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Foragers and trade at Little Muck Shelter, middle Limpopo Valley

by

Chanté Barnard

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Dr. T. Forssman

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Abstract

Southern African trade has primarily been examined through farmer archaeological sequences. One reason for this approach is that trade opportunities along the East African coastline, and the subsequent appearance of trade objects in the interior, are thought to have been a factor that prompted structural changes within farmer communities. For example, in the middle Limpopo Valley trade was one of the main factors that led to the emergence of a state-level society at Mapungubwe Hill, *c*. AD 1220. Foragers, who were present during this period, are generally not considered participants of, or contributors to, the socio-political and economic changes that occurred on the southern African landscape. However, research at shelter sites such as Little Muck and Dzombo challenges the notion of foragers' exclusion from the regional economy. Instead, evidence suggests an intense forager involvement in the socio-economic landscape. The presence of trade objects at these shelters, its continued growth alongside forager occupation, and its impact on forager society remains under-developed. But recent analyses on the appearance of exotic goods, local trade goods and craft production processes at Little Muck provide a better understanding of the shelter's resident forager community and their participation in local trade economies throughout the first millennium AD. This is associated with a notable intensification and specialisation of craft goods until around AD 900, where after the expansion of regional and international trade networks around AD 1000 coincided with a rapid decline in forager-associated sequences at the shelter. These findings also show a different use of Little Muck compared to other forager-occupied sites, particularly Dzombo, and demonstrate variable access to wealth. And while it is unclear to what extent foragers contributed to larger socio-economic structures across the landscape, it is evident that foragers, at least at Little Muck, were economically resilient and actively participating in the local networks throughout the first millennium AD. Challenging doctrines surrounding foragers, particularly their exclusion from local and international economies, allows for a more nuanced, regional perspective and emphasises the role that southern Africa's indigenous communities occupied within the broader socio-economic landscape of the first millennium AD.

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Table of Contents

List of Figures

List of Tables

Chapter 1: Introduction

The economic systems of past societies, such as hunter-gatherers and farmers, have been contrasted with one another using terms such as 'simple' and 'complex' (Renfrew 1986). The economy of 'simple' societies (e.g. hunter-gatherers) are thought to have been unspecialised and undifferentiated, meaning that most, if not all, members of the community had access and responsibility to production activities and exchange networks. Because these societies focused on a subsistence economy, most community members participated in activities such as hunting and gathering with the purpose of bringing in enough food for local usage (Renfrew 1986; Ouzman 1995). Similarly, the exchange practices within these societies focused on obtaining essential, and sometimes desirable items from other 'simple' societies in the area (Renfrew 1986; Ouzman 1995). 'Complex' economies, on the other hand, involved large-scale trade along with a focus on craft-specialisation and hierarchical structures (e.g. farmer communities; Renfrew 1986). Although farmer communities largely practised agriculture and animal husbandry, commercial trade developed into a significant characteristic of these societies. Unlike hunter-gatherer societies (described as 'simple' societies), production activities and exchange systems were often a means to obtain items of status and wealth rather than necessity (Renfrew 1986; Ouzman 1995; Huffman 2007a). These terms have been applied to numerous past cultures across the world based on the differences and contrasts of archaeological material found at excavated sites. However, it is important to understand that the distinction between these types of societies might have been exaggerated as a means to identify and understand past cultures (Renfrew 1986). Also, past cultures were not fixed in their ways, meaning that interactions and relations with different groups resulted in changing economic and socio-political systems every so often.

The economic developments, particularly trade and exchange, occurring within societies were thought to be a consequence of the worth that people assigned to the action of exchange. In most cultures, people had, and still have, the tendency to place social and symbolic significance on objects related to personal experiences (Renfrew 1986). However, an object was only recognised as being valuable once it was introduced into the process of economic exchange, as this created boundaries, perhaps even restrictions, regarding the utility and availability of an object (Appadurai 1988). In other words, the worth of an object was not the by-product of its presence within exchange systems; rather, the action of exchange came to be the source of an object's value (i.e. exchange value) within larger economies (Appadurai 1986, 1988, 2006).

Through systems of exchange, different values were attributed to assorted trade goods. Foreign goods that were scarce acquired higher values than local, more readily-available items because these goods were exotic and contained special benefits (Renfrew 1986; Appadurai 1988). These objects, however, rarely had practical utilitarian purposes, suggesting that their value most likely outweighed their functional use (Johnson & Earle 2000; see also Helms 1993, 1994). Despite this, the higher value, the limited range in availability, and the item's association with status, possibly among other contributing factors, led to these items being classified as prestige goods (Renfrew 1986; Earle 1987; Appadurai 1988; Smith 1999; Ames 2007). These objects were accumulated by individuals and confined to narrow spheres of exchange in order to secure political power within their respective communities (see Kopytoff 1986; Helms 1993). By focusing on trade goods, and the value that these items embodied, it is possible to gain a better understanding of the socio-political structures that have been influenced by systems of trade and exchange, and the resulting differentiation and stratification evident in 'complex' societies (Renfrew 1986; Earle 1987; Appadurai 1988).

The act of transmitting value and prestige through specifically selected objects has been archaeologically evident across the world for almost five millennia (Clark 1986). Although the material culture to which prestige has been attributed does differ from culture to culture (see Appadurai 1986; Kopytoff 1986), the purpose of these types of goods was to display and enhance the status of individuals within their respective societies (Clark 1986; Renfrew 1986). According to Johnson and Earle (2000), these prestige goods enabled individuals to establish a social position amongst other members of the community; in turn, an individual's social status allowed for, and defined, certain economic and political advantages within society. As a result, individuals who began to utilise these items to establish status and power gradually monopolised the distribution channels of known prestige goods as a means of securing and furthering their socio-political positions (Clark 1986; Renfrew 1986; Johnson & Earle 2000). Numerous scholars have argued that the appearance, accumulation and monopolisation of prestige goods contributed to the development of socio-political rankings and elite identities within various communities (see Lee 1979; Clark 1986; Renfrew 1986; Earle 1987; Boehm 1993, 1999; Kelly 1995; Johnson & Earle 2000; Huffman 2007a, 2009). Because prestige goods were thought to be more than merely a reflection of the socio-political and economic changes occurring within societies, a link could be drawn between the role of trade, prestige goods and the developing structures within societies (Renfrew 1984). Trade, and especially prestige goods, occupied an active role throughout the emergence of social distinctions and

political hierarchies. As a result, the value attributed to these goods was thought to be an indicator of an individual's political power, social distinction and overall wealth (Clark 1986; Renfrew 1986; Earle 1996; Johnson & Earle 2000). For this reason, studies relating to the development of hierarchical ranking and socio-political differentiation often focus on the presence and purpose of prestige goods within respective societies. One such example is that of southern Africa's first state-level society at Mapungubwe (Huffman 2007a; but see Chirikure *et al*. 2014 for an argument that Mapela Hill predates Mapungubwe) situated within the middle Limpopo Valley, an intersectional region where three countries converge and are separated by two prominent river systems: the Limpopo and the Shashe (Figure 1.1). The Limpopo River separates South Africa located to the south from Botswana and Zimbabwe to the north. The Shashe River separates Botswana in the west from Zimbabwe in the east. The Limpopo River floodplain is also formed by the meeting of two cratons, the southern Kaapvaal and the northern Zimbabwe (Forssman 2020). These rivers feed into a variety of landscapes, some a large distance away, including the economically important Indian Ocean trade network region (Figure 1.1).

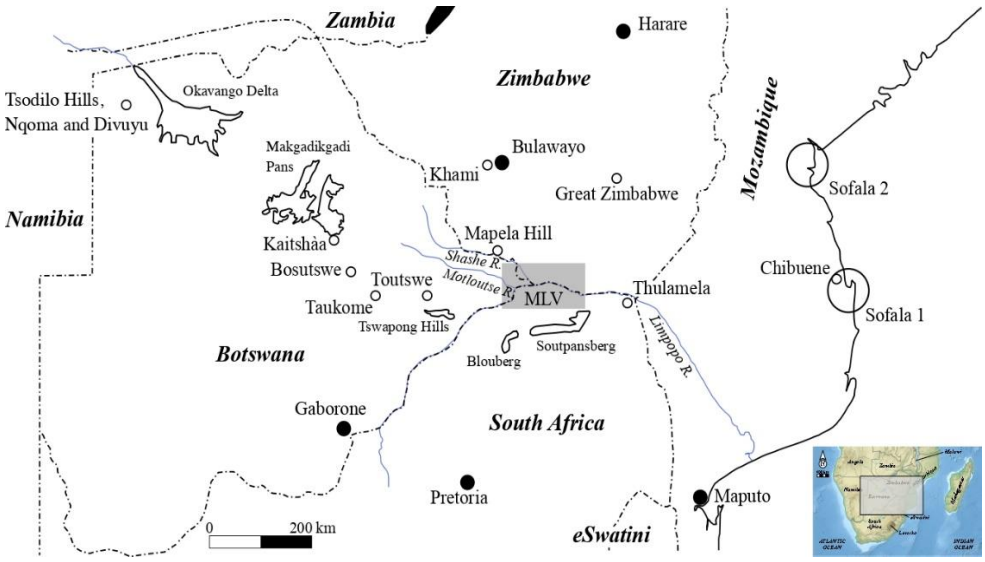

Figure 1.1: Map of the middle Limpopo Valley region, the river system borders, and the larger social landscape of southern Africa.

In central southern Africa's middle Limpopo Valley, trade has had a significant effect on the socio-political and economic structures of its occupants, especially farmer groups. These changes are noticeable through archaeological material in the area and intimates the development of complexity and the expansion of social perceptions (Pwiti 1991; Huffman 2000, 2007a, 2009; Wood 2012). As a result, archaeological research has focused on understanding the correlation between trade relations, both local and international, and the

emergence of socio-political complexity within farmer societies from around AD 850 onwards (Huffman 2000, 2007a, 2009). Formalised trade relations between farmer groups and international traders along the eastern coastline allowed for the introduction of new items previously limited, or unknown, to occupants of the middle Limpopo Valley, including glass beads, Chinese celadon, porcelain and cloth (Huffman 2009; Wood 2012; Chirikure 2014). Because of the skills and knowledge needed to produce these items, as well as the subsequent transportation and circulation thereof from distant regions (see Risso1995), most of these trade goods were locally scarce and considered to be prestigious or exotic (see Pwiti 1991, 2005; Calabrese 2000; Huffman 2007a, 2009; Wilmsen 2009; Wood 2012). Over time, the prestigious nature of these goods came to represent political power, status and wealth within farmer communities, which resulted in certain individuals accumulating and monopolising these trade items (Huffman 2000, 2007a, 2009, 2010; Robertshaw *et al*. 2010; Wood 2012; but see Chirikure 2014; Moffett & Chirikure 2016 for opposing arguments). By doing so, individuals secured political power and trade wealth with which they were able to elevate their status within the community. These actions prompted the initial phases of class differentiation, elite identities and socio-political complexity at farmer settlements, such as Schroda and K2 (Pwiti 1991; Calabrese 2000; Huffman 2000, 2007a, 2009; Wood 2012). The intensification of these developments, along with an increase in international trade relations contributed to changes in the economic, political and social structures of the farmer community at Mapungubwe and, in turn, brought about southern Africa's first state-level society (Pwiti 1991; Calabrese 2000; Huffman 2000, 2007a, 2009; Wood 2012). The evident changes surrounding the economic and socio-political structures within farmer settlements imply that farmers were prominent participants in the expansion of trade relations between southern Africa's interior and Indian Ocean trade networks. The trade relations established by farmers on both a local and international scale, and the subsequent presence of trade wealth, were a contributing factor to the development of socio-political complexity in the middle Limpopo Valley (see Pikirayi 2007; Chirikure 2014 for other contributing factors). However, the role of participants who were not as active as farmer groups in these trade networks has been generally overlooked, and so obstructs a more inclusive understanding of trade and exchange in the region locally, as well as between different cultural communities.

The intentional focus on farmer groups has limited our understanding of other occupants' (e.g. herders and foragers) roles in the valley, causing the economic and socio-political impact they might have had to remain unseen (Chirikure *et al.* 2013; Antonites 2014; Chirikure 2014;

Forssman 2016, 2017, 2020; Forssman *et al*. 2023). This is problematic as it reduces our understanding of trade relations across cultural boundaries and how trade objects might have impacted different communities on a local scale. At present, excavations have not produced materials that can be associated with herder sequences, and so we cannot yet include them. Foragers' absence in studies relating to international trade and the development of socio-political complexity has been construed as a lack of socio-economic influence (Antonites 2014; Denbow 2017), and yet numerous rock shelters have provided evidence for exotic goods within forager contexts (Hall & Smith 2000; van Doornum 2005, 2007, 2008; Forssman 2014a, b, 2015a, b; Forssman *et al*. 2023).

Initial contact between forager and farmer groups appeared to have been limited, with little change in the archaeological sequences of forager sites (van Doornum 2008; Forssman 2017). However, the intensification of interactions between foragers and farmers could be inferred through gradual changes in cultural material. These relations can be observed by examining the presence of prestige goods in a forager context, which are usually distinct. Excavations at several rock shelter sites within the region have provided material indicative of wealth items associated with local trade networks (Figure 1.2). This suggests that forager groups may have been participating in local economies. These include the shelters of Balerno Main (van Doornum 2005, 2008), Balerno 2 and 3 (van Doornum 2005, 2014), Tshisiku (van Doornum 2007), and especially Dzombo (Forssman 2014a, b, 2015a, b) and Little Muck (Hall & Smith 2000; Forssman *et al*. 2018; Forssman *et al*. 2023) (Figure 1.2). A number of questions regarding forager involvement in the local networks economy still remain unresolved;

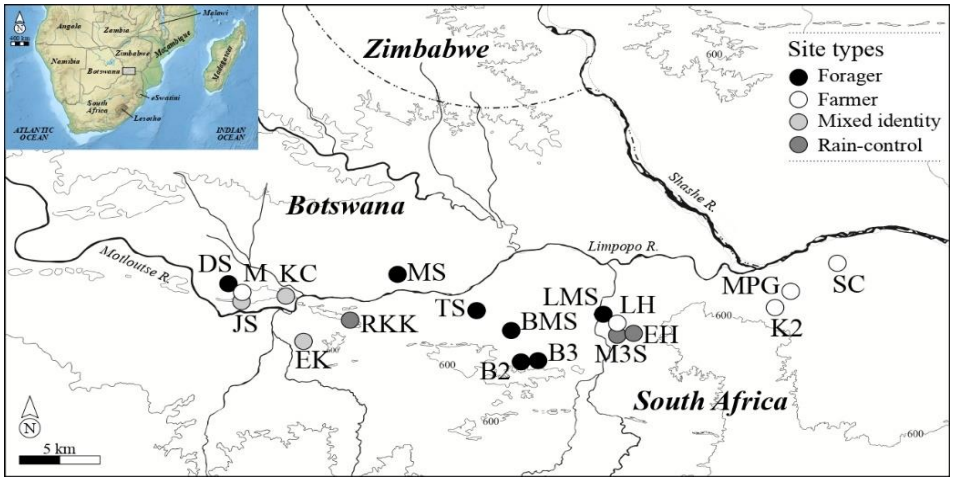

Figure 1.2: Map of sites within the middle Limpopo Valley occupied by a variety of culturally distinct groups, such as foragers, farmers and mixed identities. Sites mentioned in text right to left: DS – Dzombo Shelter; M - Mmamagwa; B2 & B3 – Balerno 2 and 3; BMS – Balerno Main Shelter; LMS – Little Muck Shelter; LH – Leokwe Hill; K2; MPG – Mapungubwe; SC – Schroda.

however, foragers most likely obtained trade objects through an amalgam of factors, such as direct exchange or trade, labour activities, or ritual involvement (Forssman 2020). Archaeological material from these sites, especially the presence of exotic goods, indicates that foragers were most likely witness to, and perhaps even participants of, economic and socio-political developments occurring in the area. But we have a limited knowledge on this and the nature of exchange or trade, meaning that we do not presently have a means to develop an inclusive representation of past socio-political and economic relations across the landscape.

Of the excavated sites, the one that appears to have the greatest potential to assist in understanding forager roles and activities in the local networks economy is Little Muck Shelter (LMS - Figure 1.2). Initially, excavations at the site were conducted by Hall and Smith (2000). Based on evidence from the shelter, Hall and Smith (2000) argue that Little Muck was used as a camping site by forager groups previous to, and going into, the first millennium AD. The arrival of farmer groups and their gradual occupation of the middle Limpopo Valley area during the first millennium AD resulted in changing trade relations and spatial usage. Trade relations gradually intensified throughout this period, reaching a highpoint around AD 900 - 1000 during the Zhizo occupation. Cultural material from Little Muck also intimate that the shelter's purpose transformed from a camping site to an area of production and trade. Following this, the presence of craft goods and prestige items seems to have declined rapidly from AD 1000 onwards, which may be indicative of changing access patterns and systems of exclusion emerging in the area during the Leopard's Kopje occupation (Hall & Smith 2000). Although Hall and Smith's (2000) analyses were mainly based on preliminary results, the premises regarding the spatial use and change of the site and foragers' involvement in trade relations is thought-provoking. The extent and intensity of forager participation within larger trade networks, the exchange value of items, as well as the effect on their lifeways are questions that still remain unresolved. This study presents new data from Little Muck as a means to answer some of the unresolved questions, and to provide more insight into the trade relations that might have existed between forager and farmer groups. By showing foragers' capability in obtaining prestige goods and producing exchangeable craft goods, especially at Little Muck, a more inclusive past surrounding the middle Limpopo Valley's trade relations can be developed in which all participants are acknowledged.

This study will begin by examining more generally exchange and trade in archaeological sequences (Chapter 2) and specifically focus on the role this played in transforming society in both forager and farmer communities (Chapter 3). Chapter four provides a brief overview of

the shelter's excavation background and then presents the study's materials, as well as a summary of the systems of analyses used for individual artefacts, focusing specifically on craft items and trade goods. Chapter five presents a description of Little Muck's stratigraphic sequences together with radiocarbon dates and relative chronological markers, followed by the results of the trade-related artefacts. Building on this, Chapter six explores Little Muck's assemblage through a brief discussion on how activities changed at the site during the four main occupation periods, particularly focusing on the intensification and specialisation of craft goods. The concluding chapter notes how this study may assist in better understanding diverse forager expressions across the middle Limpopo Valley landscape and provides recommendations for future comparative work.

Chapter 2: Trade and archaeological theory

In this chapter, I will provide a brief discussion of theoretical approaches previously utilised to understand social relations amongst different cultural groups, as well as how trade progressed beyond an 'economic-centred focus'.

Initially, trade was often simply defined as the reciprocal movement of goods from one individual to another in exchange for something of similar value (Renfrew 1969: 152). However, its definition is far more intricate and the archaeological record has shown that past exchange systems should not be viewed as only trade goods being moved across the landscape (Janetski 2002). Rather, trade was seen as a social act established and maintained through interactions amongst people where both objects and knowledge are exchanged (Schneider 1974). According to Irwin-Williams (1977: 142), it also indicated interaction that reflects an individual's, group's or society's ability to create socio-economic linkages.

At one time, the terms exchange and trade were used synonymously with no explanation on the difference between trade and other forms of exchange (Kohl 1975). Though there have been cases in which the author has explicitly stated that the terms will be used interchangeably (see Renfrew 1975), other scholars have set out to establish a clear and concise definition for each of these terms respectively. Oka and Kusimba (2008: 340) defined trade as a "material-economic component" whereas exchange is thought to be more encompassing of "interactions amongst humans." Another approach argued that exchange should be considered "a fundamental social activity." In other words, a focus should be on the movement of goods as well as the "social context and consequences of the exchange" (Agbe-Davies & Bauer 2016: 13). Following Agbe-Davies and Bauer (2016), this study will use the term exchange in reference to the transferal of goods from one group to another through various means; this includes but is not limited to "ritualised gift-exchange, negotiated transactions and one-way exchanges attributed to piracy and coercion" (Agbe-Davies & Bauer 2016: 15). Exchange, though it can have an economic aspect, is more diverse in that an item of value can be exchanged for knowledge, ideas, values, social views and so forth. The value of these intangible attributes is then decided between the two participants. It is also important to note that, unlike trade, exchange is not necessarily complete when participants go their separate ways; instead, social relations might have been established that expand across time and distance. Trade, on the other hand, is defined as an economic activity that requires more precision. The exchange relationship encompassing trade is "more formalised and market-

based" (Agbe-Davies & Bauer 2016: 15). Essentially, trade can be viewed as an economic process by which two participants exchange one item of value with the intention of receiving a different item of similar value; once these goods have been exchanged, the process of interaction is concluded (Agbe-Davies & Bauer 2016).

Trade has a dual status: first, in the past, this activity was a prime motive for interactions amongst different cultural groups and second, in the present, it serves as an indicator that intercultural contact was occurring in the past (Renfrew 1969: 151). Various scholars have utilised exotic cultural materials as a means to better understand the role of trade within an archaeological context (see Adams 1974; Sabloff & Lamberg-Karlovsky 1975; Ericson & Earle 1982; Brumfield & Earle 1987). Originally, according to Agbe-Davies and Bauer (2016: 14), trade was thought to be purely economically quantitative and removed from social significance. However, as stated by Terrell (2006: 69), archaeologists came to recognise that trade was much "more diverse and multifaceted than previously thought" with the act of exchange being economic but also social, traditional and emotional. He further suggests that these trade networks created social arenas that extended beyond supposed cultural boundaries (see also Kelly 2016). For this reason, scholars began to explore the possibility of integrating post-processual themes with approaches from materialist studies that mainly focus on the movement of goods (see Bauer & Doonan 2002; Stein 2002).

Post-processual approaches aimed to understand the meaning associated with trade and trade goods, as well as the experiences of those involved (Stein 2002; Bauer & Agbe-Davies 2016: 41). In doing so, it became clear that human interaction and social relations, "previously obscured by universalizing models" (Bauer & Doonan 2002: 5), are implicit in trade (Renfrew 1984). The desire to accumulate wealth, and oftentimes, establish status and political power can be observed as stimuli of trade networks (Clark & Blake 1994). In turn, trade also establishes networks of power, meaning that individuals who are able to acquire knowledge, objects and symbols utilise these to define goals and exert control over those who lack such access (Schortman 2014). This paradoxical nature of trade follows trade goods' tendency to move beyond specified boundaries, and subsequently value systems, disturbing the established political control thereof (Appadurai 1986). Essentially, individuals monopolise the movement of goods as a means of creating a "narrow sphere of exchange" (Kopytoff 1986: 74); however, in doing so the value of these goods are emphasised, leading to political oppositions and a spreading of these goods (Appadurai 1986). Trade, evidently, fulfils a fundamental role in the establishment and maintenance of social and political relations between groups, regardless of

the thing being exchanged (see Malinowski 1922; Lévi-Strauss 1969; Appadurai 1986; Mauss 1990). External social relations, established through increasing trade networks, were considered to have a significant influence with regard to cultural change and developments (Schortman & Urban 1987; Plourde 2009).

Originally, it was thought that cultural differences and change were a result of cultural borrowing amongst groups separated by regional and cultural boundaries. For example, the diffusion model interpreted transformation as the distribution of cultural traits between different groups, or people moving with their items, as opposed to innovations (see Boas 1924; Lowie 1929; Kroeber 1940; Agbe-Davies & Bauer 2016 for more detailed discussions). Diffusionism emphasised the importance of understanding the role that inter-societal contact might have had regarding cultural variability and change; however, the conceptualizations of social interactions remained vague and growing criticism saw the model as undertheorized (Agbe-Davies & Bauer 2016: 31). Trade, on the other hand, presented an approach in which interregional relations could be studied in a "tangible and measurable way" (Agbe-Davies & Bauer 2016: 34). Because trade provided a manner in which to theorise social interactions more rigorously by focusing on the modes of production, distribution of objects and knowledge based on systems of reciprocal exchanges (Adams 1974: 240-241), it could be recognised within prevalent evolutionary and adaptationalist theories, particularly Marxist approaches. The reason being that trade could be viewed as a strategy that social groups used as a means of adapting to the environment and exploiting the resources therein (see Sanders 1956; Adams 1966). And so, trade studies in conjunction with quantification methodologies, adaptationalist theory and post-processual approaches came to be the primary way of understanding social interactions.

As a result of these combined methods and theories, some archaeological studies have shown how trade and exchange systems, and subsequently certain trade goods, served as mobilising agents in the development of socio-political complexity (McIntosh 1999). Frequently, intercultural interactions (see Schortman & Urban 1992), allowing access to cultural material that was "rare, hard to get, or formerly unknown through trade and exchange" (Kelly 2016: 100), have impacted developments regarding socio-political evolution as well as the ensuing power relationships (see Renfrew 1975, 1986; Earle 2002). These changes regarding the socio-political structure of a society were often due to the accumulation and centralisation of items thought to represent power. Certain items (e.g. exotic goods) obtained through external trade

networks were regarded as an expression of status and wealth (Adams 1974; McIntosh 1999; Huffman 2007a; Wood 2012).

Anthropological studies have observed an association of cultural materials as expressions of power (see Thomas 1991; Schortman & Urban 1992; DeMarrais *et al.* 1996). In other words, acquiring these specific groups of cultural material may demonstrate power and the possession thereof, whereas lack of access to such goods may convey an absence of power (Kelly 2016). More recently, it has been shown that the singularisation, accumulation and circulation processes of cultural materials can be observed archaeologically; in turn, variations in trading activities can be related to the presence of specific cultural materials (Huffman 1982, 2000, 2009, 2010; Renfrew 1984; Kopytoff 1986; Robertshaw *et al*. 2010; Wood 2012; Kelly 2016). These processes were exploited by individuals as a means of securing power – both the power to accomplish specific objectives and power over people (Rowlands 1987). In turn, such exploitation contributed to the growth of economic disparity, with a segment of society having complete social and political authority. This power is most notable in the emergence of elite identities and class distinctions established through relationships of obligation, dependency and exchange (Friedman & Rowlands 1977; Kelly 2016). Prestige goods came to serve "a fundamental role in social transactions" (Frankenstein & Rowlands 1978: 76). This idea that political associations and social authority are tied to the exchange and utilisation of specific goods, only attainable through long-distance trade (see Kardulias 1989), came to be the basis of Friedman and Rowlands' (1977) prestige goods model. The "underlying economic logic" is that socio-political advantage is obtained through individuals' control of accessibility to these non-essential prestige goods (Wood 2012: 47). In the following paragraphs, I provide a brief recounting of the influence that long-distance trade and exotic goods have had on areas across the world and, where possible, how the prestige goods model has been applied to these examples.

2.1 Socio-economic relations and trade goods around the world

Trade is a means through which one can gain a better understanding of the socio-economic relations and contact in various contexts around the world. The following examples show the value of such an approach and provide a context for the efficacy of trade before we look at southern Africa.

2.1.1 West Africa

Interactions between ship-borne European traders and West African coastal groups allowed for new opportunities in which coastal groups could side-step the existing land-based trade networks and establish their own trade relations of power and hierarchy (Kelly 2016: 100-101). The expansion of these trade networks along the coastal region of West Africa contributed to the development of socio-political complexity within the area (see Polanyi 1966; Law 1991; Monroe 2003, 2007; Kelly 2016). In the mid-seventeenth century, a higher demand for captives, and consequently slave trade, arose. This demand had a significant impact on West African coastal states. One in particular, the Hueda polity, was actively engaged within these networks of slave trade (Kelly 2016: 103-111). During the 1670's, European traders were seeking "new sources of captives" (Kelly 2016: 101), providing an opportunity for the Hueda polity to establish trade relations with these Europeans separate from those of interior polity – Allada (Kelly 2016). Previously, the West African coast held little economic value to European traders; however, once trade relations moved beyond the Gold Coast, West African coastal regions recognised the advantage of controlling the trade that was "being negotiated on their own shores" (Kelly 2016: 104). In turn, interactions regarding trade goods (e.g. captives as well as gold, ivory and pepper) were no longer orchestrated by Allada but rather Hueda (Kelly 2016; see also Law 1991). Because the Hueda polity was witness to the consequences of exclusive trade alliances, the polity actively engaged with multiple European trading partners at any given time. In turn, the Hueda polity obtained social power over the arena of exchange through controlling the distribution of prestige goods (e.g. captives) and by preventing any single European traders from dictating the terms of trade relations (Kelly 2016: 104).

The idea of the Hueda's power and control over the Europeans were further reinforced through their use of the landscape (Kelly 2002; Norman & Kelly 2004; Kelly & Norman 2007). To take one example, European traders were prohibited from erecting "fortified European trading posts," leaving the traders unarmed once they entered Savi, the town capital. Instead, the Hueda built outposts for European trading companies according to the local customs for elite housing, using material appropriated from Europeans themselves (see Kelly 1995: 273-278). These outposts were also located a few kilometres inland in the centre of Savi (Kelly 2016: 104). This insistence ensured that the European traders were separated from their source of power – their ships. This demonstrates how individuals within the Hueda polity utilised the landscape to manipulate European traders, as well as local people, in order to gain social authority and establish an elite group (Kelly 2016: 104; see also Kelly 1997a; Norman 2008). In turn, the

Hueda elite began to utilise the presence of, and the wealth opportunities brought through, European trade relations as an expression of their unique social authority (Kelly 1997b, 2016). In other words, individuals within the Hueda polity manipulated trade relations, wealth opportunities and prestige goods accessibility in order to create and maintain power relations amongst groups (Earle 1991: 3; Blanton *et al.* 1996; Stein 2002; Kelly 2016). The establishment of these trade relations most likely facilitated internal socio-political changes within the polity, contributing to the development of complexity along the West African coast (Kelly 2010; see also Renfrew 1975), and exhibits how international trade networks can influence the foundational structures of a society.

2.1.2 Northern Mexico

The Chalchihuites culture, identified in northern Mexico, was one of many cultural groups who were actively participating in the Aztatlán Mercantile System (Gilissen 2003; see Lister & Howard 1955 for more information on individual cultural groups). No archaeological evidence intimates the presence of a singular, dominating group in this area; instead, the trade system is thought to have consisted of multiple cores identified through similar ritual and agricultural features as well as trade items (Kelley 2000; Gilissen 2003). Additionally, the differences in certain stylistic characteristics allowed for the recognition of different cultural groups who shared a similar interest in this trade system (Gilissen 2003). According to Gilissen (2003), these cores interacted with one another through peer-polity relationships suggesting that they most likely shared similar ideas and values. The abundant presence of ritual features and symbols in this area of northern Mexico has contributed to the idea that ritual success and status within a religious aspect was very important to the group's success within the larger Mercantile System (Gilissen 2003). As a result, it is thought that religion might have been used as an item of trade. The expansion of religious beliefs is noted in a variety of the Chalchihuites culture's ritual features often associated with Central-Mesoamerican cultures, including "stepped pyramids, halls of columns and ballcourts" (Gilissen 2003: 35). Another facet of this idea relates to the trading of turquoise as a prestige good because few turquoise outcrops have been found in Mexico. It is also thought that this might have had a ritual meaning to it (Gilissen 2003). In his article, Gillissen (2003) argues for the possibility that turquoise may have had cosmological connotations similar to that of macaw feathers in Mesoamerican mythology. Though further research is needed to properly approach the ritual characteristics within the Aztatlán Mercantile System, it is evident that prestige goods were brought into the area with groups situated within the interior actively participating in larger trade networks.

