96%
quartzite	10.40%	5.14%
other	15.84%	14.77%

Figure 7.12: Results of mass debitage analysis, by material class, sorted by *Zone* in *Operation 4*.

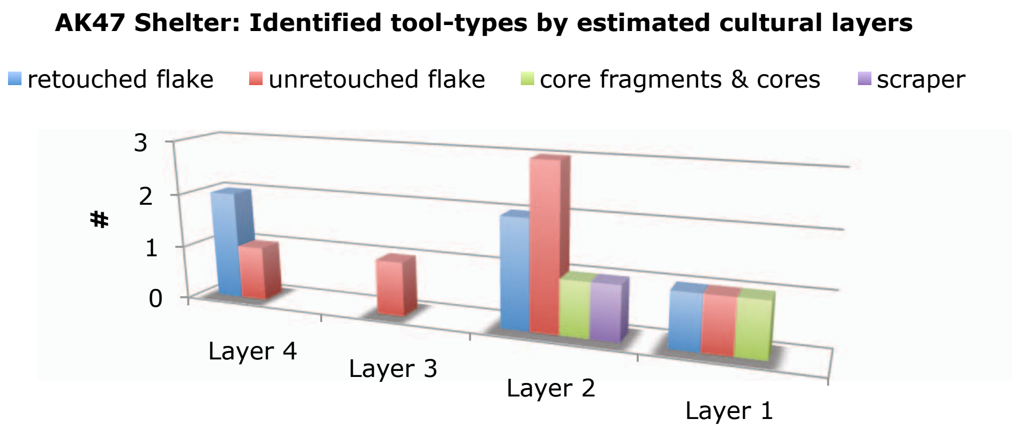
Looking at the site as a whole, the greatest variation in raw material reduction was during the occupation of the site that correlates with the *Zone 103* deposits, and this intensity is reflected in the identified tool assemblage as well, exhibiting a wide variety of types.

1.3 AK47 SHELTER

At AK47 shelter, very few pieces of flaked stone were in the excavated sediment, in stark contrast to the other rockshelters excavated in the area during the survey and testing phase of this project (see Chapter 3). This was very surprising given the previous encounters, and could contribute more weight to the possibility discussed in Chapter 4 that much of the site was destroyed by rock fall. However, discussed later, it might also be indicative of sampling error, artifact curation, or habitation of the shelter by people that did not intensely use flaked stone tools.

1.3.1 Identified tool types

The number of identified stone tools from the deposits at AK47 shelter is small (*n*=14), and do not hold much potential for extrapolating information about them (Figure 7.13). Identified stone tools by type are organized here using the estimated cultural layers based on bracketing with radiocarbon dates from the shelter deposits discussed in Chapter 5.



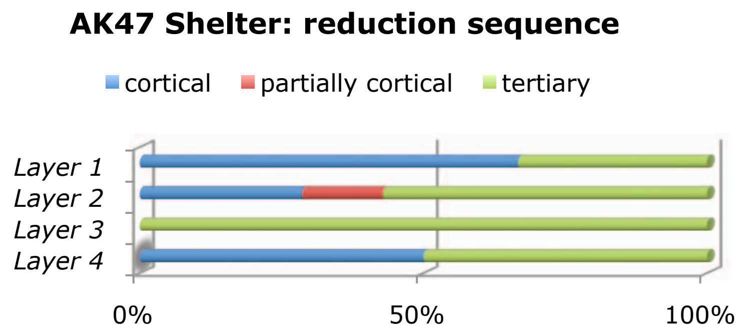
	Layer 4	Layer 3	Layer 2	Layer 1
retouched flake	2		2	1
unretouched flake	1	1	3	1
core fragments & cores			1	1
scraper			1	

Figure 7.13: Identified stone tool-types and their frequencies in deposits from AK47 Shelter sorted by estimated cultural layers.

The assemblage is dominated by retouched and unretouched flakes, with only one core and one scraper straying from this pattern in *Layer 2*. As such, little can be seen in the identified tool assemblage that lends itself toward discussion of specific tool-related activities having taken place at the site.

1.3.2 Mass debitage analysis

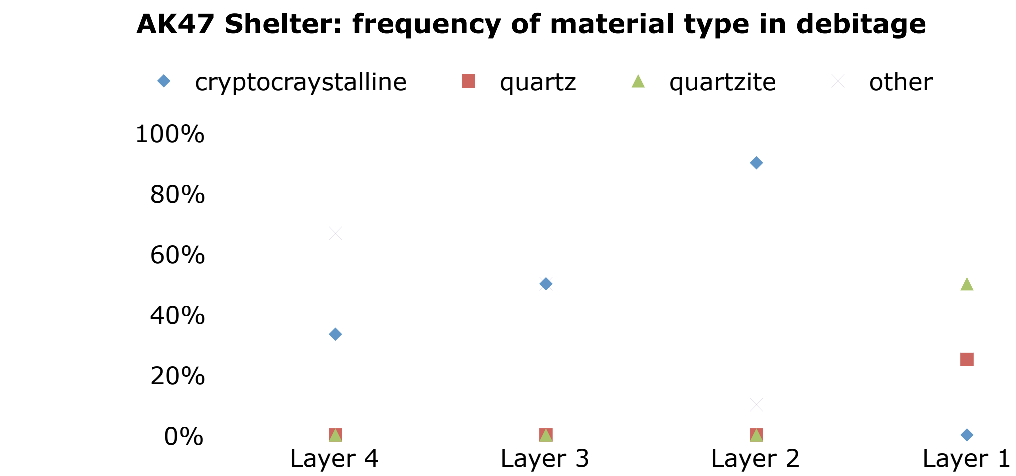
Turning to an analysis of the small amount of debitage from the AK47 Shelter deposits, some possible explanation might be made for the lack of stone tools found in the deposit (Figure 7.14).



	Layer 4	Layer 3	Layer 2	Layer 1
cortical	1		2	2
partially cortical			1	
tertiary	1	2	4	1

Figure 7.14: Results of mass debitage analysis at AK47 Shelter by flake type, sorted by estimated cultural layers.

It appears that very little stone tool production was taking place, at least in the excavated area of the shelter, and that much of the debitage comes from tertiary flakes, making it likely that much of the stone tool production was taking place outside of the shelter or in another area of the shelter where the primary cortical reduction flakes would be. This means that stone tools would have been brought into the domestic context finished or mostly finished. Finally, looking at this assemblage by raw material type (Figure 7.15), the most recent *Layer* shows the greatest variety in use of different stone types as raw materials, but with only four pieces, such an argument is speculative for any behavior or cultural preference by the people that lived in the shelter.



	Layer 4	Layer 3	Layer 2	Layer 1
cryptocraystalline	33%	50%	90%	0%
quartz	0%	0%	0%	25%
quartzite	0%	0%	0%	50%
other	67%	50%	10%	25%

Figure 7.15: Results of mass debitage analysis, by material class, sorted by estimated cultural layer from AK47 Shelter.

2. GROUNDSTONE

Groundstone objects, such as grinding stones were most likely used during the time of the occupations of AK47 Shelter and Botlhano Fela to process seeds, pigments, ceramic tempers and clays, and plants to break them down into a more desirable form for consumption or use. Grinding stones may have also been used to make traditional medicines, for example, as seen in Isaac Schapera's documentation of a rainmaker using a broken potsherd in place of a lower grinding stone to process the materials (Figure 7.16), a realistic analogy for what could have happened in a few hundred years before the photograph was taken as well.

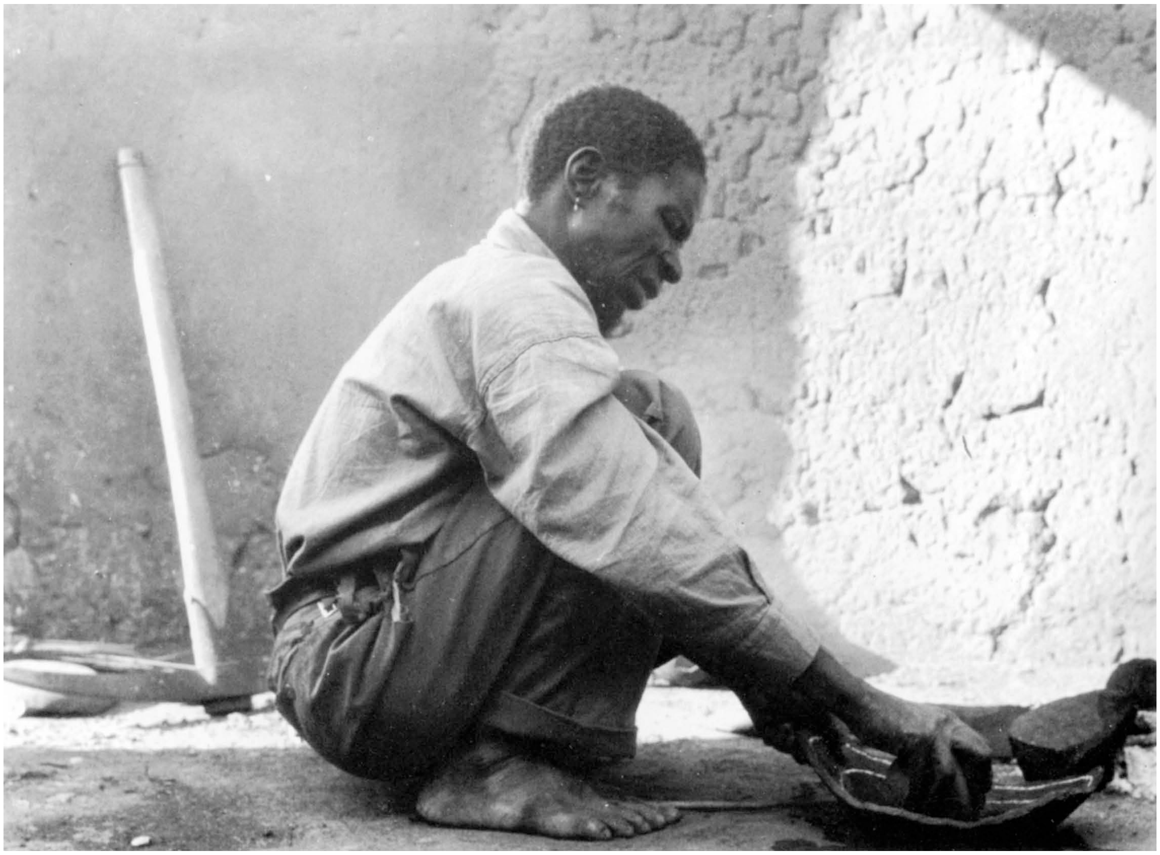


Figure 7.16: Plate 7.7 Rapedi grinding charred medicines in potsherd [RAI-3997] (taken by Isaac Schapera in southeastern Botswana during the 1930s, from Comaroff *et al.* 2007, reproduced with permission from the Royal Anthropological Institute)

2.1 AK47 SHELTER

At AK47 Shelter, four possible upper grinding stones were found during excavation, with one coming from *Layer 1* and three from *Layer 2* based on estimated cultural layers. No lower grinding stones were found, although some broken ones are scattered throughout the hillside. In addition to use as a grinding stone, these cobbles may have been used as hammerstones for smashing open bones, for example. Unfortunately, the local archaeologist trained in lithic analysis that was going to look at these artifacts misplaced them while at the National Museum, and I could not locate them despite repeated tries. So, these artifacts now only exist in the excavators' memories and on artifact record forms.

2.2 BOTLHANO FELA

At Botlhano Fela, the only evidence for the use of groundstone was on the surface of the site (Figure 7.17), where we found part of a broken lower grinding stone and possibly an upper grinding stone nearby.

Figure 7.17: Broken grinding stone on the surface of Botlhano Fela, Thamaga Hill, 2007.

3. BRIEF DISCUSSION OF LITHICS FROM BOTLHANO FELA AND AK47 SHELTER

After my initial survey and test excavation work at rockshelters in the area, discussed in Chapter 3, I had expected that the cultural deposits of AK47 Shelter would follow the same trend as the other rockshelters and have a fair amount of flaked stone tools and debris. This was not the case, and the various explanations presented above to account for this provide intriguing possibilities for interpretation in the next chapter. Not as unexpected was finding flaked stone tools being manufactured and utilized at the potential herder/farmer deposits of Botlhano Fela from the past few hundred years, since flaked stone tools are ubiquitous at many 'Iron Age' village sites, especially those in frontier areas such like southeastern Botswana, far from the political and cultural centers that existed in the past in the region.

Making assumptions about groups in the past based on simple trait lists overlooks variability in archaeological material culture assemblages in favor of lumping their creators together to stress "techno-economic differences endowed with evolutionary significance" (Stahl 2004:147; see also Kusimba & Kusimba 2005). Stahl (2004) notes that in west and east African archaeological practice, in comparison to southern Africa for example, there is a "focus instead on contingency and specificity and particularly on the relationship between historical landscapes and human action" (147). This is the approach being developed in the dissertation in regard to contact between groups and the ambiguity of aspects of the archaeological sites being discussed here.

At Botlhano Fela, flaked stone tools appear to have been a part of their daily lives, represented by a variety of tool-types being found there throughout the occupations. This reliance was likely less in the later occupations, and may even be indicative of a different cultural group inhabiting the hilltop. Flaked stone tools at AK47 Shelter are a bit more of a mystery, complicated even more when the iron tools found there are taken into account, discussed below.

4. METALS

Moving forward from the presentation and analysis of flaked stone tool assemblages from Botlhano Fela and AK47 Shelter, I will discuss the metal artifacts and production debris found during the excavations. No direct evidence was found for ironworking (‘*ba dira tshipi*’ in Setswana), or any other type of metal, in the form of furnaces, but raw materials and by-products of the production process will be discussed. Metalworking likely arrived in southern Africa with groups of Bantu-speaking farmers, with its products potentially coming in advance of the technology via trading networks.

In northwestern Botswana at the 6th-8th century AD Tsodillo Hills sites of Divuyu and Nqoma (Miller 1996), and at the South African sites of KwaGandaganda (Miller and Whitelaw 1994) and Broederstroom (Friede 1977), early farming communities provide some of the earliest evidence for metalworking (iron smelting and copper annealing) in the greater region containing the Thamaga sites. Smelting was a labor and raw material intensive process that involved the acquisition and crushing of ores and preparation of large amounts of charcoal, and very likely a skill not practiced by all groups (cf. Mitchell 2002: 355-359) as later noted in late 18th century and early 19th century ethnohistoric accounts. As Mitchell (2002) notes, “[m]etal may have been the most important and is certainly the most evident item traded between later farming communities in southernmost Africa” (359). Metalworkers and smelting processes were also associated with powerful magic and dangerous forces that required care throughout the process for a successful smelt as well as the health of the smelters and their communities (e.g. Maggs 1992). For this reason, smelting generally took place outside of the homestead, and the raw materials (ore) and smelting by-products (slag) are often the only indicators of the inhabitants of a site having performed these activities versus acquiring metal objects via trade.

Iron-rich ores, normally hematite, magnetite and limonite (Childs and Herbert 2005: 282), are widely distributed in southern Africa, and at the base of the cliff below the specularite mine discussed in Chapter 3, Sebilong, there are remnants of large trenches from open-cast iron ore mining activities where local metalworkers may have acquired their raw materials. At Botlhano Fela, ore (likely hematite) was found across the site: two pieces from *Zone 102* in *Operation 2* (24g); three pieces from *Operation 3* (51g); and 5 pieces from the upper and lower deposits in *Operation 4* (161g). No ore was found in the cultural deposits from AK47 shelter. In addition, no raw copper or copper slag were found at either site.

Ores are found in an impure state and are often mixed with silicates from other metals that can be separated from the molten metal during the bloomery process when the ore is exposed to high temperatures during smelting. At Botlhano Fela, slag was found at two locations: nine pieces in the *Zone 101* deposits of *Operation 2* (45g); and one piece in the top of the *Operation 4* deposit. No slag was found in the cultural deposits from AK47 shelter. In addition to the possibility of re-melting slag to extract more iron, another could be that slag, from a successful smelt for example, was curated at Botlhano Fela in order to be combined with new ore for a smelt to ensure the same positive results, much like a mother yeast in a bakery.

While conducting oral history/tradition interviews, an informant in Thamaga, Sabata Keagile Matsila, mentioned a group of iron workers that were said to have lived in the Thamaga area at some point, called the 'Bapene', which he thought was actually a derogatory term and not the real name of the group, as well as members of the Balete tribe:

> **LM** (Lawrence Masoga)**:** (in Setswana) *Ao gakologelwa maina a bone, one o kile wa buwa ka Batlhaope le Bapene, ke raya gore a ke bone bangwe ba ditlhopo tsa teng? Ba bangwe a ga o itse ditlhopa tse dingwe?*
>
> Do you still remember that you once talked about 'Batlhaope' and 'Bapene'? (We had informally spoken to Rra Matsila in 2004, so knew to ask about these particular group names) Were these some of the groups that were here and do you know about any of the other groups?
>
> **SKM** (Sabata Keagile Matsila): *Jaanong gaba satlhole baka bonwa. Bapene kana ene ele bone ba dira tshipi, ga go tlaatwe Bapene jaana,mme go raya gore bone Bapene ba, gake bona ba tlaabo ba dule mo Baleteng baba neng ba dira tshipi ka fo ga malete kafo Ramotswa.*
>
> They have vanished. Bapene were the ones who were smelting iron, that's why they were called 'Bapene'. The way I see it I think that the Bapene were a splinter group from the Balete and they were iron smelters.
>
> **LM**: *Ehe go raya gore Balete le bone ba tlile ba feta fa?*
>
> Does that mean that the Balete once stayed here?
>
> **SKM**: *Ee thata, le bone ba tlile ba nna moga Thamaga, ba bangwe bane ba dira tshipi.*
>
> Yes, they once stayed in Thamaga, and some were iron smelters.
>
> **LM:** *Bone mme bane ba goroga batswa kae? Balete le Bapene?*
>
> Balete and Bapene arrived here from where?

SKM: *Ba ga Malete bane batswa lekgophung,gare tlaatla go kopa kopana, mme ele gore ba tsile ka Mokgosi ka gore one a bapala dikgomo ka tlhabano mo Bangwaketseng le mo Bakweneng, abo a boela kwa kwa ga Rabogadi, ko pele ga Lekogphung.*

The Balete were from Lekgophung when we met (in Ga-Kgatla). They came with Mokgosi, who was fighting BaNgwaketse and Bakwena and got their cattle, then went back to Rabogadi, past Lekgophung.

LM: *Lekgophung keko kae, ake mo Botswana?*

Where is Lekgophung, is it in Botswana?

SKM: *Nnyaya keka ko Teransefala.*

No it is the Transvaal.

LM: *Ee lekgopung yo oko Aferika Borwa?*

Do you mean South Africa?

SKM: *Ee.*

Yes.

LM: *Goraya gore ene ele balemi kana barui goya ka wena?*

Were they farmers or herders?

SKM: *Ene ele barui, jaanong gaba tla kgaogana bone, ba kgaoganetse fo Ga-kgatla fa, Mokgojwe are lefatshe le galena khumo nna ke boela ko morago, Mokgosi a tswelela ene le Mosielele baya kwa, baya go aga ko Dithejwane.*

They were herders, so when they separated it was in Ga-kgatla. Mokgojwe was saying that their land was infertile, so they went back Mokgosi and Mosielele went on to Dithejwane (located not far to the northwest of Thamaga near Molepolole).

(Interview conducted on August 19, 2006. Thamaga, Botswana)

While this account does not definitively allow the occupations of the sites being discussed here to be associated with the 'Bapene' and Balete, it presents an interesting possibility for interpretation, mentioning both herding and iron smelting having taken place in Thamaga a few hundred years ago, and will be discussed further in Chapter 8.

4.1 AK47 SHELTER

At AK47 shelter, a variety of metal objects were found (*n*=6), weighing 0.472 kg. Continuing the use of the estimated cultural layers at the site, the *Cultural Layer 1* deposits contained a metal cloak/hair pin (Figure 7.18), a wound copper bead (Figure 7.19), and a piece of wire that is likely more recent and was in the initial layer of sediment in the shelter. Dave Killick at the University of Arizona examined these materials briefly, and it was determined that the wound bead was in fact copper, and not bronze.

