The Middle Stone Age of Northern Zimbabwe in a Southern African Perspective

BY LARS LARSSON

Abstract

Larsson, Lars. 2000. The Middle Stone Age of Northern Zimbabwe in a Southern African Perspective. Lund Archaeological Review 6 (2000), pp. 61–84.

Research into the Stone Age in present-day Zimbabwe was highly intensive in the 1960s and 1970s. The results of studies during this period, combined with a new contributions in the late 1990s, have once again highlighted the significant geographical position of Zimbabwe for the study of the Middle Stone Age and the transition to the Later Stone Age in Southern Africa. Two sites, Zombampata in the north and Ruchera in the north-east, both with intensive settlement remains from the Middle Stone Age, are presented. The article deals primarily with the transition from the Middle to the Later Stone Age, which appears to have followed varied courses in different parts of Southern Africa in general and Zimbabwe in particular as regards both the change in material culture and the time when this occurred.

Lars Larsson, Institute of Archaeology, University of Lund, Sandgatan 1, SE-223 50 Lund, Sweden

Introduction

In this paper the interest in the Middle Stone Age (MSA) and the transition to the Later Stone Age (LSA) will be focused on southern Africa in general and Zimbabwe in particular.

Zimbabwe is limited by the broad river valleys of the Zambezi to the north and the Limpopo to the south at levels of lower than 500 m a.s.l. (Fig. 1). However, a considerable part of the area, the high veld, is at a height of more than 1200 m a.s.l. (Summers 1960) (Fig. 1). In the east, close to Mozambique, high mountains with high precipitation result in evergreen forests. To the west, closer to Botswana, the woodland of the highland is transformed into a grassland with clumps of acacia, and adjacent to the border in the north-west trees are absent (Fig. 2). In the lowland with a low precipitation to the south and north of Zimbabwe, open forest with a low grass production predominates.

A heavily weathered granite, sometimes forming rounded domes in a plain landscape, known as kopjes, makes up the predominant bedrock of Zimbabwe (Fig. 1). This bedrock is divided by eruptive rocks which have penetrated the granite in elongated ridges (Stagman & Eng 1978).

The caves and shelters, mostly originating as cracks and shaped by erosion of the granite for millions of years, are most frequent in the north-eastern and south-western part of the country. Many contain paintings and some settlement remains (Garlake 1987; Parry 2000).

Research history

Artefacts of Palaeolithic character attracted attention in Zimbabwe as early as the 1920s in conjunction with the first excavation of a settlement

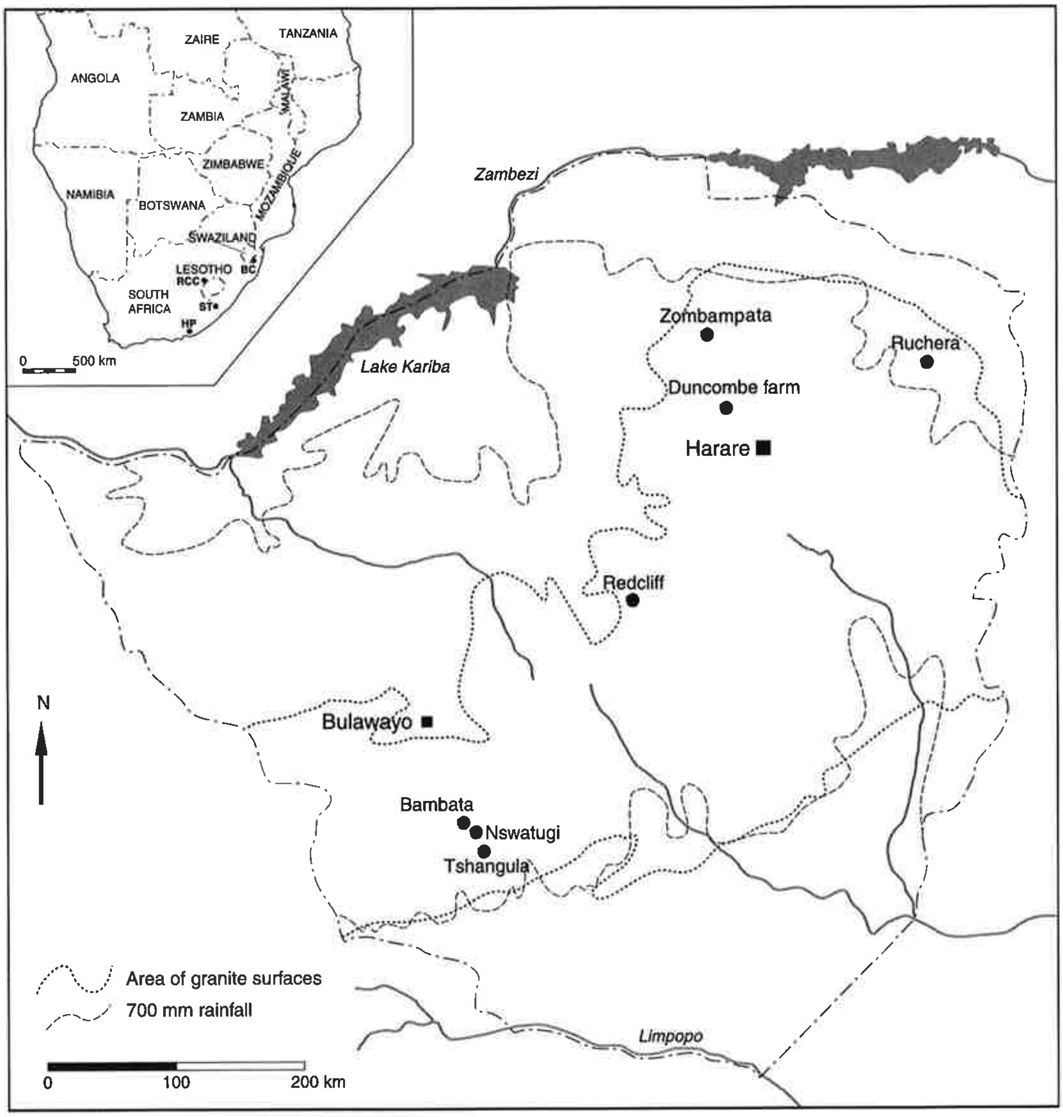

Fig. 1. Southern Africa and Zimbabwe with the sites mentioned. BC: Border Cave, HP: Howieson's Poort, RCC: Rose Cottage Cave and ST: Strathalan.

site from the upper Pleistocene in the Bambata Cave in south-west Zimbabwe (Arnold & Jones 1919; Armstrong 1931; Jones 1940) (Fig. 1). In the 1930s and 1940s a small number of excavations were conducted, which led to the growth of a sequence of cultural phases, mainly inspired by the close contacts with archaeologists in South Africa (Armstrong 1931; Bond 1948; Robinson 1952; Summers 1957). Several major excavations were undertaken in the 1960s and early 1970s, contributing to a knowledge of the Stone Age in Zimbabwe, which was of a scale and importance matched by very few regions in Africa. Most of the excavations took place in the Matopo region in the south-west of the country, but sites in the central and northern parts of Zimbabwe were also investigated. A leading figure in this work was C. K. Cooke. Although other archaeologists conducted investigations of later remains, the majority of the efforts concerned settlement remains from the Late Pleistocene and the Early Holocene (Bond 1948; Cooke 1950, 1955, 1963, 1966, 1968,

