1. INTRODUCTION

Toutswe tradition is one of the earliest manifestations of complex Iron Age communities in the interior of Southern Africa. It was one the 'kingdoms' that rose and fell within the Shashe–Limpopo basin. The Toutswe people occupied the western side of the basin. Dates from different sources place it between A.D. 700 and 1250 (Denbow 1982; 1983a; Hall 1987; Reid 1998). The Toutswe capital is believed to have been Toutswemogala, a settlement located on a flat-topped hill 40 km north of Palapye. During its prosperity, the community had two additional large centers at Bosutswe and Shoshong (Denbow 1982; 1983a; 1999; Hall 1987; Kiyaga-Mulindwa 1993; Lane et al.1998).

Toutswe sites are located in the east central part of Botswana, an area characterised by unpredictable rainfalls, cold winters and hot summers and seasonal grasslands. Countless hills, escarpments and low lands intertwine with each other forming a landscape of complex relief (Cooke 1982; Reid 1998). To the northwest of the Toutswe area are wet flat lands of numerous saltpans of which the largest is Sua Pan. The western frontiers of the Toutswe complex lie along the eastern borders of the Kalahari Desert.

Initial research at Toutswemogala consisted mainly of surface collections of pottery by Laidler from South Africa in the 1930s (Lepionka 1978; Denbow 1983a; Campbell 1998; Reid 1998). Excavations on the site began in the early 1970s and were carried out by Lepionka. He concluded that the site was closely related to the Mapungubwe complex on the eastern side of the Limpopo River. During excavations by Lepionka (1977; 1978) numerous human graves were found. In 1978, Denbow conducted a survey of the east central part of the country and reported around 250 archaeological sites, all of them with remnants of Toutswe pottery (Denbow 1979a; 1982; 1983a; Campbell 1998). He began systematic excavations at numerous sites for his Ph D project in the early 1980s.

Archaeologists have used the spread and evolution of ceramic decoration motifs and distribution of cultural artifacts such as glass beads to suggest an active interaction between Toutswe and K2/Mapungubwe peoples. In fact, it has been proposed that the

Toutswe people may have moved eastwards to K2/Mapungubwe when their environment became less productive (Denbow 1983a; Huffman 1986; Hall 1987; Reid 1998).

The arrival of the people associated with the manufacture of Toutswe ceramics in east central Botswana marked an introduction of new ways of life and changes in social and economic systems, which affected not only the new arrivals but also the hunter-gatherers who had inhabited the area for centuries before (Denbow 1982; 1983a; 1990; 1999). There was obviously an increase in population density, which in turn reduced the ratio of resources to people.

Archaeologists have worked extensively in the Shashe-Limpopo area over the last several decades and have come up with theories that link prehistoric inhabitants of the basin. Contrary to this, physical anthropologists have only focused on the eastern side of the area where skeletons from sites like Schroda, K2 and Mapungubwe have been analysed (Galloway 1937; 1959; Gardner 1963; Meyer 1998; Steyn 1994; Steyn and Nienaber 2000). In a nutshell, much is known about the cultural evolution and transformations of the entire area while our knowledge of the health, skeletal characteristics and demographic profiles of the area is skewed towards the east.

Studies of human skeletal remains in South Africa gained popularity at the beginning of the twentieth century. The early and middle parts of the century were characterized by a hype of research on the issue of racial characteristics of archaeological and modern non-white inhabitants of South Africa. The issue of racial characteristics of archaeological versus modern populations was intriguing for two reasons. First it was proposed that modern populations had arrived in southern Africa from central and west Africa shortly before the arrival of whites in the Cape (Hall and Morris 1983). The second reason was based on the idea that the people responsible for the manufacture of eloquent gold and other metal artifacts and ceramics found at places like Mapungubwe and Great Zimbabwe were not originally from Africa. It was proposed that elaborate gold burials from Mapungubwe were of a distinct 'Boskop" race that had no genetic links with modern black populations. The aims of most studies were to find proof in the form of population characteristics that black South Africans were new in the area just like white South Africans (Galloway 1937; 1959; Keen 1947; Singer 1958; Gardner 1963; De Villiers 1968b; Rightmire 1970).

As a result of the quest to place the origins of South African blacks within a framework of temporal and biological contexts, physical anthropology became biased in two ways. The first bias relates to the fact that cranial remains were given more attention than the postcranial skeleton. Cranial morphological and metric characteristics are the prime source of information for determining racial affinity from skeletal remains. It was therefore inevitable that emphasis was placed on craniology (Keen 1947; De Villiers 1968b; Krogman and İşcan 1986; İşcan and Kennedy 1989; Novotny et al. 1993). Postcranial skeletons were only given brief descriptions. The second bias relates to the use of adult skulls to assess racial features. Subadult skulls are known to posses little, if not complete absence, of racial indicators and therefore much of the discussions of human skeletal remains were focused on adult samples. Similar to the postcranial skeleton, infants, juveniles and adolescents were not studied in detail. It has thus been the case that physical anthropological literature dated to the early and middle twentieth century is devoid of a body of information on issues pertaining to health, diet and palaeodemography of prehistoric populations in South Africa.