Figure 7.18: Metal cloak/hair pin from AK47 shelter.

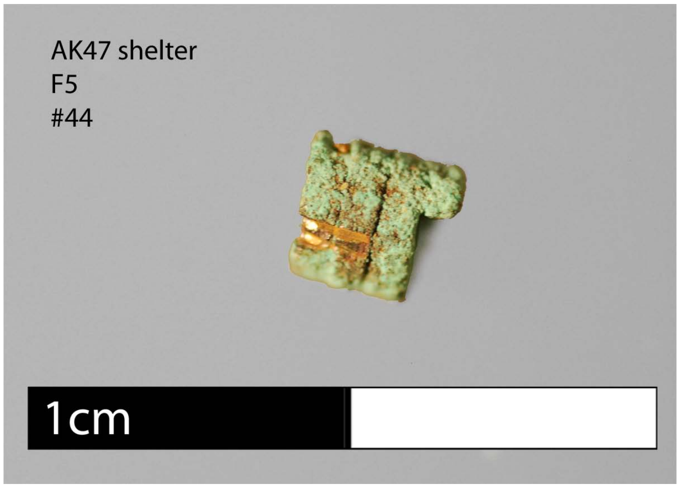


Figure 7.19: Wound copper bead from AK47 shelter.

The *Layer 2* deposits contained a piece of degraded thin copper wire, an iron axe (Figure 7.20), and an iron adze (Figure 7.21).

Figure 7.20: Iron axe from AK47 shelter. Photo taken in 2003 before being lost in storage at the Botswana National Museum.

Figure 7.21: Iron adze from AK47 shelter.

The metal objects at AK47 shelter are diverse, and represent an interesting assemblage of tools and personal adornment. Iron adzes in ethnohistoric and ethnographic accounts in the area are usually associated with woodworking (Schapera & Goodwin 1959; De Barros 2000), but occasionally performed double-duty as agricultural tools as well. The Pedi peoples used similar tools, *dipetlo*, for hidescraping (Quin 1959) and Burchell (1967 [1824]) noted a similar use by the Tlhapeng. I have identified the other iron tool as an axe based on its shape, but perhaps it could have functioned as a hoe. Typically, iron hoes have a tang on their reverse side (Hammond-Tooke 1980: 91-92; also Figure 7.22), which the axe from AK47 shelter does not, and were used for agricultural activities, such as plowing and harvesting fields.

Figure 7.22: European-made iron hoes (c. 1930-40s) owned by Sabata Keagile Matsila in Thamaga, 2003.

The interpretation as an axe is more plausible in this instance, and provides a second piece of evidence that points toward possible woodworking activities undertaken by the inhabitants of AK47 shelter.

Decorative metal objects of personal adornment, the iron pin and wound copper bead, would likely have functioned as visible signals of wealth and access to local and regional trade networks, especially combined with glass beads (discussed below). Copper production was a localized phenomena in the past due to possibly sparse raw material sources (Miller 2002: 1101), and copper objects were likely more rare than iron ones. An interesting point with these metal artifacts is that they only appear in the cultural layers that temporally overlap with the occupation of Botlhano Fela.

4.2 BOTLHANO FELA

In the excavated deposits from Botlhano Fela, despite the previously discussed evidence for metal working, only two metal objects were identified, an iron bead (Figure 7.23) in the upper layers of *Operation 3*, and a piece of wire from *Zone 101* of *Operation 2*.

Figure 7.23: Iron bead from *Operation 3*.

In addition to these objects, there were remnants of others in the form of a copper flake (*Zone 102* in *Operation 4*), two iron flakes (*Zone 101* in *Operation 2*), and a chunk of iron (*Operation 3*). With this lack of finished metal objects, not much can be gleaned from this assemblage other than the inhabitants of Botlhano Fela, during the *Zone 101* and *Zone 102* depositional events were smelting ores and manufacturing metal objects.

5. OSTRICH EGGSHELL BEADS

5.1 PREVIOUS STUDIES OF MANUFACTURING, EXCHANGE, AND USE AS CULTURAL INDICATORS

Finding ostrich eggshell beads (OES) at archaeological sites in southern Africa is not at all uncommon, and is generally expected where there is organic preservation. As common, and sometimes very abundant, artifacts, a number of archaeologists working in the area (Jacobsen 1987, Smith 2005; Smith *et al* 1991) have tried to make arguments based on finished bead sizes (a ratio of diameter/aperture), that as contact between foragers and herders, and farmers became more frequent, bead sizes became increasingly larger. Others have also argued that these size differences served as markers of 'ethnic identity' that can be used to identify whether sites were occupied by foragers of herders (Smith *et al* 1991), or foragers, herders, and farmers (Tapela 1998).

In Namibia, Leon Jacobson (1987), wanted to move beyond the typical practice in the region of counting and weighing number of OES beads to see if there was in fact a statistically significant difference in sizes could be seen between earlier and later sites, or if this could just be a marker of style. He concluded that *Type I* were predominantly small finished beads associated with pre-pottery groups of foragers, *Type II* were a mixed distribution of small and large finished beads indicative of infrequent contact between farmers/herders/farmers, and *Type III* were predominately large finished beads indicative of more contact. Jacobsen's boundary for small-large beads rests between 5 and 6 mm for the diameters.

Jacobsen (56) noted that in the 1970s, Polly Wiessner observed horticulturalist-fishers in the Okavango River delta of Botswana obtaining OES from a Kalahari San group that were nearly twice the size of those worn by the San, and that "[n]o San woman would ever consider wearing such large beads herself," instead making them for the purpose of trade. Alinah Segobye (1994) affirms that OES beads were an important trade item in the past, finding a ceramic vessel with over 2500 glass beads, 5000 OES beads, and about 50 cm of wound wire necklace on the floor of the Iron Age village site of Kgaswe B55 in northeastern Botswana, dating to around AD 1000.

OES beads were manufactured either by flaking a squarish piece of eggshell, drilling a hole, and then grinding the edge to a circular shape, or by flaking a blank disc-shaped piece of eggshell and then drilling and shaping (Orton 2008). In both of these processes, the beads were then strung on a line and ground down in a preformed grooved stone, resulting in a finished product where the beads would generally be the same size, at least in diameter, and Smith *et al.* (2001) argued that individual beadmakers control 92% of a bead strand to within 1 mm during manufacturing.

Dorthea Bleek (1928), working with !Xam informants from the Northern Cape, South Africa, notes that OES beads "were made by the women. With a stone the eggshell is broken into small pieces. These are pierced with an iron awl bought from Europeans of Ovambos, and then threaded on to a strip of sinew. The chain thus made is laid on the thigh or kaross, and the rough edges are chipped off with a horn. Then the women twist soft fibre from under the bark of some trees between the beads, making the chain very taught, and afterwards grind down the edges with a grooved stone" (9). A similar process was described by Schapera (1930:66) and Silberbauer (1981:227) for groups living in Botswana, and others have described it as well (e.g. Goodwin and Van Riet Lowe 1929; Kandel and Conard 2005; Plug 1982; Wilmsen 1997).

Typically at sites where OES beads are found, remnants of the production stages are found as well (e.g. Orton 2008). The manufacture of OES beads, at least by groups of San living in the Kalahari Desert in the 1970's, was often a social activity, occurring more frequently in "large camps when women [could] sit around and talk" (Jacobsen 1987:57) while making beads, however their use was not regulated by age or sex.

5.2 OES BEAD MANUFACTURE IN SOUTHEASTERN BOTSWANA

The OES bead assemblages from AK47 shelter and Botlhano Fela are combined here with those from Moritsane, an earlier farmer village site I analyzed the faunal assemblage from, and those from two sites in the Thamaga area that formed the bulk of Sadr's data, Radiepolong and Ostrich shelter. Evidence for manufacturing in the form of broken pieces of eggshell, rough outs with/without drilled holes (Figure 7.24), and beads that had not been ground to shape, is present at AK47 shelter, Moritsane, Radiepolong, and Ostrich shelter, and absent at Botlhano Fela (Figure 7.25). This lack of production debris may indicate that OES beads were not manufactured at Botlhano Fela, but could also be a product of sampling since 487 beads of almost the exact same size were interred with the individual in *Burial I*.

Figure 7.24: Roughout of an OES bead from AK47 shelter.

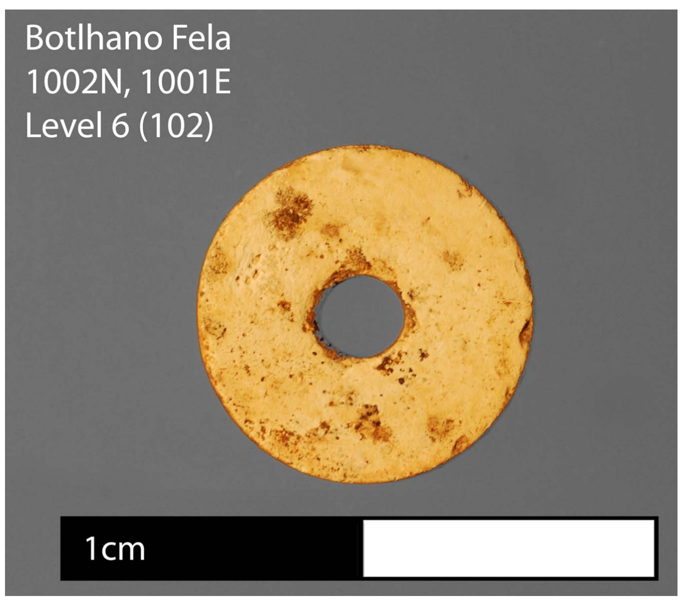


Figure 7.25: Finished bead OES bead from Botlhano Fela.

	<u>**Unfinished**</u>	<u>**Finished**</u>
AK47 shelter	6.9% (*n*=2)	93.1% (*n*=27)
Botlhano Fela	0%	100% (*n*=493)
Moritsane	58.75% (*n*=47)	41.25% (*n*=33)
Radiepolong	52.94% (*n*=27)	47.06% (*n*=24)
Ostrich shelter	100% (*n*=6)	0%

Figure 7.26: Percentage of finished/unfinished ostrich eggshell beads from five sites in southeastern Botswana.

Turning to finished bead sizes, an interesting trend exists when the measured beads, based on diameter and aperture, are plotted against each other (Figure 7.27).

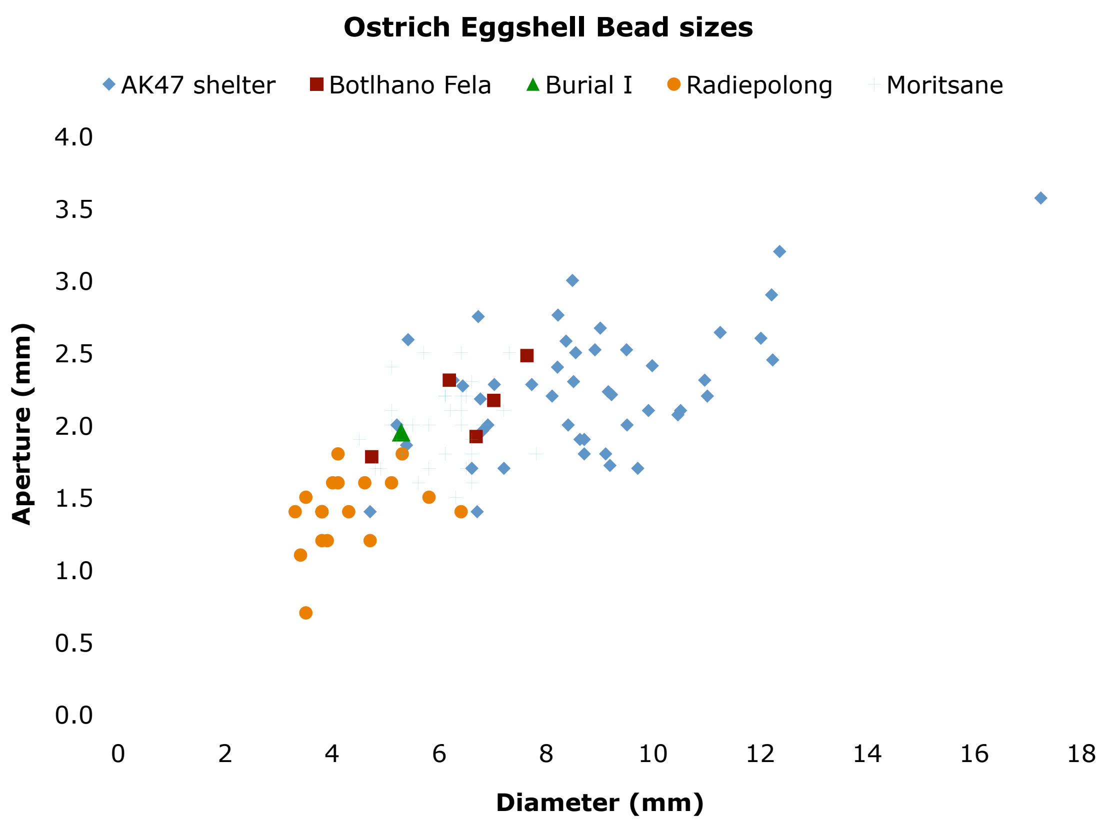


Figure 7.27: Measured sizes of collections of ostrich eggshell beads from four sites in southeastern Botswana.

The beads from Radiepolong average 4.3 mm in diameter (3.3mm-5.8mm), 5.28mm for *Burial I* at Botlhano Fela and 6.45 for the rest of the site (4.73mm-7.63mm), 6.02mm at Moritsane (4.5mm-7.8mm), with the widest range found at AK47 shelter at 8.76mm (4.7mm-17.23mm) (Figure 7.28). Based on radiocarbon dates, it is most likely that the occupation of Radiepolong is representative of foragers having lived there and manufacturing smaller beads. Measurements of

OES beads from sites attributed to foragers in the Northern Cape of South Africa, by Jayson Orton (2008) showed maximum diameters of approximately 2 mm, less than the smallest beads manufactured at Radiepolong. Moritsane is a later occupied Middle Iron Age village site occupied by farmers, and the beads there show a tendency toward larger diameters and apertures.

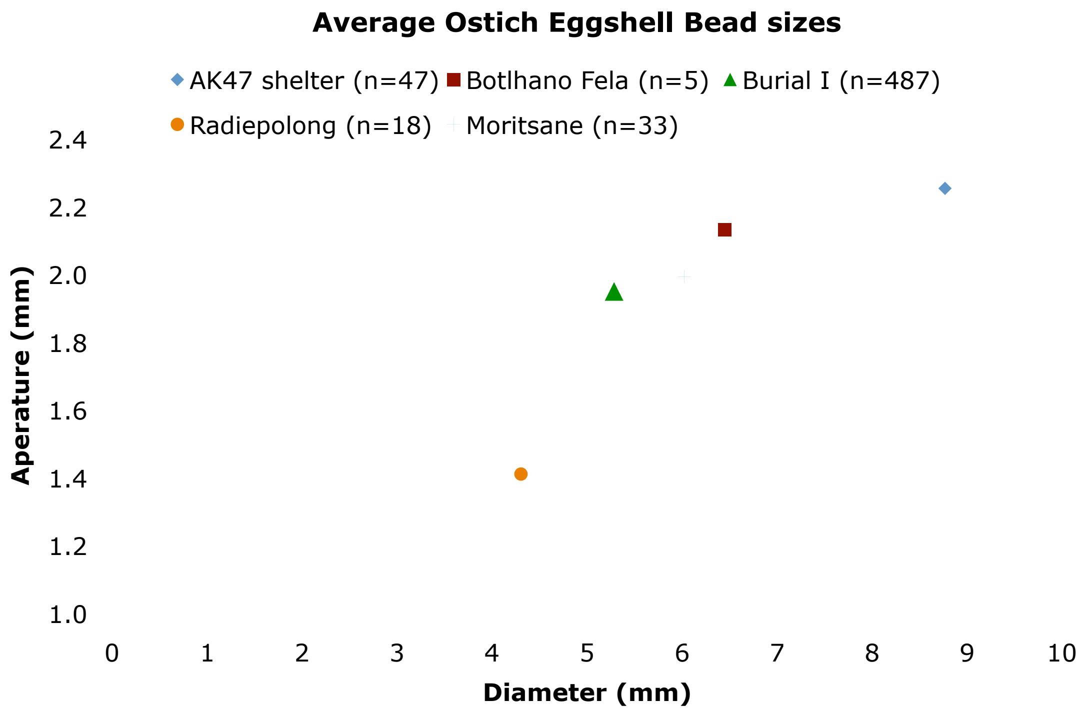


Figure 7.28: Average sizes of collections of ostrich eggshell beads from four sites in southeastern Botswana.

Arguments for bead sizes and likely attribution to foragers, herders and farmers are at odds here in the OES bead assemblages from AK47 shelter and Botlhano Fela. Most of the OES beads from Botlhano Fela come from *Burial I*, and the *Burial I* assemblage is numerous and smaller than those found at the rest of the site, raising questions about their origins. If these were in fact not manufactured at Botlhano Fela, perhaps they were acquired as a long strand for the purpose of burial as a grave good, or may have been attached to a piece of clothing that the individual was wearing when they were buried. At the adjacent site of AK47 shelter, a few of the smallest beads found there match the general size of the long string from *Burial I*, so their manufacture by the people living in the shelter is a possibility.

The assemblage and significant variability in sizes in the assemblage from AK47 shelter is interesting. OES bead manufacture was clearly taking place at the site, with numerous larger OES pieces in addition to at least two unfinished beads. Perhaps this size variability in manufacturing at the shelter is further evidence for the participation by the people living there in numerous trade networks, discussed in Chapter 8. The tendency toward manufacturing larger beads could be akin to what Polly Wiessner observed, mentioned previously, that women made the larger OES beads for the purpose of trade with farmers.

6. CONNECTIONS TO LONG-DISTANCE TRADE

Studies of trade networks in southern Africa, and the greater continent, that formed the conduits for new goods to flow into the interior from the Atlantic and Indian Ocean coasts have stressed the important role of established indigenous trade networks and 'tastes' (cf. Stahl 2002) in the movement of goods (cf. Mitchell 2005, Insoll 1999), especially the earlier exchange with Islamic and Portuguese traders mainly based along the coast before a greater push inland by European nations.

In southern Africa early evidence for outside goods from Islamic traders along the Indian Ocean coast dated to the 6th century in southern Zambia (Vogel 1971), with glass beads and cowry shells providing evidence of an early trade link with the east coast (Insoll 2003: 364). Imported items such as glass beads became more numerous later on, especially after the 9th century, such as at Boggie's Hill in Zimbabwe (Swan 1994), forty-one dark blue cane glass beads were found. A likely source of these materials was the coastal site of Chibuene in southern Mozambique (Sinclair 1982, 1991, Sinclair *et al*. 1993) located between the Zambezi and Limpopo rivers, that was likely a "base used by merchants, some presumably Muslim, involved in trade with the southern African interior" (Insoll 2003: 167).

Goods were also traveling further south to be exchanged during this time, especially into the Shase-Limpopo Basin, evidenced by glass beads and ivory shavings at Schroda (Hanisch 1981; Pwiti 1991: 52-53) and at Bambandyanalo (K2), a site that immediately post-dates Schroda and may have been an ivory working center (Hall 1987: 79). This correlates with Al-Mas'udi's account of ivory being exported from the east coast of Africa. Al-Mas'udi was an Arab historian and geographer who, in about 915 AD, sailed from Oman to Persia, India and China, and passed along the east African coast on his return, where he mentions the area of Sofala, "the extreme limit to which the Umanis [Omanis] and Sirafis go on the coasts of the Sea of the Zanj" (Trimingham 1975: 121), and that at Sofala they produce "gold and many other wonderful things" (Freeman-Grenville 1962: 15). Sofala was located between Kilwa (12th century) and Chibuene along the coast.