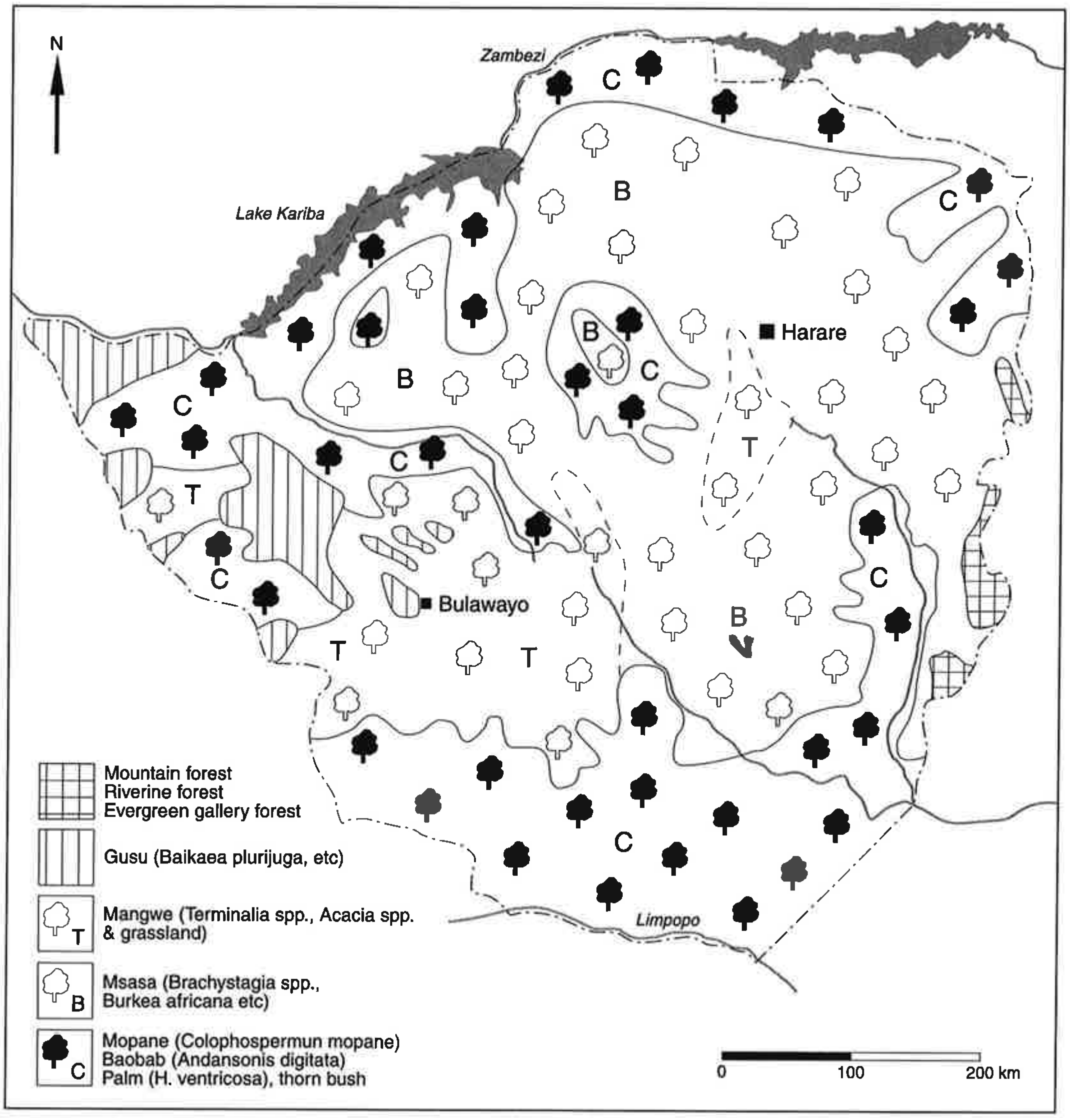

Fig. 2. The vegetation zones of Zimbabwe. Based on Summers 1960.

1969a, 1969b, 1979, 1984). At the end of the 1970s and the start of the 1980s, Nicholas Walker undertook supplementary excavations in previously investigated caves, or completely new cave excavations in the Matopos area in the south-western part of Zimbabwe (Walker 1978, 1980, 1990, 1991, 1996; Larsson 1996; Walker & Thorp 1997). The fieldwork and other research, covering the very latest phase of the Late Pleistocene and the Holocene, has been presented in detail (Walker 1995). After Walker's efforts in the field, the excavation of Stone Age remains ceased almost totally, and archaeologists have concentrated instead on research of younger remains.

The Middle Stone Age (MSA) was identified at an early stage under the designation Bambatan (formerly Stillbay) in Zimbabwe with levalloisian technique including uni- and bifacial prepared points. Through the stratigraphy at Redcliff in the centre of the country (Fig. 1), Cooke was able to discern five different phases based on the composition of the tool kit and the extent of blade manufacture (Cooke 1978, pp. 61 f.). The youngest C14 datings for Bambata have values around

35,000 BP (Cooke 1969b, 1971).

The border between the Middle and Later Stone Age is a problem of major controversy. In Zimbabwe the Tshangula industry was identified by Cooke based upon the finds and excavation registrations from caves in the Matopo Hills in the south-west as well as the middle (Redcliff) and the northern part (Zombepata) of the country (Cooke 1969a, 1971). According to Cooke, the Tshangula industry is based upon a mixture of typical MSA traditions, that is, the levallois technique with the addition of backed blades and backed crescents, including a microlithic influence. Ostrich eggshell beads are a new artefact type, as well as stones with bored holes. A distinct general decline in the size of the artefacts can also be observed.

Tshangulan is thus perceived as a transitional stage with both traditional features and innovations. In some literature this corresponds to a stage designated as Magosian (Jones & Summers 1949; Walker & Thorp 1997). To complicate comparisons still further, the term Umguzan is also used instead of Tshangulan (Sampson 1974). Layers related to the Tshangula industry were dated to the interval 25,560 ± 1,800 BP to 13,100 ± 60 BP (Cooke 1969b, 1971). Cooke admits that the Tshangula industry is very variable because of the changing percentages of the microlithic elements (Cooke 1971). The existence of a proper Tshangula industry has also been questioned (Walker 1990). Since most sequences which have been excavated are relatively compact, there may have been an admixture of younger material. However, there is a small number of large segments which differ from the geometrical forms found in higher layers. This also applies to a group of finds consisting of blade-like flakes which cannot be related to any similar find group in the upper layers either.

Another interesting aspect is the appearance of the Later Stone Age (LSA) industry. In this respect Zimbabwe cannot be perceived as a geographically uniform area. In the Matopo region in south-western Zimbabwe the dates for an industry – known as Maleme – with links to the Middle Stone Age combined with the earliest typical microlithic sequence seem to be represented as late as c. 13,000 BP (Walker 1995). It is uncertain how early this industry appeared, since there does not seem to have been any settlement at all in the Matopos during the glacial maximum (Walker 1990). On the other hand, sequences with a predominantly microlithic tool kit are dated as early as 18,970 ± 275 BP at Duncombe Farm in the northern part of the country (Walker & Wadley 1984) (Fig. 1).

The late Middle Stone Age and early Later Stone Age in a southern African perspective

Strong indications are found to the effect that the techno-complex which characterizes MSA, mode 3 according to Clark (1977), was invented in southern Africa more than 250,000 years ago (Foley & Mirazón Lahr 1997). An occupation sequence belonging to MSA in Zambia has been dated as about 250,000 years old (Barham & Smart 1996). The transition from early archaic *Homo sapiens* to late archaic seems to take place at about the same time (Allsworth-Jones 1993; Bräuer *et al.* 1997). MSA is also viewed as an change with important mental implications (Schlanger 1996).