In order understand past population dynamics and characteristics, physical anthropologists study human skeletal remains (Brothwell 1981; Ubelaker 1989a). These studies allow researches to make inferences on the various aspects of populations such as the demographic profile, health and diet. Basic demographic elements, which are age, sex and population affinity can be determined from skeletal remains using a variety of techniques ranging from macroscopic visual observation to more complex of studies like bone histology (e.g., Krogman and İşcan 1986; İşcan and Kennedy 1989).

The last two to three decades marked the beginning of a new era in research based on human skeletal remains in South Africa. Studies took on a new approach towards the assessment of the general well-being and adaptation to the environment of prehistoric populations. The relationships between prehistoric populations and their environments became important aspects of research. The sciences of palaeopathology, palaeonutrition and palaeodemography, which had been applied elsewhere in and out of Africa, (e.g., Brothwell and Sandison 1967; Brothwell 1968; Armelagos et al. 1972) were introduced to South Africa. Morris' (1984) analysis of the protohistoric human skeletons from the Cape and western Orange Free State is one of the earliest texts encompassing the new approach in studies of prehistoric human skeletal remains. Other equally important

studies were conducted by Patrick (1989) and Steyn (1994) based on Oakhurst and K2/Mapungubwe skeletal collections respectively. These samples had been excavated decades before but only their cranial characteristics had been studied in detail (e.g., Galloway 1937; 1959; Gardner 1963).

The new focus of attention in human skeletal remains studies brought with it changes relating to 'raw material' from which data was sourced out. Firstly, the postcranial skeleton was brought to parity with cranial remains in terms of value of data collection. Thus there was a move away from an almost exclusive discussion of cranial remains in the literature to the discussion of the complete skeleton. Secondly infant, juvenile and adolescent skeletons became as important as adult skeletons. Infants and juveniles are highly prone to diseases and stress and therefore provide substantial records of pathogen invasions, environmental insults and nutritional constraints experienced by prehistoric populations (Krogman and İşcan 1986; İşcan and Kennedy 1989). Developmental defects of enamel and lines of arrested growth are some of the lesions associated with stress experienced during the early years of life. In addition, high infant mortality and morbidity are general indicators of magnitude of environmental insults on populations. Therefore, both young and adult samples are needed to evaluate health and diet problems of prehistoric populations.

Notwithstanding the fact that early studies of human skeletal remains in South Africa were limited to racial issues, they do signal active research during those years. This is in contrast with other parts of southern Africa, for example, Botswana, Namibia and Zimbabwe. In Botswana excavations were rare for instance, the first excavation were done in 1970 (Lepionka 1971; 1977; 1978; 1979) and for almost a decade, no active fieldwork took place (Denbow 1983a; Campbell 1998). Activity in South Africa was not only fueled by the desire to identify prehistoric races but also by the desire to collect elaborate burial goods such as the gold rhino, beads and vessels found at Mapungubwe.

The search for gold burials lead to a serious problem in the sense that even untrained people went about raiding sites in search of gold and possibly other valuable materials (Gardner 1963; Meyer 1998). Consequently there was no attention paid to stratigraphic contexts within which human remains and cultural artifacts were found. At the time Botswana was considered a land with no Iron Age prehistoric occupation because of its dryness. It was though that the only groups to have occupied Botswana

were the San hunter-gatherers and with that in mind there was no reason to search for gold burials in Botswana.

The skeletons from Toutswemogala (Lepionka 1977; 1978) were handed to De Villiers (1976) for analysis. Her study was focused on racial affinity, as was the fashion at the time. The bulk of her report centers on describing cranial features, age and sex of both adults and younger individuals. The report by De Villiers (1976) is the first analysis of human skeletal remains from Botswana but entails only a limited aspect of the Toutswemogala population. It should, however, be kept in mind that the sample was too small to be used for issues like health, diet and demography of this prehistoric population.

Besides De Villiers' (1976) work on the Toutswemogala skeletons, there was another study involving stable isotope analysis in some Toutswe skeletons by Murphy (1996). Murphy' study has some limitations. Firstly, the sample used is very small, using about 47 individuals (Murphy 1996: 332-333). The sample was drawn from only three sites (Toutswemogala, Taukome and Kgaswe B-55) to the exclusion of materials from other Toutswe sites that had been excavated at the time. Secondly, the skeletons from Toutswemogala were not labeled and therefore any future follow-up study would be difficult to identify those used by Murphy (1996).