After this period, principal settlement in the Shase-Limpopo Basin shifted to Bambandyanalo (K2) with its evidence for ivory working (Voigt 1983), and later pinnacled with the settlement on Mapungubwe Hill, ca. 1220 cal AD (Huffman 2000), where tens of thousands of glass beads and Chinese ceramics were found. Further north, the site of Great Zimbabwe became a major center for trade with the Swahili coast in the 14th and 15th centuries, evidenced by Chinese and Persian ceramics, glass, coral, cowries, and tens of thousands of glass beads (Garlake 1973), while providing traders with sources of ivory and gold for export.

The other major player in coastal trade was the Portuguese, who reached the Indian Ocean in 1498 in their search for trade routes to India. Sporadic contacts along the Atlantic and Indian coasts were solidified with more permanent settlement at Luanda in present-day Angola in 1575, and the seizure of Sofala from Islamic traders in 1505 (Alcáçova 1962 [1506]: 397). Due to the long-established trade patterns on the east coast, along the coast of present-day Mozambique, the Portuguese had to buy beads to trade from Negapatam [Negapattinam], on the Indian coast, because European beads were not acceptable to the local people (Theal 1898: 303; cited in Wood 2000).

The Portuguese intensified their settlement along the Zambezi River from 1531-1550s by establishing trading communities and hosting trade fairs (*feiras*) to extract more gold from the area (Mitchell 2005: 130). This marked a shift from direct control by Portugal to *prazeros*, local landholding frontiersman who intermarried with Africans and controlled their own small armies and slaves. The period followed a shift to focusing on extracting ivory for trade (Newitt and Garlake 1967; Kusimba 2004) and later political unrest within the indigenous local kingdom and the assistance of the *prazeros*' armies in calming it, allowed for more Portuguese control of the area, the entrance of Dominican missionaries in the early 1600s, and eventual shift to the extraction of slaves as well in the 1800s. These long-established trade systems reached far inland, to and through the Kgalagadi Desert, and were firmly in place when the AK47 shelter and Botlhano Fela were occupied.

About 150 years after the occupation of Botlhano Fela and AK47 shelter, European missionaries from the London Missionary Society and traders began to establish wagon trade routes further north from the Cape Colony for evangelical work, trade, and territorial expansion. During this period, ethnohistoric accounts of the relationships between Tswana, Bakgalagadi, and San groups were written. Major trade items coming out of the Kgalagadi Desert were skins, ivory, and ostrich feathers being sent to European markets, while guns, beads, metal tools, tobacco, and cloth were coming back.

7. IVORY

In the excavated faunal assemblage from AK47 shelter, three worked ivory chips were found. Since no hippos were identified from the shelter, or any other site in the area, it is most likely that these pieces are from elephant tusk. At Schroda and Bambandyanalo (K2) in the Shase-Limpopo Basin, South Africa, ivory shavings, chips and tusk fragments were found along with glass beads, metal bangles, and other likely trade goods (Hall 1987: 79; Pwiti 1991: 52-53). Andrew Reid and Alinah Segobye (2000) interpret worked ivory from the sites of Mosu 1 on the southern shores of the Makgadikgadi Pan and Taukome in Botswana as indicators of finished products such as the cache of ivory bangles from Mosu 1 being traded eastward to Islamic traders at the coast.

While no finished ivory products were found at AK47 shelter, these interpretations from other sites raise the possibility of ivory working by the people who lived there to be traded via local, regional, and then inter-continental networks. Perhaps the iron adze and axe at the site form another line of evidence, being used not to work with wood but rather ivory.

8. GLASS BEADS

Discussed above, great volumes of glass beads entered southern Africa along with other foreign goods. During the time that the Thamaga sites were occupied, Marilee Wood (2000) argues that all of the Indio-Pacific glass beads in southern Africa entered via Kilwa after AD 1200 (87), which would have likely been impacted later by the Portuguese activities along the Indian Ocean. In reference to the financial value of glass beads to the Portuguese, a Jesuit priest remarked in 1572 on the profits that could be made on the trade of beads for gold along the east African coast, calculating that "the profits on importing beads from India and selling them to the [people] for gold amounted to 3000%" (Laider 1934: 2; quoted in Wood 2000). Another source for glass beads at AK47 shelter and Botlhano Fela could potentially have been via Portuguese trade activities along the Atlantic coast in Angola, and later Dutch and British trade in Namibia (cf. Kinahan 2000). In this region, there has not been much research focus on glass beads until recently, and archaeologists have tried to establish methods for the descriptive identification of beads and collections based on Kidd and Kidd (1970), but have yet to develop a complete strategy for the application.

8.1 AK47 SHELTER

Glass beads found in the deposits at AK47 shelter evidence two potential pathways, via both the Indian and Atlantic Ocean coasts, for their arrival to the site. In *Cultural Layer 1* (315±35 uncalibrated BP), two glass beads were found, a green and a yellow one. The green bead is a wound seed bead (Figure 7.29) that perhaps was part of a larger piece of beadwork, suspended on cordage or attached to animal-hide clothing.

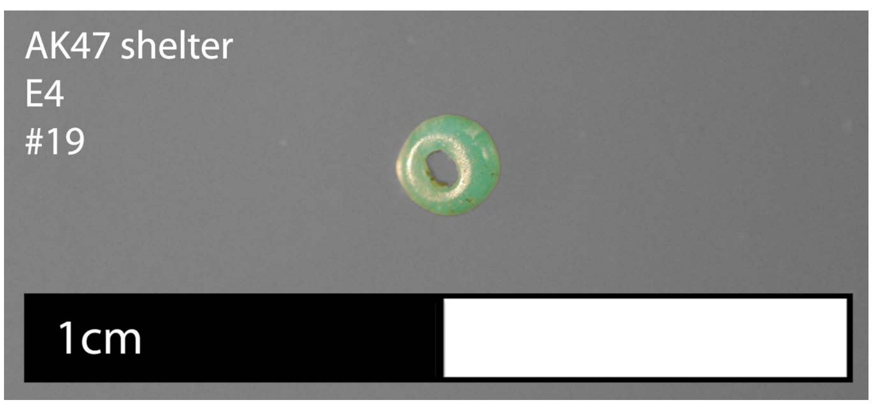


Figure 7.29: Green wound seed bead from AK47 shelter.

This type of Indio-Pacific bead was common during the time of trade and does not help to temporally place the site within any established sequence. The beads found in southern Africa are generally smaller than those found at the same time in East Africa, a possible preference that Marilee Wood (2000) thinks is connected to their use in beadwork on skin or cloth.

The second bead, a drawn yellow cylinder (Figure 7.30), or cane bead, is likely European in origin, and shows the potential for movement of these foreign goods, traveling from one of the coasts to the fringe of the Kgalagadi Desert within about 100 years of its entrance onto the continent.

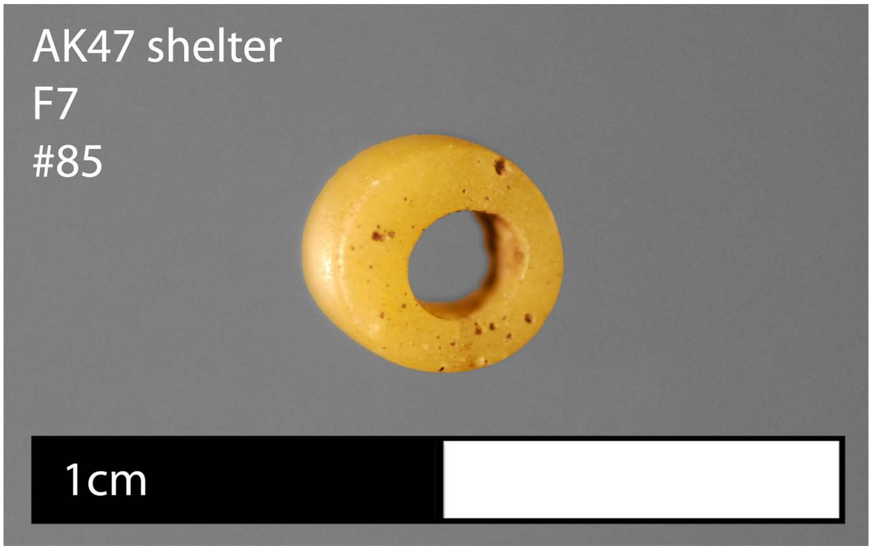


Figure 7.30: Yellow drawn bead from AK47 shelter.

In *Cultural Layer 2* (380±60 uncalibrated BP), a small, red drawn cane bead was found (Figure 7.31). This bead is likely an Indian red bead, and was manufactured in India (Robertshaw *et al*. 2006)

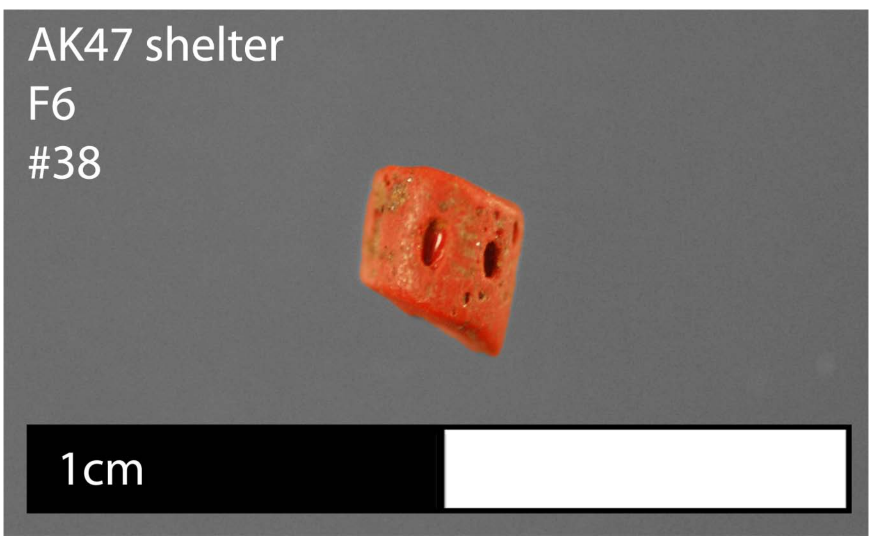


Figure 7.31: Indian red bead from AK47 shelter.

8.2 BOTLHANO FELA

Only two beads were found in the cultural deposits at Botlhano Fela, one of which was iron. The single glass bead is a wound green seed bead (Figure 7.29, above), identical to the one found at AK47 shelter, and was found just below the ground surface in *Operation 2*.

8.3 BRIEF DISCUSSION

Not much can be further said about the glass beads from AK47 shelter and Botlhano Fela since there were few beads found at either site. One problem with small numbers of glass beads in an archaeological assemblage, argued by Christopher DeCorse (1989), is that one or two beads can not be used to build a chronology since due to their possible social and ritual importance, some varieties of bead were kept in circulation long after they were manufactured, and curated by individuals. Thus while the glass bead assemblages from both sites is indicative of connections to broader regional trade networks, the timing and direction is not completely clear, in contrast to larger amounts found at other sites such as the over 2500 glass beads found in a ceramic vessel at Kgaswe in northeastern Botswana (Segobye 1994).

One bead from the terminal occupation of Ostrich shelter, one of the rockshelters in Thamaga excavated by Karim Sadr, was never mentioned in his publication on the site, but is quite unique (Figure 7.32). The bead is a painted and appears to be porcelain that likely came from Europe (or China?) and its location in a rockshelter, that he argues was inhabited by San foragers, displays more of the range of goods that were flowing into the area, as well as the types of beads available.

Figure 7.32: Painted porcelain bead from Ostrich Shelter, Thamaga.

9. SPECULARITE

9.1 SPECULAR HEMATITE AND ITS USES IN SOUTHERN AFRICA

Specular hematite (or specularite, Fe_2O_3), is a variety of hematite that is black to gray in color and highly reflective. It is composed of lamellar layer crystal concentrations that flake into small pieces . Discussed in Chapter 3, about 10km southeast of Thamaga is a large specularite (*sebilo*, in Setswana) mine called Sebilong ('place of specularite'). Specularite has a long history in southern Africa as a cosmetic, mixed with fat and smeared into hair and skin, and was an important trade resource. In the early 1800s, William Burchell (1967 [1824]) noted people in the southern Kalahari traveling long distances to trade various goods for specularite, and described its use:

> "This *sibilo* is a shining, powdery iron-ore of a steel-grey or blueish lustre, and soft and greasy to the touch, its particles adhering to the hands or clothes, and staining them of a dark-red or ferrugineous color. The skin is not easily freed from these glossy particles, even by repeated washing; and wherever this substance is used, every thing soon becomes contaminated, and its glittering nature betrays it on every article which the wearer handles.
>
> The mode of preparing and using it, is simply grinding it together with grease, and smearing it generally over the body, but chiefly on the head ; and the hair is often so much loaded and clotted with an accumulation of it, that the clots exhibit the appearance of lumps of mineral. A Bachapin whose head is thus covered, considers himself as most admirably adorned, and in full dress; and indeed, to lay aside European prejudices, it is quite as becoming as our own hair-powder, and is a practice not more unreasonable than ours; with which it may in some respects be compared. There is however a real utility in it, or rather in the grease, for those who do not wear caps; it protects the head from the powerful, and perhaps dangerous, effects of a burning sun, as it equally does, from those of wet and cold (256)."

Alec Campbell (Campbell and Main 2003) believes that mining at Sebilong had ceased by at least about AD 1800 since David Livingstone's mission at Kolobeng was close by and never mentioned any mining having taken place in the area. Also, two Thermoluminescence dates obtained by Campbell, suggest that the mine was in operation in the 14th century, which he believes was a likely middle point of a range of time the mine was active. While these dates do not correlate to the occupation of AK47 shelter and Botlhano Fela, it is very likely that the large pieces of specularite found at both of these sites came from Sebilong.

Kiehn *et al*. (2007), used instrumental neutron activation analysis (INAA) on samples taken from specularite mines in Botswana to determine if specific mines could be geochemically fingerprinted, with which to compare archaeological specimens in determining what mine they came from. They found that this was possible, and samples from the excavation at AK47 shelter were submitted as part of this study, but the researchers never reported the results nor provided them to me. Analysis of the samples from AK47 most likely would have indicated that they came from Sebilong.

9.2 SPECULARITE FROM AK47 SHELTER

At AK47 shelter, 14 large pieces of specularite (84g) were found, distributed throughout the entire occupational sequence. In addition, during excavation we found 9 ceramic sherds glittering with specularite in their paste and decoration, mentioned in Chapter 6, as well as a sedimentary lens of crushed specularite that was likely the contents of a perishable container, now degraded. This significant amount of specularite may provide some indication that the inhabitants of the site were themselves mining it from Sebilong, or at least had direct access to the raw form. As will be discussed in Chapter 8, this may have been another trade resource being used by the inhabitants within their networks.

9.3 SPECULARITE FROM BOTLHANO FELA

All of the pieces of specularite (*n*=5; 16g) found during the excavations at Botlhano Fela (Figure 7.33) were concentrated in the *Operation 3* area of the hilltop. This area is not associated with a clearly defined midden or domestic context, and the specularite pieces are small. In addition, they were all found in the fill for *Burial II*, but do not appear to have been grave goods, instead they may have been mixed in the sediments as a hole was dug for the burial.

Figure 7.33: Specularite piece from Botlhano Fela.

10. SUMMARY

The various materials discussed in this chapter, combined with the ceramics discussed in Chapter 6, provide a significant amount of evidence the people who lived at the Thamaga sites participated in local, regional, and intra-regional trade networks to varying degrees.

Chapter 8: Subaltern Histories from the Fringe of the Kgalagadi

July 2003 continued

Thato, my friend from the University of Botswana, was questioning a group of men, the same men who lead the *Phekolo* (ancestral healing ceremony) annually during the long President's Day weekend. I felt very out of place, but at the same time welcome there. I had traveled there with O'boy to visit Thato and possibly attend the ceremony with four folding camp chairs in the back of Mike's Hilux, chairs that were borrowed by these men and in use as we sat under the shade of a tree on the edge of their temporary encampment near the base of the hill, named *Khubu la Dintsha* ("Hill of the Dogs"). Women and children were busy working on the camp, playing, and preparing dough to make delicious baked *dipapata* (rolls) on the fire that we would be served as guests later that evening with *seswaa* before the ceremony. Being the only white person (*Lekgoa*) anywhere close to this place, I caught peripheral glances of people watching me, especially children, and I tried my hardest not to stare back, to see what was going on around me[1].

Having lent the chairs to them the evening before, one of the younger men in the group, on seeing me approach with Thato and O'boy, made a point to get up and insist that I take the chair he had been sitting in. Thato's questions were about heritage management and the roles that local communities play for his honours thesis, questions being asked here because the *Phekolo* takes place on top of a hilltop archaeological site. I caught pieces here and there through my very limited abilities in Setswana and their use of English (S*ekga*) words and phrases. Suddenly, Mothofela Molato, founder and leader of the *Tumelo mo Badimong* ("Faith in the Ancestors") Church, turns to me and asks, in English,

"How do you remember your ancestors in America?"

I was a little taken back since I had felt like I was not part of the conversation, and not really certain that I was welcome there based on the group's argument the year before with James Denbow, an archaeologist I was helping at the nearby Iron Age site of Bosutswe, over his excavation of burials and their accusations that he was in turn making people sick since he was disturbing ("terrorizing" is a word people in Botswana like to use) the ancestors (*badimo*), referring to him as "Osama Bin Laden". I very nervously contemplated what to say, with the whole group of men staring at me waiting for my response.

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[1] Close to *Khubu la Dintsha* in 2002, I went to a small cattle post close to where we were camped while excavating at Bosutswe with Mornongwa and Grace to try some Chibuku, a cheap commercially-manufactured fermented sorghum porridge. A child, upon seeing me sitting near the fire, screamed and ran back into the house. I was told the next day that he had never seen a white person before, and thinking that I was a ghost, was so scared that he had to go to bed early that night.

> "Well, we do many things. Some people bury their families in cemeteries and visit them."

To this I received numerous nods and interested looks, so I decided to continue.

> "In my tradition as a Jew, people place small stones on top of the graves of their ancestors as a way of remembering them. Some people where I live in America and in other areas have special days where they go and visit the graves of their ancestors and eat a meal and decorate the grave to remember and honor them," referring to the Day of the Dead traditions, then calling on my knowledge as an anthropologist, saying that "there are many ways that different people around the world do this sort of thing."

Everyone was all smiles, as if I had validated some point that was trying to be made about their cultural practices and the *Phekolo*. Then, the conversation turned back to being conducted in Setswana, and eventually moved on to discussions of biblical passages, ghosts, and the American soap opera *Passions* (a prime time evening show in Botswana)[2].

Far away from these experiences, I focused my attention on the past and honoring ancestors in southeastern Botswana by trying to tell their stories from what they left behind.

1. OVERLAPPING GROUP HISTORIES ON THE KGALAGADI'S FRINGE

My research, presented in this dissertation, was designed to addresses the contact relationships between foragers and farmers living on the fringe of the Kgalagadi Desert in southeastern Botswana, in this case from about 600-250 BP. Using archaeological remains from two temporally overlapping locales, a rockshelter (AK47 shelter) and a small hilltop village (Botlhano Fela), combined with previously excavated and published material, I looked at ways the material remains and patterning from these households of the past can be approached to gain some insight into the daily practices of the inhabitants. In addition to what was happening in the daily lives of these people as they interacted with each other, I addressed their participation in local, regional, and intra-regional social and trade networks, a line of questioning designed to take site-based observations and explanations and place their inhabitants within a wider cultural context to show how these people, on

[2] I later found out from Thato that they were very appreciative of my chairs and saw me as a welcome guest. In addition, they were somewhat fascinated and honored that an American had come all the way there to see what they were doing. This led to them asking me to take photos (in extreme opposition to the year before when they insisted that no technology could be present, even leaving belts behind) delaying the nighttime ceremony until dawn so that I would have better light. I had come with no intention on taking photos, but ended up being a documentarian of the ceremony as I was instructed to take photos of every aspect of what they were doing, sometimes pushed to the front of the crowd to take close-ups and posed photos.

the fringe of the Kalahari Desert, were (or were not) actively involved in these broader networks and how this may have fluctuated through time.