According to archaeological material and the prestige goods model (see Frankenstein and Rowlands 1977), the establishment and participation of groups within the Aztatlán Mercantile System led to the system falling into an equilibrium. The prestige-goods model allowed for various directions a system could take once it fell into this state of equilibrium. Through the application of this model (Frankenstein & Rowlands 1977; Gilissen 2003), it was argued that chiefs from the various participating groups were able to establish and maintain control of the trade systems within their individual areas. As a result, it was thought that most chiefs were unable or unwilling to expand their individual trade systems across the larger region, as they would then be incapable of maintaining their control. There is also the possibility that interregional trade networks encountered another large and powerful trade network, resulting in the establishment of a single, large trading system, such as the Aztatlán Mercantile System (Kelley 2000; Gilissen 2003). If this was the case, then it is thought that the relations established between the different groups were focused on the achievement of status, power and success within the larger trading system, instead of amongst regional trade networks (Gilissen 2003). According to Kelley (2000: 143), during developing trade relations, trade would have occurred between individuals from "gateway communities and hinterland hamlets" with no notion of elite identities. Instead, elite identities are thought to have been a result of "continued commercial relations" over an extended period of time in which individuals began to accumulate and monopolise trade items (Kelley 2000: 143). In turn, as trade relations became more established and long-lasting, elites would have begun participating and monopolising the commercial trade and redistribution activities (Kelley 2000; Gilissen 2003).

Though it is evident that the prestige goods model, as outlined by Frankenstein and Rowlands (1977), can be applied to a variety of cultures across the world and its development or destruction, it is important to note that the model cannot be applied statically. Every area has a different history with different groups and therefore, the model, when used, should take this into consideration. These are simply examples of how long-distance trade and the exotic goods that accompany it influenced the socio-political and economic structures of cultures across various regions of the world. The same applies to this study's project area; using a historically contingent approach helps us to understand the role long-distance trade had on social transformation.

Chapter 3: Archaeology in the middle Limpopo Valley

This chapter will discuss trade as a social process by examining two groups, farmers and foragers, and how they used the landscape respectively, how they engaged with one another, and how each group utilised the objects and knowledge that these relations afforded them. This study aims to better understand the socio-economic relations that might have existed between these two cultural groups as evidenced by trade goods and how it influenced the social structure within each group.

3.1 Trade in the middle Limpopo Valley

In southern Africa, new lifestyle practices and cultural material appeared across the landscape around AD 200. In contrast to Stone Age foragers (see Barnard 1992; Walker 1995; Forssman 2014a, 2015a, 2016, 2017), groups who were highly mobile and partook in lifestyle practices such as gathering and hunting, these new groups practised agropastoralism (e.g. mixed farming, Huffman 2007a). One of the main reasons for the arrival of farmers in the valley, according to climatic data (see Tyson & Lindesay 1992; Holmgren *et al.* 1999), was for cultivation of grains, such as millet and sorghum (Huffman 2000, 2007a). The warm, wet environment of the valley provided ideal climatic conditions for such cultivations until about AD 600 (Huffman 2000, 2007a). Seasonal flooding of the river networks, especially the Shashe River (Figure 1.1), also created extensive floodplains, enabling farmer groups to extend their growing season and produce multiple crops (Huffman 2008). Evidence suggests that crops, such as sorghum and millet, were adapted to different soil and moisture conditions in order to produce larger yields over time (see Simmonds 1976). This further supports the notion that various stretches of floodplains along the river networks were being utilised for agricultural purposes (Huffman 2008). The abundant dry-land grasses, especially elephant grass, also provided an ideal grazing ground for cattle (Huffman 2008). These ideal surroundings led farmer groups to establish numerous settlements on naturally elevated terraces over the floodplains. This arrival of farmer groups into the middle Limpopo Valley was traced through various sources, including historical distribution patterns, linguistic features of specific Bantu languages and archaeological material (Huffman 2007a: 331-333; see Doke 1945 and Greenburg 1955 for more detailed information on Bantu language structures).

The archaeological material, in this case, has provided a better understanding of the movement of, and interactions between, distinct cultural groups in the form of the stylistic similarities of Early Iron Age groups' ceramics from eastern and southern Africa (Huffman 2007a). The

earliest facies of the Chifumbaze Complex, encompassing two Traditions – Urewe (eastern stream of Eastern Bantu speakers; see Huffman 2007a:) and Kalundu (western stream of Eastern Bantu speakers; Huffman 2007a: 335-336), was linked with the earliest traces of Eastern Bantu speakers (Huffman 2007a). It is also this Complex which resulted in the emergence of multiple ceramic facies during the initial arrival of farmer groups into southern Africa, including Silver Leaves, Gokomere, Bambata and Happy Rest (see Huffman 2007a).

The earliest facies featuring stylistic attributes of the Urewe Tradition in southern Africa was identified as Silver Leaves ceramics (AD 280-450). However, it is thought that Gokomere is the earliest facies of this Tradition evident in the middle Limpopo Valley (AD 550-750). Stylistic attributes associated with the Kalundu Tradition also extended across the middle Limpopo Valley where they were identified into three distinct groups; Bambata A (AD150-650), Bambata B (AD 350-650), and Happy Rest (AD 500-750). Huffman (2007a) suggests that Gokomere, Bambata and Happy Rest ceramics were produced concomitantly across the middle Limpopo Valley. In fact, it is thought that Ziwa (AD 300-550) producers in southwestern Zimbabwe incorporated stylistic characteristics associated with Bambata into their ceramic production, resulting in the emergence of Gokomere ceramics (Huffman 2007a). Through the spread of stylistic characteristics across the middle Limpopo Valley, it is evident that distinct cultural groups interacted, and possibly traded, with one another as a more intensified occupation of the area began (see Robinson 1961; Huffman 1978, 1994). Accordingly, Gokomere ceramics seem to have been more prevalent north of the Limpopo River, while Happy Rest ceramics were found primarily to the south. As Gokomere producers began to incorporate other stylistic attributes into their decoration patterns, the facies changed to Zhizo ceramics (Huffman 2007a). This facies extended across the entire middle Limpopo Valley. Alongside this, evidence for large-scale Zhizo occupation, as well as the possibility of an economic incentive, was recovered from an agropastoralist settlement known as Schroda (Hanisch 1980, 1981; Calabrese 2000; Antonites 2018).

3.1.1 Earliest state-level society in southern Africa

Schroda is considered one of the larger, and more focal, settlements in the middle Limpopo Valley during the first millennium AD. It was occupied between AD 815 and 900 (Hanisch 1981; Pwiti 1991; Huffman 2000; Vogel 2000; Antonites 2018) and abandoned around AD 1020 (Vogel 2000; Antonites 2018). The length of occupation, as well as the influence, of Zhizo people at Schroda is significant because earlier farmer groups were associated with

subsistence farming (Pwiti 1991). In other words, these farmer groups' economy revolved around agriculture, herding of domestic stock (e.g. sheep, goats and cattle), and interregional trade with the intention of maintaining and/or improving their livelihoods (Pwiti 1991; Wood 2012). Earlier farmer groups were also often associated with semi-permanent villages that were thought to have "simplistic levels of organisation" (Pwiti 1991: 121), and were described as kin-based chiefdoms (Wood 2012: 37). However, changes regarding the economic and social structure, as well as the archaeological record, of farmer groups are noticeable from AD 815 onwards (Pwiti 1991). The motivating force behind these changes has been associated, at least in part, with the participation of farmer groups in new international trade relations circulating from the east African coast into southern Africa's interior (Pwiti 1991; Huffman 2007a, 2008, 2009; Wood 2012).

Excavations at Schroda yielded the earliest evidence of large-scale trade between the interior of the middle Limpopo Valley and international networks along the coastline of the Indian Ocean (Hanisch 1980, 1981, 2002; Pwiti 1991; Huffman 2000, 2007a; Wood 2000, 2011; Antonites 2018). According to Pwiti (1991: 123), the integration of southern Africa's interior into the Indian Ocean trade network led farmer groups, who had previously focused on a "basic subsistence-oriented economy," to procure items that were highly sought-after outside of Africa for the purpose of trade. Shavings from ivory trimmings at Schroda indicate the purposeful working of ivory, intimating their involvement in these networks and the developing trade relations (Voigt 1981; Pwiti 1991). Evidence also indicates that some of the worked ivory was used for personal adornment; however, the quantity of ivory objects within the material culture at the site suggests that most of these objects were traded along with animal hides and possibly even gold (Voigt 1981; Hall 1987; Pwiti 1991; Wood 2012). Based on findings at various sites across the middle Limpopo Valley, it is evident that the interior of southern Africa was actively participating in Indian Ocean commercial networks at the turn of the second millennium AD (Pwiti 1991; Wood 2012). It is important to note that early farmer groups were not passive participants before this involvement with international trade networks; in fact, archaeological evidence suggests that there were "well-established and extensive interregional trade routes" across the interior of southern Africa (Pearson 1998; Wood 2012: 37; see also Denbow 1984; Miller & Whitelaw 1994; Whitelaw 1994; Mitchell 2002; Chirikure 2014). According to Wood (2012: 37), items such as copper, fish, marine shell, ostrich eggshell and salt were used to trade with other farmer communities. These extensive trade routes are indicative of growth within farmer communities before the introduction of external trading with

the focus of production and trade at "local levels for local needs" (Pwiti 1991: 124). Because trade occurring between earlier farmer groups focused on a limited community, differentiation of economic, political and social structures remained fairly equal with the only division amongst group members established on the basis of age and sex (Pwiti 1991; Wood 2012). However, the gradual increase of farmer participation in external trade networks began to have economic and socio-political effects within Schroda's farmer community (Pwiti 1991; Huffman 2000, 2007a; Wood 2012). According to Renfrew (1984), as trade relations intensified, a correlating increase regarding the size and socio-political complexity of a site occurred. In turn, Huffman (1986, 2000) used the size of a settlement, at least sites in southern Africa, as a reflection of a group's political power and control across an area.

Huffman (2000: 17, 2007a: 368) identified Schroda as a Level-3 capital, the first one in the middle Limpopo Valley during the first millennium AD. In other words, Schroda was the largest farmer settlement at this stage, consisting of two size categories ("a petty chief and all others"; Huffman 2000: 17), and was characterised as a three-level hierarchy. Other size-rankings included a four-level hierarchy which consisted of "a senior chief, a petty chief and all others" (Huffman 2000: 17), as well as a five-level hierarchy which included "national, provincial and district categories" removed from family groupings at the base (e.g. Mapungubwe, Huffman 2000: 17). Because of Schroda's growing international trade relations and size, the settlement became a regional stronghold within the middle Limpopo Valley (Hanisch 1980, 2002; Huffman 2000; Antonites 2018). Furthermore, a noticeable shift occurred from reciprocal trade to the accumulation and redistribution (unequal distribution) of exotic goods (Pwiti 1991; Huffman 2000, 2007a; Wood 2012). Long-distance trade and the appearance of 'trade wealth items' contributed to changing economic opportunities and socio-political structures at Schroda, as well as the manifestation of advanced state-level characteristics in the valley (Huffman 2000, 2007a, 2009; Wood 2012). Though Schroda's influence in the region began to decline from AD 1000, the changing socio-political and economic dynamics carried over into the newly established settlement at K2 when Leopard's Kopje ceramic-using groups arrived in the area (Huffman 2000).

The impact these new groups had on incumbent Zhizo people has been the subject of debate. Some scholars (see Denbow 1983; Huffman 1986; Calabrese 2000) have argued that Zhizo farmers were dispelled from the area by arriving farmer groups, with these new groups seizing control of trade activities across the middle Limpopo Valley (Huffman 2007a). Others have

argued that some Zhizo people remained and those that did formed a new ceramic facies, Leokwe. These Leokwe groups often fulfilled a lower status within society (Calabrese 2007; Huffman 2014). Evidently, the onset of the second millennium AD was characterised by the gradual disappearance of Zhizo ceramic styles alongside the appearance of Leopard's Kopje ceramics (Huffman 2007). According to Huffman (2007a, b), the stylistic design of Leopard's Kopje ceramics was introduced into the middle Limpopo Valley by proto-Kalanga speaking people and can be divided into three phases: K2 (*c.* AD 1030 – 1220), Transitional K2 (*c.* AD 1200 – 1250) and Mapungubwe (*c.* AD 1220 – 1300) (see Fouché 1937; Gardner 1963; Huffman 2007a, b for more details on Leopard's Kopje ceramic cluster). The earliest cluster of Leopard's Kopje ceramics, namely K2, was identified among archaeological debris at a site located near Bambandyanalo Hill. As a result of these findings, the site itself came to be known as K2 and was found to have had a large impact within the area (Calabrese 2000; Huffman 2007a, b). Following the decline of activities at Schroda, a new economic and political settlement was established at K2 around AD 1030 (Calabrese 2000; Huffman 2007a, b; Wood 2012). The archaeological record indicates that farmer groups at the site assumed control of international trade routes along the east coast, and practiced mixed agro-pastoral farming evidenced through the cultivation of the Limpopo floodplain – a practice that was not evident at Schroda (Huffman 2007a, b; Antonites 2018). Furthermore, the amount of prestige goods, as well as local trade items, is significantly higher in comparison to other farmer settlements in the area during this period (Voigt 1983) and provides some of the earliest evidence of socio-political stratification based on differential access to exotic goods in southern Africa (Huffman 1996; Wood 2005). For these reasons, K2 was identified as the regional capital in the middle Limpopo Valley from *c.* AD 1030 to 1220, contributing to the development of socio-political complexity within the area (Huffman 1996, 2000).

Trade goods were acquired through active participation in the Indian Ocean trade network. This was evident within various contexts across K2 in the form of thousands of glass beads (Calabrese 2000; Wood 2005; Huffman 2007a, b), with some scholars alluding to the importation of perishable items, such as cloth, as well (see Calabrese 2000; Wood 2012). In turn, jewellery and other objects made from ivory, as well as discarded ivory fragments, were indicators of items being exported. Though the trade items are quite similar to those found at Schroda, the overall amount of goods (both imported and exported) is important, as it increased dramatically (Huffman 1982, 1986, 1996; Calabrese 2000). An abundance of other objects, such as finished bone tools and linkshafts (Calabrese 2000: 187), were also recovered at the

site. Calabrese (2000) argues that the quantity of the objects may have been indicative of the production processes that occurred at the site as a result of growing international trade relations. Because of the accumulation of exotic goods evident at the site, Huffman (1982) argues that certain individuals began to monopolise these items as a means of obtaining wealth and political power within the community. For this reason, economic and socio-political changes can be seen within the society of K2; this includes the accumulation of wealth beyond what is usually associated with southern Bantu-speaking societies, as well as the formation and institutionalisation of class differentiation and elite identities (Garlake 1973; Huffman 1982, 1986, 2007; Calabrese 2000; Wood 2012).

Increasing trade relations and control of access to exotic goods contributed to K2 functioning as a redistributive centre and permanent central place in the middle Limpopo Valley (Wood 2012). The K2 settlement was identified as a permanent central place due to evidence of hierarchical levels, unequal distribution of traded items and the large quantity in which items were recovered (Renfrew 1984; Wood 2012). According to Huffman (2007a, b) and Wood (2012), these elements of K2's farmer community contributed to another distinction within the society – specialisation (see also Van Riet Lowe 1955; Davison 1973). Two types of specialisation that have been observed archaeologically include independent and attached specialisation (Earle 1996; Wood 2012). Independent (or adaptational) specialisation was a practice removed from the changing socio-political and economic structures of the area; in fact, these specialists were neither a causation, nor a result of socio-political complexity (Swan 1994, 2008; Earle 1996; Wood 2012). Attached specialisation, on the other hand, was characterised on the basis that these specialists' services were used by prominent individuals to maintain and increase their socio-political power and economic wealth within the community (Renfrew 1984: Earle 1996; Wood 2012). Illustrating this point of attached specialisation in southern Africa was the working of glass, particularly the smelting and manipulation of imported glass beads into larger, cylindrical beads (Huffman 2007a, b; Wood 2012; Chirikure 2014). These beads, known as garden rollers, were produced and traded by a select group as a reflection of their economic and socio-political status within the community (Huffman 2007a, b; Wilmsen 2009; Wood 2012). K2's control over interior sections of the larger coastal trade network was evident by the widespread distribution of garden roller beads and the limited distribution of trade goods across the remainder of the middle Limpopo Valley (Huffman 2007a, b). Evidently, individuals monopolised exotic goods, and specialists associated with these types of goods, as a means of establishing their political power and a

higher status within the community. Increasing international trade relations resulted in evident social and political changes within the K2 community, which are also visible in the spatial rearrangement of K2's settlement across the length of the site's occupation.

Archaeological evidence suggests that K2 became the most prominent, and possibly the largest, settlement of early Leopard's Kopje groups in the region around AD 1060 (Huffman 1986, 1996, 2000, 2007a, b; Calabrese 2000). While examining the spatial arrangement of K2, a large midden, containing a plethora of trade goods, including glass beads and ivory fragments, was discovered a few metres north of the settlement's central court (Gardner 1963; Meyer 1980, 1998; Eloff & Meyer 1981; Calabrese 2000; Huffman 2000, 2007a, b). The size of the midden was most likely a result of the settlement's increasing political importance. Put another way, the increase of political power at K2 led to an increase in the utilisation and overall size of the central court (Kuper 1980, 1982; Huffman 2007). Because of growing trade relations, increased production processes and the use of, and magnitude within, the political centre, the midden had progressively begun to obscure the central kraal between AD 1060 and 1080 (Huffman 2000, 2007a). As a result, another kraal was established further south (Huffman 2007a). By AD 1150, the midden, once again, had expanded to such an extent that it gradually covered the second central kraal, and cattle were moved to an area on the outskirts of the settlement (Huffman 2007a). Evidence of spatial rearrangement, intensifying trade relations, and an abundance of cattle intimates the extent of K2's trade goods and political authority (Voigt 1983; Huffman 2000, 2007a). It is also by these characteristics that Huffman (2007a) identified the site as a Level-4 capital at the time of its abandonment around AD 1220 (Voigt 1983; Huffman 2000, 2007a). Another contributing factor to consider is the transferal of knowledge, at least in relation to social changes within K2 society (Renfrew 1984; Wood 2012).

According to Huffman (2007a), earlier occupants of K2 organised their settlement following the Central Cattle Pattern as the spatial arrangement thereof reflected the dominant social relations at the time. This is evident in K2 society which consisted of a social order established through the unequal distribution of wealth items, such as exotic goods and cattle (Huffman 2007a). However, increasing interactions within international trade networks introduced social values and practices foreign to the occupants of the middle Limpopo Valley (Huffman 2000, 2007a). In turn, economic growth, and the resulting socio-political changes, contributed to the development of a different settlement pattern focused on reinforcing the new socio-political principles and worldview of K2 society (Huffman 2000, 2007a). These changes, both physical

and social, are distinct at Mapungubwe as the community's focus shifted from one based on "social ranking and hereditary leadership to class systems and sacred leadership" (Huffman 2007b: 166).

After the abandonment of K2 in AD 1220, a new settlement with significant spatial rearrangements was established around Mapungubwe Hill (Fouché 1937; Gardner 1963; Meyer 1998; Huffman 2000, 2007a, 2009; Wood 2012). The site's new settlement layout was thought to be representative of the social and political changes originating within K2 society and solidifying at Mapungubwe (Huffman 2000, 2007a, 2009). An important change was evident in the locality of elite groups. Individuals who had amassed political power no longer lived amongst the masses; instead, the king and his chosen retinue occupied the hilltop with the rest of the elite residing around the base of the hill, also known as the Southern Terrace (Huffman 2000, 2007b, 2009). The remaining populace occupied the landscape around the hill in the vicinity of the kraals. This physical separation of elite and commoners, of king and society, was thought to represent the formalised implementation of class differentiation and group identities (Huffman 2000, 2007a, 2009; Wood 2012). The construction of stone-walling served as another way in which to physically separate groups but these structures were also a means to symbolically divide elite and ritually secluded spaces from commoner spaces (see Huffman 1982, 1986, 1996, 2007a, b; Schoeman 2006; Wood 2012). Evidently, the world view of Mapungubwe's farmer community gradually developed alongside the spatial rearrangements that occurred at the site between AD 1220 to 1300 (Huffman 2000, 2007a, 2009; Wood 2012).

One factor for the changing worldview, and physical transformations, was again associated with the Indian Ocean trade network (Huffman 2000, 2007a, 2009; Wood 2005, 2012). According to Renfrew (1984), the trading of prestige goods was often accompanied with the sharing of knowledge, information and social practices. Furthermore, an increase in trade goods would most likely have been accompanied by an increase in foreign knowledge and new cultural practices (Renfrew 1984; Huffman 2007a), which was then adopted by elite groups, such as those settling Mapungubwe (Huffman 2000, 2007a, 2009). To use one example, gold was prevalent in southern Africa from the early first millennium AD; however, its value only became significant once the interior began to trade along the eastern coastline (Huffman 2007a). The change in value attributed to gold is evident in an abundance of golden status objects, such as gold-foiled covered bowls, golden beads, sceptres and animal-shaped golden items (e.g. golden rhino and buffalo), on the hilltop. This is noteworthy as previously gold was

traded locally for centuries but not highly utilised or exploited in production processes (Huffman 2000, 2007a, 2009). The increased value and production of golden objects also represented an increase in attached specialisation as most of these objects were found in elite spaces, and especially within the burials of royals (Huffman 2000, 2007a). Evidently, the developed class distinctions contributed to the emergence of full-time specialists at the site (Huffman 2000). These specialised artefacts provided the elites with another manner in which to distinguish themselves from other community members (Earle 1996; Huffman 2007a; Wood 2012). Essentially, exotic goods obtained through long-distance trade, as well as items of specialisation, rendered previously used distribution networks inadequate, resulting in a new system wherein individuals began to accumulate and control items. In turn, these individuals attained wealth and power which allowed for further unequal division between an upper class and other community members (Huffman 2000, 2007a, 2009).

The upper class, or elite, consisted of high-status individuals who had "well-recognised rights, duties and behaviour" (Huffman 2007a: 366) and who restricted political power, status and wealth to their group. Due to the restrictions of trade goods, other community members (e.g. commoners) had limited, or no, access to the advantages of exotic goods (Huffman 2007a). This duality within Mapungubwe's society is further evident in the settlement arrangements of elite groups and commoners; the spatial design of elite groups was structured according to the Zimbabwe Culture pattern whereas the settlement layout of commoner groups was still structured along the concepts of the Central Cattle Pattern, as seen within the spatial arrangement of earlier farmer groups. Archaeological evidence from Mapungubwe also indicates a dramatic increase in the accumulation of trade goods in elite spaces, including glass beads, gold, metal, spindle whorls and so forth (Huffman 2000, 2007a; Wood 2005), which contributed to the expansion of elite groups' wealth and socio-political authority within the settlement (Wood 2012). Essentially, the combination of increasing trade goods, transferal of knowledge systems and the adoption of foreign cultural and technological practices led to the restructuring of economic, ideological and socio-political perceptions as well as the physical arrangement of society. All of these dynamics contributed to the formation of southern Africa's first state (Huffman 2007a; Wood 2012). According to Huffman (2007a), Mapungubwe was southern Africa's first Level-5 capital with a populace of almost 5000 people. In essence, internal dynamics merging with external forces provided an opportunity for economic and social transformations which supported the emergence of southern Africa's first state-level society. Though international trade opportunities and access to trade goods were not the only

factors that contributed to these economic and socio-political developments, it is evident that individuals' ability to accumulate and monopolise exotic trade goods across the region was a central component to these developments (Huffman 2007a; Wood 2012). Farmer communities, particularly, were prominent participants within local and international trade networks, and the subsequent economic and socio-political changes; however, they were not the sole participants thereof. Forager groups occupying the valley area were also present within these networks, although not to the extent of farmer groups (Forssman 2014a).

The presence of trade goods within forager contexts across the middle Limpopo Valley is indicative of the existing trade relations between farmers and foragers (see Hall & Smith 2000; van Doornum 2005, 2007, 2008, 2014; Forssman 2014b, 2015b; Forssman *et al.* 2018, 2023). However, the compartmentalisation of the archaeological record and the cultural group it represents has fostered a focus on either one group or the other, and thus the value attributed to exotic goods has mostly been studied within a singular context (i.e. farmer communities). This is problematic as it limits the extent to which we can better understand past economic and socio-political relations. Instead, trade goods need to be analysed within a wider social and economic context in order to truly understand the trade framework and any subsequent relations thereof. Examining stylistically distinctive material and their distribution patterns across time and space can provide a better understanding of the cultural practices and movements of different groups (Janetski 2002). In doing this, a more nuanced understanding of the interactions between culturally distinct groups across the socio-economic landscape can be acquired. This may further expand our understanding of foragers' role within larger trade economies across the region.

3.2 Foragers in context

Mauss (1930) stated that the economic and social aspects of forager relations were deeply intertwined, much like farmer economies (see also Irwin-Williams 1977). The difference, however, was in the expectation once an economic relationship had started. Individuals in farmer communities came to aim to elevate themselves above others by amassing and controlling trade items, hence clear evidence of class differentiation and elite identities (Huffman 2000, 2007a, b, 2009). Foragers, on the other hand, were less concerned about "the economic balance" (Wiessner 2005: 118); instead, exchange was a means to cultivate "supportive relationships" for future times of need (Sahlins 1972; Wiessner 2005: 118). These relationships were made possible due to diverse social institutions and "their accompanying

norms" amongst forager societies that can be seen both ethnographically and archaeologically (Wiessner 2005: 117). However, as diverse as these social institutions might be, some overlap did occur between different forager groups.

Firstly, the cooperative nature of forager communities comprised mutual obligations, respect for relations and material goods, a willingness to share amongst community members, and the harmonisation of social relations (Wiessner 2005). There are several ethnographic examples demonstrating the role of exchange in forager society. To take one example, it was commonplace for individuals of the Ju/'hoansi to share food throughout the community so as to reduce subsistence income variations, to support those unable to provide for themselves, and to promote general cooperation (Wiessner 1982, 2002a, 2005, 2014). Additionally, the Ju/'hoansi consisted of a range of "alloparents" whereby various members of the family assisted in raising the children within the community (Wiessner 2005: 117). As a way of facilitating such cooperation and reciprocity, foragers established and maintained egalitarian relations (Wiessner 2005: 117; see also Clastres 1977; Cashdan 1980; Gardner 1991; Boehm 1993, 1996, 1999; Kelly 1995; Wiessner 2002b).

Exchange assisted with ensuring equality and harmony throughout the community (Wiessner 2005). First, the adult members were held as autonomous equals who could not coerce, command, indebt, or bully other members of the community. This accountability reduced the risks of cooperation as individuals need not be concerned that exchange, and subsequent relations, would be utilised as a means of amassing and exerting control in the future (Wiessner 1982, 2014). Because all members were held in the same regard according to their age, everyone had an obligation to safeguard their interests as well as to punish those who defected from the group's norms (Wiessner 2005). At times, when environmental conditions necessitated disbanding, individuals and families were given opportunities to choose options based on their preferences. Alongside this, forager communities facilitated mobility between different groups (Wiessner 2002a, 2005).

As a result, most mobile forager communities in various global contexts developed widespread social ties as a means of gaining access to resources in other areas. By establishing relations with other communities, foragers aimed to reduce the effects of future risks. These ties are often established through relationships of kinship, exchange, or ceremony. As mentioned above, these communities, such as the Ju/'hoansi, Gwi and G//ana, aimed to establish relations with others that have supporting norms; this included respect for both land rights and marital

relationships of the other forager community, and an emphasis on relations of equality and hospitality (Wiessner 2005). Ethnographically described forager communities have persisted "well into the 20th century," in spite of low population numbers (Smith *et al*. 2010: 20). As such, it is possible to see these three social institutions, mentioned above, in various forager societies scattered across the globe. To demonstrate this, I provide examples of some communities in variable contexts.

3.2.1 Ache

Eastern Paraguay is home to the Ache, a foraging community who lived in isolation until the 1970's when the first interactions with 'outsiders' were recorded (Smith *et al*. 2010). Cooperation and assistance throughout the residential community was very prominent; the acquisition of food was a joint process where after the day's gatherings were distributed amongst group members (Kaplan & Hill 1985; Hill 2002). In addition to equal food acquisition and sharing, members also shared responsibilities regarding childcare through the provision of various services and goods (Smith *et al*. 2010). Though these bands had no formal leadership, status was attainable through exemplary hunting skills, the killing of another man during ritual combats, as well as personal charisma and emotional connections when speaking to community members. Influence amongst the community was also mostly wielded by men, although women did participate in decision-making from time-to-time (Smith *et al*. 2010). Evidently, members aimed to assist when and where they could within the community. Recognising the importance of mutual assistance, the benefits obtained through these interactions can be considered a form of wealth. This wealth was measured in three ways.

First, the productive ability of individuals determined the extent to which other members of the community would share resources. If an individual produced excess resources on a consistent basis, he was considered to be a valuable contributor to the community. Because of this, the high-producing individual benefited more from the skills and resources of other community members (Smith *et al.* 2010). Establishing meaningful social relations also allowed individuals greater access to the goods and services of other members within the community. However, an individual's embodied wealth, including body size, cognitive ability and health, contributed to both their productive ability and social connections (Smith *et al*. 2010). Body weight, in particular, was a measure of growth and served as an indicator of an individual's ability to resist infectious disease (see Hill & Hurtado 1996). As such, the higher an individual's embodied wealth, the better changes were of risk reduction, high fertility rates and food

production levels. Because these different wealth measures, material and non-material, were potentially heritable, it was important to establish strong connections with others in the community that could serve as a basis of mutual support.

3.2.2 Ju/'hoansi

The Ju/'oansi bushmen were, and still are, a foraging community living in the Kalahari Desert, and are described as one of the most egalitarian societies in the ethnographic record (see Lee 1979; Wiessner 2002a, 2005; Smith *et al*. 2010). One reason for such equality might be the application of *hxaro*, an act of exchange centred on the creation and assertion of socially binding relations through gift-giving (Wiessner 1983: 118-119). In turn, this gift-exchange allowed for the establishment of "humility, unity, and sharing" (Sassaman 1998: 94). Exchange practices were also a means to explain the status of underlying relationships through the balanced and delayed exchange of beads, arrows, tools and clothing; this suggests that these exchange networks might have served as a proxy for long-term mutual support (Wiessner 2002a: 421-423). Because of the severe conditions of the desert, these forager groups also often experience variation in resource availability.

As a means to limit both social and environmental risks, they have utilised a system of exchange in which underlying relationships serve as a support base during times of need (Wiessner 2005; Smith *et al*. 2010). To take one example, another group living in the Kalahari Desert, the !Kung hunter-gatherers, indirectly trafficked food supplies through *hxaro* exchange practices to help sustain various groups within the area (Lee 1979; Wiessner 1982). Moreover, the far-reaching socio-economic networks established through these exchange systems provided communities with greater access to many kinds of information and alternate residences/assistance through delayed return-gifting when social relations or other resources in the area were not adequate or abundant (Janetski 2002; Wiessner 2002a). *Hxaro* relations, once established, were usually inherited through familial lines and acted as a social practice that shaped relations throughout the Kalahari, and which formed part of the larger trade networks occurring within southern Africa at this time.

Although these distinct forager communities share evident characteristics, it is important to acknowledge that while these characteristics offer a general picture, diverse factors like ethnicity, geographic location, and economic status contribute to unique experiences within each community. What is evident is the establishment of social relations amongst forager

communities, and community members, that seem to be integral in maintaining equality and harmony within their varied groups (see also Woodburn 1982, 1998).

3.3 Forager exchange systems

In general, foragers' exchange systems are not economically driven. Instead, these systems are formed on socio-political relations, such as obligations, peace-making, and kinship (Sahlins 1972; Mauss 1990) and centred on the producers' demonstration of skill and ability for crafting (Wiessner 2005). Ethnographic cases further indicate that these exchange systems were a means of creating and maintaining egalitarianism within forager communities, as well as establishing intricate social relations through reciprocity and gift-giving (Sassaman 1998). According to Janetski (2002), the uncertainties that accompanied a foraging, and even a subsistence farming, lifestyle required alternative strategies that these groups could put into effect during difficult circumstances. Thus, one factor for establishing exchange relations with wide-spread groups was "a means of risk reduction" (Janetski 2002: 346). Essentially, foragers utilised exchange as a means to normalise and harmonise society and reduce hostilities and risks of shortages within the community. Because of the social nature of these networks, forager exchange systems might have allowed for the establishment of trade networks with incoming farmer groups across the southern African landscape (Forssman 2017: 50-53).