The study of the MSA, especially its later phases, in southern Africa involves certain viewpoints. With the exception of some find locations (Singer & Wymer 1982; Deacon 1984; Kaplan 1990; Barham 2000; Marean *et al.* 2000; Clark 2001), there are still no detailed excavation reports from the majority of the settlement sites from the MSA and the early part of the LSA in southern Africa. This makes it tricky to compare different sequences. The fact that the number of formal tools in early LSA is extremely low does not make a comparative study any easier. The lack of generally established type artefacts or techniques makes the definition of the limit between the Middle and Later Stone Age difficult. The same artefacts may be classified differently by different archaeologists, which can be exemplified by the interpretation of certain levels in the well-stratified Rose Cottage

Cave in Transvaal, to either late MSA or early LSA (Wadley 1991; Wadley & Harper 1989; Wadley & Vogel 1991) (Fig. 1).

The relation between the Middle and Later Stone Age in southern Africa is not only based on the problem of how this is defined. It turns out that there is considerable variation in the age of the occurrence of the youngest material that can be clearly distinguished as MSA and the earliest LSA, named the Robberg (Parkington 1990; Thackeray 1992; Clark 1997). In Border Cave in north-eastern South Africa (Fig. 1) the youngest radiometric datings indicate an age of c. 40,000 BP (Beaumont 1973; Beaumont *et al.* 1978) while the Middle Stone Age is dated to 22,000 BP in the cave settlement of Strathalan in the eastern part of South Africa (Opperman & Heydenrych 1990) (Fig. 1).

The question here is whether the change from Middle Stone Age to Later Stone Age is a diachronic development or whether different industries may have existed synchronically. These aspects of cultural relations are partly similar to the discussion concerning the relation between Middle and Upper Palaeolithic of south-western Europe where the earliest part of the Upper Palaeolithic in the northern part of the Iberian peninsula is dated to about 40,000 BP while the same occurrence in the western and southern parts dates to about 27,000 BP (D'Errico *et al.* 1998; Larsson 1999). However, the relationship or even the interrelationship of two species of humans as the main issue in Europe does not seem to be present in southern Africa. This does not rule out the possibility that a change of mental importance among modern *Homo sapiens* might have occurred at about 40,000 BP. At that time new aspects of behaviour such as abstractions through art and decoration do appear even in areas where modern *Sapiens* has been present for more than 100,000 years.

In the northern part of southern Africa the early LSA industry of northern Zimbabwe can be linked with the area north of the Zambezi where a similar industry – Nachikufan – has been identified (Musonda 1984). Layers with Nachikufan have been dated from 18,080 ± 180 BP to 12,000 ± 90 BP, which partly coincides with the date from Dencombe Farm (Walker & Wadley 1984). On the basis of the above account, then, the northern part of Zimbabwe was influenced by a new tool industry more than five thousand years earlier than the southern part of the country.

Bases for further research

The situation of the last presentation of MSA and the first appearance of LSA is very confusing in southern Africa. From the Zombepata Cave in northern Zimbabwe there are layers with material which Cooke designates as Tshangulan as late as c. 13,000 BP (Cooke 1971).

The existence of a proper Tshangula industry is questioned, as there may have been an admixture of younger material (Walker & Thorp 1997). The Maleme industry, in south-western Zimbabwe, appears around 13,000 BP (Walker 1995). Maleme might be the result of a mixture of late MSA features, from the time immediately before the glacial maximum, and LSA features. This means that a more detailed excavation and dating of the youngest Middle Stone Age layers would be needed to sort out the situation (Larsson 1998). Until we have more accurately dated sequences of the youngest MSA and the oldest LSA, it is therefore advisable to view the previously presented settlement sequence with a critical eye.

The identification of Tshangulan was influenced by the chronological setting of the tool kit named Howieson's Poort from a site in south-eastern South Africa (Deacon 1995) (Fig. 1). Howieson's Poort is characterized by a blade manufacturing technique, in some sites of high quality. Blades were used for making segment- and trapeze-shaped tools. These tools resemble microliths in the LSA, but differ partly by their larger size. This tool kit is combined with uni- and bifacial points typical of the MSA. Because of the appearance of exotic raw material for making these segments as well as their possible use in composite tools, it has been argued that they indicate more advanced social systems than earlier, and sometimes, with an overlap of MSA, later societies as well (Deacon 1992; Wurz 1999). The dating of Howieson's Poort is very much disputed (Thackeray 1992). Dating to a late part of the MSA with a direct connection to the earliest LSA, 50,000–35,000 BP, has been proposed (Parkington 1990) while others date the sequence to a much earlier stage, i.e. 80,000–60,000 BP, partly based on the fact that layers with typical MSA overlap sequences with Howieson's Poort (Deacon 1992).

The influence of Howieson's Poort in Zimbabwe is uncertain. One example is the Nswatugi Cave in the Matopos (Fig. 1), where the youngest sequence of the Middle Stone Age was previously taken as belonging to the Tshangulan on account of the occurrence of large segments (Walker 1995). After a renewed analysis, however, Walker believes that they differ from this industry and should therefore be associated instead with Howieson's Poort.

In the Zombepata Cave in northern Zimbabwe, Cooke claimed to be able to identify levels in the Bambatan with a higher presence of flake blades than other levels (Cooke 1971). Since datings above this horizon give an age of c. 40,000 BP, the question here too is how these can be related to blade-bearing sequences in southern Africa.

The shelter of Zombampata

In order to solve some of the problem related to the Middle Stone and the transition between Middle and Later Stone Age1 in the northern part of southern Africa two rock sites were selected.[1] The first, excavated in 1995, was Zombampata (in earlier reports named Zombepata or Zombapata), situated in northern Zimbabwe about 120 km north of Harare (Fig. 1). In 1968 C. K. Cook directed an excavation of the rock shelter (1971). This site was of major importance for the study of the MSA and the MSA/LSA transition and the existence of Tshangulan.

The Zombampata site is located on a large farm named Chikonyora. The site is situated within the Great Dike, a mountain complex with a wide content of different minerals, some still being exploited. Zombampata is situated at 1560 m a.s.l. It comprises a large main shelter stretching for more than 30 m (Fig. 4). However the depth of the shelter is not more than 7 m and the drop zone during the moist winter limits the dry area at a depth of 5 m. According to the definition, a

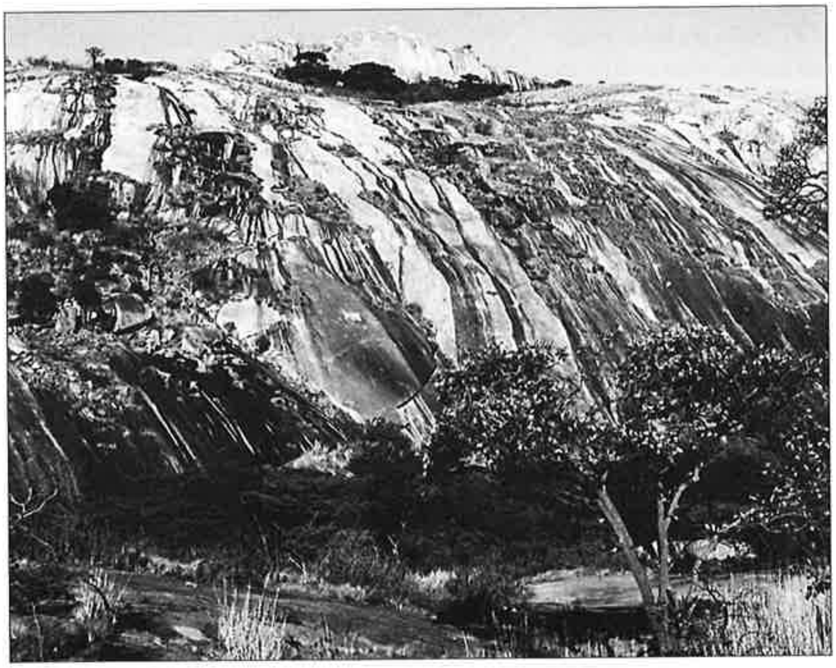

Fig. 3. The kopje of Zombampata viewed from the lowland. The shelter is situated behind the trees below the summit.