Working under the specter of the 'Kalahari Debate', I carried out this research, in response to and to build upon previous research, and especially that of Karim Sadr and his attempt to archaeologically recognize foragers, or "ex-foragers" to him, who had been "assimilated" and "encapsulated" into the world of farmers who had migrated to the area. The Thamaga-based research of Karim Sadr (2002) was presented in Chapter 1, along with some of my critique. To his credit, however, he did consider, in passing, two alternative interpretations of the patterning he saw in the archaeological assemblages, both of which he felt were unlikely explanations.

The first is that change in the intensity of occupation, not change in the nature of contact explains the patterning he observed over time, stating that "it could be argued that the high lithic and bone index in Precontact and Early Contact layers represent simply a more intensive occupation than in the lithic and bone-poor layers of the Late Contact period. The very high ceramic index, however, makes this argument untenable: if it were just a question of fewer man-days of occupation, ceramics should also be fewer in the top layers. For an ephemeral hunter-gatherer occupation, there are simply far too many pots in the top layers" (46).

My critique is that this statement highlights one of the problems with Sadr's approach in explaining a proposed drastic change, the stone tool/ceramic index. His use of this index to measure change overestimates the contribution of ceramics since it does not account for ceramic fracture. A ceramic vessel can break into many pieces, and are generally what we find archaeologically, rarely whole pots and usually not even pots that can be reassembled. What we do find are pieces that were often not discarded with the rest of the broken vessel, and therefore need an estimate of the minimum number of ceramic vessels to make arguments about the use of ceramics at a site, not just absolute numbers of pieces of sherds.

The second alternative explanation Sadr presents is that "the terminal occupants of the rockshelters were not ex-hunter gatherers at all, but the herder-farmers themselves," going on to say that, "[t]here is no way of knowing what languages the terminal occupants of the rockshelters spoke, nor what they looked like or how they dressed or how they behaved in public…We can, however, see continuity in aspects of their material culture that connects them with the Late Stone Age indigenous hunter-gathers of the area." He further goes on to argue that the "clearest among these lines of continuity is in the places occupied" (i.e. rockshelters) as well as the "typical Later Stone Age hunter-gatherer artifacts such as segments, scrapers, and small ostrich eggshell beads, which are found even in the top layers of the shelters. These suggest that no matter how culturally and genetically mixed the last occupants of the shelters were, they probably considered themselves at least in part descended form the aboriginal hunter-gatherers of this region" (46).

In my interpretation, I agree that rockshelters are typically the locations of forager habitation, but if the deep cultural deposit of flaked stone tools representing a long forager occupation on the open hilltop of Thamaga Hill at Botlhano Fela, located underneath Iron Age farmer cultural deposits is considered, locations and who used them are not clear. So yes, farmers as well as foragers could definitely have used the rockshelters. In regard to "typical Later Stone Age hunter-gatherer artifacts", this is where the water is muddied even further when the artifacts from the sites in my study are examined.

As presented in Chapter 7, very few formal flaked stone tools (or very few pieces of flaked stone even) were found in the cultural deposits of AK47 shelter. To this I presented a possibility of much of the physical site being missing, but nonetheless, there are few lithic remains. In contrast, occupied at the same time as well as after the occupation of AK47 shelter, the cultural deposits at Botlhano Fela contained numerous flaked stone tools as well as evidence of their manufacture there. In contrast to the work of some archaeologists (e.g. Hall 2000; Wadley 2001) who have attempted to explain the occurrence of flaked stone tools, mainly scrapers, at Iron Age farmer villages as indicators of a forager labor-force hired to process hides, with stone tools being created and used for these labor activities, the evidence here does not lend itself to this conclusion. At Botlhano Fela, it is most likely that the flaked stone tools were made by farmers themselves to be used in various daily tasks (cf. Thebe 2004; also Denbow 1999), as there is no abundance of scrapers to argue for foragers as day-laborers coming to process hides, thus the "role of lithics in materializing identity should not be considered static and immutable" (Silliman 1993:399). Iron was in a sense more an ideological concept than an everyday practicality. At AK47 shelter and Botlhano Fela, the presence and absence of lithics provides an interesting case study.

In regard to the other class of artifacts Sadr presents as indicative of LSA foragers, small ostrich eggshell (OES) beads, I addressed this point in Chapter 7 as well. Unfortunately, Sadr (2002:36) notes that at Ostrich shelter he found 10 OES beads and 4 broken ones, but when I looked at these materials there were only 6 unfinished OES beads, so they were not included in this comparative analysis. In my analysis of complete OES beads from AK47 shelter, Radiepolong, Moritsane (a Middle Iron Age 'Bakgalagadi' herder site likely occupied), Botlhano Fela, and those from the OES bead belt with Burial I, an interesting pattern emerges with arguments of bead size. As discussed, while Radiepolong OES beads are the smallest, those from Moritsane and Botlhano Fela are very close and overlap slightly. In addition, OES beads from AK47 shelter overlap all of the beads in size and occur in much larger sizes as well. Thus in this case, the idea of forager and farmer bead sizes being easily recognizable based on size necessitates a different criteria for their evaluation, and at the very least shows the ambiguity in this method of attributing a class of artifact to foragers of farmers in the area.

As a final point in my rethinking of Sadr's work in Thamaga, I want to make a point about timing. Sadr believes that the "local Bushmen must have disappeared sometime after the mid-nineteenth century when flintlocks were introduced to this area…and before the early decades of the twentieth century. Perhaps the official abolition of serfdom in early Protectorate times marks the point at which the Bushmen disappeared from Thamaga" (2002:46). I believe that foragers likely left the area before, or immediately upon the arrival of 'Tswana' groups that caused shifts in the settlement systems of not only the foragers but the ancestral 'Bakgalagadi' farmers as well, seen in the abandonment of AK47 shelter, and soon after Botlhano Fela.

Sadr's argument of the foragers (or ex-foragers) being "encapsulated" by the Bakwen, is a bit hopeful. Based on ethnohistoric accounts of travelers in the 1800s and oral traditions from the Molepolole area (Okihiro 1976, 2006), both documenting the later time period after the Bakwena migrated to the area it is a bit of a stretch to apply in this case since no archaeological evidence for 'Tswana' settlement in the immediate area has yet been found. Schapera dated their arrival to the area to c. 1720 based on oral tradition (Schapera 1980:83, 1953:15) and Okihiro (1976:65) places it sometime in the 18th century, with no more than 100 members. The terminal deposit at Sadr's sites date (calibrated by Sadr at two standard deviations) to AD 1535-1545 and AD 1635-1950 at Radiepolong, and AD 1655-1950 at Ostrich shelter, so it would appear that, even if foragers (or "ex-foragers") had occupied these places, by the time travelers and missionaries were passing through the area they likely no longer did during this historic period of interaction between the Bakwena and others.

Ethnohistoric accounts do not mention San-speakers living in the area, and there is not (yet) evidence of a large settlement by anyone at Thamaga from the time Botlhano Fela was abandoned (approximately AD 1650-1700, about the time the Bakwena are thought to have arrived) until the Bakgatla baga mmanaana settled there in the 1920s. Foragers, evidenced by the abandonment of AK47 shelter (~AD 1600), had possibly already moved into the areas not being encroached upon by increasing farmer settlement, in this case off of the eastern hardveld and into the sandveld of the Kgalagadi Desert.

Okihiro's (1976, 2000) oral histories/traditions discuss the relationships between the Bakwena and 'Bakgalagadi', not expressly direct relationships between Bakwena and 'San-speakers'. Given the knowledge of the relationships that developed between the Bakwena and 'Bakgalagadi', the oral traditions that tell of group movement and conflict in the area, and the lack of ethnohistoric evidence, it may very well be the case that the terminal occupations of Ostrich shelter and Radiepolong were habitations by 'Bakgalagadi' peoples. It would be great to find a rockshelter deposit attributable to foragers that displays clear occupation and interaction during the later period of increasing contact with Europeans, but these are not really it. A glimmer of this was discussed in Chapter 7 with the European painted porcelain bead from Ostrich shelter, but evidence of European goods in his area is definitely not *de facto* evidence for interaction with Europeans since goods like this passed along established trade networks long before the physical presence of European traders and missionaries in the area.

Sadr's conclusions are not completely invalid, but I believe that the ways of approaching material and lifestyle change in his study highlight the need for more research on this before this one study is considered to be the end-all for recognizing archaeological assemblages of foragers who were "assimilated" into farmer lifeways, or at least into using farmer material culture and eschewing the use of their own. Below, I summarize the data from archaeological materials and patterns from my own research that highlight the ambiguity of interpreting the remains of contact between foragers and farmers, at least in this case, and the necessity for developing a better understanding of what constitutes 'forager' and 'farmer' material culture.

2. THE MATERIALITY OF DAILY LIFE

The detailed analysis of all the excavated artifacts from AK47 shelter and Botlhano Fela presented in the previous chapters offer glimpses of the daily, sometimes mundane activities of foragers and farmers living on Thamaga Hill, as well as their dynamism and connections to the social and economic world beyond. Comparisons of the material remains between these sites, with their occupation overlapping for a time, appears as more similar than different in some cases.

2.1 SUBSISTENCE

In Chapters 4, 5 and 7, I discussed the evidence for subsistence practices by the people who lived at the sites. Zooarchaeological analysis showed the high degree of reliance by both groups on hunted game, despite the people at Botlhano Fela having cows and sheep. In addition, sheep and cattle remains at AK47 shelter evidence their ability to acquire these animals (or meat from them) through trade with farmers, likely the people up the hill at Botlhano Fela. Other ways they may have acquired the animals/meat could have been as payment for labor services or even shared with the people at Botlhano Fela when an animal was slaughtered.

What has always bothered me about the faunal remains from both of these sites, is why there is not more of an abundance of animals represented since this area was filled with a great diversity and amount of wild game, documented ethnohistorically by traders, hunters, and missionaries. This abundance is very visible in my analysis of the faunal remains from Moritsane, occupied 500-600 years before AK47 shelter and Botlhano Fela, and with recent research in the area on climactic fluctuations, the lack of abundance and diversity in the faunal remains may begin to provide some evidence for future questions on short-term climactic shifts that affected wild game and in turn human hunting patterns.

2.2 STONE AND IRON TOOLS

In Chapter 6, I discussed the stone and iron tools from AK47 shelter and Botlhano Fela. At Botlhano Fela, flaked stone tools appear to have been a part of the daily lives of the people living there, represented by a variety of tool-types being found throughout the occupations, but appearing likely less in the later occupations. Flaked stone tools at AK47 Shelter are a bit more of a mystery, complicated even more when the iron tools found there are taken into account.

The iron hoe and adze from AK47 shelter may be the tools of labor for foragers who worked as hired hands in the small-scale farming activities of the people living at Botlhano Fela. Evidence of metalworking, in the form of slag, from Botlhano Fela may explain the origins of manufacture of the iron tools at AK47 shelter as well. Alternatively, these were acquired via trade with groups other than the farmers living up the hill.

2.3 LOCAL, REGIONAL, AND GLOBAL TRADE

In Chapters 6 and 7, I presented artifacts such as ceramics, specularite, ivory, glass beads, and metal objects as evidence of trade by the inhabitants of both sites, linking them all the way to coastal trade by Portuguese and Islamic traders on the coasts. The application of pEDXRF to the ceramics from both of the sites, in combination with standard stylistic attribution provided some interesting thoughts on local trade relationships (likely between women) and the manufacturing of ceramics by farmers in the area. This preliminary application to ceramics in the area hints at a few possibilities that further research can refine: the possibility of communities comprised of people from different cultural groups making ceramics in their own style (e.g. Pearson 1995), potential trade in raw materials (clay and possibly temper), and even shared use of a clay source by potters from different groups.

3. LOOKING TO THE FUTURE IN SOUTHEASTHERN BOTSWANA

In building on the foundations for archaeological research in southeastern Botswana with the Berkeley Botswana Archaeological Project, I found a number of potential avenues for further research. The road survey of Catrien Van Waarden (1990), Ranaka-area survey of Paul Lane and University of Botswana Undergraduates (1996), and my own survey work shows the significant number of undocumented archaeological sites in this area, and hints at the potential to find many more with a larger, systematic approach. The need for survey and recording, a necessity in many areas of Botswana, is essential in this area for sorting out the local history and intensity of occupation by different groups that overlapped spatially and temporally on the landscape over a long period of time, at least since the Middle Stone Age period. In evaluating interaction between foragers and farmers, we need to establish more of a comparative baseline for groups practicing all types of lifeways in the area before we can fully evaluate potential changes in their lifeways and the effects that they had on one another.

In addition to survey, the analysis and publication of materials from sites that have been excavated in the area would greatly assist future researchers in trying to understand the human and material sequences there. While numerous sites have been briefly alluded to in various publications, the full picture of an excavation and site should not be grasped only by one or a small group of people.

For example, to attempt to bring forward this type of information, I analyzed the faunal assemblage from the Middle Iron Age site of Moritsane (Cohen 2010), stored in the backrooms of the Botswana National Museum since it was excavated in the early 1980s. Only one other assemblage of archaeological fauna (Sadr and Plug 2001) has been published in this area, and the Moritsane fauna provides further information about the animal communities and local environments of southeastern Botswana in the past. These unanalyzed collections, have a good potential for helping to sort out the local histories and guide future research questions.

Part of the need for survey is also a need to look beyond the political boundary between Botswana and South Africa, especially toward survey and research that has been conducted, not just in the Limpopo Province (formerly the northern Transvaal) but especially in the North West Province (cf. Boeyens 2003). It is in this area where potential evidence for trade links was found at the sites investigated in this research, raising questions about long-distance movement of goods by people, or the existence of greater numbers of yet undiscovered communities.

Lastly, in addition to looking toward South Africa, there have been no surveys in the southern Kgalagadi Desert, and especially in the western Kweneng district where Solway (1990) noted finding Eiland-style ceramics along the margins of fossil riverbeds and seasonal pans. Evaluation of the impacts of group contact and population movements into the eastern Kweneng is missing a big piece of important information about the lives of 'San-speaking' foragers and 'Bakgalagadi' farmers that lived there, if only temporarily or seasonally, and potentially more permanently as 'Tswana' groups began to migrate to the Molepolole area along the desert's fringe.

4. IN CONCLUSION

This research had contributed to knowledge about the occupation of southeastern Botswana on the fringe of the Kgalagadi Desert and the lives of the people who lived there. Hopefully, further research will build upon this to develop a greater idea of the abundantly diverse forms of contact between the different groups who lived there in the past.

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APPENDICES

Appendix A-1: Unit profile drawings

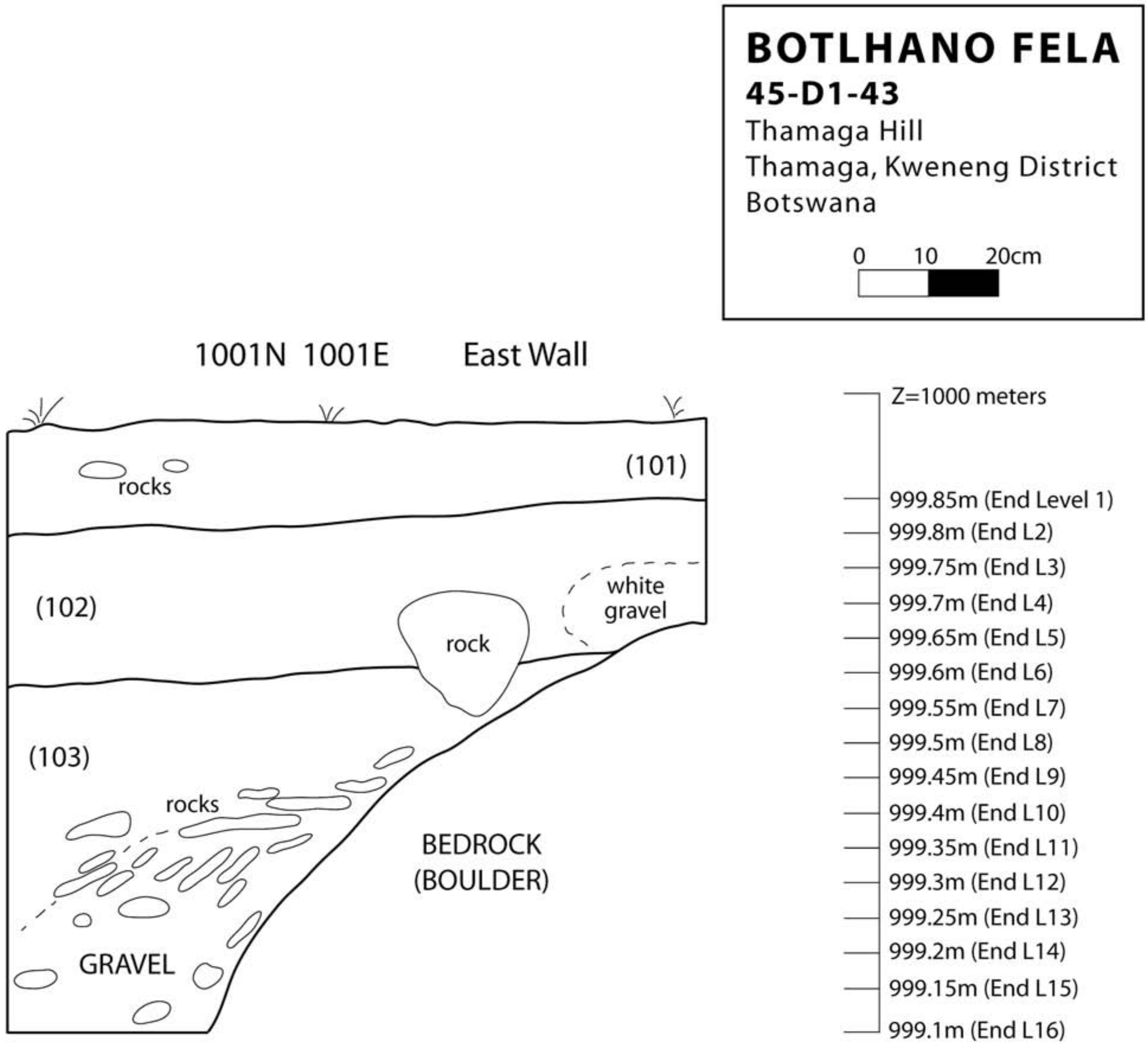
Appendix A-2: Ostrich Eggshell Bead Measurements

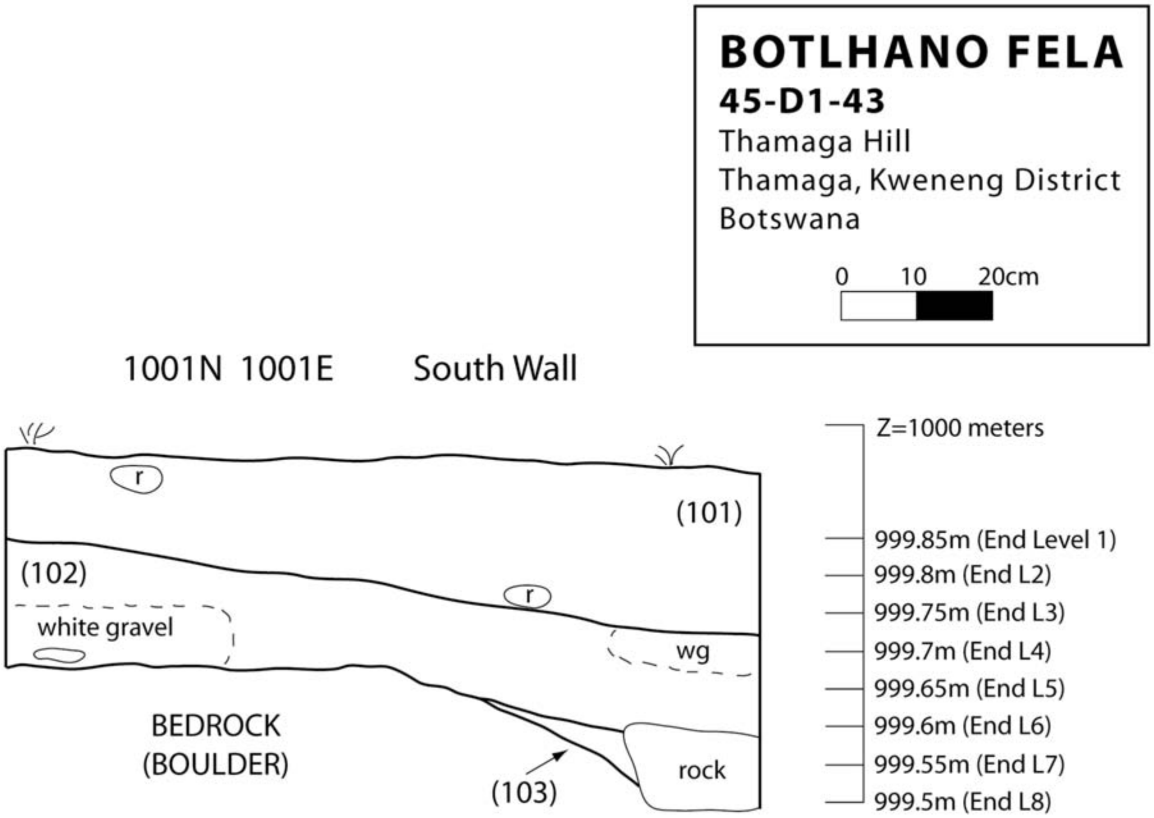
Appendix A-3: Faunal record from AK47 shelter