3.4 Forager-farmer interactions in southern Africa

The cultural distinctions between forager and farmer groups are a reflection of modern approaches to the past. As a result, these cultural groups were thought to have remained within their distinct cultural identities (Manyanga *et al*. 2013). However, interactions between forager and farmer groups have been noted at various archaeological sites across southern Africa with cultural material intimating the diversity and complexity of these relations (see Robinson 1964; Walker 1983; Thorp 1996, 2005; Walker & Thorp 1997; Smith 1998; Sadr 2003, 2008; Manyanga 2005; Robbins *et al.* 2005). Rock shelters, such as Dombozanga, Mpato and Mtanye, in southern Zimbabwe present evidence for such relations due to the association of stone tool technologies and ceramic facies (see Thorp 2005). Excavations at Dombozanga (Robinson 1964) and Mtanye Shelter (Walker 1972) recovered Bambata and Gokomere ceramics in association with stone tool technologies, with the addition of Leopard's Kopje ceramics at Mtanye (see Walker 1972). Mpato Shelter also provided evidence of different stone tool technologies in conjunction with several undiagnostic ceramic pieces (see Cooke & Simmons 1969). The collection of both forager and farmer-associated items at these different

sites reflects the synchronic presence of culturally distinct groups across southern Africa (Manyanga *et al.* 2013).

The arrival of farmer groups into the region led to an intensified occupation of the landscape as evidenced by archaeological sites and material (Manyanga *et al.* 2013). In turn, interactions between foragers and farmers gradually intensified, resulting in the development of social relations (see Schoeman 2006; Murimbika 2006). A contributing factor to these increasing interactions and subsequent relations, according to Manyanga *et al.* (2013), might have been networks of exchange and trade. Historical accounts relating to these interactions depict instances of "exchange and trade labour" between foragers and farmers, including client-ship, intermarriage, and warfare (Wadley 1996: 205). Evidence for conflict relations between forager and farmer groups were also recovered in the Eastern and Western Cape with the appearance of rock art depicting inter-group conflict, a noticeable decrease in forager-associated material at a site, or the abandonment thereof, and remote/isolated forager communities (see Sinclair-Thomas 2019, 2021). Garlake (1987) attempted to use rock art in Zimbabwe to show this conflict but the issue with rock art is the spiritual connection, and so it is unclear if the battle represents a real or non-physical one. Based on the available evidence, a conflict response between culturally distinct groups was but a single expression, resulting from forager-farmer interactions. Sites in other regions of southern Africa, such as North-West, KwaZulu-Natal and Limpopo, present a different response in which foragers interacted with, and in some cases integrated into, farmer communities (see Wadley 1996; Hall 2000; Hall & Smith 2000; van Doornum 2005, 2007, 2008; Forssman 2014a, b, 2015a, b, 2020). In these cases, interactions between forager and farmer groups are thought to have led to well-established relations based on friendship, kinship and perhaps even equality with regard to networks of exchange and trade (see Cusick 1998). Although it is difficult to determine the extent of these arrangements, evidence indicates that social ties were established between distinct cultural groups at sites such as Broederstroom and Jubilee Shelter.

The interactions between foragers occupying Jubilee Shelter and farmers within the Broederstroom homestead are thought to have been varied. Prior to Broederstroom's occupation, and despite a lack of locally occupied farmer homesteads, it appears that forager-farmer interactions took place throughout AD 300-600, but were likely indirect and limited to actions of trade (Wadley 1996). Although material evidence, such as ceramics and domestic livestock, suggests that forager-farmer interactions happened during the early first millennium AD, the extent of these interactions remains unclear (Wadley 1996). However, forager-farmer

interactions become more direct during AD 561-680 with the appearance of a farmer settlement at Broederstroom, in the vicinity of Jubilee Shelter. The presence of forager-associated items, mainly stone tools, in the cattle enclosures (i.e. kraal) presents the idea that foragers may have come to the homestead with the purpose of performing labour for farmers, such as preparing hides (Mason 1986; Wadley 1996). Mason (1986) mentions the lack of debris associated with stone tool production, inferring that foragers most likely manufactured the tools, specifically scrapers, beyond the homestead and brought these tools with them when carrying out labour (see also Wadley 1996). These foragers may have received domestic livestock in return. However, the lack of domestic carbohydrates at Jubilee Shelter is indicative of the possibility that foragers consumed these food sources near to the homestead rather than at the shelter. These points of evidence further indicate the possibility of spatial seclusion whereby foragers had limited access to areas within the homestead (e.g. Seiler 2016).

Based on the material recovered in the kraal, it is likely that this was one area to which foragers' labours were restricted (Mason 1986; Wadley 1996). Evidently, forager-farmer interactions intensified during this later stage of the first millennium AD with cultural material intimating a progression from trade relations to more client-based relationships. However, the decrease of cultural material at Jubilee from AD 680 onwards suggests that either smaller forager groups were present in the area and interacting with farmer groups, or foragers were increasing the frequency and length of their visits to farmer settlements (Hall 1990). Gradually, the forager presence in the area disappeared (see Wadley 1996). Despite the less intense interactions going into the second millennium AD, Broederstroom and Jubilee present a symbiotic relationship between foragers and Early Iron Age farmers which contributes to better understanding the different responses that these groups might have had towards one another (Wadley 1996). And although the extent of these forager-farmer interactions remains ambiguous, the different phases of contact, and reactions of foragers, show the diversity and complexity of interactions between culturally-distinct groups (see also Aukema 1989; Murimbika 2006; Schoeman 2006 for more detail on foragers who were employed as specialist rainmakers as a rain control strategy). Another area where forager-farmer interactions appear to have been amiable and beneficial, to both foragers and farmers, is the Thukela Basin.

The Thukela Basin consists of various forager shelter sites, as well as farmer homesteads, which contribute to better understanding the interactions between foragers and farmers in the area. According to Mazel (1997b), farmer occupation of the lower and central Thukela Basin intensified throughout the early first millennium AD, and incited a positive response from

forager groups situated in the Drakensberg. As a result, forager groups moved from the Drakensberg into the central Thukela Basin as a means of establishing, and strengthening, relations with incoming farmer communities. Evidence for the gradual intensification of these new relations are visible in farmer-decorated ceramics and iron at forager rock shelters and various forager-associated items, including stone tools, at farmer homesteads (Mazel 1997b). Based on cultural material and site distributions, the interactions between foragers and farmers are considered to have been amicable with associations to larger networks, perhaps even trade (Mazel 1986, 1989, 1997b).

The extent of forager exchange systems is evident in the distribution of forager-associated items within, and beyond, the Thukela Basin. However, these far-reaching exchange systems may have been a result of apprehension regarding social and biological reproduction (Mazel 1989). Despite the agreeable nature of forager-farmer relations, it was noted that farmer communities influenced mobility patterns, similar to Jubilee Shelter and Broederstroom (see Wadley 1996). In this case, these influences may have altered and compromised existing ecological knowledge and social relations (see Moore 1985), leading to "a more complex and overcrowded social environment" (Mazel 1997b: 9). Cultural material gathered from shelter sites in the area, such as kwaThwaleyakhe Shelter, suggests that forager participation in ritual activities increased as a way to manage these growing apprehensions (Moore 1985; Mazel 1997a). Besides the recovered material associated with divine practices (*modified tali*), the abstract nature of ritual activities makes it difficult to understand the extent to which foragers participated in these activities, as well as whether these activities resolved any of the anxieties foragers were thought to have experienced. Despite this difficulty, other cultural material suggests that forager-farmer interactions persisted throughout the first millennium AD, implying that foragers overcame any possible apprehensions (Mazel 1997b).

After AD 1000, forager occupation, and subsequent interactions, appears less intense compared to the previous period (Mazel 1997b). According to Mazel (1989), the structural nature of forager-farmer relations might have shifted but it is difficult to understand the happenings between these forager and farmer groups as material culture densities are quite low (Mazel 1997b). Although forager-farmer interactions are evident across southern Africa, the exact nature of these relations remain unclear due to limited cultural material. But, in the middle Limpopo Valley, cultural material from a number of sites specifically alludes to active participation in exchange and trade networks between foragers, as well as foragers and farmers.

3.5 Foragers in the middle Limpopo Valley

The first millennium AD in the middle Limpopo Valley saw various types of trade including forager exchange systems, forager-farmer trade as well as international trade opportunities. According to van Doornum (2005: 24), the relationships established through these trade networks were "never purely functional" but entailed social structures that determined certain expectations for those involved, making their interactions somewhat predictable. As a result, van Doornum (2005) was able to establish a chronological sequence of activities that correlated with the emergence of these different trade networks based on a selection of forager shelter sites throughout the area. Van Doornum's (2005) chronological framework consists of five phases of occupation determined through changes in artefact densities, frequencies of tool types and the introduction of new material culture (see also Forssman 2013; Seiler 2016). The earliest phase, known as the Early pre-contact period, dated to around *c.* 11040–90 BC, followed by the second phase which encompassed the Late pre-contact period from *c.* 1220 BC – AD 100 and the Early contact period around AD 100-900 (van Doornum 2005, 2008). The following phases, associated with the arrival of different cultural groups, were identified according to the dominant group during that time period. From AD 900-1000, Zhizo farmers began to appear in the area, marking this period as the Zhizo Phase (also referred to as Phase 3). Following this, groups associated with K2 and Mapungubwe became more dominant, meaning that the period between c. AD 1000-1300 was known as the Leopard's Kopje Phase (Phase 4 - van Doornum 2005, 2008; Forssman 2013, 2020; Seiler 2016). Of note, the classification of these phases can be viewed as problematic, as the 'pre-contact' phase suggests that no contact occurred between occupants of the middle Limpopo Valley, which is inaccurate. Rather, interactions between distinct cultural groups, such as foragers and farmers become more prevalent in the archaeological record from the first millennium AD onwards. As a result of this, I will not strictly adhere to van Doornum's (2005, 2008) classifications. Instead, I will use the phases to refer to different periods.

3.5.1 Phase 1: Early to late first millennium BC

The visibility of Later Stone Age shelter occupations across southern Africa increases from *c.* 3000 years ago (Deacon 1974; Walker 1998), meaning that most forager groups only began to inhabit the area from the late first millennium BC onwards. In the middle Limpopo Valley, few shelter sites were occupied during the early first millennium BC, with only two sites indicating the presence of forager groups at this time: Balerno Main and Tshisiku.

Balerno Main was occupied during the early first millennium BC and this consisted of two primary occupations dating to 11 120-10 890 BC and 6230-6060 BC, respectively (van Doornum 2008). Following this, a forager occupation beginning during the late first millennium BC (*c.* 340-100 BC) was noted (van Doornum 2008). From this period onwards there is a gradual increase of artefact densities which corresponds to an expansion of activities, including bone and stone tool production, hide and wood working, and mat-making (van Doornum 2008: 270-271). The range of activities occurring at the shelter seems to be more variable than those at smaller shelter sites in the area, suggesting that Balerno Main might have been used as an aggregation site (see Wadley 1987; van Doornum 2008). The relative isolation of the shelter and the variety, and accumulation, of cultural materials suggests that forager groups within the area gathered together at the site, possibly to participate in feasts, gift-exchange and rituals, as well as to arrange social relations reminiscent of *hxaro* (Wiessner 1982; Wadley 1987). The increased densities noted at Balerno Main corresponds to the appearance of cultural material, such as stone tools, OES fragments and beads, worked bone and small ceramic shards at the shelters of Balerno 2 and 3, Dzombo, Little Muck and Tshisiku, suggesting an initial occupation from the late first millennium BC. These sites were most likely used as dispersal camps, meaning that they were occupied by smaller groups performing fewer activities for short or infrequent intervals between periods of aggregation (van Doornum 2008). The low density of artefacts suggests that items might have been produced at these smaller sites with the intention of exchanging them at designated aggregation sites, such as Balerno Main (van Doornum 2005, 2008). One shelter's archaeological material, Tshisiku Shelter, presents evidence for a period of occupation prior to the late first millennium BC and may provide more insight to possible production processes that might have occurred on the landscape during the early first millennium BC.

Cultural material indicates that Tshisiku was occupied continuously from *c.* 6000 BC onwards (van Doornum 2007, 2014). As a result, Tshisiku's early first millennium BC was divided into two sequences. The initial early first millennium BC occupation, dating *c.* 6000-4330 BC, showed evidence of stone tools, OES fragments and beads, and worked bone (van Doornum 2007). The presence of these craft goods shows that foragers were involved in production activities, possibly with the intention to participate in exchange systems with surrounding forager groups. Artefact densities increased during the 'second' early first millennium BC occupation, dating *c.* 4330-1220 BC, with stone tools and OES fragments and beads reaching a peak (van Doornum 2005, 2014). This increase of artefacts correlates with the increase of

artefacts at Balerno Main and might suggest an intensification of either forager occupation or exchange practices in the area. Although the density of cultural material provides little understanding to the extent of foragers' occupation of the shelter, it does show that production activities were occurring at the site. Following this, the late first millennium BC at Tshisiku is characterised by a decrease in artefact densities and activities, suggesting that the shelter was utilised to a lesser extent from this period onwards. This may also indicate that fewer foragers were visiting the shelter at this time. In contrast, other shelter sites in the valley, including Little Muck (Hall & Smith 2000), Dzombo (Forssman 2014b, 2015b) and Balerno 2 and 3 (van Doornum 2007, 2014), were occupied more recurrently from the late first millennium BC onwards, with artefact densities notably increasing. Although the low artefact densities at different shelters limit our understanding of occupation sequences during this period, their variability alludes to possible exchange systems across the valley, prior to the arrival of farmer groups (Forssman 2020).

3.5.2 Phase 2: Late first millennium BC to early first millennium AD

The arrival of new ethnic groups (e.g. herders and farmers) into the region during the early first millennium AD is thought to be related to the favourable, agricultural environment north of the Soutpansberg (Tyson & Lindesay 1992; Huffman 1996). In turn, foragers moved away to less promising agricultural areas along the Limpopo River, leading to a more visible forager occupation across the middle Limpopo Valley landscape. This resulted in an emphasis on shelter occupations, longer occupation sequences, and a greater number of foragers (van Doornum 2008, 2014). Several rock shelter sites across the valley present a noticeable increase of cultural materials following this relocation, particularly Balerno 2 and 3 (van Doornum 2007, 2014), Dzombo (Forssman 2014b, 2015b) and Little Muck (Hall & Smith 2000; Forssman *et al*. 2023). According to Seiler (2016), one possibility for such an intensification from previous periods is the fact that these shelter sites may have preserved better than earlier sites, allowing for the establishment of a more thorough archaeological record. Another possibility intimates that artefact densities notably increased in, and around, shelter sites due to an occupational dependency placed thereon. This may have been a result of developing interactions between foragers and farmers (van Doornum 2005, 2008). Although, initially, forager groups moved into areas of the middle Limpopo Valley as a means to avoid farmers, the archaeological record indicates that these groups gradually began to interact with one another (see Hall & Smith 2000; van Doornum 2000, 2005, 2008; Forssman 2014a, b, 2015a, b; Forssman *et al.* 2023).

Initial interactions between forager and farmer groups are thought to have been sporadic based on the minimal presence of farmers and their associated materials across the landscape (van Doornum 2005). The increase of artefact densities at Balerno 2 and 3, and Dzombo throughout the first millennium AD suggests a notable intensification of activities around the shelters (van Doornum 2007, 2014; Forssman 2014b, 2015b). Although it is somewhat difficult to determine whether the increase of forager cultural materials is a reflection of personal needs, the presence of farmer-associated materials alongside this indicate that this intensification might have been a result of economically based interactions with farmer groups settling in the area. It is also possible that farmers may have traded perishable items during the initial stages of the contact period in exchange for materials or activities from foragers, making it difficult to identify a farmer presence near to these forager sites (van Doornum 2008; Forssman 2014b, 2015b). On the other hand, the presence of Happy Rest, Bambata and Malapati decorated ceramic shards, along with the appearance of glass beads and metal, shows that foragers at Little Muck gradually interacted, and possibly traded, with farmer groups moving across the landscape at the onset of the first millennium AD (Hall & Smith 2000; Forssman *et al.* 2023). Based on ethnographic records, Hall and Smith (2000) suggest that Little Muck's foragers participated in hunting and the working of hides with the intention of trading both hides and wild meat with farmer groups (see Turnbull 1965; Cashdan 1977; Peterson 1978; Bahuchet & Guillaume 1982; Moore 1985; Sadr 1997). In turn, foragers may have acquired domesticated plant foods (Hall & Smith 2000). However, a use-wear analysis of Little Muck's scraper assemblage shows that although scrapers were predominately used for working both wood and hide during the late first millennium BC, a preference for working bone arose during the early first millennium AD (Forssman *et al*. 2018). This observation is supported by the increased presence of worked bone and a higher density of "bone food waste" (e.g. faunal assemblage) throughout the early contact period (Hall & Smith 2000: 34). Based on these preliminary findings, Little Muck's foragers seem to have interacted more closely with farmers compared to other forager groups, possibly providing items such as bone tools, worked hides and possibly wild meat (Hall & Smith 2000).

Despite the intense activities happening at Little Muck, contemporaneous changes are evident across most shelter sites in the area, indicating that foragers were gradually interacting with, and possibly participating in, farmer economies at the onset of the first millennium AD. Although these interactions might have been limited, the cultural material reflects gradual changes in demand patterns across the region and production processes at these shelters.

However, two shelters in the area diverge from the pattern noted at smaller shelter sites; these sites include Balerno Main and Tshisiku (van Doornum 2008, 2007). Although the artefact densities at Balerno Main are slightly variable from the late first millennium BC going into the first millennium AD, no significant changes seemed to have occurred (van Doornum 2008). Of note, a greater diversity of tools was found to have been utilised in the first millennium AD with more evidence of bone and wood-working (van Doornum 2008). The period in which these changes occurred, along with the high density of items related to these types of working, parallels the noticeable changes at Little Muck, and to an extent at other shelters.

During previous periods of occupation, Balerno Main functioned as an aggregation camp and is thought to have continued to do so well into the Mapungubwe period *c.* AD 1300 (van Doornum 2008). Because of Balerno Main's role as an aggregation site and increased evidence of forager-associated items, it is possible that the shelter might have been used as a larger production space during forager gatherings. In turn, dispersing forager groups might have taken the completed items to other shelters located closer to farmer homesteads, and so farmer economies, with the intention to trade (van Doornum 2008). Additionally, these shelters might have functioned as production centres during dispersal periods. Tshisiku, on the other hand, presents a continuous decline in artefact densities from the late first millennium BC throughout the first millennium AD (van Doornum 2007, 2014).

Although a minute increase of cultural material was noted during the early contact period, possibly due to foragers moving into areas not yet occupied by incoming farmer groups, artefact densities at site continued to decline with little evidence supporting a continued forager presence at the site (van Doornum 2007, 2014). Despite this discrepancy, most shelter sites indicate a gradual intensification of activities parallel to the arrival of farmer groups. This was accompanied by economic and social changes across the middle Limpopo Valley from the early first millennium AD onwards and is further supported by the appearance of farmer-associated items within these sites' assemblages along with increasing densities of craft goods during the following period of occupation.

3.5.3 Phase 3: AD 900-1000 (Zhizo ceramic facies)

Interactions between foragers and farmers in the middle Limpopo Valley are evident during the early first millennium AD. However, a greater farmer presence, with the appearance of homesteads, is noted across the landscape from AD 900 onwards (Huffman 2007a). The effects of a larger farmer population on forager groups is noticeable in the appearance of farmer-

associated items, as well as the fluctuating quantity of forager-associated items at shelter sites across the middle Limpopo Valley. The variability of cultural materials at the different sites is thought to represent either more direct relations happening between foragers and farmers, or perhaps the abandonment of the area by forager groups (van Doornum 2008). The changes, regarding forager-farmer interactions, most likely resulted from a number of factors including increased farmer populations, somewhat limited resources across the landscape, and the intensification of trade relations within farmer societies (Hall and Smith 2000; van Doornum 2005, 2008). Evidence suggests that farmers during this period, known as Zhizo, were the first farming communities in southern Africa who participated in international trade across the Indian Ocean (Huffman 2000, 2007a; Wood 2012). These new farmer groups are thought to have moved into the middle Limpopo Valley with the intention of acquiring ivory (see also Smith 2005). Because of foragers' knowledge, skill and regard as 'first people,' it has been speculated that Zhizo farmers might have engaged them in hunting activities in exchange for farmer-associated items, such as ceramics, domestic livestock, glass beads, grain and metal (van Doornum 2008). Although it is difficult to determine the particulars of forager-farmer trade relations, some shelters, particularly Little Muck, have shown an increase in cultural materials related to various activities, including craft production.

The density of stone tools, especially scrapers, shell beads, worked bone and faunal remains at Little Muck noticeably increases throughout this period, suggesting a further intensification of production processes (Hall and Smith 2000; Forssman 2020; Forssman *et al.* 2023; Sherwood and Forssman 2023). This, along with the appearance, and gradual increase, of farmer-associated items, is indicative of economic interactions occurring between foragers and farmers. A similar pattern can be noted at Dzombo, although backed tools were utilised as weapon composites in hunting activities related to trade (Forssman 2015b). The lack of metal implements during the early phase of the Zhizo occupation is thought to have contributed to the notable increase of backed tools at Dzombo (Calabrese 2000; Forssman 2015b). The density and absence of artefacts implies that these foragers might have stored (non-perishable) or consumed (perishable) trade items at other areas across the landscape (Forssman 2015b). In addition to the increased activities at Dzombo and Little Muck, foragers may also have used periods of aggregation to produce a surplus of goods which was then traded with farmers from dispersal sites (also referred to as satellite sites), located closer to the farmer homestead.

The gradual increase of artefact densities, predominantly forager-associated items, at Balerno Main suggests a continuity in aggregation and dispersal patterns (van Doornum 2008). Similar

to the Matopos area (see Walker 1995), foragers may have occupied a central place, such as Balerno Main, with the focus of maintaining social relations amongst different forager groups. In turn, the aspect of producing and exchanging gifts during this period may have extended to the production of surplus goods, specifically for the purpose of trade with farmers. The high density of cultural materials at Balerno Main during this period suggests an intensification in production activities thought to exceed the necessities of foragers occupying the shelter (van Doornum 2008). Similar to Balerno Main, the high artefact densities at Little Muck convey production processes beyond forager needs (Hall and Smith 2000; Forssman *et al*. 2023). However, the intensification of production processes, and cultural material, at Balerno Main could be attributed to a larger forager group occupying the shelter for a longer, continuous period in comparison to previous phases. Of note, the period of occupation and the amount of times foragers would visit a site is unclear, making it difficult to determine how these patterns might have changed between the different phases. This uncertainty is a limiting factor when it comes to interpreting the data. Although a similar argument can be made for Little Muck, the intensification of production processes is noted alongside the appearance, and increase, of farmer-associated items at the site, suggesting more direct interactions between foragers and farmers (Hall & Smith 2000; Forssman 2020; Forssman *et al.* 2023). This supports the idea that Little Muck, and perhaps Dzombo, might have acted as satellite sites occupied by foragers on a permanent, temporary or seasonal basis as a means to trade with nearby farmer communities. This might be why Little Muck's cultural assemblage differs from other sites. Its close proximity to the farmer settlement at Leokwe Hill and the changes that were occurring within the farmer society (1.5km from one another; Hall and Smith 2000) might have had a greater influence on Little Muck's forager group compared to other shelters.

Zhizo farmers' participation in international trade networks gradually escalated throughout this period, and is evident in the amount of prestige goods at Zhizo homesteads (Huffman 2000, 2007a; Wood 2012). These prestige goods also came to represent wealth and status within farmer societies, resulting in the monopolisation of goods, and subsequently affecting the socio-political and economic structures of farmer settlements. Although these goods were highly valuable, they were still used as trade items amongst farmer groups. The presence of these prestige goods within forager contexts, especially glass beads, is indicative of the economic relations between foragers and farmers (Forssman *et al.* 2023). It also further supports the notion that foragers provided certain services and trade goods, such as craft items and specialised hunting, to farmer communities. Essentially, the evidence indicates that intense

trade may have occurred at Little Muck, noticeable in the repetitive and increasing patterns of production from the onset of the first millennium AD. Although it is difficult to determine the extent and intensity of these trade relations, cultural material shows that interactions between foragers and farmers were occurring at various shelter sites. However, this notion is not applicable to all shelter sites in the middle Limpopo Valley.

The decreasing densities at Balerno 2 and 3, as well as Tshisiku, during this occupation phase seems to reflect limited interactions between foragers and farmers (see van Doornum 2005, 2007, 2014). The quantity and distribution of farmer-associated items provide insufficient evidence for the purpose of understanding possible interactions between foragers and farmers. Compared to Little Muck and Dzombo, these shelter sites were most likely occupied for shorter periods by smaller groups of foragers (van Doornum 2005). Although these shelters might also have been used as 'satellite' sites, it is possible that they were occupied on a temporary basis with other shelters, such as Little Muck, Dzombo and Balerno Main, being occupied on a more permanent or seasonal basis (see Walker 1995). Perhaps foragers from these shelters integrated into other forager bands situated closer to farmer homesteads, such as Little Muck, as a means of being more active within regional trade networks. These foragers might also have been spending time within farmer homesteads lending their skills to farmers, including herding cattle, working hides and rainmaking (see Maggs 1980; Mason 1986; Wadley 1996; Hall 2000). Then again, these groups might have abandoned the area in favour of a more widespread, less restrictive landscape. What is evident is that these shelter sites were occupied less frequently parallel to an intensified farmer occupation of the valley. This is even more evident during the next phase where a forager presence is almost non-existent at these shelters.

3.5.4 Phase 4: AD 1000-1300 (Leopard's Kopje ceramic facies)

The presence of farmer groups across the middle Limpopo Valley was most prominent during AD 1000-1300. This intensified occupation of farmer groups led to larger homesteads, the expansion of local and regional trade relations, and the establishment of social differentiation and elite identities (Huffman 2007a; Chirikure 2014; Moffett & Chirikure 2016). These and other factors prompted the evolution of socio-political complexity contributing to the establishment of southern Africa's first state-level society at Mapungubwe (Huffman 2000, 2007a, b). As these developments occurred within farmer societies, one might wonder what contributions foragers made during this time, or if they were even involved in these processes. Although forager-associated items gradually decrease at most shelter sites throughout this

period, a forager presence remains to be seen across the landscape. However, the stratification within farmer homesteads imposed a role of subjection unto Zhizo/Leokwe farmers, meaning that tasks previously allocated to foragers were now being carried out by the 'commoners' of farmer settlements (Hall & Smith 2000; Huffman 2000, 2007a, b; van Doornum 2008).

The newly-established social and political structures of Leopard's Kopje farmers most likely influenced perceptions, and subsequently interactions, surrounding foragers, which led to the expansion of inequality and the displacement of forager groups to the edges of local economies. Some scholars suggest that the decrease of forager cultural material might indicate the disappearance of a forager presence at these shelter sites (Hall & Smith 2000; van Doornum 2007). The extent to which forager-associated materials decrease at Balerno 2 and 3, and Tshisiku, intimates that forager groups might have abandoned the region parallel to a larger farmer occupation (van Doornum 2005, 2007, 2014). The limited cultural material provides no insights regarding forager-farmer interactions at the time and by the end of the Mapungubwe period, the forager sequence at these shelters disappeared. The artefact assemblages of Dzombo and Little Muck largely consist of cultural materials associated with farmer groups during the Leopard's Kopje occupation period. For this reason, Hall and Smith (2000) suggest that Little Muck might have been appropriated by farmer groups as a way of demonstrating their control over 'commoners' on the landscape.

By displacing the 'first people' (i.e. foragers) from their places, thought to be imbued with power, the elites within farmer groups were emphasising their newly acquired political power and social status, as well as their ownership of the landscape (van Doornum 2008). Although this is a limited occurrence, it is thought that farmers then appropriated forager sites, particularly Little Muck, as a means to exploit the power of the 'first people' (see Cashdan 1986a, b). Huffman (2014) suggests that the shelter was used for boys' initiation throughout this period. The notion that intensified farmer occupation might have pushed foragers from the landscape is possible but the density in which forager and farmer-associated items occur at Little Muck, Dzombo and Balerno Main suggest that foragers were still present. Although evidence seems to indicate that foragers at Dzombo and Little Muck might have participated in farmer activities, the continued use of Balerno Main intimates the possibility that foragers still separated themselves from farmer groups, socially.

Balerno Main's function as an aggregation site appears to have continued throughout the different periods of occupation. During the late first millennium AD, the increase of artefact

densities was prominent and remained so throughout the "contact period" (van Doornum 2008: 269). The broad variety of cultural materials and the high frequencies in which they occur suggest a continuity in activities carried out at the shelter, including hide-scraping, wood-working, and the production of OES beads, bags and clothes (van Doornum 2008). Foragers might have gathered together at Balerno Main, as noted throughout previous phases, producing and working items, which were brought back to an area near, or to, the farmer settlement. Whether this was the case remains to be seen; however, this period of continuity at the site is suspended by the end of the Mapungubwe period, where after no forager presence is noted in rock shelters. This pattern appears to reflect a wider occurrence with most rock shelters being abandoned around AD 1300, or soon after (van Doornum 2005).

Numerous studies have shown that foragers were present on the middle Limpopo Valley landscape parallel to the arrival of farmer groups. In fact, cultural material from several shelter sites indicate that foragers may have even established socio-economic relations with these groups. However, preliminary analyses of Little Muck's cultural material suggest a period of intensification, unlike any other shelter in the area. The preliminary findings prompt further examination of the socio-economic interactions that may have occurred between Little Muck's foragers and farmers. Furthermore, it raises the question as to why these forager-farmer interactions might have differed from those observed at other shelters in the area. Examining the distribution of both craft goods and wealth items across Little Muck might provide a better understanding of forager-farmer interactions, as well as the role that the shelter occupied within the local economy.

Chapter 4: Methods and materials

This chapter will outline the environmental landscape of the middle Limpopo Valley, the excavation process and the methodologies used during analysis. First, a brief overview of the environmental landscape will be provided as this was the setting for larger socio-economic activities. Following this, the focus will move to Little Muck by examining past excavations as well as the reasons that prompted renewed excavations at the shelter. Lastly, the analyses of cultural material, specifically related to craft items and trade goods, will be discussed.

4.1 Site description and field excavations

The landscape of the middle Limpopo Valley is characterised by a variety of shelter sites and other micro-habitats, as well as several socio-political and economic structures (Mason 1973; Gerrard 1988; Bordy & Catuneanu 2002). Forager groups occupying the shelter sites situated along the sandstone belt of the Limpopo River participated in, and contributed to changes across, the socio-economic landscape (Figure 1.2). One of the more prominent shelters exhibiting evidence for these socio-economic interactions is Little Muck.

The shelter has an opening of approximately 12m with deposits visible across a large portion of the area. The backwall spans a depth ranging between 2 to 4m with a notable decline in the height of the ceiling when moving towards the back recess of the shelter (less than 2m; Forssman 2020). In the western recess, the steeply rising backwall creates shallow deposits as the bedrock flattens out at ground level. Due to the sharp incline of the bedrock, no excavations were carried out along this recess. To the east, the backwall forms a steep, vertical drop to floor level. A rock column in the centre of the shelter, behind which is a deep recess extending into the koppie, separates the eastern and western backwall (Figure 4.1). Beyond the shelter's opening, there is an expansive, sandy area to the north with exposed bedrock extending in an eastern direction. A range of rock markings, such as cupules, gaming boards and hollows, along the exposed bedrock indicate that the area beyond the shelter might have functioned as a living space (Hall & Smith 2000; Forssman 2020). The array of surface finds in the shelter and the rock markings outside the shelter most likely contributed to excavation decisions carried out in the late 1990's (Hall & Smith 2000; Forssman 2020).