Fig. 4. The shelter site of Zombampata.

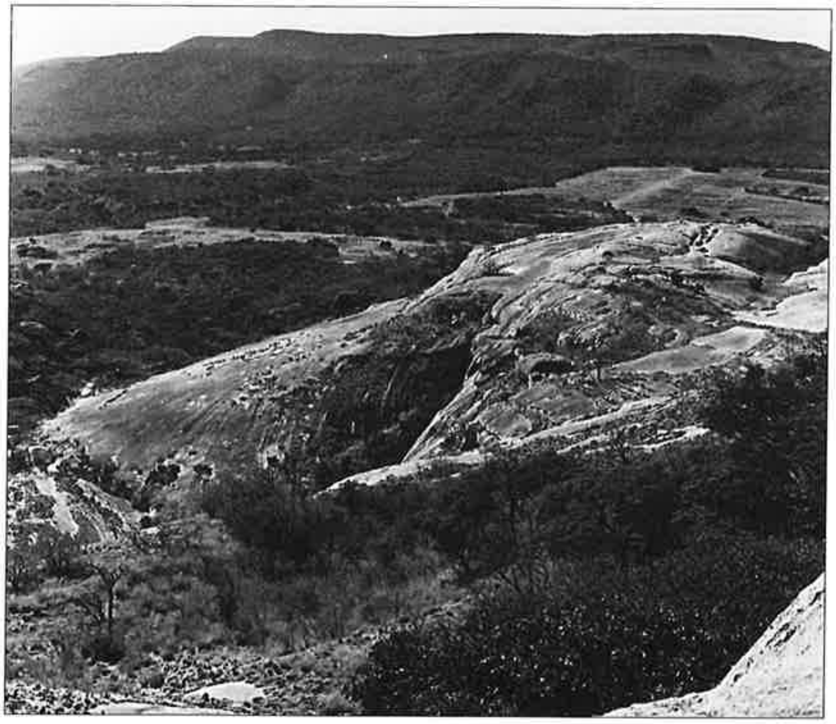

Fig. 5. Part of the surroundings of the Zombampata site. The mountain of the Great Dyke is visible in the background.

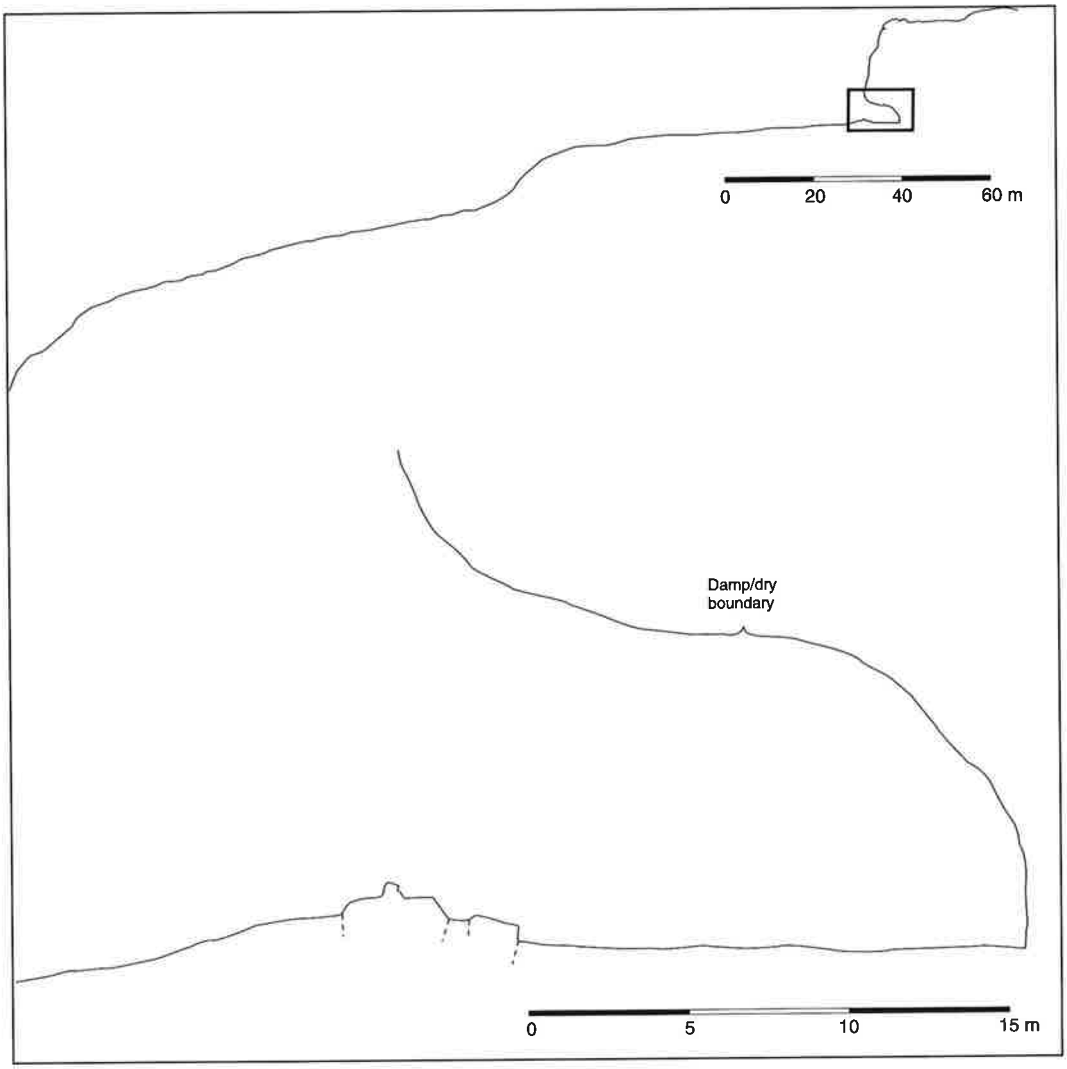

Fig. 6. Profiles of the shelter and its neighbourhood.

cave should cover at least 75 m^2 (Walker 1998, p. 55). The shelter is located on a slope facing north about 30 m below the summit of a large granite dome rising a total of 90 metres above the flat area (Fig. 3). Thus the view from the site is far-reaching, interrupted only by other granite domes (Fig. 5). One can easily reach the summit, with an excellent view in all directions. Within several kilometres the dome with the site is the highest and thus the best site for observing activities. Even with dense vegetation, animals would have been located and observed at a distance of several kilometres, a circumstance that was tested during the excavation as the farm land held populations of several different types of antelopes.