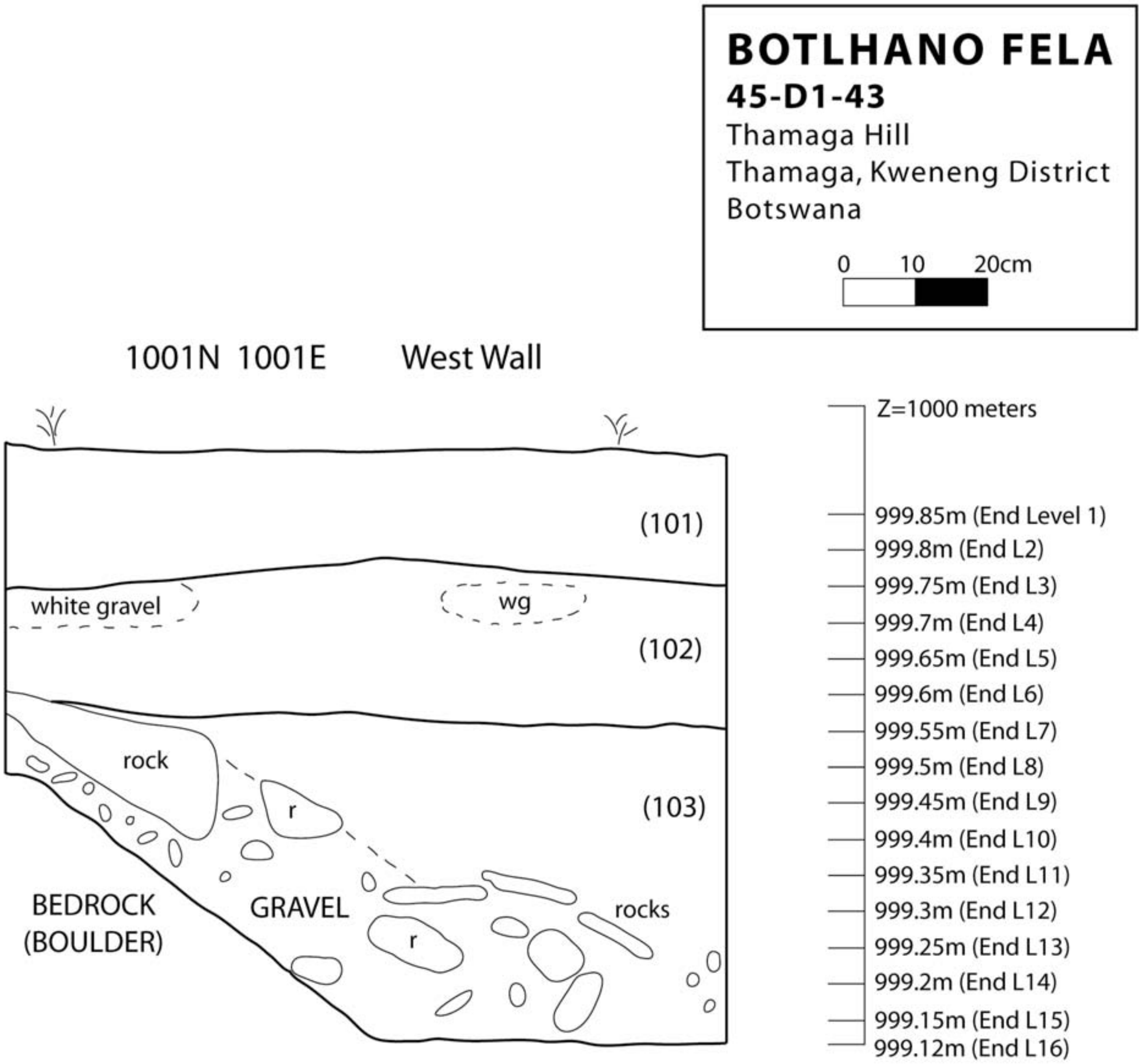
Appendix A-4: Faunal record from Botlhano Fela

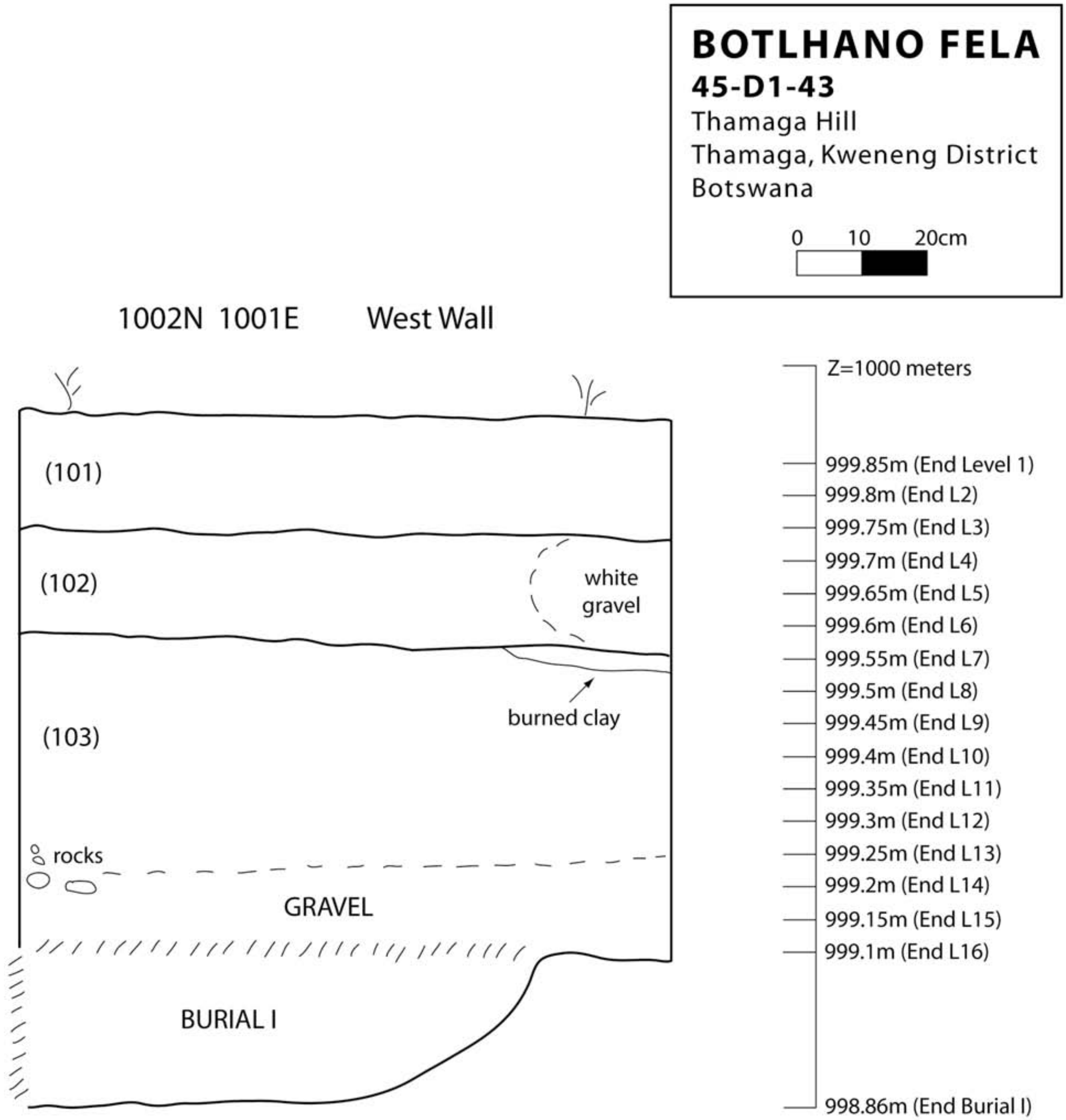
Appendix A-5: Lithics from Botlhano Fela

Appendix A-1: Unit profile drawings




BOTLHANO FELA
45-D1-43
Thamaga Hill
Thamaga, Kweneng District
Botswana
0 10 20cm
1001N 1001E South Wall
Z=1000 meters
(101)
999.85m (End Level 1)
(102)
999.8m (End L2)
r
999.75m (End L3)
white gravel
999.7m (End L4)
wg
999.65m (End L5)
BEDROCK
(BOULDER)
999.6m (End L6)
rock
999.55m (End L7)
(103)
999.5m (End L8)


BOTLHANO FELA
45-D1-43
Thamaga Hill
Thamaga, Kweneng District
Botswana
0
10
20cm
1001N 1001E
West Wall
Z=1000 meters
999.85m (End Level 1)
999.8m (End L2)
999.75m (End L3)
999.7m (End L4)
999.65m (End L5)
999.6m (End L6)
999.55m (End L7)
999.5m (End L8)
999.45m (End L9)
999.4m (End L10)
999.35m (End L11)
999.3m (End L12)
999.25m (End L13)
999.2m (End L14)
999.15m (End L15)
999.12m (End L16)
(101)
white gravel
wg
(102)
rock
r
(103)
BEDROCK
(BOULDER)
GRAVEL
rocks
r


BOTLHANO FELA
45-D1-43
Thamaga Hill
Thamaga, Kweneng District
Botswana
0 10 20cm
1002N 1001E West Wall
Z=1000 meters
(101)
(102)
white gravel
(103)
burned clay
rocks
GRAVEL
BURIAL I
999.85m (End Level 1)
999.8m (End L2)
999.75m (End L3)
999.7m (End L4)
999.65m (End L5)
999.6m (End L6)
999.55m (End L7)
999.5m (End L8)
999.45m (End L9)
999.4m (End L10)
999.35m (End L11)
999.3m (End L12)
999.25m (End L13)
999.2m (End L14)
999.15m (End L15)
999.1m (End L16)
998.86m (End Burial I)

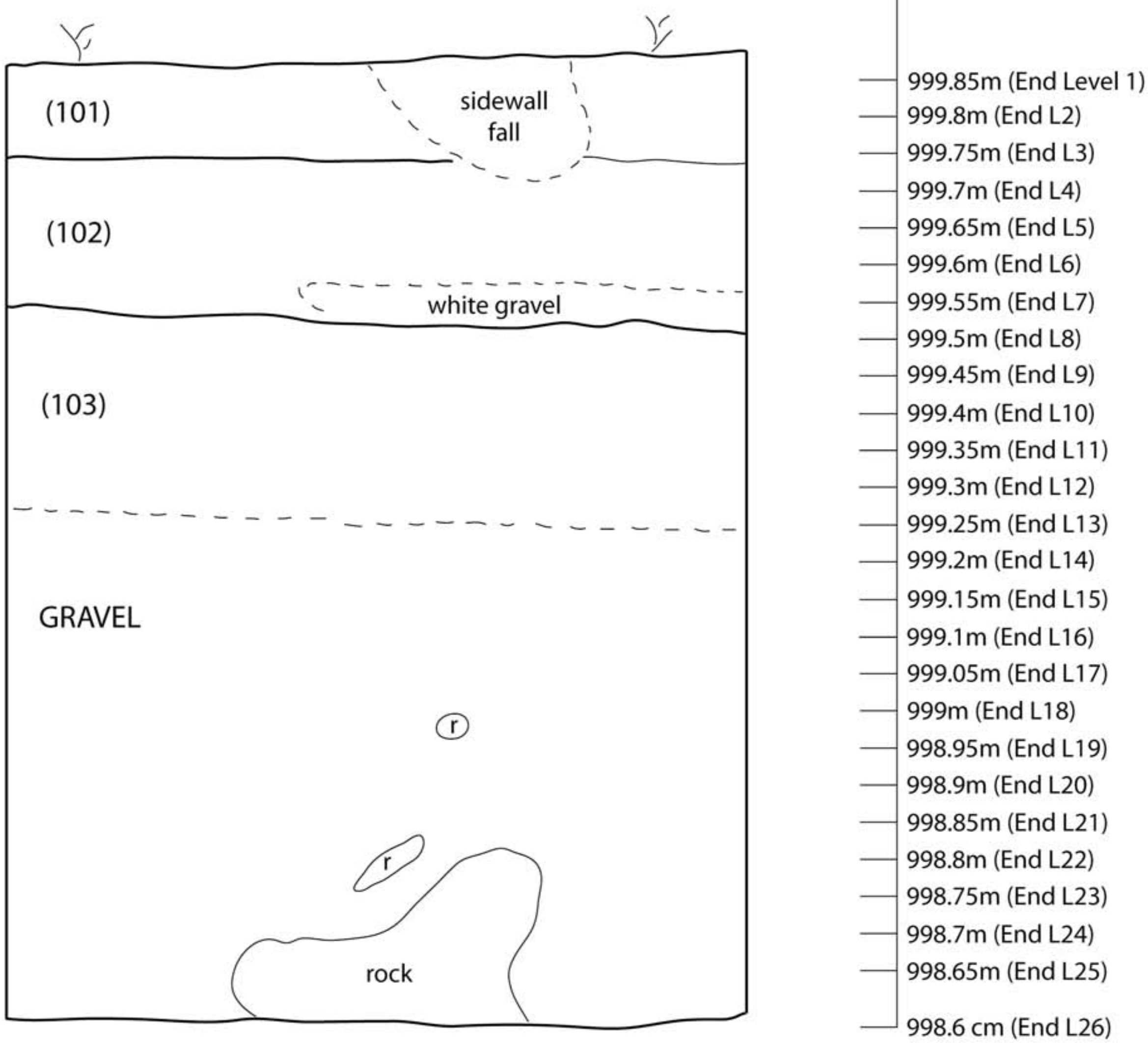
BOTLHANO FELA

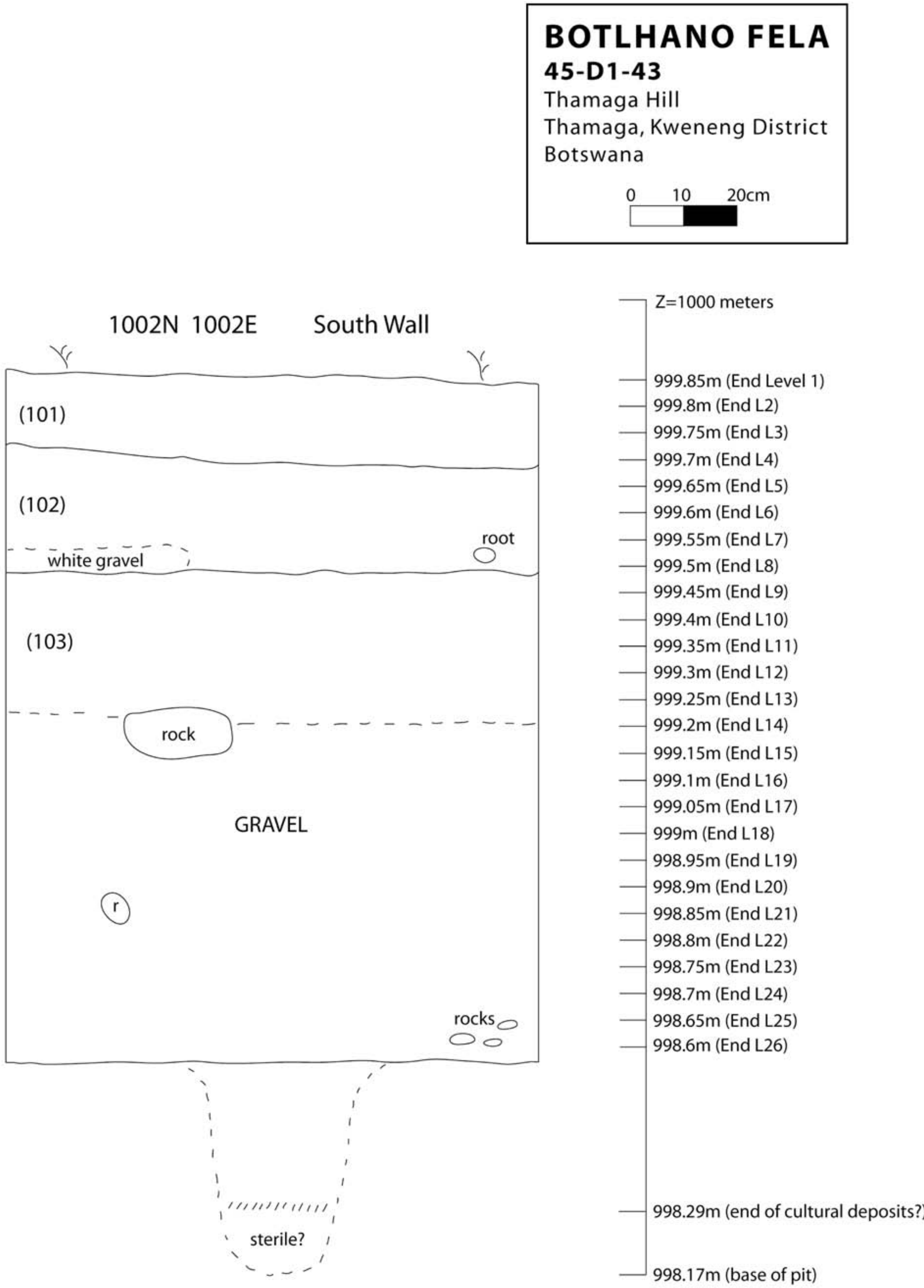
45-D1-43

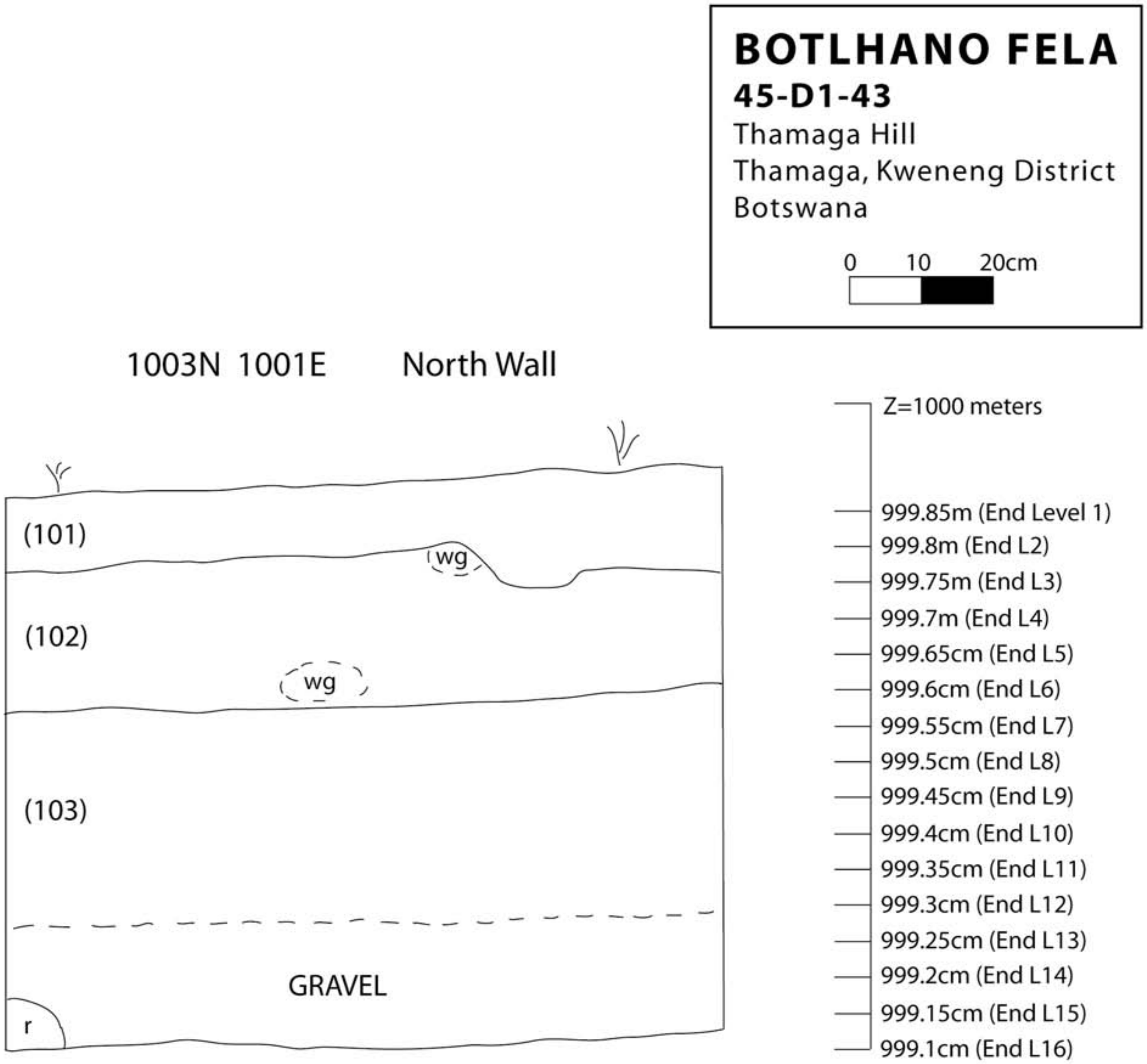
Thamaga Hill
Thamaga, Kweneng District
Botswana