Hall and Smith's (2000) excavations were carried out in two areas of Little Muck: an area slightly behind the dripline and a northern area outside the shelter parallel to the shelter squares (a front 'courtyard' midden; Hall & Smith 2000: 34; Figure 4.2). However, the excavation

Figure 4.1: Images of Little Muck Shelter during HARP's initial excavations.

results remain unpublished with little usable data and findings discussed in their seminal paper (Hall & Smith 2000). The excavated assemblage is also incomplete and this has limited further analysis, and so our understanding of the shelter's occupation sequence and the activities that accompanied it. Although studies pertaining to stone tools, worked bone and faunal remains have been published respectively, the data provides little additional insight to forager activities at the shelter than those mentioned in Hall and Smith's (2000) paper (see van Doornum 2000; Bradfield *et al*. 2018; Forssman *et al*. 2018; Forssman & van Zyl 2022). Based on the accessible excavated assemblage and Hall and Smith's seminal paper (2000), Little Muck shows interesting patterns of trade and exchange in the middle Limpopo Valley. Furthermore, an in-depth examination of these different economic networks might provide more insight into forager-farmer interactions before, and during, the Mapungubwe period (c. AD 1200-1300), as well as the role occupied by foragers within the larger economic landscape. As a result, renewed excavations began in 2020 under the Hunter-Gatherer Archaeological Project (HARP). Dr Tim Forssman started this project with the intention of exploring foragers' role within local social, political and economic systems in southern Africa, but particularly the middle Limpopo Valley. The project aims to understand and showcase how foragers were actively involved within these systems, using their own initiatives and skillsets to participate therein, empower themselves and develop importance in networks from which the archaeological record has previously excluded them (for more information see https://harproject.co.za by Dr T. Forssman). Based on these aims and the empirical evidence from Hall and Smith's excavations, Little Muck provided an ideal outset.

Because previous excavations provided a limited understanding of forager occupation at the shelter, the renewed excavations included specific objectives, such as expanding on the known

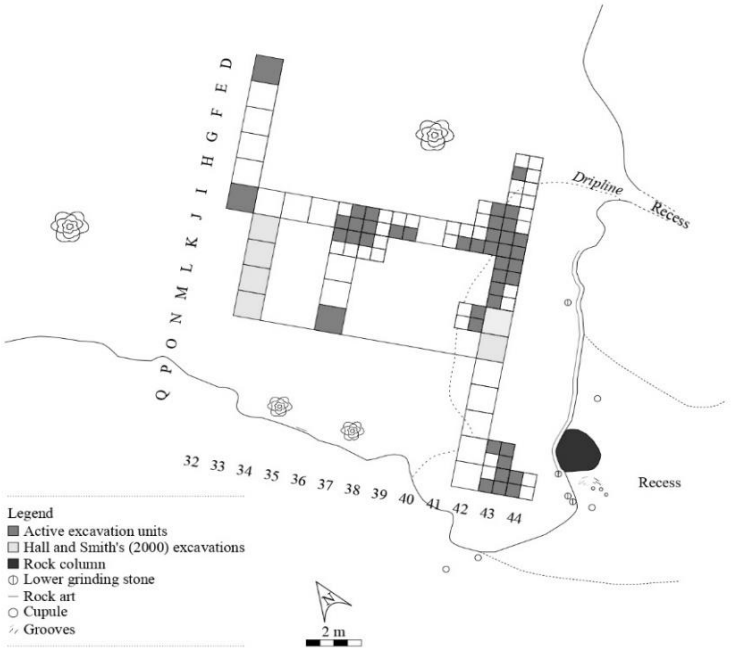

Figure 4.2: Map of HARP's recent excavations (dark grey blocks) and Hall and Smith's (2000) excavations in the late 1990's (light grey blocks).

sequence of the site through focusing on a larger data set and obtaining radiocarbon dates to better understand the site's chronology. Excavations were focused in two areas within the shelter, a western area near to the backwall of the shelter and an eastern area near the dripline, as a means to gather a sufficient data set that might provide more insight into the occupation sequence of the shelter. The renewed excavation sequence included Squares P43, Q43 and Q44 in the western area, and I40 C, I41 A, C and D, I42 and J42 in the eastern area (Figure 4.2). From these eastern squares, additional trenches were set up to the north going into the front courtyard and to the west along the dripline to gain a more thorough record of material across the site. The northern trench was made up of Squares I32, I36 A, C and D, I37 A and B, I38 A and C (Figure 4.2). Two additional trenches expanded from the northern trench to include Squares D32, J36 B and D, M36 and J37 B (Figure 4.2). This was an attempt to try and find any domestic or settlement features that could be linked to farmer occupation of the site, as suggested by Hall and Smith (2000: 37). Due to unfavourable weather conditions, water flow and the gradient of the surface around Squares P43, Q43 and Q44, these squares were not completed, as it was thought that these squares were prone to erosion and water detainment. As a result, focus in the eastern area moved closer to the dripline, as well as the squares excavated by Hall and Smith (2000) in the late 1990's (L42 and M42; Figure 4.2). This trench consisted of Squares F42 A, H41 C and D and H42 A and B (Figure 4.2). An interesting array of artefacts found in I41 D prompted an extension of the excavation to include H41 C following

an adaptive excavation strategy. In this case, it was a collection of well-preserved artefacts in a cluster which included a metal helix along the western wall of H41 C. As such, these squares were extended to ensure the thorough excavation of prominent items in situ. During the last two seasons at Little Muck, Squares L41 C and D and K42 A and B were excavated because they surround L42 (Figure 4.2). Square K42 also connects Hall and Smith ‘s internal squares with our squares. These squares were also excavated with the intent of comparing stratigraphic units and artefact findings with that of Hall and Smith’s (2000) internal squares. Excavations at Little Muck concluded in 2022 with an overall number of 39 quadrants excavated and additionally three 1×1m squares that were not excavated in quadrants (Figure 4.2). As these excavations progressed, natural characteristics and cultural variations were observed and used to separate different strata. This included defining characteristics, such as colour, compactness, inclusions and artefact density. Quadrants were also excavated in 3cm spits to ensure additional vertical control. However, stratigraphic change was preferred to spits and as a result a single spit could include multiple strata that were each dug separately. Following observed changes, stratigraphic units were recorded using the Munsell colour chart and context sheets adapted from the Museum of London Archaeological Services forms. Mapping sheets, charcoal samples, and photographs were also used to record findings according to their provenance when necessary. Once a spit was dug, the contents of the bucket were filtered, using 1mm sieves to ensure a fair recovery of artefacts particularly glass beads and stone flakes, secured into bags and then stored for collection and analysis at the University of Mpumalanga.

4.2 Analysis of excavated assemblage

In order to better understand the socio-economic role of Little Muck’s foragers and their contributions to larger trade networks, laboratory analysis focused on the presence of craft goods and trade items in the excavated cultural assemblage. This analysis involved two main parts. First, cultural material from each excavated quadrant was weighed separately according to artefact type and stratigraphic unit. This data was then used to calculate the density of artefact groupings within each stratigraphic unit based on the volume (in litres) of deposit removed from stratigraphic units during excavation. Analysing the fluctuations in artefact densities across different stratigraphic units showed changing patterns regarding the presence of craft items and trade goods, as well as periods of increased/decreased activity at the shelter. In turn, this provided a better understanding of artefact distribution across Little Muck as well as shifts in preferences.

The noticeable shift in artefact densities was further analysed by examining the technological and stylistic changes of craft items, in conjunction with the appearance of trade goods, throughout the excavated sequence. This provided more insight to the developing trade relations between foragers and farmers, as well as trade-related production activities at the shelter. Of note, the overall use of typological classification systems with regard to archaeological material has been criticised. Whittaker *et al.* (1998) state that these systems have the potential of being subjective due to their reliance on personalised judgements and accumulated experiences. On occasion, the use of various stylistic or typological frameworks, together with personal biases, can lead to inconsistent interpretations of similar cultural material. As such, it is important to examine these systems and how potential biases might influence the analytical process, then elucidate the use of any particular typology. The typological systems used to analyse Little Muck's cultural assemblage have been emphasised and clearly defined, following the methods used by Tapela (2001), van Doornum (2005), Huffman (2007a), Orton (2008), Wood (2011), Antonites *et al*. (2016) and Sherwood and Forssman (2023).

4.2.1 Radiocarbon dated samples

Radiocarbon dating of unidentified samples from Little Muck were carried out at the iThemba Laboratories in Johannesburg, South Africa, and Beta Analytic Laboratories in Florida, United States of America. Additional analyses were done on various bone specimens.

4.2.2 Stone tools

Little Muck's stone tool assemblage includes a large number of formal tools, such as scrapers, backed tools, bladelets, arrow heads, segments and so forth (see Hall & Smith 2000; Forssman *et al*. 2018; Forssman & Van Zyl 2019; Forssman *et al*. 2023). Due to the high density of scrapers and limitations in time, a small sample was analysed by Sherwood and Forssman (2023) was used to better understand scraper density and usage at the shelter. Scrapers were the only formal tool type analysed because of their association with craft activities and trade relations at various shelters across the middle Limpopo Valley (see van Doornum 2005, 2008, 2014; Forssman 2014a, 2015a). Walker (1994) identified scrapers as a tool with one or more acutely retouched edges angling between 35˚ and 75˚. However, Little Muck's stone scrapers were identified based on Guillemard and Porraz's (2019) typological characteristics (see Sherwood & Forssman 2023). They classify scrapers as lithic tools with a convex end where the retouched edge angles between 30˚ and 100˚, this edge is often framed by two straight

edges. Based on observations from Forssman and Van Zyl (2019) and Sherwood and Forssman (2023), stone scrapers from Little Muck shared typological attributes to scrapers from Balerno Main (Guillemard & Porraz 2019) with the assemblage largely consisting of end scrapers with angles between 30˚ and 100˚ (Sherwood & Forssman 2023). In order to better understand the purpose of scrapers at Little Muck and how they contributed to craft production, Sherwood and Forssman (2023) recently conducted a macro use-wear analysis on the assemblage.

An experimental approach was utilised to better understand the use-wear patterns evident on scrapers from Little Muck. Sherwood produced 47 experimental scrapers based on the typological characteristics of those recovered from the shelter (see Sherwood & Forssman 2023). These experimental scrapers were then used on several different material types often occurring in the local archaeological record, including bone, hide, ochre, ostrich eggshell, plant matter, tortoise shell, and wood, in order to gather actualistic data regarding different use-wear patterns. Different scraping methods were employed, such as pulling, pushing, and going back-and-forth, with the scrapers being held at a 45˚ angle (see Sherwood & Forssman 2023). This provided a broader data set of use-wear patterns for comparison and analysis of Little Muck's scrapers. To ensure uniformity between the two data sets, use-wear patterns on both the experimental scrapers and Little Muck's scrapers were identified using a stereoscope. This experimental approach allowed for a comparative analysis which provided a better understanding of use-wear indicators, material preferences and shifts in scraper use patterns at Little Muck.

4.2.3 Worked bone

Macroscopically visible features on worked bone were analysed using Voigt (1983) and Antonites *et al*. (2016) as an outline. These worked bone pieces were categorised into two main types: formal or expedient. Formal tools showed clear evidence of deliberate shaping on the bone, whereas expedient tools showed minimal modification and inconsistent use. This included relatively unmodified bone fragments (particularly rib fragments) with a smoothed or polished surface from extensive use (see Plug & Voigt 1985; Choyke 2001). Following this, Voigt's (1983) typological descriptions were utilised to further categorise the worked bone into broad groupings, such as point, base, or mesial section. These bone tools were also divided based on technological features, including blank production, shaping facets and striations, finishing, and taphonomical damage (see Antonites *et al*. 2016 for more detailed definitions). Although most of these features were macroscopically visible on the tools, low magnification

(10x) was used to identify the orientation of shaping striations and the type of post-deposition taponomical damage. Because bone tools have been associated with crafting activities, the main objective was to see whether a correlation could be drawn between the presence/distribution of stone scrapers and worked bone. Forssman *et al*. (2018) state that worked bone at Little Muck may have been used for tasks previously associated with scrapers, such as the working of soft materials, from the late first millennium AD onwards. This suggests the possibility that more bone tools were being produced to accommodate certain craft activities, as the use of scrapers was focused elsewhere. For this reason, the analysis focused on the density and distribution of worked bone, as well as the types of tools that may have been most prominent in the assemblage. Initial observations relating to use-wear were made; however, a more in-depth study is needed to better understand the use-wear and fracture patterns of Little Muck's worked bone assemblage.

4.2.4 Beads

4.2.4.1 Ostrich eggshell beads (OES)

Ostrich eggshell beads were analysed according to size, production stage, and condition. Tapela (2001) identified three patterns relating the size of OES beads to distinct cultural groups. Beads from Pattern 1 had an external diameter ranging between 3.3 to 7.4mm and an internal diameter ranging between 0.6 to 2.2mm. These beads were classified as small and thought to be representative of OES bead patterns at forager sites. Pattern 2 included beads with an external diameter range from 6.1 to 13.6mm and an internal range from 1.1 to 3.1mm. This pattern was associated with herder and farmer sites as the beads were larger than those noted at forager sites (Tapela 2001). A third pattern was also identified with beads' external diameters ranging from 1.5 to 13.5mm and internal diameters ranging from 1.2 to 3.2mm. Although a mixture of beads from Pattern 1 and 2 were evident, these Pattern 3 sites were often large herder or farmer sites. Tapela (2001) stated that the mixture of bead sizes might be indicative of trade activities. This raises the question as to whether Little Muck's foragers might have been producing small beads for personal use and larger beads for trade purposes. Tapela's (2001) typological classifications allowed for a broad categorisation of bead sizes; however, these were further subdivided based on size ranges acquired from Orton (2008). These categories included sizes ranging between small (< 5mm), medium (5mm - < 6mm) and large (≥ 6mm). Beads were also categorised according to their production stage and post-deposition condition.

Orton's (2008) outline of the seven manufacturing stages was simplified and reduced to five stages which consisted of the following: Stage 1 – rounded pieces with no hole, Stage 2 – hole drilled but not complete, Stage 3 – hole present, edges not rounded yet, Stage 4 – hole present, edges not completely rounded, Stage 5 – complete bead. The post-deposition condition, namely whether the bead was broken or not, was identified and recorded by placing the letter a (complete) or b (broken) next to the production stage of the bead. Beads were also classified into either Pathway 1 or Pathway 2 based on the initial stages of manufacturing, as beads in the initial stages of different production processes are easier to distinguish from one another. Pathway 1 consists of blank OES fragments that have been drilled (perforated) before being trimmed/rounded, whereas Pathway 2 is comprised of circular blank OES fragments that have been trimmed/rounded prior to being drilled (perforated, see Tapela 2001; Orton 2008). Analysing the beads from Stages 2 and 3 allowed for a better understanding of Pathway 1, whereas Stage 1 and perhaps Stage 4 provided a better understanding of Pathway 2 (see Orton 2008 for more details). Analysing these beads provided a better understanding of the role of OES beads in forager craft production and larger trade networks (Tapela 2001; Orton 2008)

4.2.4.2 Glass Beads

The glass bead assemblage of Little Muck was analysed according to Wood's (2005, 2011) morphological classifications. This included stylistic categories, such as colour, diaphaneity, size and shape. Both the colour and diaphaneity of beads were identified using a Vickers Instruments Microscope with AC240V magnification and a transmitted light of 6V and 1.2A. Because the post-deposition condition (corrosion, density, dirt, patina, surface abrasion) can affect the colour and diaphaneity of a bead, these were examined under strong magnification in conjunction with transmitted light so as to accurately determine the glass's original colour and translucency. Beads that appeared dull were dipped in water to emphasise the colour. Descriptions of diaphaneity included both the three commonly used descriptions (transparent, translucent, opaque), as well as the added intermediate levels (transparent-translucent, translucent-transparent, translucent-opaque, opaque-translucent) because of the variability noted in the glass's translucency (see Wood 2011: 70). Various colours were also identified during analysis; however, these were divided into broad colour groups as specified by Wood (2011: 80-81). Following this, beads were further divided into categories based on size and shape.

Standardised size categories have been developed to simplify the process of measuring large bead assemblages (Wood 2005, 2011) and consist of the following size ranges: minute (≤ 2.5mm), small (> 2.5 – 3.5 mm), medium (> 3.5 – 4.5 mm), large (> 4.5 – 5.5mm) and very large (> 5.5mm). The bead's size was determined by measuring the largest diameter perpendicular to the perforation (Wood 2005, 2011). Based on this measurement, the bead was then placed into one of the above categories. Beads were further classified in terms of shape. Although Wood (2011: 69) presents seven categories for the shape of beads, preliminary analyses of Little Muck's glass bead assemblage showed that most of them could be classified into three categories, namely tubular, cylindrical or oblate. Because tubes and cylinders slightly resemble one another, the terms for these have been used interchangeably (Wood 2011). However, this analysis allowed for a distinction between the two terms in order to increase the descriptive range and accuracy thereof. Tubes, or a tubular shape, were identified as beads with straight, parallel sides with the ends left untreated. Most beads within this category had a 'rectangular' profile. Cylinders, on the other hand, also had straight, parallel sides but the ends have been heat treated, meaning that the bead had a rounded profile (see Wood 2011). Of note, a portion of the central section also had to be straight for beads to be placed into this category. Beads with a completely rounded central section and heat treated ends were categorised as oblates, and had a smooth rounded profile compared to the other categories (Wood 2011). Although these morphological characteristics can be associated with series that could inform on temporal sequences at the shelter, glass beads present certain limitations.

First, the classification of specific beads can be challenging as their morphological characteristics may fit into multiple established series (Wood 2011). Although chemical analysis can assist in distinguishing these beads to the proper facies, this analysis focused only on the bead's morphological traits. Second, glass beads often filter down through various stratigraphic units and, subsequently, temporal sequences; a process noted at Little Muck. This filtration leads to the loss of the bead's original context. Third, a large number of beads showed evidence of severe corrosion, patina and surface abrasion, making it difficult to determine the bead's original morphological characteristics. Due to these limitations regarding morphological classifications, glass beads were not categorised into a distinct series. Based on other studies across southern Africa, beads from Little Muck's assemblage most likely varies between the following series, Zhizo, K2 Indo-Pacific, East Coast Indo-Pacific, Mapungubwe Oblate, Zimbabwe and Khami Indo-Pacific, as well as more historic (see Wood 2005, 2011, 2012). The identification of the glass' origins is an important morsel in better perceiving the

movement of beads, both locally and internationally. Accordingly, future chemical analysis will aid in better understanding the movement of Little Muck's assemblage and the resulting influence amongst the site's foragers and other surrounding groups. At present, analysing the morphological characteristics of beads present at the shelter allows for a better understanding of the developing forager-farmer trade relations and context of trade goods at a forager site.

4.2.5 Ceramics

Analysis of Little Muck's ceramic assemblage consisted of three parts. First, the number of undiagnostic ceramic shards within different stratigraphic units were documented. By doing this, a more comprehensive understanding relating to the distribution and density of ceramics could be acquired. Second, ceramic shards with distinct features were divided into four broad categories, including rims, decorated pieces, decorated rim pieces, and a decorated spout. Sorting ceramic shards into these categories allowed for a more in-depth analysis regarding shape and decorative patterns. A full typological analysis (including clay type and temper) was not undertaken due to fragmentation of the assemblage. Instead, where possible, a basic idea of the original shape of the vessel was established through examining the orientation of rim/decorated rim pieces. However, reconstructing the original shape was not viable for very small pieces as these shards mostly consisted of the rim's edge. Decorated ceramics had a similar limitation. Decorative patterns on small shards were difficult to identify and only provided a portion of the overall decoration. Some ceramic shards showed distinct decoration patterns and so, where possible, these decorated shards were identified to a particular facies following typological characteristics. Although Little Muck's sample size is much smaller than that used by Huffman (2007a) to establish facies and typologies for southern Africa, only motifs that could be accurately identified, based on my own limited skillset, were categorised according to a facies. This led to further limiting the comparable sample. Because these typological features are well-established indicators of distinct cultural groups, it was possible to establish a relative chronological sequence of the site by identifying ceramic shards to a particular facies (Pikirayi 2007). Huffman (2007a) identified various typological regularities associated with distinct cultural groups across southern Africa, based on design sets, decoration techniques, decoration placement and vessel form. Although a continuous change of decorative styles is evident across southern Africa, analysis focused on identifying shards to facies of groups recognised as occupants of the middle Limpopo Valley. Therefore, decorated ceramic shards were analysed according to the typological characteristics of the Bambata (AD 150-650), Happy Rest (AD 500-750), Malapati (AD 750-1030), Zhizo (AD 750-1050), Leokwe

(AD 1050-1220), K2 (AD 1000-1200), Transitional K2 (AD 1200-1250), and Mapungubwe (AD 1250-1300) facices, and where possible, assigned to a distinct facies as categorised by Huffman (2007a). It is important to acknowledge that predefining facies based on the limited motifs evident on the shards can be problematic, and the study would benefit from a more in-depth typological analysis of the ceramic shards at the site. At this time, classifying ceramic shards from Little Muck into distinct facies provided a better understanding of developing forager-farmer relations at the onset of the first millennium AD.

4.2.6 Metal

A detailed material analysis was not undertaken as the context of the study is a focus on the distribution of metal items across the site, not metallurgy. These metal items were also analysed using a Vickers Instruments Microscope with AC240V magnification and a transmitted light of 6V and 1.2A, as most pieces were extremely small. Additionally, the post-deposition condition of these metal items was quite severe with most of the assemblage showing evidence of corrosion and weathering. Through the use of high magnification, it was possible to determine some characteristics whereby items were classified into three groupings: finished product, production debris or unknown. If possible, items in the finished product category were further classified according to the type of material artefact, predominantly helixes or beads. However, the size along with the severe weathering made it somewhat difficult to place items into distinguishable categories. Although these items were not well-preserved, the presence of metal objects within a forager context suggests that foragers and farmers were interacting with one another as metal-working is associated with farmer groups (see Huffman 2007a).

Studying craft items, in conjunction with trade goods, provided more insight into changing artefact densities, craft good production and the accumulation of trade wealth at Little Muck. It also tracks these changes through Little Muck's cultural sequence, allowing for a better understanding of the developing trade relations between foragers and farmers based on empirical data from across the site. The following chapter provides empirical data through which the relation between craft items, trade goods and their distribution patterns can be better understood.

Chapter 5: Results

Key to this study is understanding the relationship between crafted items, trade goods and chronology. In order to answer the project's primary questions, it is crucial to determine changes in the local craft economy, framing this within a robust chronology in order to relate it to larger socio-economic patterns across the landscape. To achieve this, this chapter examines the chronological record of the site, focusing particularly on the stratigraphic sequences. It then configures the assemblage and the various temporal changes throughout this sequence.

5.1 Little Muck's excavated sequence

5.1.1 Stratigraphy

The stratigraphic sequences at Little Muck differed considerably across the site, with differences in both strata and depth. Stratigraphic units in the outside area presented greater uniformity and noticeably shallower deposits compared to those within the shelter. A discontinuity was also noted amongst several of the internal squares, most notable in J42A and J42B/I42A (Figure 5.1). This difference was attributed to a cut and fill activity. A brief description of the strata identified within these excavated quadrants during the first excavation season is provided, as this guided the succeeding excavations. The initial excavations identified 12 different strata which include: GB1, GB2, GB3, PBG1, PBG1+, DRG1, VDG1, B2, VDB1, B2+, VDB2 (Figure 5.1). Although some strata exhibited variability in their occurrence, most were identified in many of the internal squares. As a result, the sequences from both squares were used as a means to establish vertical control across the site.

The upper three strata initially identified in I42A and J42 are GB1, GB2 and GB3 (Figure 5.1). These units appeared across all excavated squares, both inside and outside the shelter. The strata were distinguished from one another based on semi-distinctive changes that could be associated with each individual unit. The uppermost stratigraphic unit, GB1, was a loose and unconsolidated surface characterised by a greyish brown colour (Table 5.1). Following this, a unit with similar characteristics to GB1 was identified; however, this unit presented greater a compaction and higher density of artefacts. This was unit GB2 (Table 5.1). GB3 was more textured and compact compared to the two previous units, and also included a greater amount of inclusions, such as rocks, roots and artefacts (Table 5.1). Artefact properties also changed throughout the different units, particularly ceramic decorations. Although these units appear

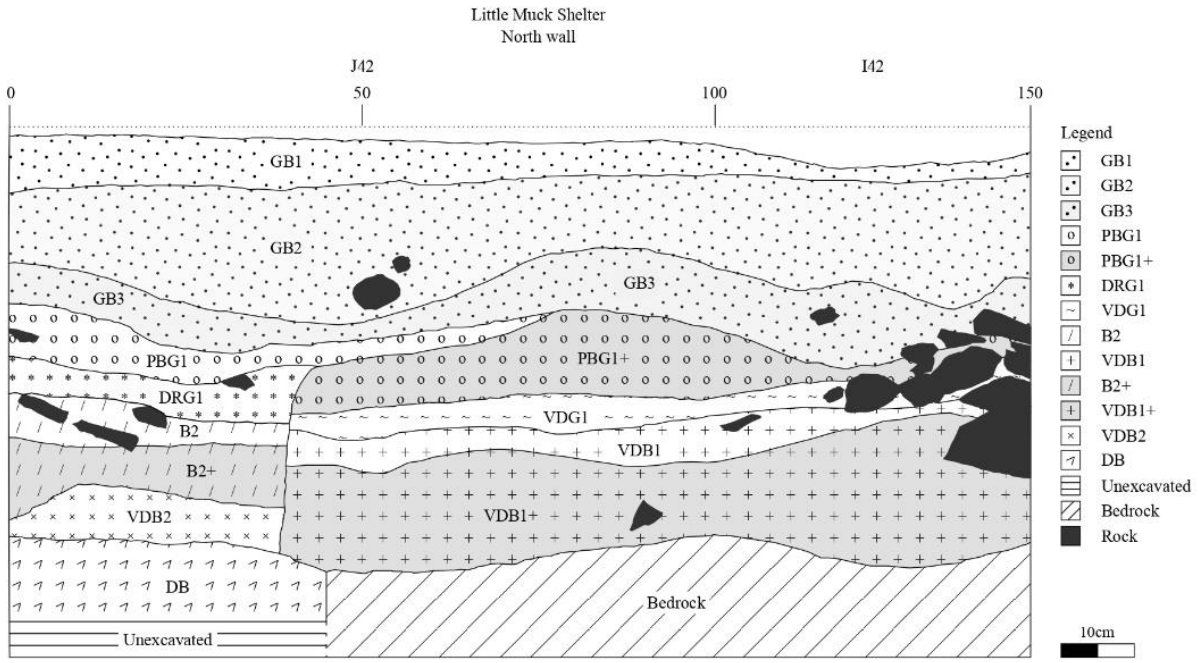

Figure 5.1: Stratigraphic profile of Little Muck's initial excavations, focusing on the northern wall of quadrants J42A, J42B and I42A.

quite uniform across the site regarding their semi-distinctive characteristics and depth range, a slight difference to the stratigraphic uniformity starts to appear in the following strata.

The strata identified in Quadrant J42A after GB3 include the following: PBG1, DRG1, B2, B2+ and VDB2 (Figure 5.1). Unit PBG1 was noticeably different from the previous GB3 as it had a light, ashy colour and prominent rock and pebble inclusions (Table 5.1). This unit also presented an evident increase in artefact densities across the site. Following this, a dark brown silt/clay-like unit was identified as DRG1 (Table 5.1). This unit also presented an increase in artefact densities from unit PBG1, although it was not as intense as the previous increase. Below DRG1 were units B2 and B2+ (Figure 5.1). Both these units had a very distinct brown colour with evidence of rock and root inclusions. The only distinct difference between these two strata was the density of artefacts with B2+ producing considerably more than B2 (Table 5.1). For this reason, the same Munsell code was used for both strata but a '+' was added as a means to indicate a higher density of artefacts within the unit. These strata, most often B2+, were followed by unit VDB2 (Figure 5.1). This was a thin layer of fine-grained material directly on top of bedrock (Table 5.1). Because of this, the layer was at times overlooked during excavation. Excluding the cut and fill of J42A, J42B and I42A, the lower three strata extended across all of the internal squares intermingling with other units.

Table 5.28: Little Muck's primary stratigraphic units from Quadrants J42A, J42B and I42A, along with their descriptions.

Stratigraphic unit	Description of deposit
GB1	Fine, greyish brown sand with rock and root inclusions. Evidence for the occurrence of bioturbation and root penetration. This is an unconsolidated surface.
GB2	Fine, but compact, greyish brown sand with root inclusions, most likely a more compact version of GB1. Evidence for bioturbation and root penetration.
DG1	Fine-textured, dark grey fill (500×400mm and 265×335mm) situated within unit GB2, with rock inclusions and evidence for root penetration and bioturbation.
GB3	Pale, greyish brown ash that is more textured, and includes a greater amount of rock inclusions than GB2. Root penetration was evident within the unit.
PBG1	Fine textured, ashy sand with rock and pebble inclusions. Evidence for root penetration and bioturbation. Very slight change from previous unit.
PBG1+	Only distinct change from previous unit is artefact density.
DRG1	Fine textured, darkish brown silt/clay; unit was not coarse enough to be identified as sand. Rock and root inclusions.
VDG1	Fine textured, dark grey ash with sandstone inclusions. Bioturbation was evident within the unit.
B2	Richer, more distinct brown sand than in DRG1 (unit above B2 in J42 A) with a fine texture. Evidence for root penetration and bioturbation, along with rock and root inclusions. Unit occurs throughout J42 A only.
VDB1	Medium textured sand with rock inclusions. Dark brown colour of the deposit appears wet. Evidence for root penetration and bioturbation (J42 B). Unit occurs throughout J42 B and I42 A, and is parallel to unit B2 in J42 A.
B2+	Only distinct change from previous unit is artefact density. Unit occurs throughout J42 A only (unit after B2).
VDB1+	Only distinct change from previous unit is artefact density (J42 B). Unit occurs throughout J42 B and I42 A, and is parallel to unit B2+ in J42 A.
VDB2	Thin, fine-textured, brown layer of sand above bedrock. Evidence of bioturbation and root penetration.

The strata identified in Quadrants J42B and I42A following GB3 include: PBG1+, VDG1, VDB1 and VDB1+ (Figure 5.1). Unit PBG1+ had similar characteristics as PBG1, meaning that it was noticeably different from the upper unit, GB3 (Table 5.1). In other areas of the excavation, unit PBG1+ often succeeded PBG1 and was primarily distinguished based on artefact densities. Below PBG1+ was unit VDG1 (Figure 5.1). This was a fine-textured ashy unit with a dark grey colour reminiscent of charcoal. There was also a noticeable decrease in artefact densities throughout this unit, following PBG1+ (Table 5.1). These distinctive characteristics made it easier to separate this unit from the previous. Below VDG1 were units VDB1 and VDB1+ (Figure 5.1). These units consisted of a dark brown layer that was coarser than the previous unit (Table 5.1). At times, the deposit also felt damp. Although VDB1+ was the lowest unit identified within Quadrants J42B and I42A (Figure 5.2), it is possible that a thin VDB2 unit went unnoticed.