Just outside the shelter, the ground is covered by large stones, the result of erosion. The stones were so densely packed that augering had to be disrupted. Further from the entrance the area is flat and covered with a thin layer of soil. A shelf in the rock marks the limit of a levelled area ending in a very steep fall (Fig. 6). This second level is almost bare of soil. Artefacts were found on the area outside the shelter. Some have been moved by water but concentrations appear, marking areas used for knapping.

The paintings on the site are numerous, with animals such as zebras, elephants, antelopes of different species, porcupines and baboons as well as humans encamped with bags, sticks and weapons (Garlake 1987, pp. 78 f.).

The excavations

As in many other caves and shelters of southern Africa, Zombampata deposits are very rich in artefacts. Due to the high number of artefacts, only a small area could be excavated. Just two squares, in connection with an area excavated by Cooke, were dug to the bottom while four others were excavated to only 50 cm below ground level.

The excavation was carried out in 5 cm spits right to rock bottom, which meant 47 levels in total.

Stratigraphy

It was not possible to recognize any definitive stratigraphy within most of the sequence. The whole profile appeared to be a homogeneous deposit containing stone artefacts and decomposed pieces of granite (Fig. 7). As the layers were very dry, the fill felt like an ashy material filled with soot, which could be disturbed just by sudden movements.

There was an increase of decomposed granite starting at a level of 1.2 m. below the surface, with a thickness of about 1 m. A layer of about 0,2 m in thickness, closest to the bedrock, has very few stones. The pronounced evidence of rock fall, reported by Cooke as a thin but intensive content of stones at a depth of about 1 m (1971, p. 107), could not be observed. There were fresh roots almost throughout the whole sequence, and this, coupled with animal activity, must have partially disturbed the stratigraphy. There is a total lack of plant remains, although we know from excavations of better-preserved sites in the Matopos (Walker 1995) that plant remains usually contributed to the build-up of such deposits, particularly during the LSA stages. During periods with wetter conditions, the winter rains might have caused drainage of the shelter, as it is located close to a natural depression which, judging by the green vegetation in its vicinity, should be a small brook during the rainy season.

In order to understand the stratigraphy a particle size analysis was carried out on samples from the profile (Fig. 8)[2]. The filling includes sand, silt and a small percentage of clay. The most pronounced differentiation is to be observed in the topmost 1 m zone, with certain changes of the relationship between finer and coarser sand. The filling of the cave was probably caused by wind transportation. A rather important factor is human activities. Artefacts making up a certain content were separated before the analyses of the samples. Based on the weight of the stone artefacts, as much as 20% was made up of debris. A

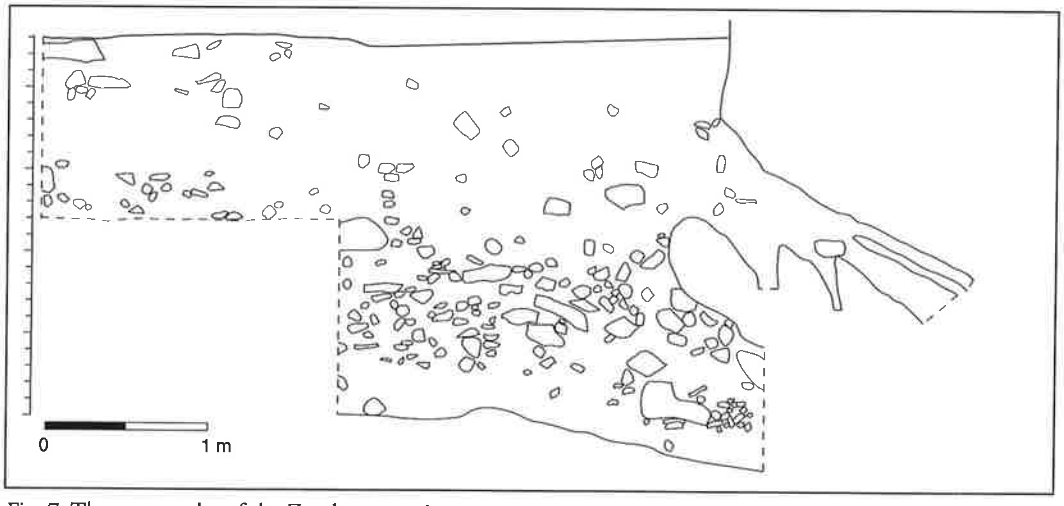

Fig. 7. The stategraphy of the Zombampata site.

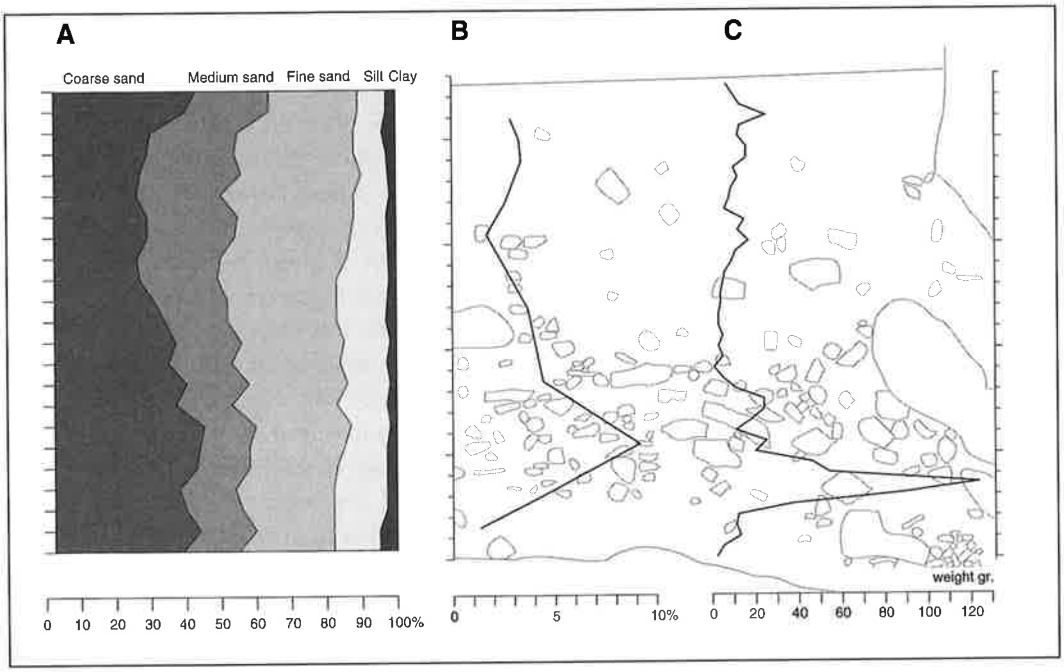

Fig. 8. Different analyses of the fill in the Zombampata shelter;
A: fraction analysis, B: loss-of-ignition analyses and C: the intensity of charcoal.

smaller proportion of the filling could have been the soil transported by human feet or other human activities such as fires. In the lower section of the fill the changes of fractions are smaller. At about the same level there is a increase in pH level and the fill become more alkaline.

According to fig. 8, the content of charcoal shows a marked change within the fill. A very marked increase is evident at a low level just 0.5 m above the rock base and just below the intensive zone of stone. One explanation would be an increased use of fire. Another could be that the charcoal of these levels was better protected from fragmentation by natural decay or human trampling and thereby easier to identify. The presence of charcoal might indicate the existence of other charred parts of vegetation such as eatable fruits, nutshells etc. However, despite flotation of several samples at different levels, no finds were made.[3]

As shown in the profile (Fig. 7), the area up to the rock wall was excavated. The wall exposed evidence of heave erosion, including smaller and larger fissures filled with soil and artefacts. In one of these a hand-axe was found.