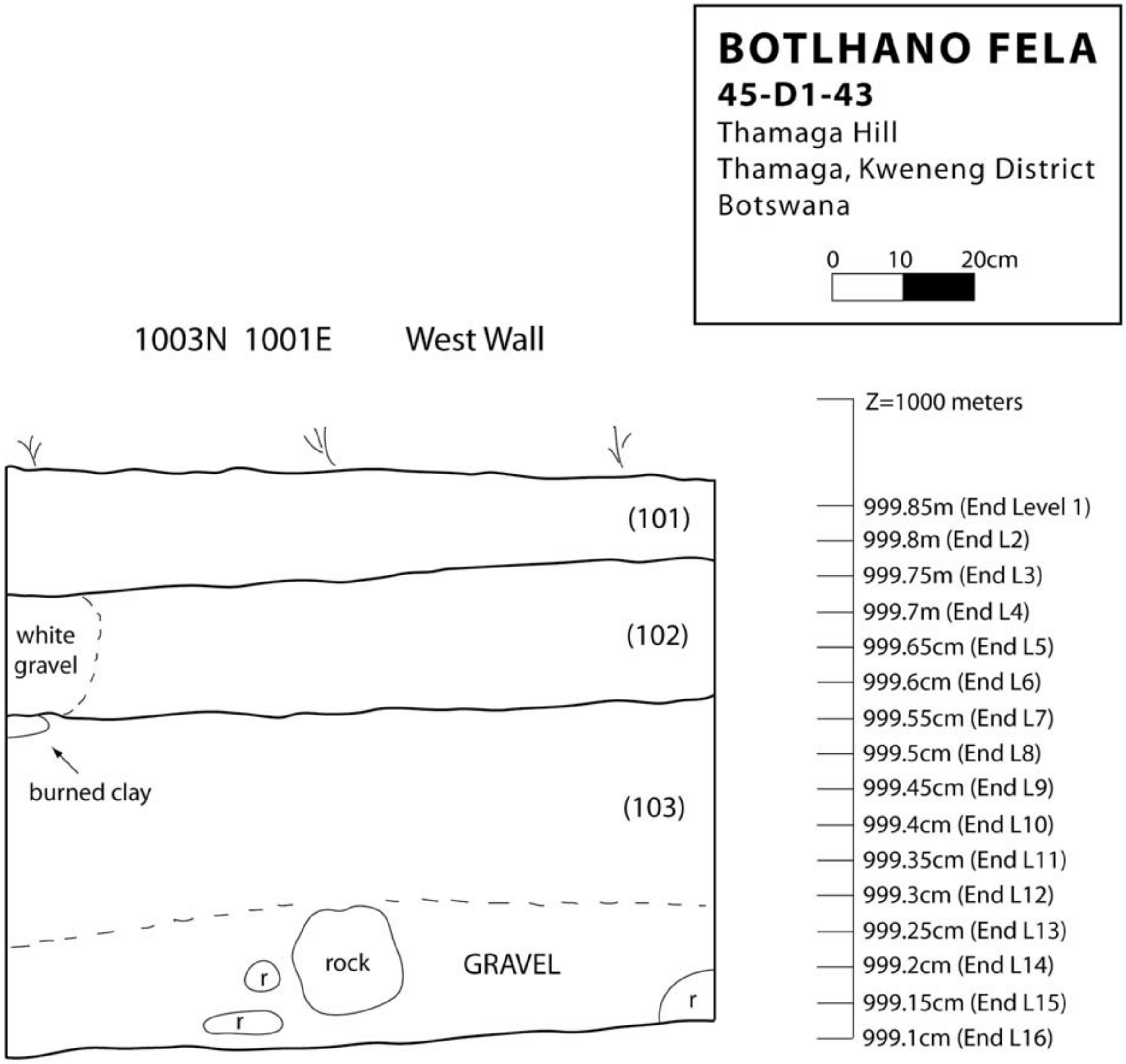
0 10 20cm

1002N 1002E East Wall




BOTLHANO FELA
45-D1-43
Thamaga Hill
Thamaga, Kweneng District
Botswana
0 10 20cm
1002N 1002E South Wall
(101)
(102)
white gravel
root
(103)
rock
GRAVEL
r
rocks
sterile?
Z=1000 meters
999.85m (End Level 1)
999.8m (End L2)
999.75m (End L3)
999.7m (End L4)
999.65m (End L5)
999.6m (End L6)
999.55m (End L7)
999.5m (End L8)
999.45m (End L9)
999.4m (End L10)
999.35m (End L11)
999.3m (End L12)
999.25m (End L13)
999.2m (End L14)
999.15m (End L15)
999.1m (End L16)
999.05m (End L17)
999m (End L18)
998.95m (End L19)
998.9m (End L20)
998.85m (End L21)
998.8m (End L22)
998.75m (End L23)
998.7m (End L24)
998.65m (End L25)
998.6m (End L26)
998.29m (end of cultural deposits?)
998.17m (base of pit)


BOTLHANO FELA
45-D1-43
Thamaga Hill
Thamaga, Kweneng District
Botswana
0 10 20cm
1003N 1001E North Wall
Z=1000 meters
(101)
wg
(102)
wg
(103)
GRAVEL
r
999.85m (End Level 1)
999.8m (End L2)
999.75m (End L3)
999.7m (End L4)
999.65cm (End L5)
999.6cm (End L6)
999.55cm (End L7)
999.5cm (End L8)
999.45cm (End L9)
999.4cm (End L10)
999.35cm (End L11)
999.3cm (End L12)
999.25cm (End L13)
999.2cm (End L14)
999.15cm (End L15)
999.1cm (End L16)


BOTLHANO FELA
45-D1-43
Thamaga Hill
Thamaga, Kweneng District
Botswana
0
10
20cm
1003N 1001E
West Wall
Z=1000 meters
999.85m (End Level 1)
999.8m (End L2)
999.75m (End L3)
999.7m (End L4)
999.65cm (End L5)
999.6cm (End L6)
999.55cm (End L7)
999.5cm (End L8)
999.45cm (End L9)
999.4cm (End L10)
999.35cm (End L11)
999.3cm (End L12)
999.25cm (End L13)
999.2cm (End L14)
999.15cm (End L15)
999.1cm (End L16)
(101)
white
gravel
(102)
burned clay
(103)
rock
GRAVEL
r
r
r

BOTLHANO FELA

45-D1-43

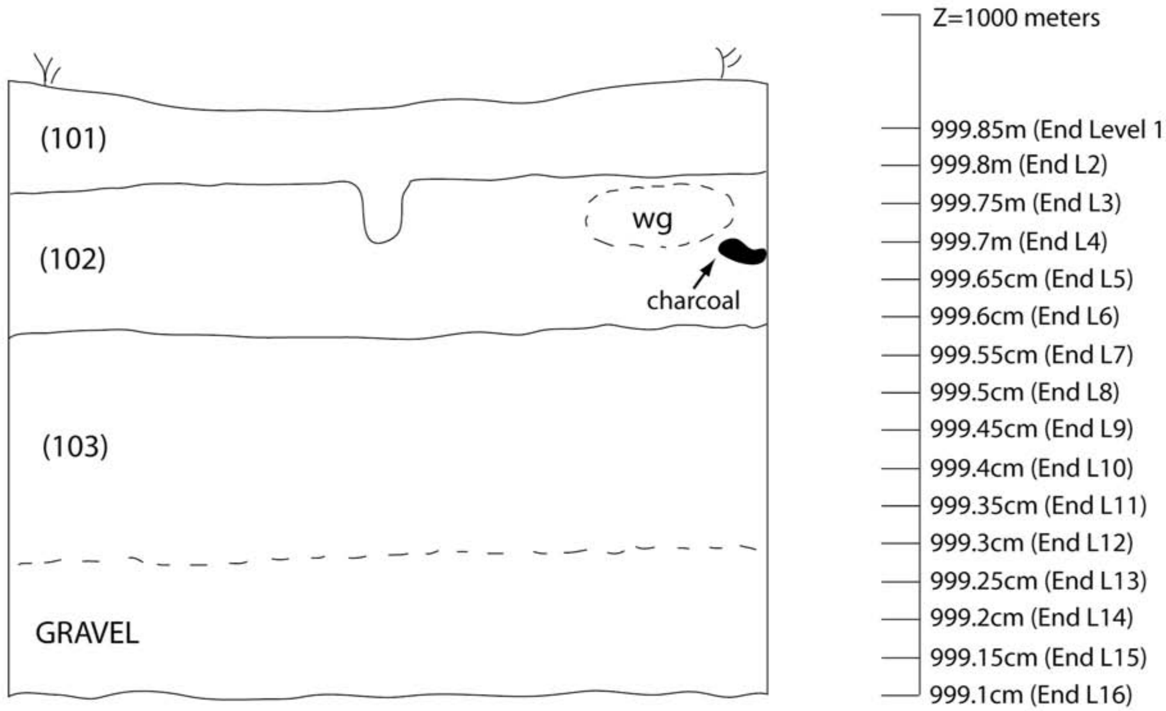
Thamaga Hill

Thamaga, Kweneng District

Botswana

0 10 20cm

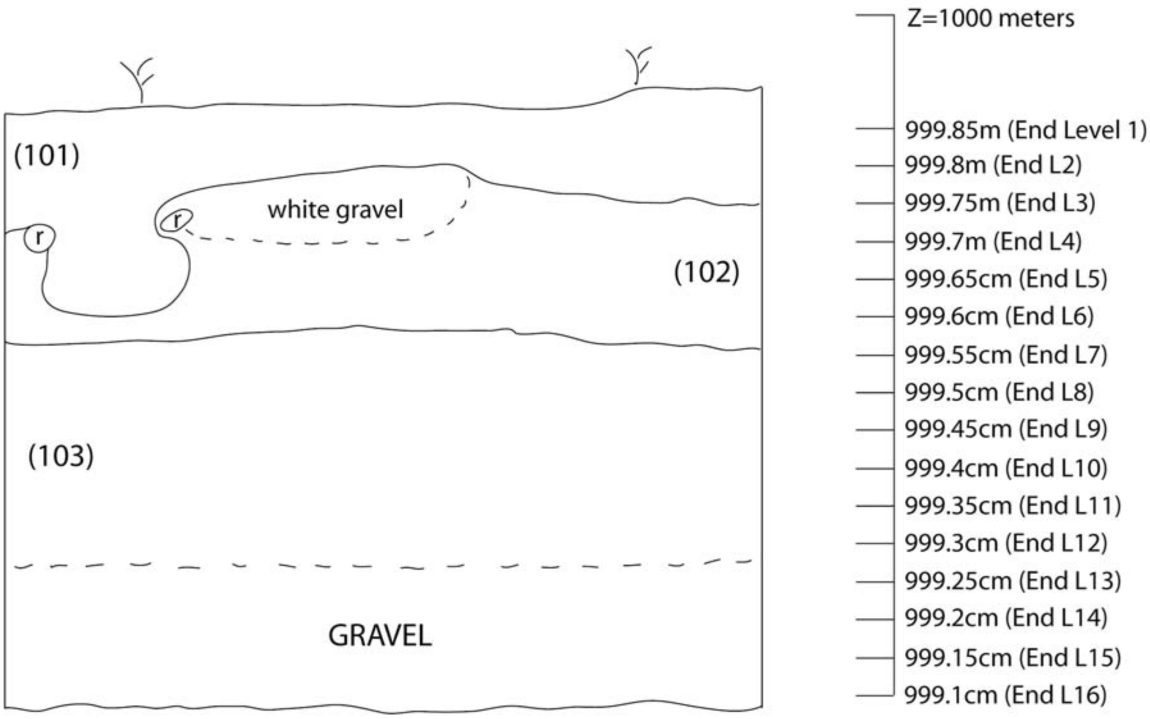
1003N 1002E East Wall



BOTLHANO FELA
45-D1-43
Thamaga Hill
Thamaga, Kweneng District
Botswana

0 10 20cm

1003N 1002E North Wall



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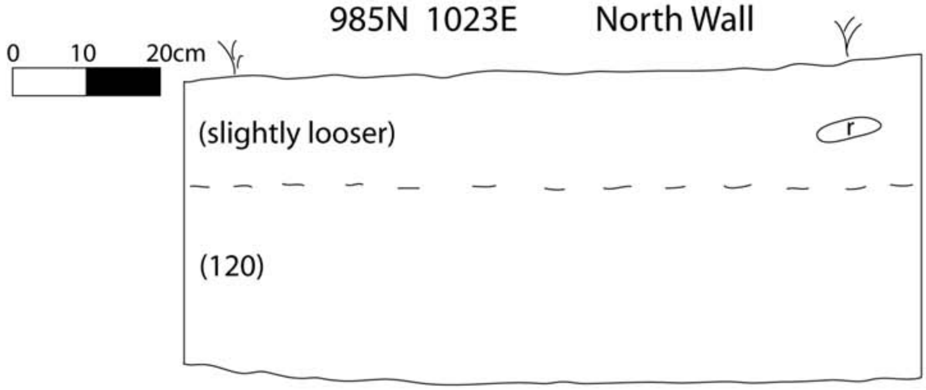

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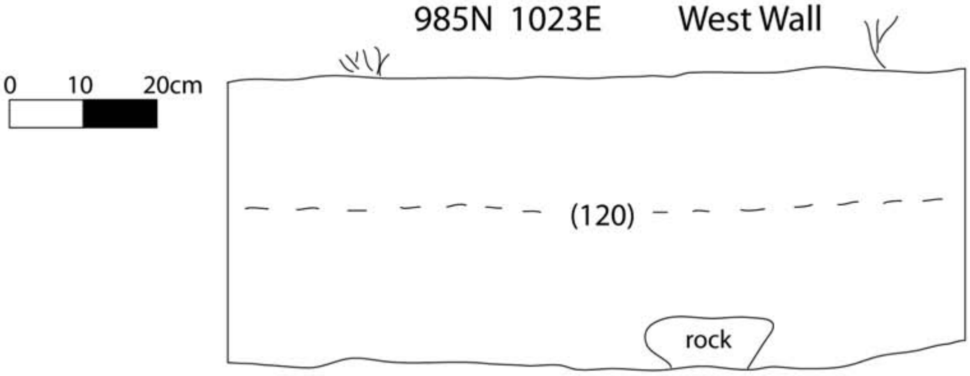

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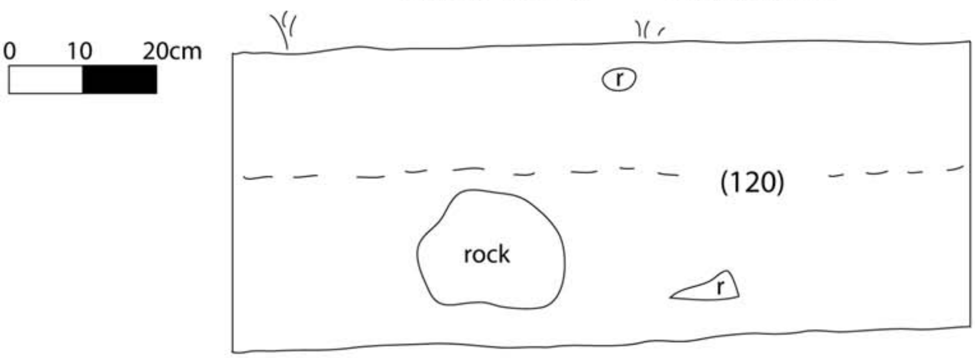
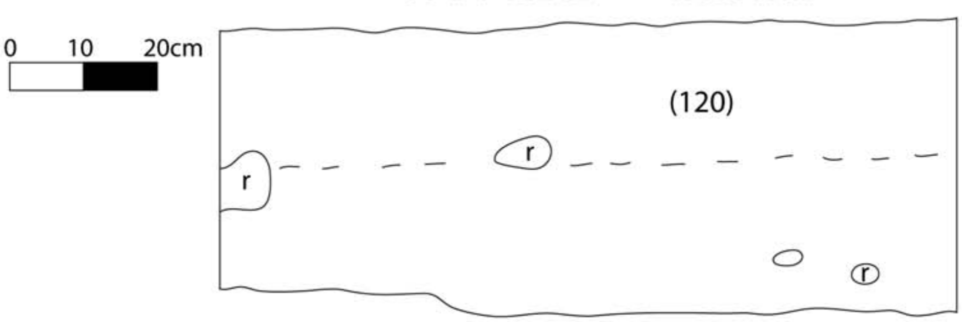
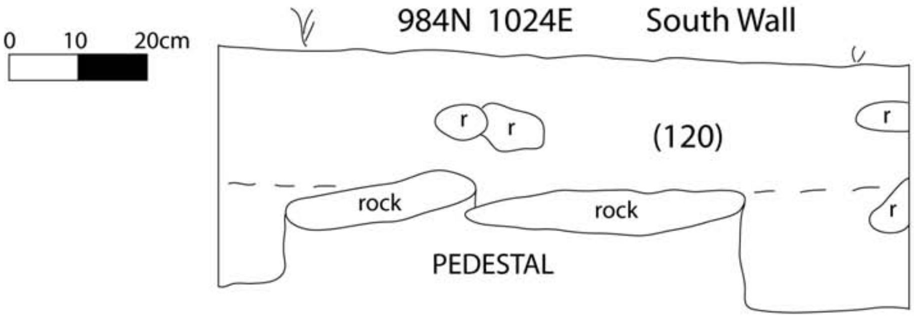
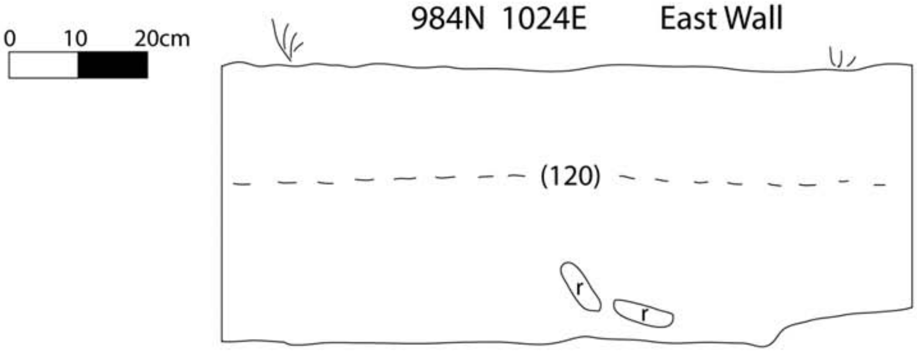
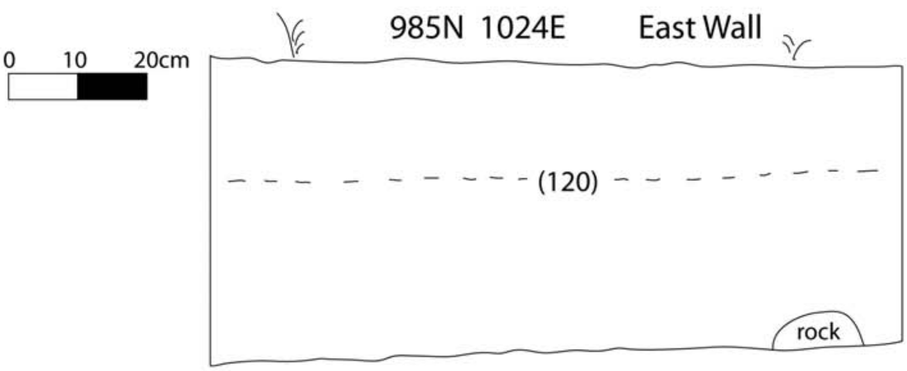