A survey of the archaeology and physical anthropology literature of southern Africa yielded some interesting observations. Some of the published reports claim to have drawn their data from the broader southern African context, not just South Africa itself, (e.g., Hall and Morris 1983; Maggs 1984; Hall 1987). A closer look at these reports shows most of the data was actually drawn from South African sources with little reference, if any, to places like Botswana, Lesotho and Swaziland. At first glimpse of the title of the paper by Hall and Morris (1983), one would hope to find reference to De Villiers (1976), because the Iron Age skeletons used in the assessment are supposedly from southern Africa. In the 1987 book by Hall, there is little reference to archaeological sites in Botswana and only those in central east are included while a lot more sites had been reported in Botswana at the time. Once again the book title indicates coverage of much of southern Africa. It is thus clear that there is a lack of published material on past populations outside of South Africa.

Archaeological sites located on the western side (Toutswe type) and the eastern side (K2 and Mapungubwe complex) of the Shashe-Limpopo river basin are a testimony

of some of the complex, independent and self-sustained political entities that existed in the interior of southern Africa between approximately one thousand and five hundred years ago (Denbow 1983a; 1990; 1999; Maggs 1984; Huffman 1986; 1989; Hall 1987; Lane et al. 1998). These polities interacted with each other economically, politically and socially at some point in time. It is worth noting that these polities were not contemporaneous as the Toutswe occupation preceded the rise of K2 and Mapungubwe. However, the fall of Toutswe and the beginning of K2/Mapungubwe occupation overlapped (Denbow 1983a; Hall 1987; Kiyaga-Mulindwa 1993; Lane et al. 1998).

Little is known about the health and skeletal characteristics of the pre-K2/Mapungubwe inhabitants of the Shashe-Limpopo area from the scanty Early Iron Age human remains obtained from Schroda, Happy Rest and Pont Drift (Steyn and Nienaber 2000; Steyn 2003). There are currently only eight Early Iron age individuals available for study and this number is too small to allow for conclusive statements. The skeletons from Toutswe sites present a good sample size from which the pre K2/Mapungubwe lifestyles can be inferred from, but bearing in mind the spatial contexts within which these polities existed.

The aims of this study are geared towards the development of physical anthropology in Botswana, and comparing the result with observations made in South Africa. It is probably appropriate to mention that the author does not imply that this report will automatically lead to the establishment of physical anthropology as an independent subject in relevant institutions at Botswana, but that it would most highly likely provoke further investigations by the author and international anthropologists on human skeletal remains from Botswana. The aims of the current study are thus as follows:

1. To mark the beginning of the use of human skeletal remains in the analysis of prehistoric populations in Botswana. No well-detailed studies on this nature have been done before although human skeletons in Botswana have been available for analysis in the last 45 years.
2. To assess the skeletal characteristics of people from a well-known Early Iron Age ceramic tradition in east central Botswana. The assessment includes the palaeodemography, palaeopathology, dental health and characteristics and

skeletal growth of the Toutswe children. From these analyses, inferences on the health of the Toutswe communities would be made.

3. To document in detail the human skeletal remains from Toutswe tradition sites. The documentation will list all individual skeletons, skeletal parts, preservation conditions and any other important information.
4. To bring to the attention of archaeologists the value of the analysis of human skeletal remains in piecing together the prehistory of Botswana. This will provide alternative scenarios alongside the use of material culture when interpreting the archaeology of Botswana.
5. To evaluate similarities and differences between Toutswe and other prehistoric populations known in South Africa, particularly the K2/Mapungubwe communities, and other parts of the world. This would hopefully promote an awareness of the Toutswe population as an integral part of the much broader Shashe-Limpopo skeletal collections.
6. To provide an alternative body of information relating to the health and demographic profile of Early Iron Age inhabitants of the Shashe-Limpopo basin. There are currently a few human skeletal samples from Early Iron Age sites in the area, thus making it difficult to make inferences on the pre-K2/Mapungubwe communities.

In this study, a sample of 84 individuals from 10 sites associated with the Toutswe tradition has been analysed. The skeletons included in this study have been excavated between the early 1970s (Welbourne 1975; De Villiers 1976; Lepionka 1977; 1978; 1979) and 2003.

An age estimate is assigned to each individual, and sex determined in adults. Stature is also estimated for adults. An assessment of the presence of skeletal and dental lesions is performed on all present remains and the lesions are described and used to make inferences on the general health of the Toutswe people. An evaluation of the dental characteristics of Toutswe people are carried out and the results compared to samples from different parts of South Africa and other places. Skeletal growth is assessed from lengths of long bones of infants, juveniles and older children. In cases where information was available, descriptions of burial styles are given.

Preservation of individuals varies within sites and across sites. Burials from Thatswane are the worst preserved. This site was severely destroyed by burrowing animals when found in the late 1970s. Some of the burials from Kgaswe B-55 appear to have been under good preservation conditions but were destroyed during excavation (Denbow 1983b; Murphy 1996).

Many problems were experienced due to lack of proper maintenance of human skeletal remains. Records indicating where individual skeletons were obtained from on the site and even principal archaeologists who excavated some of the burials were either not made at all or have been misplaced. In order to solve some of the problems and to prevent similar problems in future, a list of recommendations to the BNMMAG and UB will be made.