Dating of the sequence

During the excavation by Cooke, charcoal samples were chosen for radiocarbon dating and the result of six measurements were presented (Cooke 1971, p. 108). According to these the sediments at a level of 0.91–0.98 m below surface provided a dating of 40,720 ± 1620 BP (S.R. 190). This measurement is close to the limit of the radiocarbon method, and deeper levels should be older than what could be dated by this means. Therefore samples for TL and OSL dating were chosen at all recorded levels during the excavation in 1995. The results of new accelerator datings, luminescence measurements and Cooke's radiocarbon datings are presented in fig. 9. Some agreements of the latter datings can be related to the accelerator datings. However, in sediments deeper than about 0.4 m below the surface, the different series show divergent results. Except for one sample, the accelerator datings provide an increasing age. The exception is a date at a level 0.7 m below the surface. The TL measurements present more or less

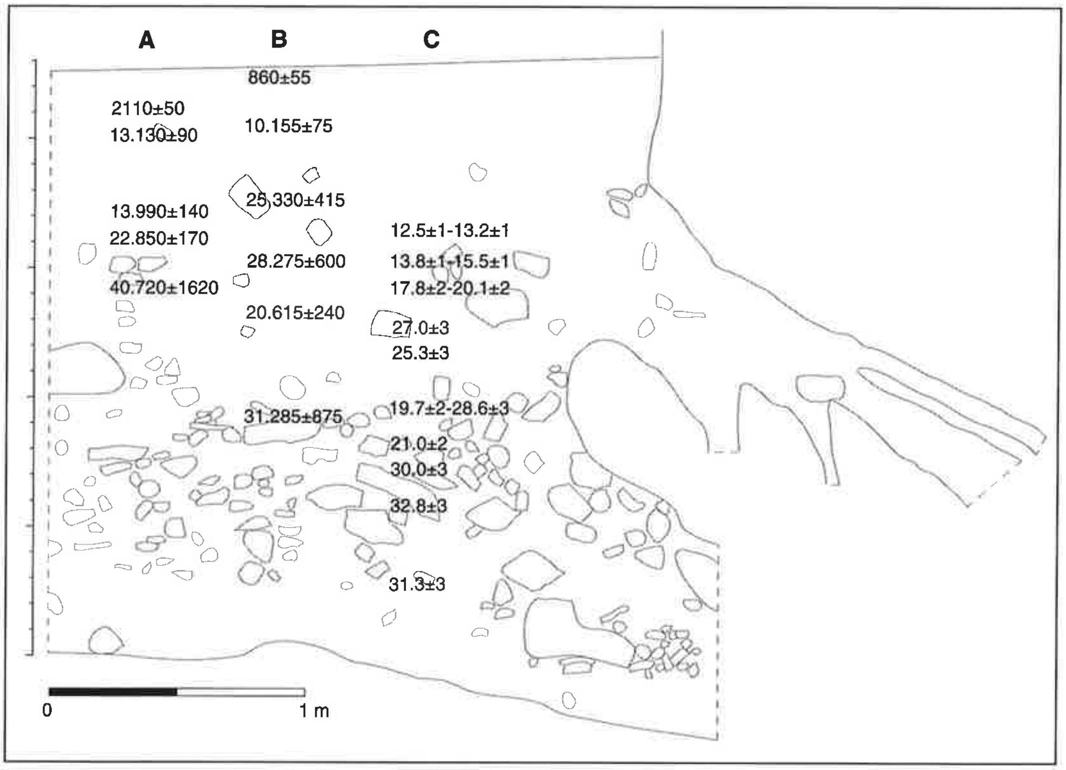

Fig. 9. Radiocarbon and luminescence datings.
A: Cooke's datings presented in 1971, B: new accelerator datings and C: luminescence datings.

two independent series of increasing age, one from 0.6–1.4 m below the surface and another from 1.5–2.0 m below the surface. In addition, no agreement exists between the TL dates and the accelerator dates, even taking the calibration of accelerator dates into account (Mellars 1999). The only exception is at a level of about 1.4 m below the surface at a date of about 30,000 BP.

Roots of trees might have caused mixing of charcoal. A reason for the division of the luminescence datings might be changes of water penetration in the filling during periods of increasing precipitation. The marked change fits well with the topmost part of increasing stone content, which might have facilitated the transportation of high volumes of water (Fig. 7). If the luminescence dates are regarded as providing some kind of acceptable dates, the zone with a high stone content was accumulated during a very short time interval at about 30,000 BC. The presence of Early Stone Age (ESA) artefacts at the bottom of the sequence indicates a very slow sedimentation of the lowermost part of the infill. The zone of high stone content might be related to the accumulation of stones just outside the shelter. This might have resulted in the formation of a depression within the shelter in which soil could be accumulated and preserved more easily than before. One has to bear in mind that many shelters in a position similar to that of Zombampata lack stone accumulations and hence any sediments.

The exposure to a higher water content during periods of damper conditions might have caused the strange unity of colour of the fill despite sediments of close to a thickness of 2.5 m. Penetration of water causing decomposition of charcoal could have coloured the entire sequence dark brown.

The remains of human occupations

According to Cooke's diagrams in the excavation report (1971, Fig. 7), the size of artefacts decrea-