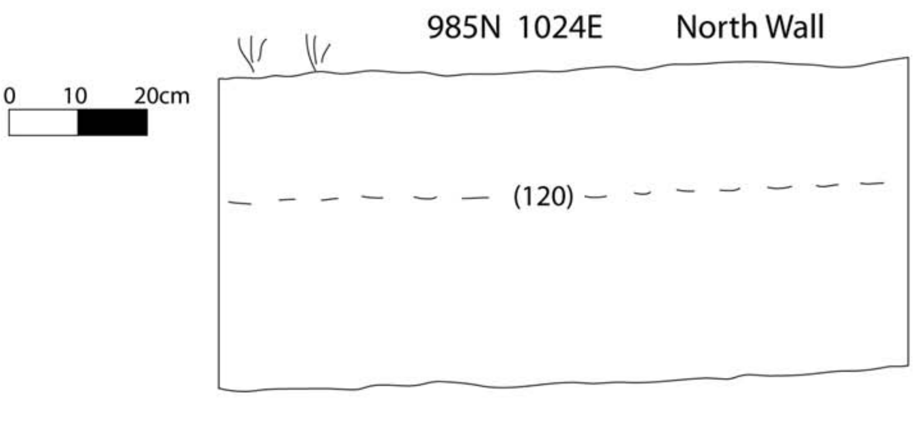
984N 1024E West Wall




984N 1024E South Wall
0 10 20cm
r
r
(120)
r
rock
rock
r
PEDESTAL


984N 1024E East Wall
0 10 20cm
(120)
r
r


985N 1024E East Wall
0 10 20cm
(120)
rock


985N 1024E North Wall
0 10 20cm
(120)

Appendix A-2: Ostrich Eggshell Bead Measurements

AK47 shelter	**Diameter (mm)**	**Aperature (mm)**
AK47 shelter	4.70	1.40
AK47 shelter	8.50	2.30
AK47 shelter	11.00	2.20
AK47 shelter	9.70	1.70
AK47 shelter	8.10	2.20
AK47 shelter	12.20	2.90
AK47 shelter	8.40	2.00
AK47 shelter	6.90	2.00
AK47 shelter	9.50	2.00
AK47 shelter	6.60	1.70
AK47 shelter	7.20	1.70
AK47 shelter	9.10	1.80
AK47 shelter	5.20	2.00
AK47 shelter	10.50	2.10
AK47 shelter	12.00	2.60
AK47 shelter	8.70	1.90
AK47 shelter	8.70	1.80
AK47 shelter	6.70	1.40
AK47 shelter	9.90	2.10
AK47 shelter	8.20	2.40
AK47 shelter	6.25	2.31
AK47 shelter	8.48	3.00
AK47 shelter	9.21	2.21
AK47 shelter	8.62	1.90
AK47 shelter	10.95	2.31
AK47 shelter	9.97	2.41
AK47 shelter	17.23	3.57
AK47 shelter	12.35	3.20
AK47 shelter	8.36	2.58
AK47 shelter	7.72	2.28
AK47 shelter	11.24	2.64
AK47 shelter	8.54	2.50
AK47 shelter	6.43	2.27
AK47 shelter	8.90	2.52
AK47 shelter	5.41	2.59
AK47 shelter	9.00	2.67
AK47 shelter	9.15	2.23
AK47 shelter	6.72	2.75
AK47 shelter	10.45	2.07
AK47 shelter	6.80	1.96
AK47 shelter	6.76	2.18
AK47 shelter	7.02	2.28
AK47 shelter	9.49	2.52
AK47 shelter	12.22	2.45
AK47 shelter	8.21	2.76
AK47 shelter	5.38	1.86
AK47 shelter	9.18	1.72
AK47 shelter	8.76	2.25

Botlhano Fela	**Diameter (mm)**	**Aperature (mm)**
Botlhano Fela	4.73	1.78
Botlhano Fela	6.18	2.31
Botlhano Fela	6.68	1.92
Botlhano Fela	7.63	2.48
Botlhano Fela	7.01	2.17
	6.45	2.13

BF Burial I	**Diameter (mm)**	**Aperature (mm)**
n=487	5.28	1.95

Radiepolong	**Diameter (mm)**	**Aperature (mm)**
Radiepolong	3.80	1.4
Radiepolong	3.50	0.7
Radiepolong	4.00	1.6
Radiepolong	5.80	1.5
Radiepolong	3.80	1.4
Radiepolong	4.70	1.2
Radiepolong	4.10	1.8
Radiepolong	3.30	1.4
Radiepolong	3.50	1.5
Radiepolong	5.10	1.6
Radiepolong	3.90	1.2
Radiepolong	6.40	1.4
Radiepolong	4.30	1.4
Radiepolong	3.40	1.1
Radiepolong	4.10	1.6
Radiepolong	3.80	1.2
Radiepolong	4.60	1.6
Radiepolong	5.30	1.8
	4.30	1.41

Moritsane	**Diameter (mm)**	**Aperature (mm)**
Moritsane	7.30	2.50
Moritsane	5.10	2.10
Moritsane	5.10	2.40
Moritsane	6.50	1.70
Moritsane	4.80	1.70
Moritsane	5.30	1.80
Moritsane	6.40	2.00
Moritsane	5.50	2.00
Moritsane	7.20	2.10
Moritsane	6.10	1.80
Moritsane	7.80	1.80
Moritsane	5.80	2.00
Moritsane	5.80	1.70
Moritsane	5.30	2.00
Moritsane	6.10	2.20
Moritsane	6.50	2.20
Moritsane	6.80	2.00
Moritsane	6.30	1.50
Moritsane	6.60	1.60
Moritsane	4.50	1.90
Moritsane	6.40	2.20
Moritsane	6.40	2.10
Moritsane	5.60	1.60
Moritsane	6.60	1.90
Moritsane	6.20	2.10
Moritsane	4.90	1.70
Moritsane	6.40	2.50
Moritsane	6.60	2.30
Moritsane	6.60	1.80
Moritsane	5.70	2.50
Moritsane	5.20	1.90
Moritsane	5.10	2.00
Moritsane	6.10	2.20

Appendix A-3: Faunal record from AK47 shelter

unit	artifact #	element	side (l/r)	articular surface	burning color	preservation	taxonomy
Layer 1							
E4	27	humerus (?)	*	y		good	*anphibian/reptile*
E6	15	?	*	n		fine/good	*anphibian/reptile*
G6	1	Bone	-	n	n/a	fair	*bird*
E4	21	sesamoid	*	y	n/a	good	*Bovid III*
F6	2	Enamel fragment	-	-	n/a	fine	*Bovid III*
E4	3	skull fragment	l	n/a	n/a	fair/poor	*Bovid III*
E4	5	Cervical vertebra	n/a	y	n/a	fair	*Bovid III*
E6	3	Enamel fragment	-	n/a	n/a	fine	*Bovid III*
E4	23	sesamoid	*	y		good	*Bovid III*
E4	9	Ulnar carpal	l	y	n/a	good	*Bovid III*
E4	25	pelvis	*	y	n/a	good	*frog/toad*
E4	20	rib	-	y	n/a	fair	*NID*
E5	1	?	-	y	brown/black	fair	*NID*
E4	22	bone fragment	-	n	n/a	fair	*NID*
E4	4	caudal vertebra	-	y	n/a	good	*NID*
E4	**8**	**Bone**					***NID***
E6	10	NID Fragment	-	-		fine	*NID*
E4	26	horn?	-	n	n/a	fair	*NID*
G6	34	?	-	y	n/a	good	*NID*
F6	3	rib fragment	-	n	n/a	fine	*NID*
H5	2	?	-	n	n/a	fine	*NID*
F4	6	NID Fragment	-	y		poor	*NID*
F6	54	rib fragment	*	y		fair	*NID*
F5	1	rib fragment	*	n		poor	*NID*
F6	8	-		poor	1	*NID*	
E4	24	rib	*	y		good	*NID*
G6	3	NID Fragment	-	n	black	good	*NID*
G6	4	*		good	1	*NID*	
H5	3	sesamoid	0	y	n/a	fine	*NID*
G6	33	femoral head	-	y	n/a	fair	*NID*
E3	3	Shaft fragment	n/a	n/a		fair	*NID*
F5	4	Bone fragment	-	n	n/a	fine	*NID*
F5	6	bone fragment	-	n	n/a	fine	*NID*
F5	9	Shaft fragment	-	n		fine/poor	*NID*
H5	1	UM1	-	n/a	n/a	fair	*Papio ursinus*

unit	artifact #	element	side (l/r)	articular surface	burning color	preservation	taxonomy
Layer 2							
~~G5~~	~~45~~	~~3rd phalanx~~	~~*~~	~~n~~		~~good~~	~~-~~
G5	8	3rd phalanx	l	y	black	fine/good	*Alcelaphus buselaphus*
G5	56	?	*	y	grey	good	*anphibian/reptile*
G5	15	*	*	y	black	fine	*anphibian/reptile*
G6	14	?	*	y	n/a	fine	*anphibian/reptile*
F6	20	mandible/maxilla (with tooth)	-	n/a	n/a	fine/poor	*Bovid I*
G5	44	sesamoid	-	y	n/a	good	*Bovid II*
G5	49	sesamoid	-	y	white	good	*Bovid II*
G5	55	*		good	1	*Bovid II*	screen
G4	19	Bone	-	y	gray	fine/good	*Bovid III*
F6	18	ulna	r	y	n/a	fine	*Bovid III*
F5	10	metacarpal	*	y	n/a	good	*Caracal caracal*
G6	36	3rd phalanx	l	y	n/a	good	*Connochaetes taurinus*
F5	11	1st phalanx	r	y	n/a	fine	*Connochaetes taurinus*
G6	35	maxilla	*	n	n/a	good	*frog/toad*
H6	8	clavicle	-	n	n/a	good	*frog/toad*
H4/H5	1	Canine	*	n/a	n/a	fair/poor	*medium carnivore*
G6	15	Metacarpal/metatarsal	*	y	white/grey/black	good	*medium carnivore*
E6	16	?	-	n	n/a	fine	*NID*
E6	17	?	-	n/a	n/a	fine	*NID*
G4	5	Shaft fragment	-	n	black/white	good	*NID*
F6	10	Shaft fragment	-	-		fine	*NID*
G4	16	hyoid	-	n	black	good	*NID*
G4	17	rib fragment	*	n		good	*NID*
G4	18	skull fragment	-	y	white/grey	good	*NID*
G5	43	vertebra	n/a	y	black	good	*NID*
G6	27	carpal/tarsal	-	y	n/a	fair	*NID*
G6	28	bone fragment	-	n	n/a	fair	*NID*
E3	8	Shaft fragment	n/a	n/a		good	*NID*
E3	9	Shaft fragment	-	n	brown	good	*NID*
G4	6	-	brown/black	good	4	*NID*	with G4 #7
~~G4~~	~~7~~	~~-~~	~~brown/black~~	~~good~~	~~4~~	~~*NID*~~	~~part of G4 #6~~
G5	3	Shaft fragment	n/a	n		fine	*NID*
F6	11	-		poor	2	*NID*	
G5	**4**	**Bone**					***NID***
G5	6	rib fragment	-	n	white/grey	fine	*NID*

unit	artifact #	element	side (l/r)	articular surface	burning color	preservation	taxonomy
Layer 2 (cont.)							
G5	7	-	grey	fine	1	*NID*	
G5	11	Shaft fragment	n/a	n		fine/poor	*NID*
G6	7	incisor	-	-	n/a	fine	*NID*
F6	12	bone fragment	-	-		fine	*NID*
G4	8	Bone fragment	-	y	black	fair	*NID*
G4	9	2nd phalanx	r	y		fair	*NID*
G5	13	bone fragment	-	y	black	fine/poor	*NID*
G6	**11**	**Ivory**					***NID***
G5	47	NID Fragment	-	-		fine	*NID*
G5	48	*	*	*	white	fine	*NID*
F6	16	bone fragment	-	n	brown	fine	*NID*
G6	**12**	**Ivory**					***NID***
E6	20	bone fragment	-	n	n/a	good	*NID*
G5	12	bone fragment	-	n	brown/black	fine	*NID*
E6	21	Shaft fragment	n/a	n/a		poor	*NID*
G6	13	NID Fragment	-	-		fine	*NID*
G5	14	*	-	n	black	fine/poor	*NID*
G5	53	bone fragment	-	y	white/grey	good	*NID*
E3	13	rib fragment	-	n	n/a	good	*NID*
G5	54	bone fragment	-	n	black	good	*NID*
G6	31	-	n/a	fair	1	*NID*	screen
G6	32	rib	-	y	grey	fair/good	*NID*
E4	17	bone fragment	-	n	n/a	poor	*NID*
G5	18	bone fragment	-	n	grey/black	fine	*NID*
E3	15	-		fair	1	*NID*	screen
E3	16	rib	n/a	n	n/a	fair	*NID*
G6	30	skull fragment	n/a	n/a		fair	*NID*
G5	52	*	*	y		good	*NID*
G6	29	bone fragment	-	n	white	fair/poor	*NID*
F6	21	NID Fragment	-	n			*NID*
G5	60	axis	n/a	y		good	*NID*
F6	22	*	*	y?	n/a	fair	*NID*
E6	38	NID Fragment	-	y		fine	*NID*
E6	37	I	n/a	fine	6	*NID*	screen
G5	21	Shaft fragment	-	n		fine	*NID*
F5	46	?	-	n	grey	good	*NID*

unit	artifact #	element	side (l/r)	articular surface	burning color	preservation	taxonomy
Layer 2 (cont.)							
F5	47	sesamoid	-	y	n/a	fine/poor	*NID*
F5	48	sesamoid	-	y	n/a	poor	*NID*
G6	**16**	**Ivory**					***NID***
G5	25	rib fragment	-	n	white	fine	*NID*
F6	55	tibiotarsus	-	y	n/a	good	*small/medium bird*
E6	22	tarsometatarsus	-	n/a	n/a	fair	*Struthio camelus*
G5	46	vertebra fragment	-	y	white	fine/poor	*Vananus exanthenaticus*
G5	50	vertebra	n/a	y	black	good	*Vananus exanthenaticus*
G5	51	-	grey	good	?	*Vananus exanthenaticus*	screen
G5	57	Vertebra	n/a	y	white/grey	good	*Vananus exanthenaticus*
G5	16	mandible (with teeth)	r	n	white/grey/blue	good	*Vananus exanthenaticus*
G5	17	Vertebra	n/a	y	white/grey	fine	*Vananus exanthenaticus*
G5	19	Vertebra	n/a	y	grey/black	good	*Vananus exanthenaticus*
G5	59	mandible (with teeth)	l	n	black	good	*Vananus exanthenaticus*
G5	58	Vertebra	n/a	y	black	good	*Vananus exanthenaticus*
Layer 3							
E6	30	upper molar	*	n/a	n/a	fine	*Bovid II*
F6	34	Scapula	l	y	n/a	poor	*Bovid II*
G6	40	metapodial	-	y	n/a	fine	*Bovid II*
G6	39	sesamoid	*	y			*Bovid III*
F6	53	long bone	*	y	n/a	good	*mircomammal/rodent*
H6	7	bone fragment	-	n	n/a	fine	*NID*
G6	17	horn?	-	n	n/a	fair	*NID*
G6	37	carpal/tarsal	-	y		fair	*NID*
H6	6	skull fragment	-	n	n/a	fair	*NID*
F5	13	NID Fragment	-	-		poor	*NID*
G6	38	rib fragment	*	n		good	*NID*
H6	4	?	-	y		fair	*NID*
H6	5	bone fragment	-	n	n/a	fair	*NID*
D6	11	NID Fragment	?	y		poor	*NID*
G5	26	-	black/white	fine	5	*NID*	
F6	26	bone fragment	-	n	n/a	fair	*NID*
E6	23	Shaft fragment	-	n		fair	*NID*
G5	30	Shaft fragment	n/a	n		fine	*NID*
G6	18	horn?	-	n	n/a	fair	*NID*
F6	27	Bone fragment	-	y		fair/poor	*NID*

unit	artifact #	element	side (l/r)	articular surface	burning color	preservation	taxonomy
Layer 3 (contd.)							
G6	41	bone fragment	-	n	n/a	good	*NID*
G6	42	NID Fragment	-	n		fair	*NID*
E5	17	upper molar 3	-	n	n/a	fair	*Ovis/Capra*
E5	18	l	n/a	fair	8	*Ovis/Capra*	partial mandible w/teeth
E6	27	*	-	y	n/a	good	*small/medium bird*
G5	31	unfused metapodial condyle	n/a	y		fine	*Taurotragus oryx*
Layer 4							
G6	43	?	*	y	n/a	good	*anphibian/reptile*
D6	19	mandible	r	n		fine/poor	*Bos taurus*
E5	26	upper molar	*	n/a	n/a	fair	*Bovid II*
D6	18	l	n/a	fair	14	*Bovid III*	likely from a cow
F6	41	1st phalanx	l	y	n/a	poor	*Bovid III*
E5	21	humerus shaft fragment	*	n	n/a	fair	*Bovid III*
E5	30	Enamel fragment	-	n/a	n/a	fair	*Bovid III*
D6	15	rib facet	-	y	n/a	fair	*NID*
F5	18	Shaft fragment	-	n/a		fine	*NID*
D6	17	bone fragment	?	n		fair/poor	*NID*
D6	16	NID Fragment	?	n		poor	*NID*
G5	61	bone fragment	-	n	white/grey	good	*NID*
G6	45	* (ulna?)	*	y		good	*NID*
D6	25	* (vertabra)	n/a	n		fair	*NID*
G5	62	?	-	y	brack	fair	*NID*
E5	15	rib fragment	-	n	n/a	poor	*NID*
F5	21	mandible	r	y	n/a	poor	*NID*
G6	44	3rd phalanx	-	n	n/a	good	*NID*
F5	24	-	n/a	poor	7	*NID*	
D6	23	NID Fragment	*	y		fair/poor	*NID*
F6	44	femoral head	-	y	n/a	fair/poor	*NID*
E5	22	Shaft fragment	n/a	n/a		fair	*NID*
F5	29	NID Fragment	-	n		fine	*NID*
F6	46	sesamoid	-	y	n/a	fair	*NID*
F6	52	skull fragment	-	n	n/a	fair	*NID*
E6	32	2nd phalanx	*	y		fair	*Ovis aries*
F5	23	innominate	r	y	n/a	fine	*Ovis aries*
D6	24	3rd phalanx	r	y	n/a	fair	*Ovis aries*
F5	19	astragalus	l	y	n/a	fine/poor	Sylvicapra grimmia

unit	artifact #	element	side (l/r)	articular surface	burning color	preservation	taxonomy
Layer 5							
D6	21	radius	l	y	n/a	fair	*Bos taurus*
F6	50	2nd phalanx	-	y	brown		*Bos taurus*
E5	28	upper molar 2	l	n/a	n/a	fair	*Bovid II*
F5	45	1st phalanx	*	y	n/a	fine	*Bovid III*
D6	26	sesamoid	-	y	n/a	good	*Bovid III*
F5	36	maxilla (with teeth)	l	n/a	n/a	fine/poor	*Bovid III*
F5	50	2nd/3rd carpal	-	y	black	fine	*Bovid III*
G6	22	maxilla	*	n	n/a	good	*frog/toad*
G6	46	long bone	*	y		good	*micromammal/rodent*
F5	33	-	n/a	fine	2	*NID*	burned; with spinous process
G5	37	Shaft fragment	-	n		poor	*NID*
G5	38	-		fine/poor	3	*NID*	
D6	27	Bone fragment	-	y	n/a	fair	*NID*
F5	35	-	black	fine/good	1	*NID*	
G5	39	n/a		poor	5	*NID*	
F5	51	carpal/tarsal	-	y	n/a	fine	*NID*
F6	49	NID Fragment	-	n		fair	*NID*
F5	49	*	*	y	n/a	fine	*NID*
E5	27	scapula	r	n	n/a	fair	*NID*
E5	29	Bone fragment	-	y	n/a	fair/poor	*NID*
F5	17	femoral head	-	y	n/a	poor	*NID*
G4	9 (#2)	rib fragment	-	n	black	fair	*NID*
E6	34	Shaft fragment	-	n	n/a	fine	*Struthio camelus*
G5	55	Vertebra	n/a	y	white/grey	good	*Vananus exanthenaticus*