Despite the discrepancies noted throughout Quadrants J42A, J42B and I42A, succeeding excavations utilised the first season's recorded stratigraphic units as a reference guide. Most of the stratigraphic units were identified across the site and based on this reference, several additional units were identified. At times, this resulted in similar units being marked as different from one another. Radiocarbon dating of the stratigraphic sequence provided a solution to any potential confusions. Because of the extent of other identified units, a Harris Matrix was produced in order to provide a more accurate and visual representation of them (Figure 5.2). While some units initially thought to be distinct have since been recognised as the same on account of radiocarbon dating, they were still separated in the Harris Matrix. By doing so, it reflects the actual excavation process, where differentiation occurred due to limited information.

5.1.2 Chronology

Twenty-five unidentified charcoal samples, collected *in situ*, and 11 bone specimens were submitted for radiocarbon dating. However, analyses of these samples presented a challenge in understanding Little Muck's chronology. Primarily, chronological markers, such as ceramics and glass beads (see Huffman 2007a; Wood 2005, 2011), were used to establish a relative chronological sequence for the site separated into broad phases of activity. While relative chronology provided a valuable framework, absolute dates would offer a more precise chronological understanding of the site's occupation. As a result, three sample sets were

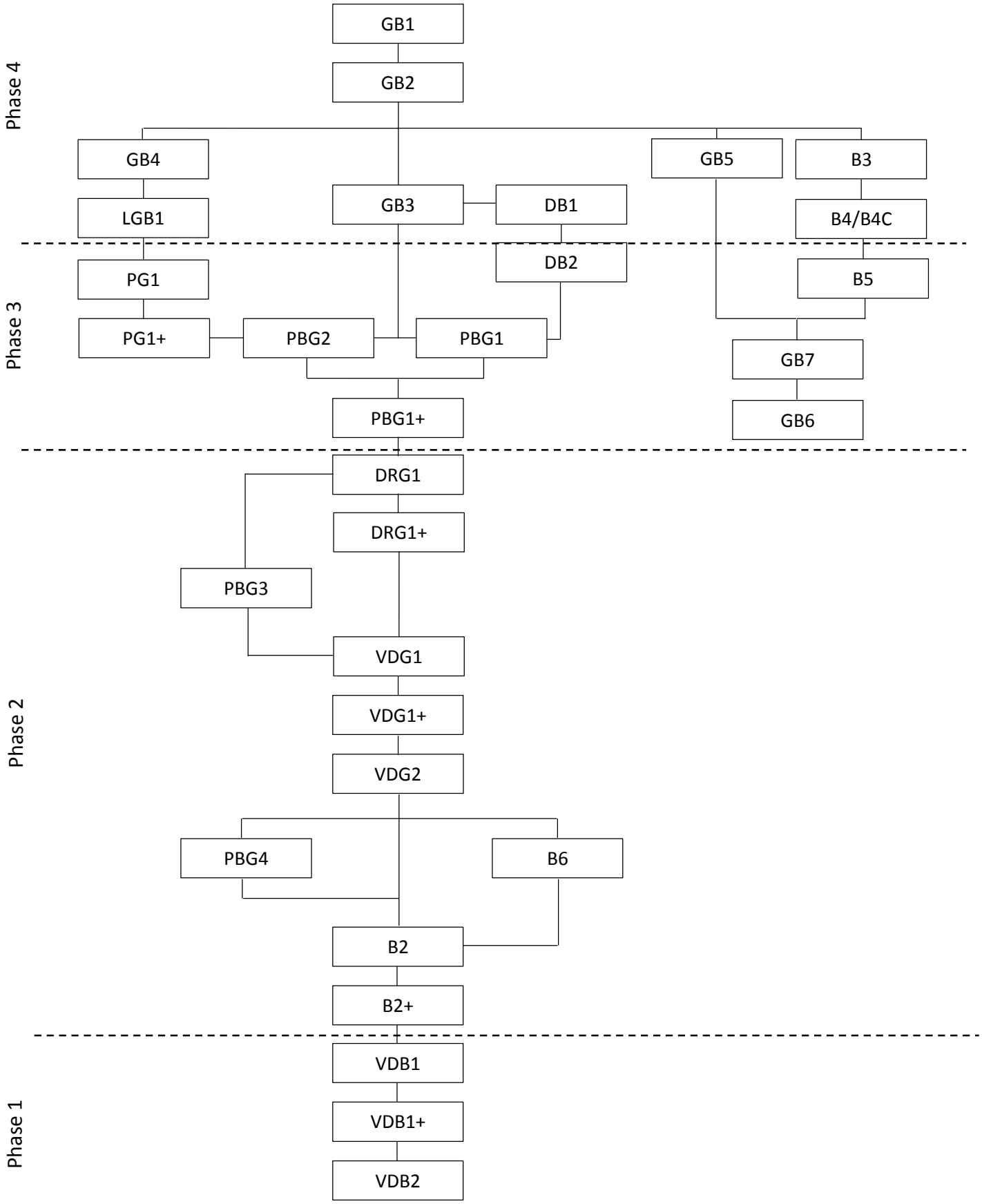

Figure 5.2: Harris Matrix of the different stratigraphic units that appear numerous times throughout the excavated sequence. These units were further divided into the four main periods of occupation at Little Muck and will be discussed in more detail below.

submitted for radiocarbon dating. The original sample set, selected from various strata based on mass and submitted to iThemba Laboratories in Johannesburg, South Africa, proved inconsistent where after two more sets comprised of charcoal and bone were submitted to Beta Analytic in Florida, United States of America in order to obtain more supportable absolute dates.

5.1.2.1 iThemba Laboratories

Sixteen unidentified charcoal samples were initially sent to iThemba Laboratories for radiocarbon dating. However, inconsistencies between the relative chronology and the radiocarbon dates prompted re-analysis of the samples. Despite using a different method, the re-analysis matched the initial results for most samples (Table 5.2).

5.1.2.2 Beta Analytic

Inconsistencies in the iThemba Laboratory radiocarbon dates prompted additional samples to be sent for dating to Beta Analytic. The sample set consisted of nine unidentified charcoal specimens collected *in situ*, six bone specimens and five teeth. From this, five charcoal, as well as four bone, samples were analysed (Table 5.3). Unfortunately, the entire bone sample, as well as the single teeth sample that could be dated, presented challenges related to the C:N ratios. On account of this, only seven of the 20 samples yielded absolute dates for site. These also provided little new information compared to the samples from iThemba Laboratories (see Tables 5.2 & 5.3). The inconsistencies of Little Muck's absolute dates are most likely related to contamination of *in-situ* charcoal samples and leaching of collagen from the bone samples. A few samples were also too small to provide any useable dates for the site. At this time, it remains unclear what might have contributed to possible contamination of these samples but perhaps future geoarchaeological research can provide a better understanding of the site's morphology and other geological progressions.

5.1.2.3 Relative chronological sequence and absolute dates

A relative chronological sequence for Little Muck was established by associating decorated ceramics to a distinct facies and to an extent, glass beads into a specific series. As mentioned previously, this approach presents certain restrictions in the absence of chemical analysis. For instance, discrepancies occurred during the process of radiocarbon dating samples from Little Muck, meaning that the calibrated dates of certain stratigraphic units do not concur with the surrounding chronological markers (see Figure 5.3). It is important to acknowledge that the

Table 5.29: Results of charcoal smples submitted to iThemba Laboratories (table provided by Tim Forssman).

Lab code	Strat	Relative	Mean	Error	Cal. BC/AD
IT-C-3957	GB2	Hist/MPG/TK2	160	40	AD 1796 - 1954 (64%) AD 1672 - 1746 (28%) AD 1770 - 1780 (1.9%) AD 1755 - 1764 (1.5%)
IT-C-3959*	GB2	Hist/MPG/TK2	105	35	AD 1806 - 1951 (80.9%) AD 1694 - 1727 (14.5%)
IT-C-3963	GB2	Hist/MPG/TK2	240	45	AD 1626 - 1815 (82.9%) AD 1829 - 1892 (7%) AD 1921 - 1954 (4.3%) AD 1518 - 1538 (1.3%)
IT-C-3955	GB2	Hist/MPG/TK2	790	45	AD 1205 - 1317 (89%) AD 1355 - 1383 (6.5%)
IT-C-3956	GB2	Hist/MPG/TK2	1380	45	AD 617 - 780 (94.4%) AD 792 - 805 (1.1%)
IT-C-3965	GB3	K2/Leokwe	290	25	AD 1621 - 1673 (68.4%) AD 1509 - 1579 (19.4%) AD 1781 - 1797 (5.2%) AD 1745 - 1755 (1.6%) AD 1763 - 1769 (0.8%
IT-C-3952	GB3	K2/Leokwe	260	60	AD 1612 - 1816 (68.5%) AD 1501 - 1596 (15.8%) AD 1829 - 1893 (7.1%) AD 1921 - 1953 (4%)
IT-C-3948	PBG1/DRG1	Zhizo/Happy Rest	140	50	AD 1796 - 1954 (67.4%) AD 1672 - 1745 (25.3%) AD 1770 - 1780 (1.5%) AD 1755 - 1764 (1.2%)
IT-C-3958	DRG1	Happy Rest	1525	40	AD 532 - 657 (92.1%) AD 461 - 484 (2.5%) AD 443 - 452 (0.8%)
IT-C-3962	B2	Early first millennium AD	215	40	AD 1645 - 1815 (76.8%) AD 1831 - 1892 (11.6%) AD 1921 - 1953 (7%)
IT-C-3950	B6	Early first millennium AD	2145	35	204 BC - AD 2 (95%) 336 - 331 BC (0.4%)
IT-C-3984	B6	Early first millennium AD	735	40	AD 1264 - 1330 (55.6%) AD 1336 - 1392 (38%) AD 1233 - 1245 (1.8%)
IT-C-3954*	B2+	Early first millennium AD	615	40	AD 1375 - 1433 (48.3%) AD 1301 - 1365 (47.1%)
IT-C-3960	B6/B2	Early first millennium AD	1295	40	AD 679 - 885 (95.4%)
IT-C-3964	B2	Early first millennium AD	530	40	AD 1393 - 1461 (95.4%)
IT-C-3951	B2	Early first millennium AD	730	35	AD 1267 - 1392 (95.4%)

Table 5.30: Results of the two sets of charcoal samples submitted to Beta Analytic (table provided by Tim Forssman).

Lab code	Strat	Relative	Mean	Error	Cal. BC/AD
632995	DRG1+	Happy Rest	2210	30	260 - 91 BC (60.9%) 359 - 276 BC (33.3%) 71 - 60 BC (1.3%)
632984	DRG1	Happy Rest	1260	20	AD 770 - 890 (92.3%) AD 723 - 740 (3.2%)
632983	VDB1+	Pre-AD 150	2080	30	115 BC - AD 60 (91.8%) 159 - 135 BC (3.6%)
629970	DGB2A (within GB6)	Zhizo	190	30	AD 1665 - 1816 (64.3%) AD 1828 - 1893 (19.6%) AD 1920 - 1954 (11.6%)
629967	DRG1+	Happy Rest	550	30	AD 1398 - 1447 (95.4%)
629966	GB2	K2/Mapungubwe	180	30	AD 1668 - 1785 (44.7%) AD 1827 - 1894 (25.3%) AD 1909 - 1954 (15.9%) AD 1794 - 1818 (9.6%)
629965	B7	Historic	120	30	AD 1806 - 1951 (79.9%) AD 1694 - 1727 (15.5%)
632988	DRG1	Happy Rest	1290	30	AD 687 - 881 (95.4%)
632985	PBG1	Zhizo	2140	30	199 - 36 BC (91.7%) 13 - 1 BC (1.9%) 31 - 19 BC (1.8%)
629968	GB2	Hist/MPG/TK2	150	30	AD 1801 - 1953 (71.4%) AD 1678 - 1734 (24%)
669772	GB3	Hist/MPG/TK2	600	30	AD 1385 - 1431 (67.8%) AD 1319 - 1352 (27.7%)

relative chronology was established using markers that are quite fragmented and prone to filtration (see Chapter 4). In addition, these markers were present in small sample sizes which may have further contributed to discrepancies between the relative and absolute dates. Despite these inconsistencies, of the 36 samples submitted eight provided dates that supported the established relative chronology (Figure 5.3). Stratigraphic units defined by both relative chronological markers and absolute dates include GB2 (IT-C-3955), GB3 (669772), DRG1 (IT-C-3958; 632984; 632988), B2/B6 (IT-C-3950) and VDB1+ (632983); this included unit B7 (629965) but the focus is not on a historic period (Tables 5.2 & 5.3). These relations are shown in Figure 5.3. The horizontal categories present the stratigraphic units and their calibrated dates, while the vertical groupings show the well-establised relative chronology. In the case of the above mentioned units, the relative chronological indicators overlapped with one or more of the calibrated dates as presented in Figure 5.3. This is shown whereby the concurring calibrated dates are directly around or within the shaded areas (i.e. relative chronological sequence) of each occupation phase at the site.

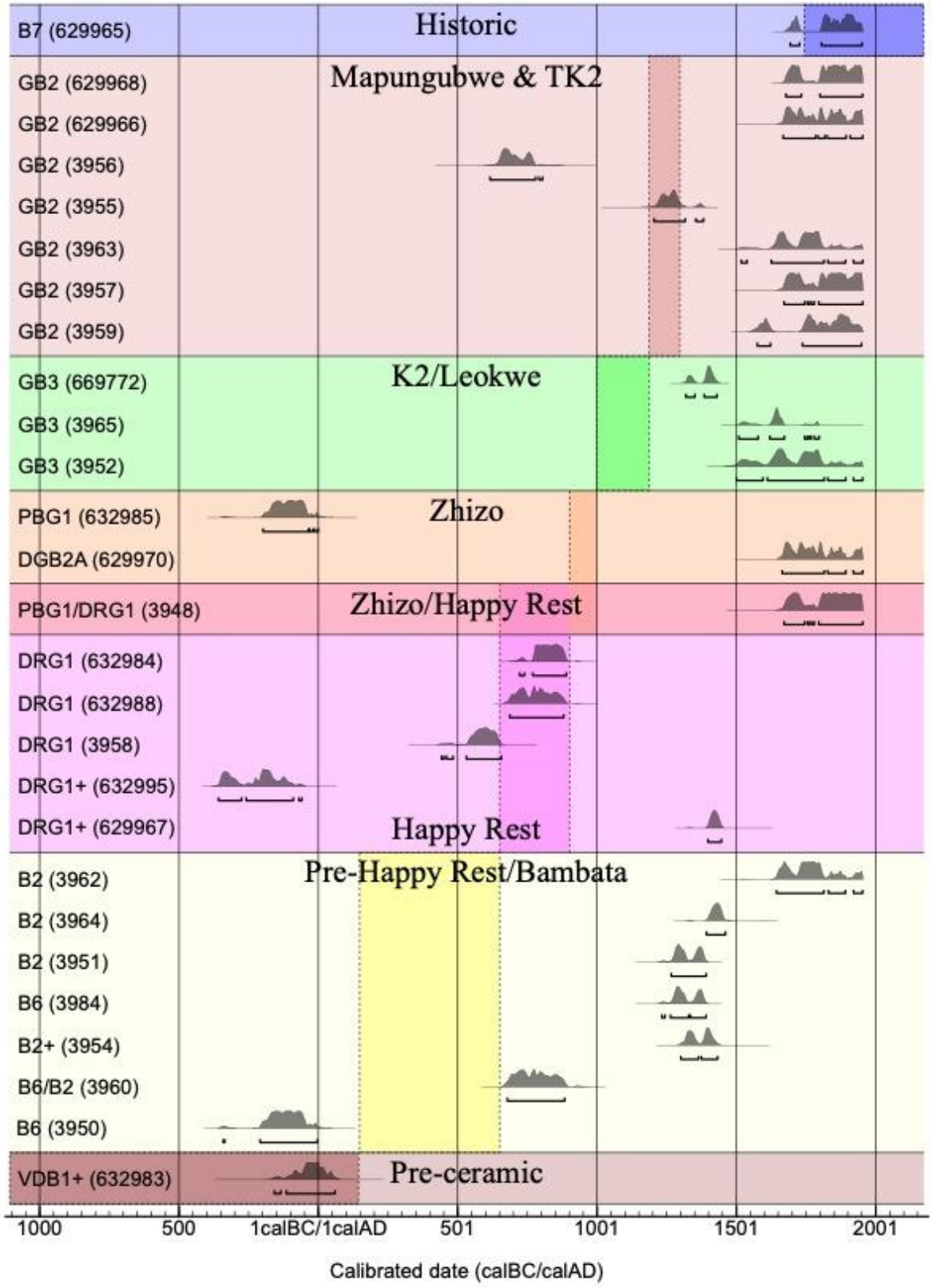

Figure 5.3: All the calibrated dates in order of their stratigraphic appearance and organised following the expected relative chronology established by Forssman et al. (2023) (plotted graph provided by Tim Forssman). The calibrated dates directly around and within the shaded areas (relative chronological markers) strongly support the relative chronology established for Little Muck, particularly B7 (629965), GB2 (3955), GB3 (669772), DRG1 (3958; 632984; 632988), B2/B6 (3950) and VDB1+ (632983).

Consequently, Little Muck's occupation sequence was separated into four phases based on relative chronological markers, absolute dates, stratigraphic differences and changing artefact densities (see Table 5.4), following the methods used by van Doornum (2008) and Forssman (2014a). These include: Phase 1, a late first millennium BC occupation between *c.* 115 BC and AD 60 (VDB1 to VDB2); Phase 2, a late first millennium BC to early first millennium AD occupation between *c.* 204 BC to AD 885 (VDG1 to B2+); Phase 3, a late first millennium AD occupation ranging from *c.* AD 600 to 1000 (PBG1 to DRG1); and Phase 4, a second millennium AD occupation period from AD 1000 to 1300 (GB1 to GB3; Figure 5.3).

Examining the relative chronological sequence along with the absolute dates provided a framework for comparing recent chronology and findings with that from Hall and Smith's (2000) excavations. In turn, this allowed for the establishment of a spatial connection between the two excavated areas, and a more thorough understanding of Hall and Smith's preliminary observations. During their excavations, Hall and Smith (2000: 35) identified seven stratigraphic units which they related to specific phases of occupation. This included the following phases: Pre-ceramic (ARB2/GS2), Happy Rest/Bambata (ARB/GS), Zhizo (PGA3), and Leopard's Kopje (EA, PGA; PGA2). HARP's stratigraphic profile of Little Muck is more complex with more strata recorded and applied to the occupation periods identified by Hall and Smith (2000). The results are presented in the following table (Table 5.4).

5.2 Craft assemblage

There are a variety of items that were retrieved from Little Muck that can be considered craft goods. Each is discussed below separately before they are combined in a synthesis.

5.2.1 Stone tools

In total, 206 scrapers were identified in the sample size (I42B) from Little Muck (Table 5.5; Sherwood & Forssman 2023). The comparative analysis of use-wear patterns revealed the presence of four out of the six examined categories on Little Muck's scraper assemblage, including bone (n=66), hide (n=4), shell (n=3), and wood (n=33; Table 5.5) (Sherwood & Forssman 2023). Each material produced a distinct use-wear pattern on the scraper's surface, and provided a better understanding of the different activities that were happening at the site (Figure 5.4). Analysis of the scraper assemblage revealed a predominance of use-wear indicative of working bone (32%), suggesting that bone modifications may have been a primary activity at the site (Table 5.5). Following this, use-wear patterns associated with working

Table 5.31: Different stratigraphic units recorded at Little Muck during HARP's and Hall and Smith's (2000) excavations, respectively. This also allows for a comparison of Little Muck's occupation phases with those of nearby shelter sites.

<table>
<tr><th>Phases of occupation</th><th>Date (AD)</th><th>Ceramic phases</th><th>Little Muck (HARP's)</th><th>Little Muck (Hall & Smith's 2000)</th><th>Balerno Main</th><th>Balerno 2</th><th>Balerno 3</th><th>Dzombo</th><th>Tshisiku</th></tr>
<tr><td rowspan="5">Phase 4</td><td>>1600</td><td>EU/Historic</td><td rowspan="3">GB1</td><td></td><td>17th century farmers</td><td></td><td></td><td rowspan="2">SUR–Spit VIII?</td><td>19th century farmers</td></tr>
<tr><td>>1300</td><td>Icon/Khami</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>1250</td><td>Mapungubwe</td><td rowspan="2">PGA/EA/PAH</td><td rowspan="2">BRA 1-45</td><td></td><td rowspan="3">SUR-GB1?</td><td rowspan="2">Spit IV–IX?</td><td rowspan="2">SUR–Spit 2</td></tr>
<tr><td>1200</td><td>Mapungubwe/K2</td><td>GB2</td><td></td><td></td></tr>
<tr><td>1100</td><td>K2</td><td>GB3</td><td>PGA 2</td><td></td><td></td></tr>
<tr><td rowspan="3">Phase 3</td><td>1000</td><td>K2</td><td></td><td rowspan="2">PGA 3</td><td rowspan="3">BRA 45-50</td><td></td><td rowspan="2">Spit X-XIII</td><td rowspan="2">Spit 3</td></tr>
<tr><td>900</td><td>Zhizo</td><td>PBG1/PBG1+</td><td></td><td rowspan="4">SUR-GB1?</td></tr>
<tr><td>800</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="9">Phase 2</td><td>750</td><td>Happy Rest</td><td rowspan="2">DRG1/DRG1+</td><td rowspan="9">ARB/GS</td><td></td><td rowspan="8">GB 0-10

GB 10-20</td><td></td><td></td></tr>
<tr><td>600</td><td>Happy Rest</td><td rowspan="4">BRA 55-60</td><td rowspan="3"></td><td rowspan="3"></td></tr>
<tr><td>500</td><td>Happy Rest</td><td>PBG3</td><td rowspan="3">GB2-AG2</td></tr>
<tr><td>400</td><td>Bambata A/B?</td><td rowspan="2">VDG1
VDG1+</td></tr>
<tr><td>300</td><td>Bambata A/B?</td><td rowspan="3"></td><td rowspan="3"></td></tr>
<tr><td>200</td><td>Bambata A?</td><td>B2</td></tr>
<tr><td>100</td><td>Bambata A?</td><td rowspan="2">B2+</td><td rowspan="3">DGB 70-75</td><td></td></tr>
<tr><td>0</td><td>Ceramic</td><td rowspan="3">Spit XIX-XXVII</td></tr>
<tr><td rowspan="5">Phase 1</td><td>Late pre-0</td><td>Pre-ceramic</td><td>VDB1
VDB1+
VDB2</td><td>ARB 2/GS 2</td><td>OB 0-35</td><td>AG3-DR5</td><td>Spit 4</td></tr>
<tr><td rowspan="4">Early pre-0</td><td rowspan="4">Pre-ceramic</td><td></td><td></td><td></td><td></td><td></td><td rowspan="2">Spit 5-7
Spit 8-14</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td rowspan="2">ABR
DAF</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td></tr>
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Table 5.32: Different types of materials used to identify use-wear patterns on Little Muck's scraper assemblage (see Sherwood & Forssman 2023).

Materials used for scraping	Number of scrapers (n)	Percentage of scrapers (%)
Bone	66	32
Bone and wood	31	15
Hide	4	1.9
Hide and bone	1	0.5
None	68	33
Shell	3	1.5
Wood	33	16
Total	206	100

wood are predominant (16%). In some cases, scrapers presented evidence of two different use-wear patterns, suggesting that these tools were either used for various activities simultaneously, or their function might have changed over time (Table 5.5). Little Muck has yielded 31 scrapers that show wear patterns consistent with working both bone and wood, along with a single tool displaying evidence of both hide and bone working (Table 5.5). Several scrapers were also identified with no visible use-wear and were categorised as 'none' (n=68; Table 5.5). Based on the experimental scrapers, no distinct macroscopic use-wear patterns were produced when working soft materials, particularly plant matter. This suggests that factors, such as the type of

Figure 5.4: Different types of scrapers from Little Muck's assemblage, along with the different use-wear patterns associated with working various materials. Images at the bottom from left to right show the following: Hide working – rounding of the scraper's edge; bone working – multiple square-like flake removals ending in overlapping step fractures; wood working – semi-circular flake removals; shell working – polishing and flattening of working surface (see Sherwood & Forssman 2023) (photos of different use-wear patterns provided by Nicole Sherwood).

material worked or perhaps even preservation conditions, may have obscured previous patterns of use (see Sherwood & Forssman 2023).

5.2.1.1 Distribution

In total, 97 scrapers were noted within Phase 1 with a noticeable increase from VDB2 to VDB1+ (Figure 5.5). All four categories of use-wear patterns were present with wood (n=21) being the most prominent, followed by bone (n=10), hide (n=4), and shell (n=1; Table 5.6). Despite this, most scrapers from this period showed no distinctive use-wear patterns (n=44; Table 5.6). There is a notable increase in the number of scrapers during Phase 2 (n=101; Table 5.6), particularly in regard to scrapers with use-wear related to bone working (n=52; Table 5.6). Evidence also indicates that wood (n=11) and shell (n=2) were worked throughout this period (Table 5.6). From Phase 2 onwards, there are no scrapers associated with hide-working (Table 5.6). During this period, scrapers reached a peak not seen in any of the other phases, based on this sample set (Figure 5.5). Phase 3 presents a sharp decline in stone scrapers with none having been recovered from stratigraphic units associated with this period (Table 5.6). Of note, Hall and Smith (2000) found that scrapers were predominant during this period (n=143), suggesting that artefact frequencies were most likely fluctuating across the site. The frequency of scrapers slightly increases throughout Phase 4 (n=8), until evidence of stone tools largely disappear (Table 5.6). Evidence of both bone and wood working appear during this period with four scrapers used for bone and one for wood (Table 5.6).

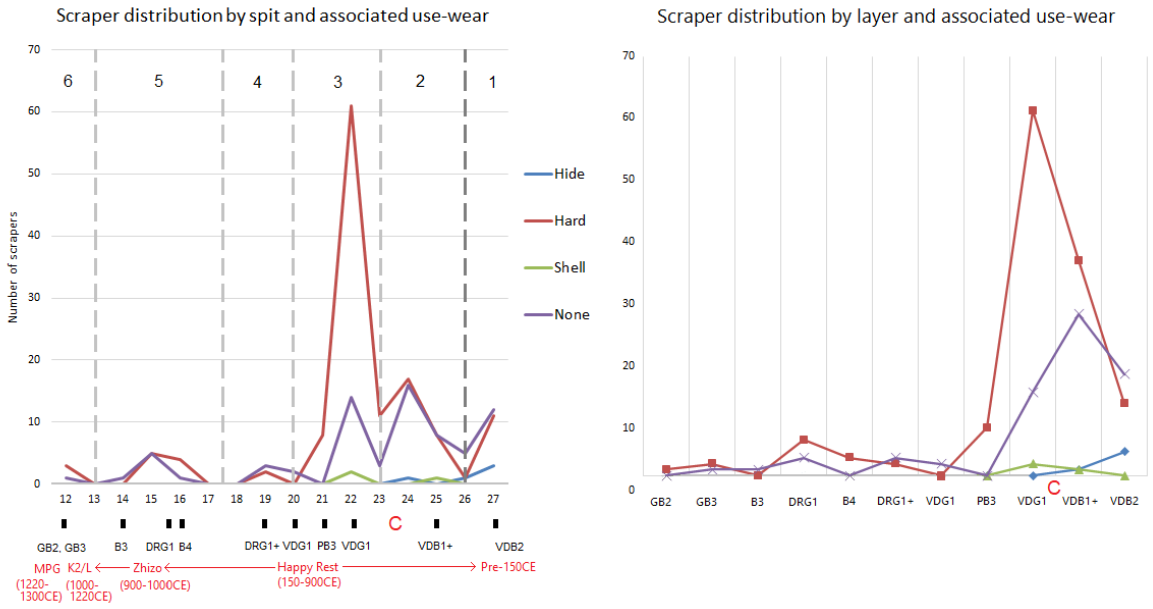

Figure 5.5: Distribution of scrapers used to scrape hard materials across stratigraphic units and associated time periods (cf. Sherwood & Forssman 2023: 11).

Table 5.33: Distribution of scrapers across stratigraphic units in I42B according to scraper use (cf. Sherwood & Forssman 2023: 10).

Layer	Hide	Hide and bone	Wood	Bone	Bone and wood	Shell	None	Total
GB2	0	0	1	0	0	0	0	**1**
GB3	0	0	0	1	1	0	1	**3**
B3	0	0	0	0	0	0	1	**1**
B4	0	0	0	3	0	0	0	**3**
DRG1	0	0	0	6	0	0	3	**9**
DRG1+	0	0	0	2	0	0	3	**5**
VDG1	0	0	0	0	0	0	2	**2**
PB3	0	0	0	6	2	0	0	**8**
VDG1	0	0	11	38	12	2	14	**77**
VDB1+	1	0	13	9	14	1	27	**65**
VDB2	3	1	8	1	2	0	17	**32**
Total	**4**	**1**	**33**	**66**	**31**	**3**	**68**	**206**
Percentage	**1.9**	**0.5**	**16.0**	**32.0**	**15.0**	**1.5**	**33.0**	**100.0**

5.2.2 Worked bone

Little Muck's worked bone assemblage consists of 203 pieces, which were categorised into three main groups; formal, expedient and unknown (Table 5.7). Evidence of deliberate shaping on the bone, including shaping facets and prominent striations, were used to identify formal tools. A great number of the assemblage showed evidence of purposeful working with 188 pieces having been identified (92.62%). Fragments with minimal modification across the surface were classified as expedient tools (3.44%; Table 5.7). This category consists of the least amount of artefacts (n=7; Table 5.7) with most fragments appearing to be from rib bones (Figure 5.6); these also showed evidence of minimal use. Although typological characteristics were identified on the remaining pieces (n=8), several factors made it difficult to determine whether the modifications on the bone were a result of weathering or deliberate working. These unidentifiable fragments account for 3.94% of the entire assemblage (Table 5.7). Allowing for these three main classifications, the worked bone was further categorised into various groups based on typological, technological and taphonomical features.

The assemblage mainly consists of unknown mesial sections (n=105) categorised into four separate groups based on typological characteristics, particularly shape (Table 5.8). Of these, unknown rounded mesial sections are the most prominent (n=90), suggesting that a number of tools were rounded during the production process (Figure 5.7). Because both the point and

Table 5.34: Number and percentage of main worked bone categories.

Worked bone categories	Number of worked bone (n)	Percentage of worked bone (%)
Formal	188	92.62
Expedient	7	3.44
Unknown	8	3.94
Total	203	100

base have broken off of these tools, it is difficult to determine possible usages without further microscopic ananlysis of use-wear and fracture patterns. A total of 59 points with an unknown base was idenitified with visible evidence of working around most of the tips (Table 5.8). This included fragments with purposefully shaped finished tips, as well as moderately worked points with smoothed tips (Figure 5.8). Five tubes were also identified in the assemblage; however, due to post-deposition conditions it was difficult to determine other defining typological characteristics, and so their function remains unclear (Table 5.8). A singular needle-like object was ideintified with a relatively thick base (7.66mm) tapering into a flat tip towards the point (Table 5.8). This piece also shows visible shaping facets along the mesial section. However, no perforations were noted at either end, suggesting that this might simply be a bone point (see Antonites *et al*. 2016). The remaining groups present low numbers of worked bone with minimal typological modifications, making it difficult to determine the function of these objects (Table 5.8).

Figure 5.6: Examples of expedient tools within Little Muck's worked bone assemblage, consisting of rib fragments.

Table 5.35: Number of worked bone categorised into different typological groupings.