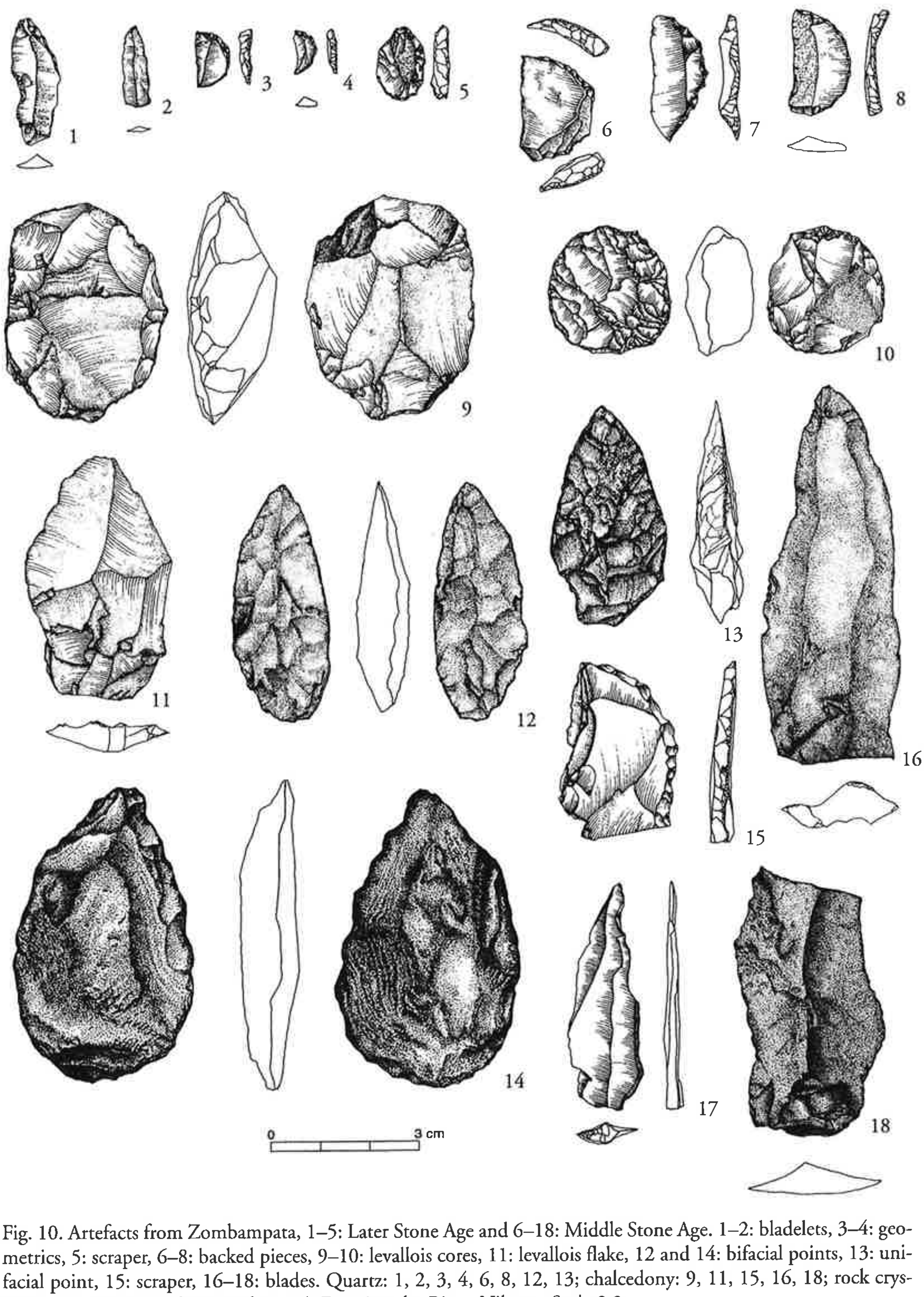

Fig. 10. Artefacts from Zombampata, 1–5: Later Stone Age and 6–18: Middle Stone Age. 1–2: bladelets, 3–4: geometrics, 5: scraper, 6–8: backed pieces, 9–10: levallois cores, 11: levallois flake, 12 and 14: bifacial points, 13: unifacial point, 15: scraper, 16–18: blades. Quartz: 1, 2, 3, 4, 6, 8, 12, 13; chalcedony: 9, 11, 15, 16, 18; rock crystal: 5, 10, agate: 17; chert: 7; slate: 14. Drawings by Björn Nilsson. Scale 2:3.

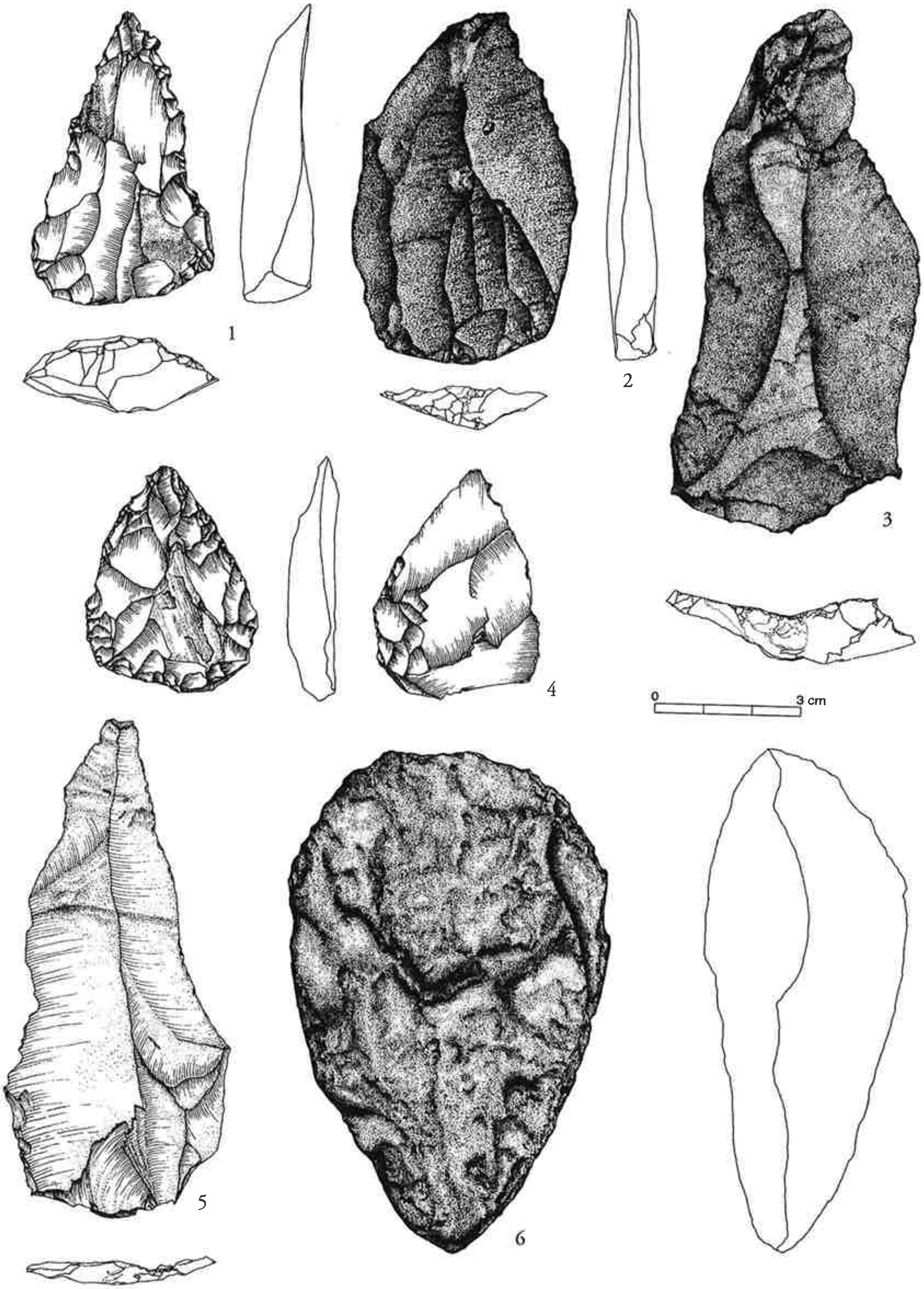

Fig. 11. Artefacts from Zombampata. 1–5: Middle Stone Age and 6: Early Stone Age. 1: unifacial point, 2–3, 5: levallois flake, 4: bifacial point and 6: hand axe. Quartz: 1, 4; chalcedony: 2, 3, 5; diorite: 6. Drawings by Björn Nilsson. Scale 2:3.

sed rather drastically toward the bottom. This in sharp contrast to the situation in the squares excavated in 1995, where the lower layers held about the same number of artefacts per kilogram as those in the upper sequence of the fill. According to Cooke's presentation of finds (1971, Table 1), the number of artefacts decreases considerably in the lowermost part of the fill. At the excavation in 1995 considerable variations of the number of stone artefacts are evident, but it is only in the lowermost 10 cm or so above the floor that there is a considerable decrease in number.

Two recognizable industries were identified. From the ground level to about 0.5 m only LSA artefacts were present. The LSA includes a large number of geometrics and points (Fig. 10:2–3). The shape is similar to that of north European examples, except for the manufacturing, for which no microburin technique was used. The microlithic forms were made from bladelets (Fig. 10:1–2) which are numerous, knapped from bladelet cores of more or less conical shape. Other tools are rather few, with scrapers, same of thumbnail size, as the most common type (Fig. 10:5).