Appendix A-4: Faunal record from Botlhano Fela

Botlhano Fela (Thamaga Hill), Kweneng District, Thamaga, Thamaga Hill								
Feature 2								
unit	**artifact #**	**element**	**side (l/r)**	**taxonomy**	**x**	**y**	**z (BD)**	**Level**
1002N, 999E	90	shaft fragment	*	*Bov III*	69	39	56.5	10
1002N, 999E	91	thoracic vertebra	-	*Bos taurus*	83	42	56.5	10
1002N, 999E	92	mandible	l	*Bovid II*	87	28	57	10
1002N, 999E	93	?	-	*NID*	96	41	57	10
1002N, 999E	94	rib fragment	-		96	41	57	10
1002N, 999E	95	femur	-	*Bos taurus*	96	41	57	10
1002N, 999E	96	vertebra fragment	-	*NID*	96	41	57	10
1002N, 999E	97	bone fragment	-	*NID*	96	41	57	10
1002N, 999E	98	Bone			86	23	57	10
1002N, 999E	101	vertebra fragment	-	*Bovid III*	94	33	59.5	11
1002N, 999E	102	vertebra fragment	-	*Bovid III*	94	38	59.5	11
1002N, 999E	103	sacrum	-		89	34	59.5	11
1002N, 999E	108	1st phalanx	-	*Bos taurus*	88	37	62	11
1002N, 999E	179	phalanx fragment	-	*Bovid II*				11
1002N, 999E	180	rib facet	-					11
1002N, 999E	104	lumbar vertebra	-	*Bos taurus*	93	65	63.5	12
1002N, 999E	111	Bone (?)			89	30	63.5	12
1002N, 999E	112	vertebra	-		81	4	63.5	12
1002N, 999E	131	humerus	l	*Bovid III*	97	51	66.5	12
1002N, 999E	181	rib facet	-					12
1002N, 999E	135	bone fragment	-	*NID*	94	49	68.5	13
1002N, 999E	137	?	-	*NID*	77	54	69	13
1002N, 999E	136	mandible with teeth	l	*Oreotragus oreotragus*	67	36	71.5	13
1002N, 999E	138	bone fragment	-	*NID*	94	2	72.5	13
1002N, 999E	144	mandible	-	*Bov III*	99	65	79.5	15
1002N, 999E	143	bone fragment	-	*NID*	91	34	80.5	15
1002N, 999E	145	humerus	r	*Bovid II*	93	13	81.5	15
1002N, 999E	146	skull fragment	-	*Bovid II*	93	27	82.5	15
1002N, 999E	147	skull fragment	-	*NID*	97	30	84.5	16
1002N, 999E	148	?	*		97	30	84.5	16
1002N, 999E	149	2nd pahalanx	r	*Alcelaphus buselaphus*	67	19	87	16
1002N, 999E	182	2nd pahalanx	r	*Ovis aries*				16
1002N, 999E	151	bone fragment	-	*NID*	96	44	88.5	17
1002N, 999E	152	rib fragment	-		91	45	89.5	17
1002N, 999E	155	maxilla with teeth	l	*Procavia capensis*	92	29	95.5	18
1002N, 999E	183	maxilla with teeth	r	*Procavia capensis*				21
1002N, 999E	184	bone fragment	-	*NID*				23
1002N, 999E		NID fragments = 73						

Botlhano Fela (Thamaga Hill), Kweneng District, Thamaga, Thamaga Hill						
Operation 2						
Unit	**Artifact #**	**Level**	**Zone**	**Element**	**Side (L/R)**	**Taxonomy**
1001N, 1001E	20	1	(101)	metapodial		Bov II
1001N, 1001E	21	1	(101)	metapodial		Bov II
1001N, 1001E	22	1	(101)	metapodial		Bov I
1001N, 1001E	1	1	(101)	molar		Equus burchelli
1003N, 1001E	22	1	(101)	-		
1001N, 1001E	16	2	(101)	vertebra		Bov II
1001N, 1001E	17	2	(101)	tooth		*Pedetes capensis*
1001N, 1001E	18	2	(101)	-		NID
1001N, 1001E	23	2	(101)	mandible	r	
1003N, 1001E	20	2	(101)	3rd phalanx	r	Bov III - nondomestic
1003N, 1002E	12	2	(101)	carpal		Aepyceros melampus
1003N, 1002E	11	2	(101)	2nd phalanx		Sylvicapra grimmia
1003N, 1002E	10	2	(101)	3rd phalanx		Bov III - nondomestic
1002N, 1002E	14	3	(101)	incisor		*Pedetes capensis*
1002N, 1002E	15	3	(101)	radial carpal	l	Bov IV
1002N, 1002E	16	3	(101)	-		NID
1002N, 1002E	20	3	(101)	caudal vert		Meduim carnivore
1003N, 1001E	16	3	(101)	2nd phalanx		Bov III
1002N, 1001E	10	4	(101)	mandible + teeth	l	Ovis aries
1002N, 1001E	11	4	(101)	sesamoid		Bov III
1003N, 1002E	10	4	(101)	shell		Tortoise
1003N, 1002E	12	4	(101)	rib facet		Bov II
1003N, 1002E	2	4	(101)	naviculo-cuboid	l	Bos taurus
1003N, 1002E	11	4	(101)	1st phalanx		Pedetes capensis
1002N, 1002E	12	5	(101)	calcaneum		Bovid III
1002N, 1002E	11	5	(101)	calcaneum	r	Bovid III
1002N, 1002E	10	5	(101)	sesamoid		Bov II
1002N, 1002E	23	5	(101)	-		
1002N, 1001E	1		(101)	molar		Bos taurus
1002N, 1001E	1		(101)	molar		Bov III
1002N, 1002E	1		(101)	2nd & 3rd carpal		Taurotragus oryx
1003N, 1002E	2		(101)	tooth		Bov III

Botlhano Fela (Thamaga Hill), Kweneng District, Thamaga, Thamaga Hill						
Operation 2						
Unit	**Artifact #**	**Level**	**Zone**	**Element**	**Side (L/R)**	**Taxonomy**
1001N, 1001E	13	3	(102)	2nd & 3rd carpal		Taurotragus oryx
1001N, 1001E	12	3	(102)	2nd phalanx		Ovis aries
1001N, 1001E	10	3	(102)	shell		Freshwater mussell
1001N, 1001E	11	3	(102)	2nd phalanx		Bov III
1001N, 1001E	14	3	(102)	vertebra		small carnivore
1003N, 1002E	16	3	(102)	scapula	r	Ovis aries
1003N, 1001E	12	4	(102)	2nd phalanx		Bov II
1003N, 1001E	11	4	(102)	shell		Tortoise
1003N, 1001E	10	4	(102)	molar		*Pedetes capensis*
1003N, 1002E	3	4	(102)	2nd phalanx		Bos taurus
1003N, 1002E	4	4	(102)	skull fragment		Bos taurus
1003N, 1002E	17	4	(102)	rib facet		NID
1003N, 1002E	19	4	(102)	vertebra		
1003N, 1002E	18	4	(102)	sesamoid		Bov II
1001N, 1001E	2	5	(102)	calcaneum	l	Bov III - nondomestic
1002N, 1002E	17	5	(102)	femur		Bov III
1002N, 1002E	19	5	(102)	radial carpal		Bov I
1002N, 1002E	21	5	(102)	1st phalanx		Ovis aries
1003N, 1001E	13	5	(102)	shell		Tortoise
1003N, 1001E	15	5	(102)	humerus		Bov III
1003N, 1002E	14	5	(102)	2nd phalanx	l	Ovis aries
1003N, 1002E	13	5	(102)	1st phalanx		Pedetes capensis
1003N, 1002E	15	5	(102)	sesamoid		Bov III
1003N, 1002E	14	5	(102)	sesamoid		Bov II
1001N, 1001E	15	6	(102)	3rd phalanx		Bos taurus
1002N, 1002E	4	6	(102)	metapodial		Bov III
1002N, 1002E	3	6	(102)	metapodial		Bov III
1003N, 1001E	19	6	(102)	molar		Equus burchelli
1003N, 1001E	2	6	(102)	mandible		Bov III
1003N, 1001E	21	6	(102)	vertebra		
1001N, 1001E	3	7	(102)	2nd phalanx		Bos taurus
1002N, 1002E	5	7	(102)	metapodial		Bov III
1002N, 1002E	6	7	(102)	pelvis	l	Bov III
1002N, 1002E	22	7	(102)	vertebra		
1001N, 1001E	19	8	(102)	molar		Bov III
1003N, 1002E	6		(102)	pelvis		Bov III - nondomestic
1003N, 1002E	7	8	(103)	1st phalanx	l	Oryx gazella
1002N, 1002E	13	9	(103)	molar		*Pedetes capensis*
1002N, 1002E	18	9	(103)	radius		Bov III
1002N, 1002E	7	9	(103)	long bone		
1001N, 1001E	4	10	(103)	-		
1003N, 1001E	17	10	(103)	molar		*Pedetes capensis*
1003N, 1001E	18	10	(103)	molar		*Pedetes capensis*
1002N, 1001E	12	8	(110)	frags		

Botlhano Fela (Thamaga Hill), Kweneng District, Thamaga, Thamaga Hill						
Operation 4						
unit	**artifact #**	**level**	**zone**	**element**	**side (l/r)**	**taxonomy**
984N, 1024E	3	2	(120)	-		
984N, 1024E	4	5	(120)	2nd phalanx		Acelaphus buselaphus
984N, 1024E	10	7	(120)	2nd phalanx		Oryx gazella
985N, 1023E	10	6	(120)	astragalus	r	Ovis aris/Bov II
985N, 1023E	11	7	(120)	sesamoid		Bov III
985N, 1024E	2	3	(120)	shaft fragment		
985N, 1024E	1	3	(120)	shaft fragment		
985N, 1024E	10	5	(120)	molar		Bov II
NID bone= 1231						

Botlhano Fela (Thamaga Hill), Kweneng District, Thamaga, Thamaga Hill

Operation 3

unit	artifact #	level	zone	element	side (l/r)	taxonomy	comments
1005N, 1022E	10	6	(110)	2nd phalanx		Equus burchelli	
1005N, 1022E	11	8	(110)	proximal ulna		Bov III	juvenile anim
1005N, 1022E	12	8	(110)	2nd phalanx		Tragelaphus strepsiceros	
1005N, 1022E	13	8	(110)	-		NID	
1005N, 1022E	14	8	(110)	femur		Bov II	unfused; sub-
1005N, 1022E	15	9	(110)	-		NID	
1005N, 1022E	16	11	(111)	1st phalanx			
1005N, 1022E	17	14	(110)	molar		Bov III	
1005N, 1023E	10	2	(110)	tibia	l	Aepyceros melampus	
1005N, 1023E	11	9	(111)	shaft fragment			
NID bone = 1687							

Appendix A-5: Lithics from Botlhano Fela

Botlhano Fela (Thamaga Hill)									
Kweneng District, Thamaga, Thamaga Hill									
unit	**level**	**zone**	**depth**	**artifact #**	**description**	**material**	**x**	**y**	**z (BD)**
1002N, 999E	1		0-5	5	retouched flake (scraper?); quartz	quartz	73.5	89.5	11
1002N, 999E	1		0-5	10	debitage		86	89	12.5
1002N, 999E	2		5-10	21	debitage		17	81	13.5
1002N, 999E	2		5-10	36	debitage		34	40	15.5
1002N, 999E	2		5-10	37	flake (not retouched); quartzite	quartzite	28	40	16
1002N, 999E	2		5-10	38	bipolar flake; quartz	quartz	36	63	17.5
1002N, 999E	2		5-10	39	bipolar flake; chalcedony	chalcedony	29	71	17.5
1002N, 999E	2		5-10	Bag	debitage				
1002N, 999E	3		10-15	45	debitage		3	8	20
1002N, 999E	3		10-15	46	debitage		6	8	20
1002N, 999E	3		10-15	49	debitage		16	96	20.5
1002N, 999E	3		10-15	56	debitage		78	77	21.5
1002N, 999E	4		15-20	60	debitage		15	6	26
1002N, 999E	4		15-20	66	debitage		80	50	25.5
1002N, 999E	4		15-20	67	flake (reduction of platform)		92	62	25
1002N, 999E	5		20-25	69	retouched (scraper?); chalcedony	chalcedony	84	21	31.5
1002N, 999E	5		20-25	70	debitage		75	39	31
1002N, 999E	6		25-30	73	debitage		74	54	35
1002N, 999E	8		35-40	187	retouched flake; raw material?	?	-	-	
1002N, 999E	9		40-45	85	debitage		5	40	50
1002N, 999E	9		40-45	209	kombewa flake; chalcedony	chalcedony			
1002N, 999E	10		45-50	88	debitage		47	82	54.5
1002N, 999E	10		45-50	89	debitage		89	76	55.5
1002N, 999E	10		45-50	99	debitage		64	95	57.5
1002N, 999E	10		45-50	100	bipolar flake; quartz	quartz	25	76	57.5
1002N, 999E	11		50-55	105	broken flake (broken tool?); chalcedony	chalcedony	10	37	62
1002N, 999E	11		50-55	106	debitage		5	56	59.5
1002N, 999E	11		50-55	107	core fragment; chalcedony	chalcedony	42	97	59.5
1002N, 999E	11		50-55	109	possible retouched flake (denticulations); unknown material	?	49	70	62
1002N, 999E	11		50-55	110	debitage		5	54	62.5
1002N, 999E	11		50-55	189	bipolar flake/blank; jasper	jasper?			
1002N, 999E	11		50-55	193	tool fragment; retouch; chalcedony	chalcedony			
1002N, 999E	11		50-55	211	bipolar flake; quartz	quartz			
1002N, 999E	12		55-60	113	debitage		24	36	65
1002N, 999E	12		55-60	114	debitage		10	49	65.5
1002N, 999E	12		55-60	115	debitage		42	57	65.5
1002N, 999E	12		55-60	116	debitage		31	58	65.5

1004N, 1022E	8	110		345	bipolar flake	chalcedony
1004N, 1022E	8	110		352	blade; broken, retouched	cryptocrystaline
1004N, 1022E	8	110		357	flake	cryptocrystaline
1004N, 1022E	8	110		409	blade; blank	cryptocrystaline
1005N, 1022E	2	110		351	kombewa core	cryptocrystaline
1005N, 1022E	2	110		389	flake; retouched	cryptocrystaline
1005N, 1022E	2	110		395	flake; retouched	chalcedony
1005N, 1022E	5	110		322	flake; retouched	cryptocrystaline
1005N, 1022E	5	110		326	blade; broken, retouched	quartzite
1005N, 1022E	5	110		365	flake; retouched	cryptocrystaline
1005N, 1022E	5	110		376	flake; retouched	cryptocrystaline
1005N, 1022E	5	110		384	flake; retouched	chalcedony
1005N, 1022E	5	110		401	broken tool; retouched	quartz
1005N, 1022E	5	110		411	blade; blank	quartz
1005N, 1022E	6	110		348	flake; retouched	chalcedony
1005N, 1022E	6	110		360	blade; broken, retouched	quartz
1005N, 1022E	6	110		417	flake; retouched	chalcedony
1005N, 1023E	2	110		400	flake	quartzite
1005N, 1023E	3	110		377	tool; retouched	cryptocrystaline
1005N, 1023E	4	110		320	flake; retouched	cryptocrystaline
1005N, 1023E	4	110		369	scraper	chalcedony
1005N, 1023E	5	110		380	blade; broken, retouched	chalcedony
1005N, 1023E	7	110		370	tool; broken	chalcedony
1005N, 1023E	8	110		371	flake; retouched	chalcedony
1005N, 1023E	8	110		420	flake; retouched	cryptocrystaline
1006N, 1022E	2	110		405	blade; broken, retouched	cryptocrystaline
1006N, 1022E	4	110		382	flake; retouched	quartz
1006N, 1022E	5	110		308	flake; retouched	cryptocrystaline
1006N, 1022E	5	110		356	flake; retouched	cryptocrystaline
984N, 1024E	2	120		336	scraper	cryptocrystaline
984N, 1024E	4	120		350	scraper	cryptocrystaline
984N, 1024E	4	120		408	flake; retouched	quartz
984N, 1024E	5	120		312	bipolar flake	quartzite
984N, 1024E	6	120		303	scraper	cryptocrystaline
984N, 1024E	7	120		394	pièce esquillée	chalcedony
984N, 1024E	7	120		404	flake; retouched	cryptocrystaline
985N, 1023E	3	120		403	broken tool; retouched	quartz
985N, 1023E	4	120		331	blade; broken, retouched	cryptocrystaline
985N, 1023E	4	120		355	flake; retouched	cryptocrystaline
985N, 1023E	5	120		327	blank	cryptocrystaline

985N, 1023E	5	120		358	scraper	chalcedony
985N, 1023E	5	120		378	bipolar flake	cryptocrystaline
985N, 1023E	5	120		379	core	cryptocrystaline
985N, 1023E	6	120		340	flake	chalcedony
985N, 1023E	6	120		367	scraper	cryptocrystaline
985N, 1023E	7	120		364	flake; retouched	cryptocrystaline
985N, 1023E	8	120		306	flake; retouched	cryptocrystaline
985N, 1023E	8	120		307	blank	chalcedony
985N, 1023E	8	120		353	blank	chalcedony
985N, 1023E	8	120		354	blank	chalcedony
985N, 1024E	1	120		325	scraper	cryptocrystaline
985N, 1024E	2	120		397	flake; retouched	chalcedony
985N, 1024E	2	120		412	pièce esquillée	chalcedony
985N, 1024E	2	120		418	tool; retouched	chalcedony
985N, 1024E	3	120		318	utilized core; retouched	chalcedony
985N, 1024E	3	120		332	scraper	cryptocrystaline
985N, 1024E	3	120		422	bipolar flake	quartzite
985N, 1024E	5	120		313	flake; retouched	cryptocrystaline
985N, 1024E	5	120		383	flake; retouched	cryptocrystaline
985N, 1024E	7	120		309	pièce esquillée	cryptocrystaline
985N, 1024E	8	120		301	blade; broken, retouched	cryptocrystaline
985N, 1024E	8	120		368	blade; broken, retouched	chalcedony
985N, 1024E	8	120		414	scraper	cryptocrystaline