Typological groupings	Formal	Expedient	Unknown	Total
Base	15			15
Bone flake		1		1
Needle (matting)	1			1
Point with unknown base	55	4		59
Tube	5			5
Unknown flat mesial section (bevelled end)			1	1
Unknown flat mesial section (no shape)	10	1		11
Unknown mesial section (no shape)	3			3
Unknown rounded mesial section	90			90
Worked fragment	2	1		3
Unknown	7		7	14
Total	188	7	8	203

In total, 122 bone tools were modified to an extent in which their original morphology changed while 51 fragments were identified as tools utilising their existing shape with minimal modifications (Table 5.9). These modifications can be seen in other shaping processes, such as forming of the shaft, striations, shaping facets and tool finishing. The shape of the shaft was divided into five categories, including oval-shaped (n=31), roughly shaped (n=6), rounded (n=80), semi-rounded (n=10), and squared (n=3; Table 5.9). Based on this, rounded types are the most common which supports the large presence of unknown rounded mesial sections. A prominent number of tools' shapes (n=70) were indeterminable due to breakage and weathering. Further analysis revealed shaping striations on a number of tools (n=117). Some patterns identified includes diagonal (n=73), multi-directional (n=3), and perpendicular (n=8; Table 5.9). Evidently, diagonal striation patterns were the most prominent within the assemblage. Almost half of the assemblage also presented visible shaping facets, specifically related to blank production and shaft formation (n=100; Table 5.9). The lack of visible shaping facets on the other half of the assemblage (n=103) might be related to the finishing of items (Table 5.9). This includes surfaces that were incompletely smoothed (n=1), smoothed (n=72), smoothed and possibly polished (n=11), and smoothed and polished (n=76; Table 5.9). It is possible that the smoothing/polishing process has contributed to obscuring any visible shaping facets. Although 160 tools (Table 5.9) present evidence of smoothed and/or polished surfaces, it is difficult to determine whether this finishing is a result of use-wear, purposeful production or post-deposition processes. Extremely polished bones were identified throughout the

Figure 5.7: Examples of different typological groupings with three bases on the left and five unknown mesial sections on the right.

Figure 5.8: Different types of points recovered from Little Muck's assemblage; some show purposefully shaped tips and others show moderately worked tips with smoothed ends.

assemblage; however, it is thought that such intense polishing might be due to natural, post-deposition processes (not part of analysis).

The majority of the assemblage showed evidence of taphonomical damage (n=176; Table 5.10). Of these, a number of tools presented evidence of weathering, either slight or severe (n=125; Table 5.10). The assemblage was further divided into four main categories, including fine-lined fractures (n=40), large cracks (n=8), flaking (n=22) and root etching (n=19).

Table 5.36: The number of different technological features macroscopically visible across the surface of worked bones.

Technological features	***Formal***	***Expedient***	***Unknown***	***Total***
Total	188	7	8	203
Blank production				
Rough segmenting	119	3		122
Utilised existing shape	48	2	1	51
Unknown	21	2	7	30
Shaping/forming: shaft				
Oval-shaped	31			31
Roughly shaped	6			6
Rounded	77	3		80
Semi-rounded	10			10
Squared	3			3
Unknown	60	2	8	70
N/A	1	2		3
Shaping striations				
Abraded	7			7
Diagonal striations	64		1	65
Diagonal striations faintly visible	8			8
Multi-directional striations, tapers into flattened bevelled end	3			3
Nothing visible	50	3	2	55
One end possibly flattened, diagonal striations (very faint)	2			2
One end rounded	1			1
One end slightly tapers into a bevelled end	1			1
Perpendicular striations	8			8
Striations visible	8		1	9
Striations faintly visible	7		1	8
Shaft unknown, tapers into point, shaping facets visible		1		1
Tapers into point, longitudinal shaping striations		1		1
Tapers into tip, no visible striations	3	1		4
Tapers to a point, no striations	4			4
Utilising existing shape, one edge smoothed	1			1
Utilising natural shape of the bone	3			3
Unknown	18	1	3	22
Shaping facets				
Present	95	3	2	100
None	93	4	6	103
Finishing				
None	35	2	6	43
Incompletely smoothed		1		1
Smoothed	68	3	1	72
Smoothed, possibly polished	11			11
Smoothed, polished	74	1	1	76

Table 5.37: The number of taphonomical features, such as damage and burning, across worked bone surfaces.

Taphonomical features	***Formal***	***Expedient***	***Unknown***	***Total***
Total	188	7	8	203
Taphonomical damage				
Fine-lined fractures	16			16
Fine-lined fractures, surface somewhat weathered	22		2	24
Indeterminable	2			2
Large cracks	6	1	1	8
Large cracks, fine-lined fractures	7			7
Large cracks, fine-lined fractures, surface somewhat weathered	24	2	1	27
Minor flaking	11			11
Minor root etching	4			4
None	26	1		27
Root etching	3			3
Surface somewhat weathered	29	2	1	32
Surface weathered	7		1	8
Surface weathered, fine-lined fractures, surface flaking	10	1		11
Surface weathered, root etching	10		2	12
Surface weathered, surface flaking	11			11
Burning				
Black	1			1
Greyish-brown (complete)	15	1		16
Incomplete burning	18			18
White (complete)	9		1	10
White (outside), black (inside)	2			2
N/A	143	6	7	156

Different forms of taphonomical damage was also noted on individual tools, with 27 tools showing evidence of large cracks, fine-lined fractures and surface weathering (Table 5.10). In addition, several bone tools had evidence of burning (n=47). These tools were partitioned based on the extent of burning across the tool, comprising of black (n=1), greyish-brown (complete) (n=16), incomplete (n=18), white (complete) (n=10) and white (outside), black (inside) (n=2; Table 5.10). It is unclear whether these tools were purposefully burnt or not and so further analysis is needed to properly understand the taphonomical damage.

5.2.2.1 Distribution

Worked bone is evident throughout all four phases of occupation at Little Muck (Table 5.11). Although worked bone is present in Phase 1 (0.15/l), the density is less compared to the other

Table 5.38: Number, percentage and density of worked bone divided into the four chronological phases of Little Muck's occupation.

Chronological periods	Number of worked bone (n)	Percentage of worked bone (%)	Density of worked bone (unit/l)
Phase 4	46	22.66	0.1901
Phase 3	41	20.2	1.3774
Phase 2	68	33.5	0.5979
Phase 1	48	23.65	0.15

Table 5.39: Chronological distribution of Little Muck's worked bone assemblage represented by the number and density of pieces within each stratigraphic unit.

	Stratigraphic units	*Number of worked bone*	*Density of worked bone*
Phase 4	*GB2*	9	0.0025
	GB3	11	0.0264
	DB1	2	0.0152
	DB2	6	0.0283
	B3	1	0.0021
	B5	5	0.0306
	GB6	12	0.085
	Total	46	0.1901
Phase 3	*PG1+*	2	0.0067
	DB3	10	0.3117
	DRG2	3	0.056
	PBG3	7	0.574
	PBG1	16	0.1227
	PBG1+	3	0.3063
	Total	41	1.3774
Phase 2	*DRG1*	9	0.0527
	DRG1+	7	0.1806
	VDG1	13	0.0975
	VDG2	2	0.0086
	PBG4	1	0.01
	B2	11	0.0667
	B2+	25	0.1818
	Total	68	05979
Phase 1	*VDB1*	7	0.1119
	VDB1+	10	0.0057
	VDB2	29	0.0295
	VDB2+	2	0.0029
	Total	48	0.15

phases (Table 5.11). This density increases gradually from Phase 1 to Phase 2 (0.5979/l) and reaches a peak in Phase 3 (1.3774/l; Table 5.11). The different stratigraphic units associated with Phase 3 also present higher densities compared to units from other phases, and is particularly noticeable across units PBG1+ (0.3063/l), PBG3 (0.574/l) and DB3 (0.3117/l; Table 5.12). Following this, there is a prominent decline in the density of worked bone going into Phase 4 (0.1901/l; Table 5.11). It is important to note that although the density of worked bone gradually decreases throughout Phase 4; it remains present through most of the associated stratigraphic units until the end of Little Muck's occupation (Table 5.12). The continuous presence of worked bone, with changing densities observed throughout the phases, intimates its use all through Little Muck's occupation.

5.2.3 Beads

5.2.3.1 OES beads

The excavations yielded a total of 109 OES beads. Following Tapela's (2001) typological classification, these beads were categorised into three broad groups: Pattern 1 (n=53), Pattern 2 (n=11) and Pattern 3 (n=7). By analysing the size of the beads, it was possible to place Little Muck's OES bead assemblage into these three groups (Figure 5.9; Table 5.13). Most of the beads were associated with Pattern 1, meaning that a great number of beads (n=53) measured between 3.3 to 7.4mm for their external diameter and 0.6 to 2.2mm for the internal diameter (Table 5.13). Of note, Tapela (2001) associated Pattern 1 with the pattern of OES beads most often found at forager shelter sites. These beads are usually smaller in size compared to beads from herder or farmer sites. Beads that exceeded this size range were categorised into either Pattern 2 (n=11) or 3 (n=7) based on both the external and internal diameter measurements (Table 5.13). Both small and large beads are associated with Pattern 3, which usually represents a large farmer site where activities of trade occurred (Tapela 2001). At these sites, there is a

Figure 5.9: Different size ranges of OES beads within Little Muck's assemblage.

Table 5.40: The number and percentage of OES beads in each typological grouping, such as size ranges and production stages, based on the condition of the beads (complete or broken).

Typological groupings	Complete (n)	Complete (%)	Broken (n)	Broken (%)	Total
Total	-		-		109
Size (Tapela 2001)					
Pattern 1	49	44.95	4	3.67	53
Pattern 2	5	4.59	6	5.5	11
Pattern 3	7	6.42			7
Unknown	4	3.67	34	31.19	38
Size (Orton 2008)					
Small (< 5mm)	36	33.03	11	10.09	47
Medium (5 - < 6mm)	13	11.93	10	9.17	23
Large (≥ 6mm)	22	20.18	16	14.68	38
Unknown			1	0.92	1
OES Production Stages					
Stage 1	3	2.75	1	0.92	4
Stage 2	2	1.83	1	0.92	3
Stage 3	1	0.92	8	7.34	9
Stage 4	11	10.09	14	12.84	25
Stage 5	57	52.29	11	10.09	70

tendency to find more Pattern 2 beads than Pattern 1. The opposite is noticed at Little Muck which has a higher number of Pattern 1 beads in comparison to Pattern 2 beads (Table 5.13). For a more concise size range, these groups were further divided into small, medium and large, following Orton's (2008) size categories. Most beads were small (n=47) with an external diameter measuring less than 5mm (Table 5.13). However, a number of large beads (n=38) were also found throughout the assemblage. The overlap in size between the different Patterns as distinguished by Tapela (2001) means that each Pattern can have beads ranging from small to large as set out by Orton (2008). The presence of smaller beads correlates with the prominence of Pattern 1 noted above (Table 5.13). It is difficult to determine whether Little

Muck's foragers were producing larger beads in conjunction with small beads or acquiring larger beads through other means (Figure 5.9).

In order to better understand the production stage of individual OES beads, they have been categorised into five distinct groups. Each group was further divided into two categories, complete (a) and broken (b), based on the post-deposition condition in which the bead was found. Stage 1 consists of 4 beads where the edges of the shell have been rounded but no hole or evidence of a hole was noted (Figure 5.10; Table 5.13). Stage 2 consists of beads where a hole is evident but the perforation has not been completed and has the lowest amount of beads, totalling 3 (Table 5.13). Stage 3 is characterised by beads where a hole has been drilled through but the edges have not been rounded/worked (n=9; Table 5.13). The characteristics of Stage 4 are quite similar to Stage 3 in that a hole is present and the edges have not been completely rounded; however, the edges of beads in this category have been rounded slightly, though the process was not completed (Figure 5.10). A total of 25 beads were categorised into this stage with 11 complete and 14 broken beads (Table 5.13). Most of the beads in Stages 3 and 4 have acquired post-deposition damage as the number of broken beads in these categories is higher compared to the others (Table 5.13). A total of 70 beads were categorised to Stage 5 which represents complete beads, indicating a complete production stage (see Figure 5.10; Table 5.13), though 11 beads were broken.

Figure 5.10: OES beads in different stages of production found throughout Little Muck's assemblage. Top row – Stage 1, second row – Stage 4, third row – Stage 5, fourth row – broken beads.

5.2.3.2 Distribution

Nine beads were recovered from the three stratigraphic units associated with Phase 1 of the shelter's occupation (Table 5.14). Following this, there is a noticeable increase in the density of beads from 0.0064/l in Phase 1 to 0.0441/l in Phase 2 (Table 5.14). In Phase 3 there is a slight decrease in density (0.0275/l) followed by another prominent increase throughout Phase 4 (1.0381/l). The density of beads in Phase 4 increases considerably, reaching a peak between stratigraphic units DG1 (1/l) and GB2 (0.0027/l; Table 5.15). The density of OES beads fluctuates between the different occupation phases, emphasising the decline in bead densities during Phase 3 (Table 5.14). The distribution of OES fragments has a pattern similar to OES beads, suggesting a possible connection between the distribution of beads and fragments.

In total, 1183 fragments were found at the site. Following the pattern of beads, OES fragments are evident from the onset of Little Muck's occupation during Phase 1 (0.6354/l; Table 5.14). This increases considerably throughout Phase 2 with density reaching 11.1725/l (Table 5.14) where after a slight decrease is noted during Phase 3 (4.902/l; Table 5.14). Unlike the beads, OES fragments show a further decline in density (2.3761/l) throughout Phase 4 (Table 5.14). Although the distribution of fragments is usually unrelated to the production of OES beads, it is interesting to note that the high density (11.1725/L) of OES fragments throughout Phase 2 correlates to a prominent increase of OES bead density (see Table 5.15). Perhaps the increase in OES material suggests that there was a more intense focus on working shell, potentially for bead production (Tables 5.14 & 5.15).

Table 5.41: Number, percentage and density of OES beads and fragments divided into the four chronological phases of Little Muck's occupation.

Chronological periods	Number of OES beads (n)	Percentage of OES beads (%)	Density of OES beads (unit/l)	Number of OES fragments (n)	Percentage of OES fragments (%)	Density of OES fragments (unit/l)
Phase 4	64	58.72	1.0381	335	28.32	2.3761
Phase 3	12	11	0.0275	182	15.38	4.902
Phase 2	24	22.02	0.0441	536	45.31	11.1725
Phase 1	9	8.26	0.0064	130	10.99	0.6354

Table 5.42: Chronological distribution of Little Muck's OES beads and fragments represented by the number and density of objects within each stratigraphic unit.

	Stratigraphic unit	Number of OES beads	Density of OES beads	Number of OES fragments	Density of OES fragments
Phase 4	SUR	1	0.0009	1	0.0115
	SB1			1	0.1333
	GB1	6	0.0012	17	0.0206
	GB2	37	0.0027	69	0.0336
	DG1	2	1		
	LGB1			1	0.0462
	B7			1	0.0035
	GB4	1	0.025		
	GB3	11	0.0021	94	0.1611
	DB2			1	0.0061
	B3	1	0.0021	6	0.0375
	B4			2	0.0667
	GB5			4	1
	B5	2	0.0017	28	0.1505
	GB6	3	0.0024	110	0.7055
	Total	64	1.0381	335	2.3761
Phase 3	PG1			9	0.6333
	PG1+			10	0.6
	PBG2			2	0.2
	RG1	1	0.01	5	0.26
	DRG2			10	0.368
	PBG3	5	0.0148	56	1.5207
	PBG1	6	0.0027	74	0.295
	PBG1+			16	1.025
	Total	12	0.0275	182	4.902
Phase 2	DRG1	3	0.0022	59	0.4805
	DRG1+			36	1.0839
	VDG1	3	0.0014	148	0.7015
	VDG2	2	0.0057	40	1.0751
	PBG4	2	0.02	25	3.1
	B6	10	0.0123	61	0.6815
	B2	2	0.0014	53	3.62
	B2+	2	0.0011	114	0.43
	Total	24	0.0441	536	11.1725
Phase 1	VDB1	3	0.0051	44	0.478
	VDB1+	5	0.0012	61	0.1323
	VDB2	1	0.0001	25	0.0251
	Total	9	0.0064	130	0.6354

5.2.3.3 Glass beads

In total, 494 glass beads were analysed and classified into four main categories: colour, diaphaneity, size and shape (Table 5.16). While the assemblage presented an array of colours, these were categorised into 14 primary colour groups (Figure 5.11; Table 5.16; see also Wood 2011). Blue beads (n=104) are most prominent throughout the assemblage, constituting 21.05% thereof, followed by black (n=75) and red (n=42) coloured beads, which account for 15.18% and 8.5% of the assemblage, respectively (Table 5.16). Several other colours were identified but in considerably lesser quantities (Table 5.16). Factors, such as severe surface abrasions, flaking, weathering and other evidence of patination, made it difficult to accurately determine the colour of beads. These beads were categorised into two groups: unknown (9.92%) and off- white BUT (5.67%; Table 5.16). If the specific colour could not be attributed to a bead, then it was classified as unknown (n=49; Table 5.16). Beads that intimated a white surface layer, but it was difficult to determine whether this was the bead's original colour or a result of patination processes, was placed into the off-white BUT category (n=28; Table 5.16). This was done as a means to indicate the possible presence of more white beads, though their identification remains uncertain. Diaphaneity, another key aspect of glass beads, was also considered during the classification process.

The classification of diaphaneity included eight categories, ranging from transparent to opaque (see Wood 2011). Due to the variability of glass' translucency, beads were classified into both main and intermediary categories, including transparent (n=9), transparent-translucent (n=23), translucent-transparent (n=14), translucent (n=20), translucent-opaque(n=30), opaque-translucent (n=58) and opaque (n=268; Table 5.16). Based on this, opaque beads are most prominent within the assemblage, constituting more than half (54.24%) thereof (Table 5.16). Immediately following this is opaque-translucent beads; however, they only represent 11.74% of the assemblage. Again, patina and weathering made it difficult to determine the original diaphaneity of some beads, limiting a comprehensive analysis of Little Muck's bead assemblage (n=72; Table 5.16). The size of beads further informed on the classification process.

The size of glass beads was established based on their maximum diameter, ranging from 1.5 to 6.18mm with an average of 2.81mm. The assemblage can be divided into minute (n=143), small (n=272), medium (n=54), large (n=3) and very large (n=1; Table 5.16). Based on this,

Figure 5.11: Representation of the distinct typological features evident in Little Muck's glass bead assemblage.

small beads are predominant within the assemblage (55.06%) followed by minute beads (28.95%), meaning that most beads in the assemblage ranges from ≤ 2.5 to 3.5mm (Wood 2011). Larger beads were not as prominent across the site, constituting only 0.81% of the assemblage (Table 5.16). One bead had a maximum diameter of 6.18mm and was the largest glass bead identified in Little Muck's assemblage. This bead might have been a garden roller but further analysis is needed. Bead shape also presented further information for classification purposes.

The assemblage can be divided into three categories relating to shape, specifically tubes (n=90), cylinders (n=243) and oblates (n=152; Table 5.16). Cylinders were most prominent, comprising 49.19% of the assemblage (Table 5.16). Of note, the prevalence of cylinders could be attributed to the morphological characteristics used to distinguish between shapes. Beads with macroscopic evidence of heat treatment along the edges were categorised as cylinders, which may have escalated their numbers compared to tubes (18.21%; Table 5.16). Oblate beads were also quite prominent throughout the assemblage (30.77%; Table 5.16). A single bead presented a more elongated shape associated with an ellipsoid (see Wood 2011) but was categorised as an oblate bead because it deviates from the categories utilised for this analysis. Despite this finding, it is evident that cylinders dominate Little Muck's bead assemblage.

5.2.3.4 Distribution

Glass beads are evident in both Phase 1 (0.002/l) and Phase 2 (0.023/l; Table 5.17). However, this presence is most likely a result of filtration. The process in which small objects have moved downwards into lower situated strata was noted during excavations. To take one example, a

Table 5.43: The number and percentage of glass beads classified into the four main typological categories, and their subdivisions, organised by the post-deposition condition (complete or broken) of beads.

Typological features	*Condition*					
	Complete (n)	Complete (%)	Broken (n)	Broken (%)	Total (n)	Total (%)
Total					494	100
Colour						
Black	72	14.57	3	0.61	75	15.18
Blue	94	19.03	10	2.02	104	21.05
Blue-green	24	4.86	6	1.21	30	6.07
Brown	13	2.63	3	0.61	16	3.24
Brownish-red	2	0.4	1	0.2	3	0.61
Green	31	6.28	5	1.01	36	7.29
Off-white	35	7.09	4	0.81	39	7.89
Off-white BUT	24	4.86	4	0.81	28	5.67
Orange	2	0.4			2	0.4
Pink	12	2.43	1	0.2	13	2.63
Red	36	7.29	6	1.21	42	8.5
Reddish-brown	7	1.42			7	1.42
White & Pink	16	3.24			16	3.24
Yellow	30	6.07	3	0.61	33	6.68
Other	1	0.2			1	0.2
Unknown	46	9.31	3	0.61	49	9.92
Diaphaneity						
Transparent	5	1.01	4	0.81	9	1.82
Transparent-translucent	17	3.44	6	1.21	23	4.66
Translucent-transparent	13	2.63	1	0.2	14	2.83
Translucent	16	3.24	4	0.81	20	4.05
Translucent-opaque	26	5.26	4	0.81	30	6.07
Opaque-translucent	56	11.34	2	0.4	58	11.74
Opaque	247	50	21	4.25	268	54.25
Unknown	65	13.16	7	1.42	72	14.57
Size						
Minute	137	27.73	6	1.21	143	28.95
Small	257	52.02	15	3.04	272	55.06
Medium	54	10.93			54	10.93
Large	3	0.61			3	0.61
Very large	1	0.2			1	0.2
Unknown	3	0.61	18	3.64	21	4.25
Shape						
Tube	79	15.99	11	2.23	90	18.21
Cylinder	222	44.94	21	4.25	243	49.19
Oblate	142	28.74	10	2.02	152	30.77
Unknown	2	0.4	7	1.42	9	1.82

Table 5.44: Number, percentage and density of glass beads divided into the four chronological phases of Little Muck's occupation.

Chronological periods	Number of glass beads (n)	Percentage of glass beads (%)	Density of glass beads (unit/l)
Phase 4	446	90.28	0.109
Phase 3	22	4.45	0.055
Phase 2	15	3.04	0.023
Phase 1	11	2.23	0.002

glass bead was found in a burrow between 33 and 36cm below surface level, meaning that the bead most probably tumbled into a lower stratigraphic unit through the burrowed tunnel. This process also accounts for the low densities in which beads occur during these periods. The possibility of filtration remains a challenge throughout the stratigraphic units of Phase 3 but the presence of glass beads is more reliable from this period onwards, considering that glass beads appear more consistently across the landscape. This might also explain the noticeable increase in density during this period (0.055/l; Table 5.17). Another prominent increase occurs between Phase 3 (0.055/l) and Phase 4 (0.109/l; Table 5.17), and glass beads are predominant throughout this period, constituting 90.28% of the assemblage (Table 5.17).

Examining the typological characteristics of beads throughout Phase 4 revealed a prominent presence of particular groupings of glass beads (Tables 5.18 & 5.19). As a result of the large number of beads, they appear in all the categorised colour groupings. The most prominent beads during analysis were blue cylinders (n=62) with an opaque translucency, followed by black oblates (n=43). Black beads are the most noticeable colour throughout the first millennium AD (Table 5.18). However, a shift is noticed in Phase 4 as blue beads become more prominent within the assemblage (n=98; Table 5.18). This is then followed by black (n=56), red (n=40), off-white (n=37) and green beads (n=36; Table 5.18). The diverse nature of glass beads throughout Phase 4 represents the variable occupation sequences of the shelter as beads range from black, oblate often associated with the Mapungubwe period to striped, white and pink beads which are characteristically 18th to 19th century and allude to a possible historic occupation (Figure 5.11: bottom left, 3rd column; Tables 5.16 & 5.18; see also Wood 2007 for more detail). In contrast to earlier phases, Phase 4 presents a greater diversity in colours as well as diaphaneity (Table 5.18). Although the number of opaque beads in Phase 4 (n=236) is

Table 5.45: Distribution of glass across the four main phases of Little Muck's occupation based on distinct typological features.

Typological features	***Phase 4***	***Phase 3***	***Phase 2***	***Phase 1***	***Total***
Total	*446*	22	15	11	494
Colour					
Black	56	8	6	5	75
Blue	98	4		2	104
Blue-green	26	1	3		30
Brown	10	2	2	2	16
Brownish-red	3				3
Green	36				36
Off-white	37	2			39
Off-white BUT	27	1			28
Orange	1			1	2
Pink	12			1	13
Red	40	1	1		42
Reddish-brown	7				7
White & Pink	16				16
Yellow	31		2		33
Other	1				1
Unknown	45	3	1		49
Diaphaneity					
Transparent	9				9
Transparent-translucent	20	1		2	23
Translucent-transparent	13		1		14
Translucent	19		1		20
Translucent-opaque	29		1		30
Opaque-translucent	54	2	1	1	58
Opaque	236	14	10	8	268
Unknown	66	5	1		72
Size					
Minute	123	10	6	4	143
Small	250	7	8	7	272
Medium	49	4	1		54
Large	3				3
Very large	1				1
Unknown	20	1			21
Shape					
Tube	82	5	2	1	90
Cylinder	222	11	6	4	243
Oblate	133	6	7	6	152
Unknown	9				9

Table 5.46: Chronological distribution of Little Muck's glass bead assemblage represented by the number and density of objects within each stratigraphic unit.

	Stratigraphic unit	Number of glass beads	Density of glass beads
Phase 4	*SUR*	6	0.004
	GB1	68	0.005
	GB2	204	0.007
	GB7	8	0.001
	LGB1	2	0.015
	B7	20	0.001
	B8	2	0.005
	DGB3	2	0.022
	AB1	2	0.022
	GB3	107	0.005
	DB1	4	0.001
	DB2	11	0.004
	B3	1	0.002
	B4	1	0.006
	B5	5	0.003
	GB6	3	0.006
	Total	446	0.109
Phase 3	*PG1*	1	0.008
	PG1+	1	0.007
	PBG2	1	0.025
	DRG2	2	0.008
	PBG3	1	0.003
	PBG1	16	0.004
	Total	22	0.055
Phase 2	*DRG1*	3	0.002
	DRG1+	3	0.003
	VDG1	1	0.002
	VDG2	2	0.011
	B2	4	0.003
	B2+	2	0.002
	Total	15	0.023
Phase 1	*VDB1+*	3	0.001
	VDB2	8	0.001
	Total	11	0.002

considerably higher than previous phases, a pattern is noted as opaque beads constitutes more than half of that phase's bead collection during each period (Table 5.18). This suggests that opaque beads might have been the most dominant bead type traded locally, if not internationally. A similar pattern can be seen regarding the size and shape of the beads.

Cylinders dominate the bead assemblage throughout Phase 4 with 222 beads recovered (Table 5.18). Following this, oblates (n=133) and tubes (n=82) are present but in much smaller quantities (Table 5.18). Small beads (n=250) are also most prominent throughout Phase 4 followed by minute (n=123; Table 5.18). In contrast, only four beads were categorised as either large or very large (Table 5.18). These beads might be garden rollers but further examination is needed to properly identify them. Evidently, most glass beads were recovered from Phase 4 but this can be further divided based on stratigraphic units with 204 beads having been found in GB2 (Table 5.19). This is followed by unit GB3 (n=107) and then GB1 (n=68; Table 5.19). The density of beads throughout Phase 4, encompassing a number of occupations oscillating from around AD 1200 to possibly AD 1700 (see Wood 2007), emphasises an intensification of activities at the shelter.

5.2.4 Ceramics

In total, 3468 shards of ceramics were found in Little Muck's cultural sequence. Of these, 3247 shards had no distinct features regarding size, shape or decoration, nor any indications intimating the purpose for which these ceramics might have been used (e.g. undiagnostic; Figure 5.12). The remaining 221 shards had certain characteristics that distinguished them from the rest (Table 5.20).

Figure 5.12: Examples of undiagnostic shards with no distinct features and various small rims within Little Muck's assemblage.

5.2.4.1. Ceramics with features

Numerous shards from the shelter's ceramic assemblage have a distinctive characteristic which allowed for the identification of shards to a particular facies (see Huffman 2007: 101-320). This process was more viable with shards that had patterns of decoration compared to shards that have typological features but are undecorated. These are referred to as rims, and are the top most piece of a pot's open edge. In total, 114 rim pieces (51%) were analysed within the assemblage, as these shards present a way in which to determine the original shape of a vessel (Table 5.20). However, most of the rims were extremely small, making it difficult to accurately orientate the piece in order to ascertain the original shape (Figure 5.12). The remaining shards (n=106) were analysed because they had evident decoration patterns, and were further categorised into decorated shards (n=92), decorated rims (n=14) and a singular decorated spout (1%). Some decoration patterns were difficult to distinguish due to shards either being very small or breakages across the visible decorations (Table 5.20).

Table 5.47: The number and percentage of different types of ceramic pieces found within Little Muck's excavated assemblage.

Type of ceramic	Number of ceramic pieces (n)	Percentage of ceramic pieces (%)
Rim	114	52
Decorated	92	41
Decorated rim	14	6
Decorated spout	1	1
Total	221	100

5.2.4.2 Decorated shards

Although 106 decorated shards were identified within the assemblage, the decoration on certain shards were miniscule and broken, making it difficult to associate them to a distinct facies. As a result, only 38 of 106 shards were identified into ceramic facies. Out of the 38 identifiable shards, 28 shards were broken pieces with no context regarding the shape of the original vessel; only the decoration was examined in these cases (Table 5.21). Although facies was largely determined based on the decoration pattern, other factors were also taken into consideration including location of decoration on vessel, colour, stratigraphic unit, spit and proximity to other

distinctly identified pieces. The results of these decorated ceramics are provided following the phases in which the facies appear.

Phase 2: Early first millennium AD

Two shards reminiscent of the Malapati facies were found at the site (see Huffman 2007: 219 & 239). These shards were identified based on their decoration patterns, as well as their relations *in situ* to another piece identified as Malapati; these shards were located between units GB3 and PBG1. The decoration patterns consist of incision and cross-hatching (Table 5.21). Several incised lines were evident across the medium-sized piece with a dark burnish (almost black); however, the overall pattern was limited, making it difficult to determine a larger decorative design. This shard was found near another decorated rim with an evident Malapati decorated pattern, intimating that it might be associated with the same facies (Figure 5.13I). The second piece is dark brown and has deeply, incised lines running diagonally across one another, also known as cross-hatching (Figure 5.13D; see Huffman 2007: 240-241). Although the shard itself does not have the top-most part identifying it as a rim, the cross-hatched decoration pattern is very similar to other identified pieces with decoration on the lip of the rim.

Phase 3: AD 900-1000 (Zhizo ceramic facies)

Seven decorated shards associated with the Zhizo facies were found within the assemblage. A light brown shard from GB3 has bead impressions creating multiple lines of decoration across the surface (Figure 5.13J; see Huffman 2007: 144-145). The extent of the decoration pattern, specifically whether the decorated lines run vertically or horizontally, is somewhat unclear due to breakages around the shard. Another notable shard has a decoration pattern combining incised lines and stamping (from PBG1; Table 5.21). A single, incised line stretches horizontally across piece with horizontal stamping visible just underneath this line. Due to poor visibility in the photograph, it was excluded. The remaining four shards, found in DB1, GB3 and PBG1, all have varying brown burnishes along with various incised decorations, which consists of lines running both horizontally and diagonally across the surface of the shards (for example Figure 5.13G; Table 5.21).

Table 5.48: Types of decoration patterns associated with distinct ceramic facies. The decorated pieces were further divided into decorated shards and decorated rims.

Types of decoration	Facies														
	Happy Rest		*Malapati*		*Zhizo*		*K2*		*Transitional K2*		*Mapungubwe*		*Unknown*		*Total*
	Shard	Rim	Shard	Rim	Shard	Rim	Shard	Rim	Shard	Rim	Shard	Rim	Shard	Rim	
Cone-stamping		1													1
Cross-hatching			1	5							1		1		8
Impression		1			2								3		6
Impression & Punctates											1				1
Incision			1		4		7	1	4	2	4	1	56	3	83
Incision & Cross-hatching											1		1		2
Incision & Stamping					1										1
Indentation													1		1
Stamping													2		2
Unknown													1		1
Total		2	2	5	7	0	7	1	4	2	7	1	65	3	106

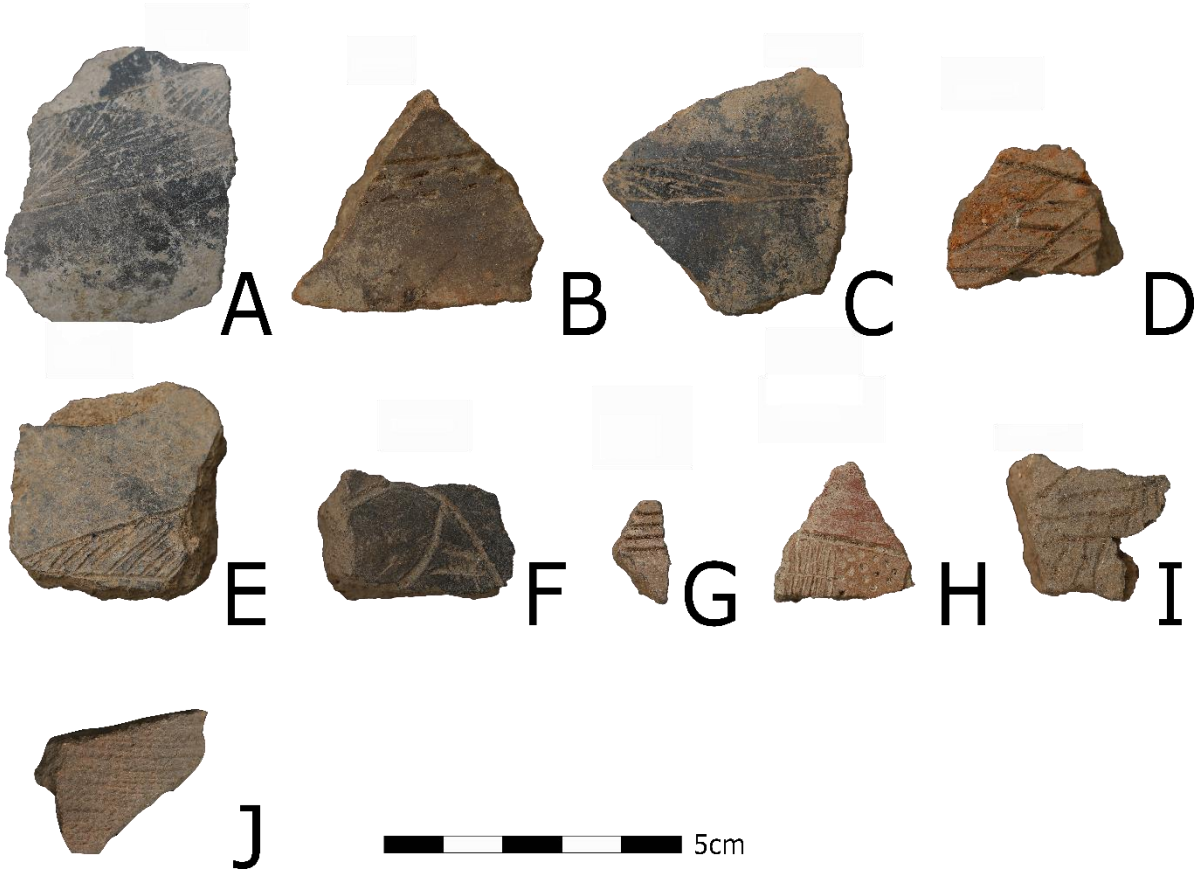

Figure 5.13: Several decorated ceramic shards from Little Muck that have been identified into a distinct facies (A-Transitional K2 (TK2); B & C - K2; D - Malapati; E – Mapungubwe; F – K2; G – Zhizo; H – Mapungubwe; I – Malapati; J – Zhizo).

Phase 4: AD 1000-1300 (Leopard's Kopje ceramic facies)

Seven shards were identified to the K2 facies and consists solely of decorations made through incision (Table 5.21). Three shards have a fairly similar pattern with a singular incised line running horizontally across the piece and a number of diagonal lines originating from this line. These findings ranged from GB1 to GB3. One piece has deeply incised lines forming a half circle going upwards with two, small horizontal lines along the bottom edge of the half circle and was found in GB2 (dark burnish; Figure 5.13F). The remaining pieces appear to have decorated bands with two horizontal incised lines running parallel to one another, and a number of diagonal/vertical lines between these horizontal lines, also from GB2 along with a reddish-brown and black burnish, respectively (Figure 5.13B & C). Similar to the K2 facies, decoration patterns associated with the Transitional K2 (TK2) facies were comprised of various incised lines (n=4; Table 5.21), all recovered from GB3.

The most prominently decorated piece includes a black burnished decorated band with both upright and upside-down incised triangles within the band, as well as diagonally incised lines

evident in the upside-down triangles and horizontally incised lines within the upright triangles (Figure 5.13A; see Huffman 2007: 282-283). The placement of this shard's decoration is thought to be situated on the lower neck and upper shoulder of the vessel (Figure 5.13A). The last identified facies is the Mapungubwe facies with seven shards having been identified to the facies (Table 5.21). Six of the seven shards were recovered from GB2, with a single shard having been found in GB1. Although three shards were decorated with incisions, the extent of the decoration pattern could not be determined in most cases due to breakage (Table 5.21).

The most noticeable piece had seven diagonally incised lines that might have been part of a larger decorated pattern (Figure 5.13E; see Huffman 2007: 286-287) Although these patterns appear similar to other facies, these shards were categorised based on the visible decorated patterns and dark burnish reminiscent of Mapungubwe ceramics, as well as the stratigraphic units and spit in which these shards were found. All of this intimates the Mapungubwe facies. The remaining brown shard consisted of a single, incised line running horizontally across entire piece with six incised lines running vertically down from this line (on left side of horizontal line); another single incised line stretches horizontally across these vertical lines, halfway through them. On the right side, beneath the single line, various circles (possibly punctates) are evident (Figure 5.13H).

5.2.4.3 Decorated rims

Most rims, whether decorated or not, were small which made it difficult to determine identifiable features. In spite of this, 10 decorated rims were identified into a particular facies (Table 5.21). The most noteworthy decorated rims within the assemblage belonged to the Happy Rest and Malapati facies.

Phase 2: Early first millennium AD

Two decorated rims were identified as belonging to the Happy Rest facices. The shard recovered from DRG1+ has four, diagonal lines moving from the rim's lip downwards (position 1) made through bead impressions (dark burnish; Figure 5.14E). Decoration on the second dark burnished piece consists of six, cone-stamped lines running diagonally across the lip of the rim. Beneath the lip, another six cone-stamped lines are visible but running horizontally across piece (Figure 5.14B; see Huffman 2007: 220 for possible similarities regarding decoration pattern). This piece was found in stratigraphic unit PG1+. Following this, five decorated rims, all with incised lines in a cross-hatched pattern just beneath the lip of the

Figure 5.14: Several decorated ceramic rims from Little Muck that have been identified in a distinct facies (A – Malapati; B – Happy Rest; C – Mapungubwe; D – Malapati; E – Happy Rest; F – Transitional K2 (TK2); G, H, I & J – Malapati; K – Transitional K2 (TK2) & L – possibly Mapungubwe).

rim (Position 1), were identified as belonging to the Malapati facies (brown burnish; Figure 5.14 D, G, H, I & J; Table 5.21). The decorated pattern stretches across the entirety of the rim's lip and is quite large in comparison to the decorated rims associated with other facies. Most of the Malapati-decorated ceramics were also found in close proximity to one another between units GB3 and PBG. They were also found close to another, large Malapati shard identified on site (Figure 5.14A). Consequently, it is thought that these distinctly decorated pieces might be part of the same vessel.

Phase 4: AD 1000-1300 (Leopad's Kopje ceramic facies)

Two rims with incised decoration were categorised into the K2 and Mapungubwe facies, respectively (Table 5.21). These pieces were fairly indistinct, although the singular, dark burnished rim belonging to the Mapungubwe facies intimates that the piece is possibly from a larger bowl (Figure 5.14C). The K2 rim was recovered from GB3 and the Mapungubwe rim

from GB2. In addition, two brown rims were categorised into the Transitional K2 (TK2) facies, recovered from GB2, and both have notable incised decoration patterns situated within Position 1 of the rim. One rim has short lines running diagonally across the lip of the rim (Figure 5.14K; See Huffman 2007: 283). The other one is a large piece with seven deeply incised lines running diagonally from the lip downwards, with a single incised line in a half-circular pattern underneath these lines (Figure 5.14F).

5.2.4.4 Decorated spout

A singular, dark-burnished, decorated spout from an earthenware vessel was identified within the assemblage. The decoration consists of an arched line pointing upwards (Figure 5.14L). The size of the spout also indicates that it was most likely part of a large ceramic vessel, although it remains difficult to determine the exact size based on the spout alone. The decoration provides limited insight, making it difficult to accurately place this piece within a facies; however, based on the dark burnish of the piece, as well as the stratigraphic unit and spit in which it was found, it is possible that the spout might be associated with the Mapungubwe facies.

5.2.4.5 Distribution

The highest density of ceramic shards is found in Phase 4 of the site's occupation (72.51/l; Tables 5.22 & 5.23) and is comprised of 3029 ceramic shards. However, ceramic materials have been found in various stratigraphic units extending throughout the different phases of occupation. Although small ceramic shards are evident within Phase 1 (4.72/l), these are most probably associated the forager groups occupying the site during the late first millennium BC.

Table 5.49: Distribution of ceramic pieces throughout Little Muck's occupation based on the number of undiagnostic pieces, number of shards with distinct features, and the overall density of ceramics across the site.

Chronological periods	Number of undiagnostic shards (n)	Number of shards with features (n)	Density of ceramic shards (unit/l)
Phase 4	2820	209	72.51
Phase 3	181	23	52.79
Phase 2	186	9	15.05
Phase 1	32	0	4.72

Table 5.50: Chronological distribution of Little Muck's ceramic assemblage represented by the number and density of undiagnostic shards and shards with features.

	Stratigraphic units	Amount of undiagnostic shards	Amount of diagnostic shards	Density of ceramic shards
Phase 4	SUR	30	1	1.41
	SB1	2	0	0.17
	GB1	421	29	3.28
	GB2	1024	69	4.6
	GB7	88	2	3.77
	LGB1	18	0	4.2
	B7	129	12	3.8
	B8	8	1	1.7
	DGB3	7	1	4.91
	AB1	29	1	5.2
	GB3	810	70	7.78
	DB1	29	1	2.35
	DB2	102	11	6.26
	B3	42	4	6.16
	B4	37	0	10.72
	B4C	1	2	2.03
	B5	31	2	2.26
	GB6	12	2	1.91
	Total	2820	209	72.51
Phase 3	PG1	9	0	5
	PG1+	5	1	8.39
	PBG2	6	1	1
	DB3	18	1	2.05
	DRG2	1	0	0.2
	PBG3	10	0	0.5
	PBG1	114	18	8.41
	PBG6+	18	2	30.71
	Total	181	23	52.79
Phase 2	DRG1	65	2	5.02
	DRG1+	20	2	4.32
	VDG1	23	2	1.07
	VDG1+	5	0	1.23
	VDG2	1	0	0.03
	PBG4	5	0	0.88
	B2	52	2	2.18
	B2+	15	1	0.32
	Total	186	9	15.05
Phase 1	VDB1	10	0	3.33
	VDB1+	20	0	1.08
	VDB2	2	0	0.31
	Total	32	0	4.72

The prominent increase of ceramic densities from Phase 2 onwards correlates with the arrival of early farmer groups, and suggests that while foragers utilised ceramics it was to a lesser extent prior to the arrival of farmer groups. A shift occurs from Phase 1 to Phase 2 as the density of materials intensifies from 4.72/l to 15.05/l, comprising of 186 undiagnostic shards as well as nine diagnostic pieces (Table 5.22). A continuous increase of densities is noted from Phase 2 throughout the following phases with the density increasing from 15.05/l in Phase 2 to 52.79/l in Phase 3 to 72.51/l in Phase 4 (Table 5.22). The intensification of density in Phase 4 is a result of the prominent increase of both undiagnostic shards and ceramics with features, which totalled to 2820 and 209 respectively (Table 5.22). While most stratigraphic units in Phase 4 contained ceramics shards, a more prominent accumulation was noted in units GB2 (n=1093), GB3 (n=880) and GB1 (n=450; Table 5.23). A more wide-spread ceramic usage at Little Muck is noted from Phase 2 and reaches a peak during Phase 4 (Tables 5.22 & 5.23).

5.2.5 Metal

Little Muck's metal assemblage consists of 120 identifiable items with 64 having been classified as finished products, most likely obtained through trade relations. The most prominent findings are a single metal bangle, consisting of multiple helix bands (Figure 5.15F), and nine metal beads (Figure 5.15A; Table 5.24). Of these nine beads, two are severely damaged (Table 5.24). This, along with a total of 53 metal spirals characteristic of helixes, suggests a possible presence of metal ornamentation at the site (Figure 5.15B, D & E; Table 5.25). Unfortunately, all of these helixes are severely eroded and most were broken into small single bands, making it difficult to determine its original usage (Figure 5.15C). Another item noted is metal wire (n=17). Most of these appear as broken, single, thin wires with spirals. These wires might have been used as strings onto which metal beads or perhaps even glass beads and shell beads were strung up with for ornamentation purposes; however, the condition of these items makes it difficult to determine. There are also two, fairly large metal tubes; however, it is difficult to determine if these items are complete or if they are broken parts of a larger object (Table 5.24). It is worth noting that a large majority of these 'distinct' items are severely damaged and weathered, so only some photographic examples were provided. Other metal items were also found at the site; however, there is a possibility that these items are more modern compared to those previously mentioned (n=35; Table 5.24). A total of 24 metal pieces, that look very similar to metal plating from eroded food cans, were found along with 10 nails (Table 5.24). Due to the severe rust and damage that these pieces obtained, it was difficult to determine other defining characteristics based only on typological analysis. For this reason,

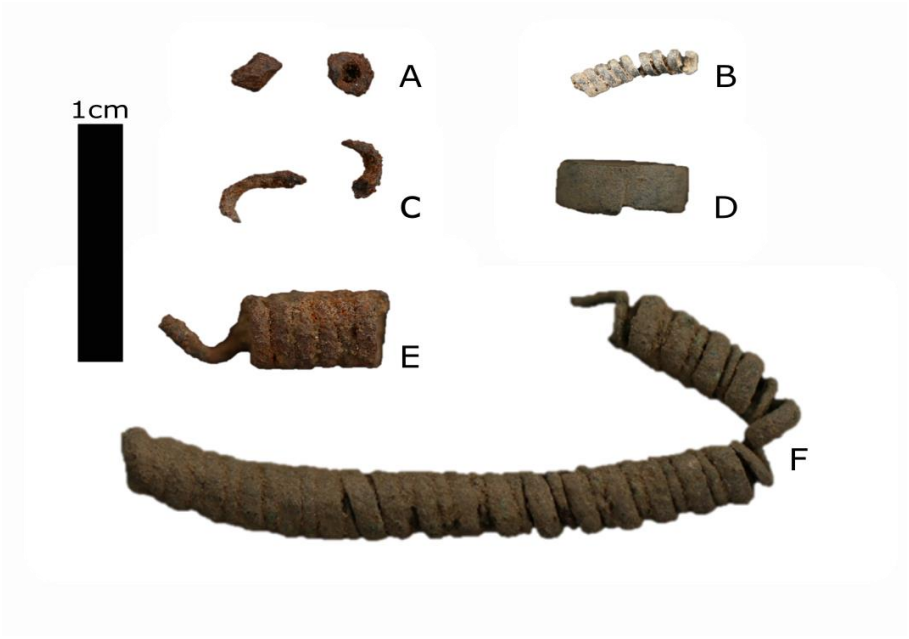

Figure 3:15: Examples of metal objects recovered from Little Muck's excavated assemblage (A – metal bead; B – piece with multiple helix bands; C – possible single helix band, but broken; D – large, helix band; E – piece with multiple helix bands, quire weathered; F – bangle).

these items were not classified into a production stage grouping. No objects were categorised as production debris (Table 5.24) presumably because metal-working has largely been associated with farmer groups. For this reason, production processes would occur within farmer homesteads and the finished products would be placed into local networks. The lack of production debris at Little Muck implies that foragers were acquiring these items through trade relations with farmer groups, which is further evident in the distribution of metal items across the site.

Table 5.51: Different types of metal objects recovered from Little Muck categorised according to their production stage.

Type of metal object	Finished product	Production debris	Unknown	Inapplicable	Total
Metal bangle	1				1
Metal bead	9				9
Metal helix (s)	50		3		53
Metal piece				24	24
Metal tube			4		4
Metal wire	1		16		17
Nail				10	10
Unknown			4		4
Total	64		48	10	122

Table 5.52: The presence of metal beads across different stratigraphic units, along with the bead's size, production stage and post-deposition condition.

Stratigraphic unit	Length	Diameter A (maximum)	Diameter B (perforation)	Production stage	Condition
GB1	1	3.9		Complete	Broken
GB2	2.84	3.32	1.16	Complete	Complete
GB2	2.7	5.67	3.79	Complete	Complete
GB2	1.3	3.9		Complete	Broken
GB3	2.39	6.25	3.83	Complete	Complete
GB3	2.25	3.1	1.64	Complete	Complete
GB3	2.56	6.35	4.04	Complete	Broken
DB2	2.32	3.49	2.01	Complete	Complete
PBG1	1.39	2.09	0.81	Complete	Complete

5.2.5.1 Distribution

Metal only materialises at Little Muck from the first millennium AD (Phase 2) onwards (Figure 5.26). Although a single metal item was found within unit VDB1+ (Table 5.27), the size of metal items at the site suggest that this was most likely a result of filtration. Following this initial appearance, a gradual increase is noted throughout the stratigraphic units of Phase 2 (Table 5.27), correlating with the initial appearance of farmer groups within the middle Limpopo Valley. Although a gradual increase is noted throughout the following phases, the amount of items recovered is still fairly low (Table 5.26). During Phase 2, only five metal items were found (0.0551/l; Table 5.26). The density increases noticeably going into Phase 3 (0.5639/l; Table 5.26) with nine items found within the assemblage. Despite metal items

Table 5.53: Number, percentage and density of metal items divided into the four chronological phases of Little Muck's occupation.

Chronological period	Number of metal items (n)	Percentage of metal items (%)	Density of metal items (unit/l)
Phase 4	107	87.7	0.2431
Phase 3	9	7.38	0.5639
Phase 2	5	4.1	0.0551
Phase 1	1	0.82	0.0002

Table 5.54: Chronological distribution of Little Muck's metal assemblage represented by the number and density of objects within each stratigraphic unit.

	Stratigraphic unit	Amount of metal objects	Density of metal objects
Phase 4	*SUR*	1	0.001
	GB1	15	0.0016
	GB2	39	0.0107
	GB7	4	0.0222
	B7	3	0.0013
	B8	1	0.0017
	DGB3	1	0.0111
	GB3	34	0.1018
	DB1	2	0.015
	DB2	5	0.0054
	B4	1	0.0067
	GB6	1	0.0646
	Total	107	0.2431
Phase 3	*PG1*	1	0.0083
	PG1+	1	0.0067
	DB3	1	0.0017
	PBG1	6	0.5472
	Total	9	0.5639
Phase 2	*VDG1*	1	0.049
	VDG2	1	0.0029
	B6	2	0.0025
	B2	1	0.0007
	Total	5	0.0551
Phase 1	*VDB1+*	1	0.0002
	Total	1	0.0002

reaching a peak during Phase 3, the amount of items still remains low in comparison to other farmer-associated items, such as glass beads and ceramics (Tables 5.26). Following this, a slight decrease occurs during Phase 4 of Little Muck's occupation with the density declining to 0.2431/l (Tables 5.26 & 5.27). The low number of metal items, as well as severe weathering conditions, makes it difficult to properly understand the collection of metal at Little Muck and the role of these objects within the shelter's larger excavated assemblage.

Chapter 6: Discussion

This chapter will discuss four distinct phases of occupation identified at Little Muck, as well as the distribution of craft goods and wealth items across these phases, examining what insights these artefacts can offer into the nature of forager activities at the shelter. While evidence suggests a forager presence in each of the four phases, the length of visits and, more importantly, the intensity and character of their activities varied.

6.1 Phase 1: Early to late first millennium BC

Forager exchange systems were present within the middle Limpopo Valley throughout the late first millennium BC onwards. Although reasons for the movement of forager groups into the valley remains unclear, several suggestions have been put forth to explain this shift generally associated with the arrival of farmer groups into the area. Hall and Smith (2000) propose that this shift might have been related to climatic conditions with forager groups moving into areas thought to be agriculturally unsuitable (see also Tyson & Lindesay 1992; Huffman 1996, 2008). This gradual appearance of farmer groups across the landscape might also have created a bow-wave migration ahead of them with forager groups continually moving beyond the reach of farmer settlements, initially situated in southern Zimbabwe and the Soutpansberg (Forssman 2020). Regardless of the causation, the initial presence of forager activities at shelters, such as Little Muck, Dzombo and Balerno 3, as well as the re-occupation of Balerno Main, is visible from the late first millennium BC (van Doornum 2008).

The range of activities, inferred from the high artefact densities and evidence of increased production processes, at Balerno Main corresponds to Wadley's (1987) characterization of an aggregation site. This might intimate a period of prolonged congregations amongst kin-related households during the late first millennium BC (Yellen 1977; Wadley 1992). Although cultural material suggests that Balerno Main was occupied at an earlier period, no prior studies have been conducted to determine whether the function of the shelter remained continuous from the early first millennium BC occupation onwards. In spite of this, Balerno Main is thought to have functioned as an aggregation site from the late first millennium BC (van Doornum 2008); a notion further supported through the occupation sequences of smaller shelter sites in the area, such as Little Muck, Balerno 3 and Dzombo. Based on the presence of production activities and increasing artefact densities, parallel to Balerno Main, these surrounding shelter sites might have functioned as dispersal camps (see Wadley 1987). An important aspect of the aggregation/dispersal model is the establishment of social relations accomplished through

exchanging gifts (Wadley 1992). The presence of production debris at the different sites suggests that these gifts might have been produced at both aggregation and dispersal camps. At Little Muck, evidence for craft production appears around the late first millennium BC in the form of stone tools, specifically scrapers, worked bone and ostrich eggshell beads, and gradually increases throughout Phase 1.

The presence of craft goods intimates the possibility that production activities were occurring at the shelter, perhaps in preparation for the aggregation phase (see Walker 1994; van Doornum 2008). According to Hall and Smith (2000), these findings suggest that Little Muck functioned as a residential campsite throughout Phase 1. Although other shelter sites, such as Dzombo and Balerno 3, support the idea that smaller shelter sites functioned as campsites during periods of dispersal (see Forssman 2014b, 2015b; van Doornum 2007), new data from Little Muck reveals a more intensive forager occupation during this period.

Artefact densities seem to gradually increase at several shelter sites across the middle Limpopo Valley; however, densities at Little Muck are more prominent compared to those at Dzombo and Balerno 3. This is particularly evident in the presence of worked bone and stone tools, even taking into account the limited scraper sample. During the late first millennium BC, the Little Muck assemblage includes 48 pieces of worked bone compared to none at Dzombo (Forssman 2014b) and only two pieces at Balerno 3 (van Doornum 2014). Similarly, a single excavated quadrant at Little Muck (50x50cm; I42B) produced 97 scrapers, associated with the late first millennium BC (Sherwood & Forssman 2023: 10), compared to six scrapers from two 1x1m squares at Dzombo (Forssman 2014b: 183) and 19 scrapers from three 1x1m squares at Balerno 3 (van Doornum 2014: 131). Previous excavations at Little Muck also produced 32 scrapers associated with this period, supporting the predominance of stone scrapers at the site compared to other shelters (see Hall & Smith 2000; Forssman *et al*. 2018). At the time, it was thought these scrapers were mainly used for hide-working (see Hall & Smith 2000). However, a recent use-wear analysis indicates that although scrapers were used on hide and shell during the early occupation of Little Muck, these occurred in small quantities, meaning that these activities were not as prevalent as Hall and Smith (2000) suggested. Rather, it appears as if wood (n=21) was the most utilised working material during this period, only then followed by hide (n=4) (Sherwood & Forssman 2023: 10). Based on the available cultural material, it appears that residential/production activities at Little Muck were more intense compared to other shelter sites nearby.

Although cultural material is limited, it is evident that foragers at Little Muck were gradually engaging in craft production activities and using scrapers as primary tools to produce other goods (see Sherwood & Forssman 2023). Perhaps this intensification at Little Muck is a result of foragers producing more goods as a means to establish social relations amongst other forager groups. However, this raises the question as to why Little Muck's foragers might have been producing items for other forager groups who were already equipped to make these goods themselves. Rather, the production of craft goods might have been related to *hxaro* practices in the area. The presence of OES beads, a recognised *hxaro* item, at Little Muck (n=9), Dzombo (n=11; Forssman 2014a: 188) and Balerno 3 (n=24; van Doornum 2014: 151) suggests the possibility that production activities were occurring at the shelters for exchange purposes. Of the nine beads found at Little Muck, there were seven complete beads and one preform. A similar pattern is noted at Dzombo with preforms appearing infrequently throughout this period. Balerno 3's bead assemblage, on the other hand, consisted of 11 complete beads and 13 preforms (van Doornum 2014: 151). In comparison to Balerno 3, it seems as if production activities at Little Muck and Dzombo were not necessarily focused on manufacturing OES beads. It is possible that foragers at the other two shelters might have participated in bead production activities at Balerno Main, as *hxaro* exchange would have most likely taken place at the aggregation camp; however, it is difficult to determine whether the material at Balerno Main was a result of returning forager groups or the resident forager community (see Wadley 1996). Evidently, the presence of craft goods varies between different shelter sites, and even if foragers were participating in *hxaro* exchange systems, it still raises the question as to why other craft goods, specifically scrapers and worked bone, were so prevalent at Little Muck compared to other shelters. This is difficult to determine and provides a limited understanding of the shelter's earliest occupation period without further in-depth analysis.

Another challenge in better understanding the participation of Little Muck's foragers in local exchange networks in the valley, is that we have no sense of site formation at any of the previously mentioned shelters. This is problematic because Little Muck's deposit might be deflated or winnowed, resulting in loss of context as artefacts have gradually slumped together. Because the site formation at Little Muck is not fully understood, it limits the efficacy of comparing the shelter's assemblage with other shelter sites as a means to understand the context of foragers in the middle Limpopo Valley. Further research is needed to better understand the relationship between the site's formation and forager occupation from the first millennium BC onwards. Although this possibility remains, the focus on cultural material suggests that Little

Muck's foragers were producing craft goods from the onset of the Later Stone Age occupation of the valley. These activities only increased as larger farmer groups began settling the area and is evident in the expansion of crafted goods at Little Muck.

6.2 Phase 2: Late first millennium BC to early first millennium AD

The movement of farmer groups across the middle Limpopo Valley had a notable impact on foragers at Little Muck. Based on increased production activities and the appearance of farmer-associated items throughout the early first millennium AD, it seems as if Little Muck's resident foragers began trading with farmer groups relatively quickly. A similar pattern is noted at other forager-occupied shelters in the valley, suggesting that Little Muck's foragers were not simply engaging in opportunistic exchange. Rather, it seems as if these interactions might have been more formal with various forager groups in the area having access to these networks of exchange. The structured nature of exchange during the onset of forager-farmer interactions might have been a result of a more intensified occupation of the landscape. Because of possible limitations to space and access to resources, more direct interactions between foragers and farmers likely took place (see van Doornum 2008). Although it is difficult to understand the physical/environmental causation of forager-farmer interactions, a social cause might be of more use. Forssman (2020) attributes the quick developing exchange relations to already established forager exchange systems and production activities. Evidence from the cultural material reveals that foragers provided craft goods and perhaps wild produce to farmer groups (see Hall & Smith 2000; Forssman 2015b), acquiring metal and decorated ceramics in turn. The presence of ceramics from different communities, Happy Rest (n=2) and Malapati (n=7), suggests expanding trade relations and a growing economic role for foragers within the local networks. It would seem that forager societies, with their unique skill set and production base, provided a catalyst for the emergence of trade with forager craft goods and subsistence items acquiring value outside of forager communities. This would account for the continuation of forager production items across the landscape.

Despite the appearance of farmers in the extended region, and the introduction of their technologies, foragers persisted with a similar type of Later Stone Age toolkit to what they had been producing in pre-contact periods. This is evident in the increasing densities of stone tools, worked bone and OES beads. Similar to the previous phase, scrapers seem to dominate Little Muck's stone tool assemblage but the use now changes (see Forssman *et al*. 2018; Sherwood & Forssman 2023). Again, Hall and Smith (2000) proposed a possible connection between the

high density of scrapers and hide-working. However, use-wear analyses on the scraper assemblages from both Hall and Smith's (2000) and renewed excavations show a preference for working bone during this period (see Forssman *et al*. 2018; Sherwood & Forssman 2023). This correlates with the noticeable increase of worked bone across the site. These bone tools were then also potentially utilised in other production activities, most probably for working soft materials, such as wood and hide. Of note, the different use-wear patterns evident on scrapers suggest that these tools may have been used for either working numerous materials or one material at different stages of processing (Forssman *et al*. 2018), resulting in the diversity of use-wear patterns noted on Little Muck's scraper assemblage. The abundance of scrapers and their patterns of intensive use, along with the subsequent increase of other craft items recovered from the site suggests a level of production thought to be greater than the requirements of the resident forager group. A total of 143 (Forssman *et al*. 2018) and 101 (from a single quadrant; Sherwood & Forssman 2023) scrapers have been recovered from Little Muck, respectively, compared to 102 scrapers at Balerno 3 (van Doornum 2014) and 19 at Dzombo (Forssman 2014a). Because of the high density of scrapers, it is thought that Little Muck's foragers were producing a surplus amount of craft goods. Scrapers at Little Muck also show a degree of standardisation throughout the first millennium AD.

Notably, a large majority of the stone tool assemblage consists of end-scrapers with angles ranging between 30˚ and 100˚ (see Forssman *et al*. 2018; Sherwood & Forssman 2023). Based on scraper morphology and use-wear patterns, foragers produced a highly specialised toolkit which facilitated further production of diverse craft goods. These characteristics of Little Muck's scraper assemblage align with Benco's (1988) definition of specialisation. He outlines specialisation as a process in which production surpasses the immediate requirements of a single group through the investment of dedicated labour and capital. In turn, production activities generate a surplus of goods that facilitates further economic exchange (Benco 1988). Such a surplus is often accompanied by a standardisation of production processes and goods. Accordingly, standardised craft goods are often noted alongside specialisation, such as stone scrapers, because it reduces variability during the production process and allows artisans to better convey their knowledge and technical skills (Costin & Hagstrum 1995). At Little Muck, this shows a continuity in forager activities from the Later Stone Age throughout the contact periods with farmers, as well as the adaptability of their toolkit. This process of specialisation also implies an intensification of forager-farmer interactions, as well as greater access to the developing economic landscape.

As socio-economic relations between foragers and farmers gradually developed throughout the first millennium AD, there was a noticeable shift in focus at the shelter. The changing social context in which Little Muck's foragers found themselves contributed to this shift, and is evident in the intensification of craft production and specialisation, as well as the appearance of farmer-associated trade items (e.g. decorated ceramics and metal). Based on the available evidence, Little Muck may have functioned as a dispersal camp during Phase 1. However, ethnographic records show that minimal evidence of trade was recovered from documented dispersal camps, meaning that Little Muck could no longer be classified as a dispersal camp from the early first millennium AD onwards. In fact, the intense craft production of the site during this period challenges the oversimplified aggregation/dispersal approach to forager shelter occupations. Instead, attributing a function to a site based on its orientation on the larger social landscape contemporaneous to other groups might provide a better understanding of a site's cultural material, and how the associated activities might have contributed to the larger economic, political, and social landscape (Peer-polity approach, see Renfrew 1996). By applying this peer-place approach to sites, Balerno Main appears to have persisted as a central point on the landscape for gatherings of different forager groups from the late first millennium BC going into the early first millennium AD (van Doornum 2008; Forssman 2020), while Little Muck seems to have transitioned from a peripheral point and taking on a more central role. The changes in cultural material evident at Little Muck parallel to new socio-economic opportunities suggest that the shelter began to occupy a more prominent and complex role on the developing socio-economic landscape.

The prominent increase of craft goods suggests that Little Muck's foragers actively constructed a space focused on production activities as a means to participate in the local networks. According to Forssman (2020), foragers might have chosen specific locations in response to farmer-orientated opportunities across the landscape. This contributed to the emergence of landscape connections between cultural groups formed through access routes, authoritative individuals, exchange of knowledge and information, and network orientation (see Forssman 2020). These connections could explain the increase, decrease or fluctuations evident among different forager shelters in the area. Cultural material at Tshisiku gradually decreases throughout Phases 1 and 2 (van Doornum 2014), whereas Little Muck's cultural sequence shows noticeable increases throughout these periods. Although the reason for Tshisiku's declining densities remain unclear, it is possible that its orientation on the landscape did not provide as many socio-economic opportunities as those noted at Little Muck. In fact, the

proximity of Leokwe Hill, a large farmer homestead with an expanding craft industry during the second millennium AD, likely influenced the spatial construction of Little Muck. In response to the developing space nearby, Little Muck's foragers may have purposefully created a space centred on craft production, specialisation and the local networks economy. Tshisiku, on the other hand, presents limited evidence of trade goods despite being located close to a number of farmer settlements, including Pont Drift (van Doornum 2007). Perhaps the construction of spaces is not influenced simply by proximity but rather a combination of the scale of farmer homesteads, the activities taking place as well as its orientation to other prominent spaces in the area. This shows the intricacy of landscape connections and how nearby spaces can affect the construction of an individual site. From the first millennium AD onwards, Little Muck's positionality and the resulting prominence of trade goods suggests that the site functioned as a trade centre, allowing foragers greater access to the socio-economic landscape.

6.3 Phase 3: AD 900-1000 (Zhizo ceramic facies)

The glass bead, ceramic and metal assemblages suggest that Little Muck functioned as a trade centre from the early first millennium AD onwards, with a notable intensification of both craft production and specialisation. However, this raises the question as to whether the shelter's spatial organisation shifted to prioritise: 1. different craft activities, based on their 'importance,' or 2. craft production over domesticity/residentiality. Hall and Smith (2000; see also Forssman *et al*. 2018: 294) recovered a large number of scrapers (n=186) from stratigraphic units situated in the western section of the shelter. Sherwood and Forssman (2023: 10), on the other hand, note a sharp decline in scraper numbers from recently excavated units in the eastern section. In fact, a total absence of scrapers was observed within the stratigraphic units associated with this period (see Sherwood & Forssman 2023). Although it is not clear why the difference, it is possible that this is a reflection of different spatial patterns across the site. Either way, this observed difference in scraper density aligns with a more intense farmer occupation of the valley, intimating a possible shift in forager behaviour. Perhaps foragers designated specific areas for craft production in response to the changing socio-economic landscape. By doing this, foragers might have been able to improve their economic productivity and so acquired greater access to local networkss. Further examination of worked bone densities might support this notion. Hall and Smith (2000) found a general decline of worked bone throughout this period, while recent analyses show an increase in densities for both worked bone and faunal remains. A preliminary overview of excavated squares across the shelter suggests variability in the

presence and density of craft goods, with observations made around the question of whether certain squares (including I42B) might be part of a disposing area. It is important to note, again, that Little Muck's site formation is not fully understood, and that the notable decrease in artefacts might be a result of deflated deposits, requiring further studies. Despite this limitation, observations suggest the possibility that Little Muck's foragers may have engaged in purposeful arrangement of dedicated spaces for specific crafts.

Based on evidence of purposeful spatial arrangement, specialisation, and increased craft production, is it worth considering that the intense focus on trade at Little Muck can be interpreted as a decline in domesticity/residentiality? To preface this discussion, one must consider where Little Muck's foragers were living on a day-to-day basis. Perhaps the site's orientation as a trade centre meant that foragers were moving between other sites in the area and came to Little Muck with the specific intention to produce and then trade goods. If this were the case, it could account for the decreasing densities of craft goods at shelters, such as Balerno 2 and 3, and Tshisiku (van Doornum 2007, 2014). The increasing densities of artefacts at Balerno Main throughout this period further suggests that foragers were still participating in forager-associated activities, including aggregation. Perhaps the observed patterns reflect a seasonal focus on trade with Little Muck functioning as a central place, similar to Balerno Main. This raises the question as to whether activities of trade, and subsequently craft production, were happening throughout the year or during certain periods. Due to the seasonality of trade winds facilitating one-directional movements during specific parts of the year (see Risso 1995), Forssman (2020) proposes that trade followed a similar seasonal pattern or at least there might have been phases to the chain of operations linked to trade. It is perhaps during these periods of reduced trade that foragers returned to their traditional lifestyles at shelter sites removed from the boundaries of farmer settlements. However, if they did, the items that they obtained through trade were not brought with them to other sites, as evidenced by their scarcity here compared to Little Muck. Alternatively, it is possible that some foragers focused predominantly on trade activities, and potentially excluded others who were not as involved in this craft specialisation. In this case, foragers might have focused on activities related to trade year round. Forssman (2020) states that, unlike trade, trade-related activities, such as manufacturing, acquiring and transporting goods, were most likely not seasonal, and required a consistent labour force. Both possibilities present an explanation for the intensification of craft goods based on how the site might have been used; however, a more in-depth study is needed to understand local trade dynamics and how foragers across the middle

Limpopo Valley fit into these larger economies. What is evident is that the site's function was intensely connected to the local socio-economic landscape and that foragers likely participated in emerging trade networks alongside farmers.

The Indian Ocean facilitated networks of world trade, and farmers' participation in these trade networks contributed to an influx of wealth items, particularly glass beads (Pwiti 1991; Saitowitz 1996; Huffman 2000, 2009; Wood 2012). Appadurai (1988: 4) proposes that the process of trade sets the value and that things have an "exchange value" which may vary from one exchange to another. According to Kopytoff (1986: 64), the change of value evident through visible, objective transactions is referred to as "a moral economy" in which a thing's value is culturally informed. This suggests that the value is dependent on specific cultural meanings, classes and so forth (Kopytoff 1986). As a result, both local and international markets attributed value to glass beads; however, these beads only represent a partial transaction influenced by different cultural meanings and social values. Instead, these beads to be considered in the context of exchange and exchange value. Items, such as ivory and gold, were of minimal value in the local economy but were traded into the international market in exchange for glass beads, and vice versa (Huffman 2007a, b; Wood 2012). This suggests that international wealth value centred around acquiring exotic goods. Because these exotic goods were transported across great distances and locally irreproducible, they acquired value associated with wealth, prestige and power on the local socio-economic landscape (Huffman 2007a, b; Wood 2012; but see Chirikure 2014; Moffett & Chirikure 2016 for opposing arguments). The value of glass beads meant that this became an important item within the socio-economic structures of farmer groups, with the potential to effect change (Renfrew 1984). This is seen at prominent farmer settlements, such as K2 and Mapungubwe, where large assemblages of glass beads have been found (Wood 2012). The number of glass beads at these sites intimate the value inferred onto these goods by individuals as a means to maintain wealth and expand their political power (Huffman 2007a, b; Wood 2012). However, glass beads also occur in smaller quantities at several forager shelters, suggesting a broader circulation of these goods.

The presence of glass beads at Little Muck corresponds to a prominent increase of other farmer-associated items, such as metal and ceramics. This, along with intensification of craft production processes, suggests a continuity in trade relations between foragers and farmers from the previous period. Use-wear patterns show that scrapers were still predominantly used to work bone (see Forssman *et al.* 2018). Based on the density of worked bone during this

period, it is possible that foragers were using scrapers to produce a surplus of bone tools. In turn, these might have been used for other crafting activities, such as hide-working (see Voigt 1975, 1983). The notion that foragers were producing bone tools for Early Iron Age farmers has also been proposed, and might explain the intensity of worked bone during this period (see Mason 1981, 1986; Wadley 1996). This is predicated on the ambiguous nature of Early Iron Age manufacturers and comparable production techniques to Later Stone Age foragers see Sadr 2002; Bradfield 2015). However, there is a lack of conclusive evidence with more recent studies arguing that farmers within these Early Iron Age settlements were most likely producing these bone tools (see Bradfield *et al.* 2018; Bradfield 2024). Determining the purpose of worked bone and whether this economic exchange might have been happening at Little Muck is subsequently rather difficult. Although the density of faunal remains increases during this period, it is difficult to determine whether this relates to domestic activities or craft production and the working of bone. The decrease of OES beads throughout this period further suggests the possibility that foragers were dedicating more effort to producing craft goods with domestic activities occurring at other shelter sites in the area. Additionally, another point to consider is the density of craft goods which is thought to exceed what the resident forager group would have required for personal use. The evident intensification of production activities and the presence of farmer-associated items, particularly glass beads, suggest that Little Muck's foragers were producing craft goods in order to acquire other socially valued items. This implies that there was a mutual valuation of goods established between foragers and farmers (see Appadurai 1988), meaning that foragers were part of the local networks. As a result, they would have had knowledge of the international market and the inferred value on glass beads during this period.

The value attributed to these wealth items had a noticeable impact on the social structures of farmer communities, evident in the emergence of elite groups. And although various other factors contributed to the changing socio-political structures, individuals continued to use the inferred value of glass beads as a means to pronounce their political power and wealth (Huffman 2000, 2007a, b; Wood 2012; but see also Chirikure 2014; Moffett & Chirikure 2016 for contradicting arguments). Because foragers had knowledge of, and access to, these wealth items, it raises the question as to whether they ascribed a similar value to the beads as farmer communities. Furthermore, did this value, if present, impact the social structures of foragers? Declining artefact densities at various shelters during this period presents a challenge to inter-site comparisons, making it difficult to examine the movement patterns of wealth items within

forager communities. Building on the previous idea that foragers might have been moving between Little Muck and Balerno Main, specifically, might provide a better understanding of wealth items in a forager context.

Artefact densities and their diversity at Balerno Main continuously increase throughout this period, suggesting that foragers may have persisted in using the site as an aggregation camp (van Doornum 2008). This was most likely due to the shelter's relative isolation from large farmer homesteads. Despite the intensity of artefacts, excavations found a single glass bead at Balerno Main, dating between AD 1640-1650 (van Doornum 2008). This has several implications: first, the available evidence suggests limited trade between the resident forager group and surrounding farmers, again most likely because of the site's positionality. Second, the absence of wealth items at the site shows that they were not being brought from Little Muck to Balerno Main during periods of aggregation. This suggests that glass beads may not have been a key factor in aggregation activities. Rather, it seems that foragers most likely continued to participate in activities constituting forager-associated items during aggregation periods, based on the increased densities of stone tools, worked bone and OES beads at Balerno Main (van Doornum 2008; see also Wadley 1987). According to van Doornum (2008), the observed increase of items, such as stone tools and worked bone, might be related to the production of surplus goods intended for trade at other sites, particularly Little Muck. The high density of OES beads, on the other hand, may be indicative of preparation activities associated with *hxaro* exchange (van Doornum 2008). Tapela (2001) argues that farmer groups manufactured their own OES beads, suggesting that this was most likely not a primary trade item between foragers and farmers. As such, the decline of OES beads at Little Muck supports the possibility that foragers were intensely focused on producing craft goods with the intention of trading with farmers. On the other hand, the cultural sequence at Balerno Main reflects a continuity in the site's function as an aggregation camp and the various associated activities (van Doornum 2008).

Taking into account the possibility that Little Muck's foragers might have been moving between different shelter sites during the 'off-season' of trade, this cultural sequence further suggests a continued focus on establishing social relations through *hxaro* exchange practices and ritual activities. Evidently, glass beads seem to not have been included in these relations. Contextually, it appears as if glass beads might not have had the same value amongst the middle Limpopo Valley's forager groups. It is worth noting that one glass bead associated with this period was recovered from both Dzombo and Balerno 3, respectively (van Doornum 2008;

Forssman 2014b). While the findings at Balerno 3 correlate with the site's cultural sequence, Dzombo's findings are more complex. Foragers at Dzombo are thought to have engaged in the local economy, similar to Little Muck. For this reason, the lack of wealth items at Dzombo further complicates the identification of a possible pattern regarding the movement of wealth items within a forager context. Perhaps the economic relations evident at Little Muck were simply contextual, meaning that foragers at the site took advantage of the emerging trade opportunities available to them.

Across southern Africa, historical accounts have documented numerous instances of foragers adapting their subsistence economy to take advantage of new opportunities available to them, including animal husbandry and agriculture (Lee 1976; Wiessner 1977; Schrire 1980; Parkington 1984). In the middle Limpopo Valley, such alteration may be particularly evident in the trade relations and craft production observed at Little Muck. The site's positionality allowed foragers easier access to farmer settlements, the local networks and, subsequently, wealth items. Although further research is necessary to fully understand the relationship between wealth items and forager shelter sites, available evidence suggests that the inferred value of glass beads was not necessarily adopted into forager communities. According to Rogers (1990), the meanings or ideological concepts of trade goods are often reinterpreted as a means to integrate them within the cultural framework of a 'new' society. In fact, Kopytoff (1986) states that the cultural redefining of an object, and subsequently its value, is more revealing than a simple adoption thereof as it highlights the intentional selection and comparison of things in order to establish a realm of exchange value by which objects can be traded. Considering this, cultural material from Little Muck might imply that foragers were producing surplus craft goods with the intention of acquiring various farmer-associated items, not necessarily glass beads. Nonetheless, the presence of beads suggests that foragers ascribed some form of value to them, otherwise trade of these goods presumably would not have occurred (see Moffett & Chirikure 2016 for discussion on the changing value of glass beads).

Considering the notion that an object's value and ideological concept changes within different cultural groups, one must consider the social context in which the item was found, as well as its relation to the broader socio-economic landscape (Stein 1998). Despite the increased presence of farmer groups across the landscape, foragers seem to have maintained their traditional values and prestige systems shown in the use of Balerno Main, possibly as an aggregation site, in each of the phases (van Doornum 2008). Because *hxaro* exchange was an intricate part of forager aggregation periods, and possibly still occurring within the area, it

might provide the social context needed to better understand the concept of value within forager society. Based on ethnographic accounts of *hxaro* practices (see Lee 1976, 1979; Wiessner 1982, 1994, 2002a), foragers attributed value to items based on the social relations facilitated through their exchange. Another important aspect of these exchange systems is the promise of resource provisions; through establishing social relations, foragers could ensure that they had necessary access to resources during periods of environmental stress. According to Moffett and Chirikure (2016), glass beads were integral in mediating social conditions within farmer groups and might have emerged in forager and farmer interactions as well. Considering that foragers most likely responded to these trade opportunities in ways that suited their context, skillset and preferences, it is possible that Little Muck's foragers valued the socio-economic relations established through recurring trade.

Perhaps the singularity of glass beads at other sites is related to foragers' focus on acquiring food resources for challenging periods, rather than wealth items. According to Denbow (1990), foragers also acquired perishable items through trade relations with farmers, including grains, milk, goats and calves. However, interpreting this notion is difficult because of their absence within the archaeological record. Furthermore, the presence of such goods within forager contexts are difficult to understand as it could reflect several possibilities, including a stability in food resources, a simpler way of obtaining food as grains could be stored more easily or a necessity due to changing food opportunities. And though this may explain the absence of wealth items at other shelter sites in the area, it is difficult to fully assess the possibility. Further studies need to be conducted at both forager sites that present an intense trade component similar to Little Muck and nearby farmer homesteads in order to gain a better understanding of the distribution of trade items between these culturally distinct groups, as well as the value that might have been attributed to different individual items.

It is unclear whether foragers entered the local networks with the intention to acquire wealth items; however, cultural material from both Dzombo and Little Muck suggest that there was a focus on local trade networks. Contextually, Little Muck was used in a different way compared to Dzombo. Along with a more intense increase of activities, a number of glass beads (n=22) was evident at Little Muck during this period. In contrast, while artefact densities show an increase at Dzombo, it is not to the same extent as Little Muck. Although the amount of glass beads at Little Muck is far less compared to assemblages from farmer settlements, it is noteworthy that most forager shelters in the surrounding area produced only a single bead (van Doornum 2007, 2008). This presence of glass beads suggests that foragers, particularly at Little

Muck, had the means to produce trade goods valued by farmers, exchanging their crafted goods for other socio-economically valued items. The purposeful intensification of activities at the shelter, along with the presence of glass beads, points to foragers actively engaging within the local economy and acquiring valued farmer-associated items. However, it is important to understand that the value of these beads was tied to a global network of wealth recognised in the region, despite the local circulation thereof. Foragers' access to these items therefore suggests that they may have been part of the larger economy often associated with farmers. Assuming this was the case, it enabled foragers to extract wealth in a way not previously observed in the area. However, the socio-economic developments observed in farmer settlements emphasise their central role within this economy. The absence of such developments, along with the lower quantity of beads, suggests that Little Muck's foragers had no authority within these systems. Rather, it seems as if they would have been positioned on the boundaries of the larger economy. That being the case, Little Muck's assemblage shows economic resilience with foragers choosing to actively engage in local economies, and be present in international trade networks.

Foragers' access to wealth items also indicate that they had access to the larger socio-economic, and perhaps political, landscape. This suggests that foragers were participating and contributing to the gradually developing complexity of social, economic and political structures within farmer communities. And though the extent of their involvement remains unclear, it is evident that foragers were not only present but occupied an active role during this time, most likely as craftspeople, specialised hunters and ritual participants. This intimates that foragers were part of the social systems across the landscape, as well as the emergence of complexity within the region.

6.4 Phase 4: AD 1000-1300 (Leopard's Kopje ceramic facies)

Between AD 1000 and 1300, there was an intensified farmer occupation across the middle Limpopo Valley, which contributed to increased trade, more complex socio-political structures, and eventually, the development of state-level societies (Huffman 2007, 2009). These prominent changes within farmer settlements also affected existing trade relations. Hall and Smith (2000: 37) state that emerging class distinctions may have led to "farmer commoners" gradually marginalising foragers from economic activities, possibly displacing them from roles they previously occupied. As a result, it was thought that foragers either abandoned the area or moved into nearby farmer settlements (van Doornum 2007a, b).

However, Dzombo and Little Muck present evidence of continued forager occupation, and possibly trade, during this period (Hall & Smith 2000; Forssman 2014b, 2015b; Forssman *et al*. 2023).

Forager-associated items are still present within the cultural sequences of Dzombo and Little Muck. However, there is a noticeable decline in artefact densities throughout the period (see Forssman 2014b). Items, such as stone tools, worked bone, and OES beads, appear in high frequencies at the onset of the Leopard's Kopje occupation with a gradual, if variable, decrease onwards. In contrast, farmer-associated items, including ceramics, glass beads and metal, prominently increase throughout this period (Forssman 2014b). The context of these items at Little Muck appear to be different than Dzombo's, as noted throughout previous periods. In total, Dzombo produced 17 glass beads, 10 metal items and 61 ceramic shards (Forssman 2014b). Little Muck, on the other hand, produced 446 glass beads, 107 metal items and 3029 ceramic shards (see Chapter 5). Evidently, there is a distinct difference in the number of items from the two sites. There are two possibilities for this intensification of farmer-associated items at Little Muck.

First, Hall and Smith (2000) suggest that Leopard's Kopje farmers appropriated the shelter. This idea of appropriation was based on the prominent increase of farmer-associated items but also the presence of *mankala* gaming boards carved directly into the bedrock outside the shelter (Hall & Smith 2000). Because *mankala* is a game exclusively associated with men, Huffman (2014) proposes that the farmer groups occupying Leokwe Hill may have used the shelter as a ritual site for boys' initiation. Assuming this, it then factors into the notion that farmer groups appropriated particular sites thought to be imbued with the power of the 'first peoples' (see van Doornum 2008). Tapela (2001) argues that the size of OES beads may provide more context regarding a site's occupants. And while the predominance of large OES beads during this period (n=26) might intimate a farmer presence, small OES beads (n=25) also need to be considered. According to Tapela (2001), the presence of both patterns of beads may indicate that farmer groups acquired the smaller beads through trade relations with foragers. However, this along with the continued presence of craft items at Little Muck raises the question as to whether a process of acculturation, rather than appropriation, occurred.

The consistent presence of craft goods at Little Muck, from the early first millennium AD throughout the Zhizo occupation period, suggests a continuity in forager technologies. This practice is no longer evident after AD 1000. Forssman (2020) suggests that this may be an

indication of Little Muck's foragers acculturating into nearby farmer communities, as noted at Broederstroom. Archaeological material from the site presents the possibility that foragers may have performed labour activities for farmers within their homesteads (Wadley 1996). This led to a notable shift in which craft production activities were no longer situated within traditional shelter sites but rather fixed homesteads (see Guenther 1977; Wadley 1996; Hall *et al.* 2013). Considering this, foragers might have started to reside near, or within, farmer settlements leading to increased utilisation of farmer-associated items (see Walker 1994; Hall 2000; van Doornum 2007). The evidence from Little Muck may be case in point. With the expansion and intensification of local and international trade networks, the value previously attributed to foragers' craft goods may have changed and as a result forager participation in the local economy may have been pushed to the edge. Under these circumstances, foragers likely had two courses of action. First, they may have returned to traditional subsistence economies as noted among the Bushmen in the Kalahari Desert (see Lee 1976). This might be most evident in the consistent presence of forager-associated items at Balerno Main during this period. Second, foragers interested in remaining part of the local economy may have sought alternative participation, possibly shown through forager occupation of homesteads from this period onwards.

The socio-economic relations established between Little Muck's foragers and surrounding farmer groups from the early first millennium AD may have prompted them to integrate into the nearby farmer community of Leokwe Hill. Their experience in craft production possibly provided them an opportunity to integrate into the prominent craft industry at Leokwe Hill (see Calabrese 2007; Huffman 2014). If this is considered then foragers most likely occupied a social role comparable to, if not lower, than Leokwe people, placing them in a subordinate role within the farmer community. Of note, the scarcity of glass beads at Leokwe sites suggests that Leokwe craftspeople, and potentially foragers, were not remunerated with wealth items (Calabrese 2000; Huffman 2014). In that event, there is a clear shift in trade relations and power dynamics between foragers and farmers throughout this period. However, limited excavations have been completed at Leokwe Hill, especially in the area where foragers would most likely have been relegated to, making it difficult to understand these potential shifts and, on the condition that foragers moved into farmer spaces, the role that they may have occupied within the settlement. As such, the possibility remains that production activities possibly moved to Leokwe Hill but it is still unclear as to what happened to the foragers previously occupying Little Muck. It is important to note that these sites represent a fraction of southern Africa's

forager occupation and a better understanding of their patterns might lie beyond the middle Limpopo Valley.

This review of the data highlights four phases, following Hall and Smith (2000) and Forssman (2020), and shows changes at the site that reflect larger socio-political change on the landscape. This intersectionality of identity, economies, lifeways, and values varies throughout this period and oscillates across the landscape. Although this perspective is from a single site, it predictably captures one of the forager expressions that emerged during this period. Based on the available evidence, this expression is quite distinctive from other expressions in the region as it demonstrates the dynamic relations between different cultural groups and more importantly, in the context of this study, how foragers engaged in larger trade networks across the middle Limpopo Valley.

Chapter 7: Conclusion

In the middle Limpopo Valley, evidence suggests that foragers established socio-economic relations with incoming farmer groups. However, despite these initial findings, a comprehensive understanding of these interactions has not been fully achieved. A previous study of Little Muck highlighted the complexity of possible trade relations based on preliminary data (see Hall & Smith 2000). Recent findings from the shelter site provide further support for Hall and Smith's (2000) conclusions, and presents more insight into foragers' involvement in the local economy, the circulation of wealth items and shifting trade relations.

Little Muck, similar to most of the surrounding shelter sites, seems to have been occupied from the late first millennium BC. The notable increase in artefact densities at the site suggests a gradual intensification of forager activities throughout this period. This intensification may have been a result of forager exchange systems (e.g. *hxaro*) present on the landscape. Cultural material from Balerno Main suggests that the shelter may have functioned as an aggregation site throughout this period (van Doornum 2008). The increase of craft goods at most of the surrounding shelters intimate foragers' participation both in the aggregation-dispersal cycle, as well as the exchange practices that occurred during periods of aggregation. Although an increase is noted at several shelter sites across the landscape, the context of Little Muck's assemblage seems to be more distinct and is evident in the large number of craft goods at Little Muck compared to other shelters. This suggests that activities at Little Muck may have been more intense. While the reason for this intensity during the late first millennium BC remains unclear, it is suggested that the arrival of farmer groups in the area incited further intensification of production activities throughout the early first millennium AD.

Cultural material from Little Muck suggests that this intensification was a response to new trade opportunities on the landscape. This most likely also contributed to the emergence of specialisation and standardisation within the assemblage, as shown through a recent use-wear analysis of Little Muck's stone scrapers (see Sherwood & Forssman 2023). Cultural material from Dzombo and Balerno 2 and 3 suggest that most foragers were participating in these developing trade economies. However, the density of craft goods, the gradual appearance of farmer-associated items and the emergence of specialisation at Little Muck alludes to greater access to the socio-economic landscape. None of the surrounding shelters exhibit similar characteristics. A possible explanation for this is the positionality of Little Muck, which assisted in establishing the site as a trade centre.

Foragers' construction of spaces impacted how they interacted with and utilised the landscape (Forssman 2020). By occupying a shelter in close proximity to a developing farmer settlement, Leokwe Hill, foragers were actively forming trade relations with farmers. Processes of intensification and specialisation further suggest an emphasis on craft production activities as a means to access the larger socio-economic landscape. The appearance of farmer-associated items from this period onwards supports the notion that foragers were participating in the local economy. It also suggests that Little Muck no longer functioned as a simple residential camp but as a trade centre focused on developing socio-economic relations in the area.

From the late first millennium AD, new opportunities linked to international trade networks, as well as trade goods emerged in southern Africa. Although farmer groups across the middle Limpopo Valley were prominent participants within this international market, the presence of glass beads found in forager contexts suggest that they too were involved. It is uncertain whether foragers attributed a similar value to these wealth items as farmers but evidence between Little Muck and Balerno Main suggests that the items did not disrupt the social dynamics among forager groups. While the presence of these goods suggest that value was inferred onto them, it is difficult to understand the context as they were not as notable at other shelters as at Little Muck. This presents a challenge in understanding the context of wealth items both in the social dynamics of forager groups, as well as the larger trade relations between foragers and farmers. Despite this, it is apparent that foragers were participating and contributing to the local economy in such a way that they could extract wealth associated with a global value system. It also shows that foragers were present on the landscape even as socio-political and economic structures gradually transitioned towards greater complexity.

However, a notable change occurs at Little Muck around AD 1000. The density of craft goods declines parallel to a rapid increase of farmer-associated items. Initially, Hall and Smith (2000) argued that this was a result of farmer appropriation of the shelter. In turn, Huffman (2014) stated that the shelter was used for ritual activities, specifically boys' initiation. While evidence may suggest appropriation of the shelter, the continued presence of craft goods indicate that foragers might have still been present at the site. Perhaps the evidence shows a period of acculturation rather than intense appropriation. Because of their knowledge and experience with craft production, it is possible that Little Muck's foragers may have gradually assimilated into the developing craft industry at Leokwe Hill, and as a result of foragers gradually moving into the farmer settlement, farmers began to use Little Muck for their own purposes. Whether foragers at Little Muck assimilated into the nearby farmer community or abandoned the shelter

remains unclear. However, it is evident that forager occupation of the shelter reduces parallel to the changing social, economic, and political structures across the landscape.

Although previous studies have demonstrated that foragers were present in the middle Limpopo Valley during the arrival of farmer communities until *c*. AD 1300 (see Hall & Smith 2000; van Doornum 2007, 2008, 2014; Forssman 2014a, b, 2015a, b), the cultural material from Little Muck suggests that these foragers were active participants within the socio-economic landscape alongside farmer groups. From the onset of Little Muck's occupation, activities seem to be more intense compared to other shelter sites. Potential motives for these intense activities during the first millennium BC remain unclear; however, intensified production activities from the early first millennium AD onwards have been associated with the arrival of farmer groups and developing trade relations. Though the surrounding shelters suggest that foragers may have traded with farmers, contextually, Little Muck is unusual. The shelter's assemblage presents insight to forager-farmer trade relations, unlike any other shelter sites in the valley. Furthermore, the density of craft goods alongside farmer-associated items, particularly glass beads, show that Little Muck's foragers were not only participating but also contributing to the local economy. This shows that foragers at the site had the ability to produce goods that maintained a high value beyond forager boundaries, another aspect not yet seen at any of the surrounding shelter sites. Foragers' access to wealth items at Little Muck also places them within the larger economy and suggests their participation in the initial developments of socio-political complexity. In essence, Little Muck's assemblage emphasises that foragers were not passive during farmer occupation of the valley. Rather, it seems as if they were actively involved in the socio-economic landscape through craft production, specialisation, and positionality. Although these findings refer specifically and only to Little Muck, they make it possible to generate a more inclusive understanding of foragers and their contributions to larger farmer settlements. It also provides a basis from which a more regionalised perspective of forager-farmers trade relations can be developed.

Each phase of Little Muck's occupation has yielded a plethora of artefacts and evidence of activities. A more in-depth examination of these distinct phases and their associated artefacts at surrounding shelter sites could provide a better understanding of forager activity patterns during each sequence of the valley's occupation more generally. Comparing the assemblages from different shelter sites could also provide more insight into regionalised forager activities, and how the arrival of farmer groups impacted forager preferences regarding space utilisation and social interactions. Ultimately, gaining a more regionalised perspective of foragers' socio-

economic interactions may contribute to a more nuanced understanding of the value attributed to wealth items within a forager context.

In addition, a holistic understanding of the middle Limpopo Valley's trade networks can only be obtained by examining the trajectories of trade items between distinct cultural groups occupying the landscape. This includes both forager and farmer communities. Though it is evident that foragers at Little Muck interacted and traded with farmer groups, their role within a larger farmer context remains uncertain. As a result, the socio-economic relations between foragers and farmers must be explored to better understand the influence of both groups on one another. The sites of Little Muck and Leokwe Hill offer an opportunity to examine these socio-economic relations in greater detail and explore any potential shifts that may have occurred, including changes in production activities, settlement transitions, and subsistence economies. The sites of Dzombo and Mmamagwa, as well as Tshisiku and Pont Drift, offer a similar opportunity, and perhaps comparing the socio-economic relations between the Little Muck and Leokwe with these other sites can provide insight into diverse trade activities (craft goods versus hunting) and how each group responded to these trade dynamics. Because this study focused on a singular site with limited access to archaeological material from surrounding sites, particularly farmer settlements, the 'prestige goods' model provided a basis from which to understand the developing relations between foragers at Little Muck and farmer groups in the surrounding area. However, a network perspective may be more beneficial in better understanding the diverse range of material culture from these culturally distinct sites and how socio-political networks across the landscape influenced forager-farmer interactions. A deeper understanding of these relations is key to constructing a more inclusive regional narrative and recognising the participation of local forager groups in larger social, economic and political structures across the middle Limpopo Valley.

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