From about 0.5 m to rock bottom the cultural material is typical MSA industry. However, a transitional zone of about 0.2 m in thickness includes artefacts typical of MSA as well as LSA. The most distinct representation of the MSA is the presence of the levallois knapping technique. Cores of various size show the typical shape, often named tortoise-shaped cores (van Peer 1992, pp. 15 ff.) (Fig. 10:9–10). The more or less triangular flakes produced by this technique would have been suitable as tools for different purposes (Fig. 10:11 and Fig. 11:2–3, 5). Other flakes were uni- or bifacially prepared as points (Fig. 10:12–14 and Fig. 11:1 and 4). In a few instances a large flake has been intensively prepared in such a manner that the entire surface has been altered in order to achieve a regular and thin point (Fig. 10:12). Just a small number of blades were manufactured (Fig. 10:16–18). Several cores with one platform and a conical, discoid or irregular shape show that other preparation and knapping techniques were used. In the sequences related to the MSA, backed tools appear (Fig. 10:6–8).

The number of tools other than points is small. Scrapers, borers and denticulates are present but in small numbers. Many flakes were used unprepared, judging by the presence of artefacts

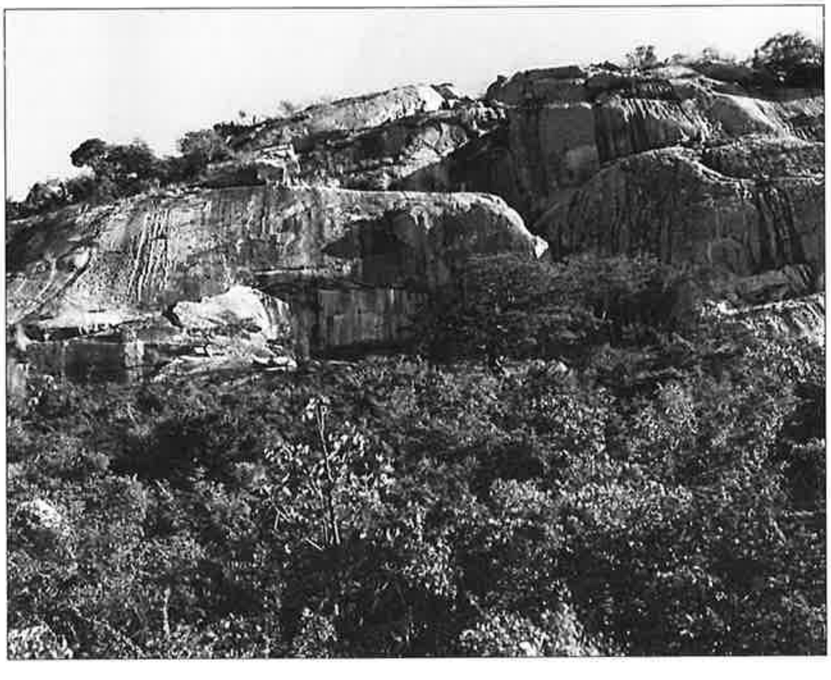

Fig. 12. View of the Ruchera cave. The opening of the cave is visible just above the vegetation of the steep slope and to the left of a couple of trees.

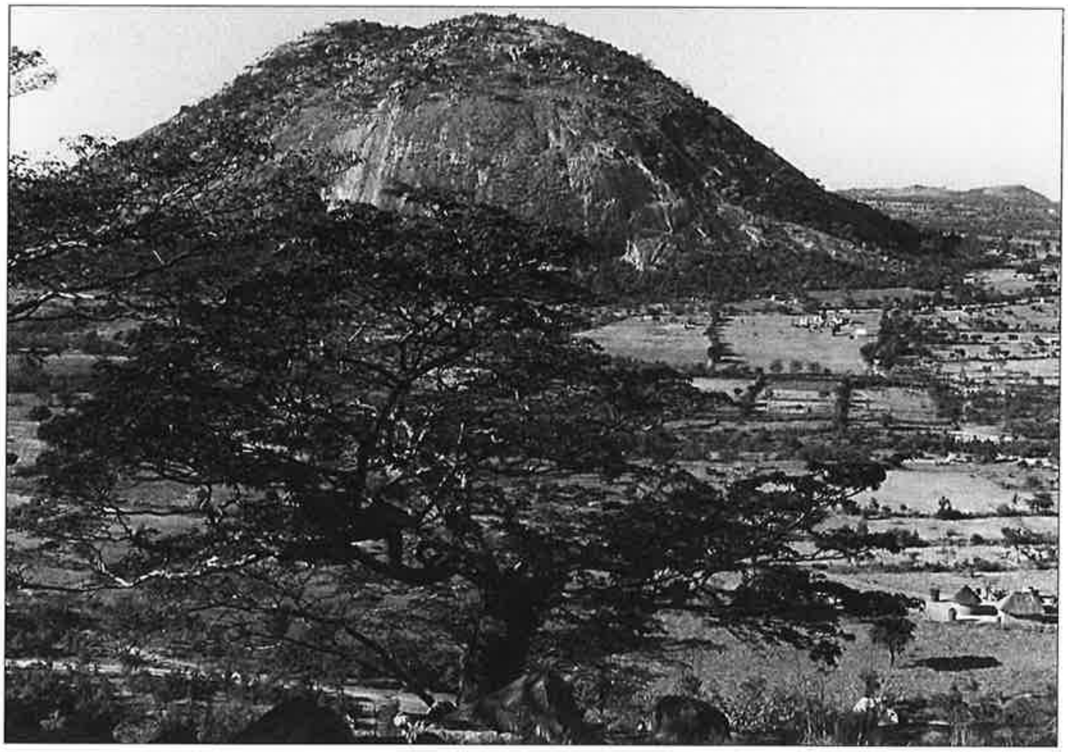

Fig. 13. View from the Ruchera cave towards the Pfuti hill.

with retouches by use.

The debris proves that a large amount of raw material was transported to the cave. There is no evidence of pre-preparation and hence a reduction of weight of the stone material before it was carried to the shelter, despite a rather heavy climb to the site. Based on the amount of tools and debris from the excavated trench, more than ten tons of various raw materials were carried to the site.

The variety of raw material is considerable. Quartz of different qualities – some artefacts are made of a material similar to quartzite, others close to rock crystal – is the most frequent. Chalcedony, quartz crystal, diorite, chert, jasper and agate were also used. In cases like agate, just one artefact is present. The diorite was soft due to a decomposition during periods with damper conditions; an example is a hand-axe from the bottom level (Fig. 11:6). Some of the raw material, such as good-quality quartz, was found in the ground just below the granite dome while other material is to be found in the mountain of the Great Dyke between 5 and 7 kilometres east of the site (Cooke 1971, p. 119) (Fig. 5). Small pieces of iron pyrite and hematite did appear. Despite intensive testing, the layers do not contain organic components except for charcoal.

The cave of Ruchera

The second excavation was conducted in 1996 in the cave site of Ruchera, north-eastern Zimbabwe. The landscape is flat with several granite outcrops which rise some 100 m above the floor of the valley at a height of 1200 m a.s.l.

The cave is situated on the south steep side of a granite dome and about 50 m above the plain (Fig. 12). The site commands a view over the Mudzi River valley to the south and south-west to the next dome – Pfuti hill about 0.8 km away (Fig. 13). For much of the year, water is present in the Mudzi River. The Ruchera cave is almost 20 m wide and as much as 12 m deep, but with a wide mouth similar to the width of the depression and

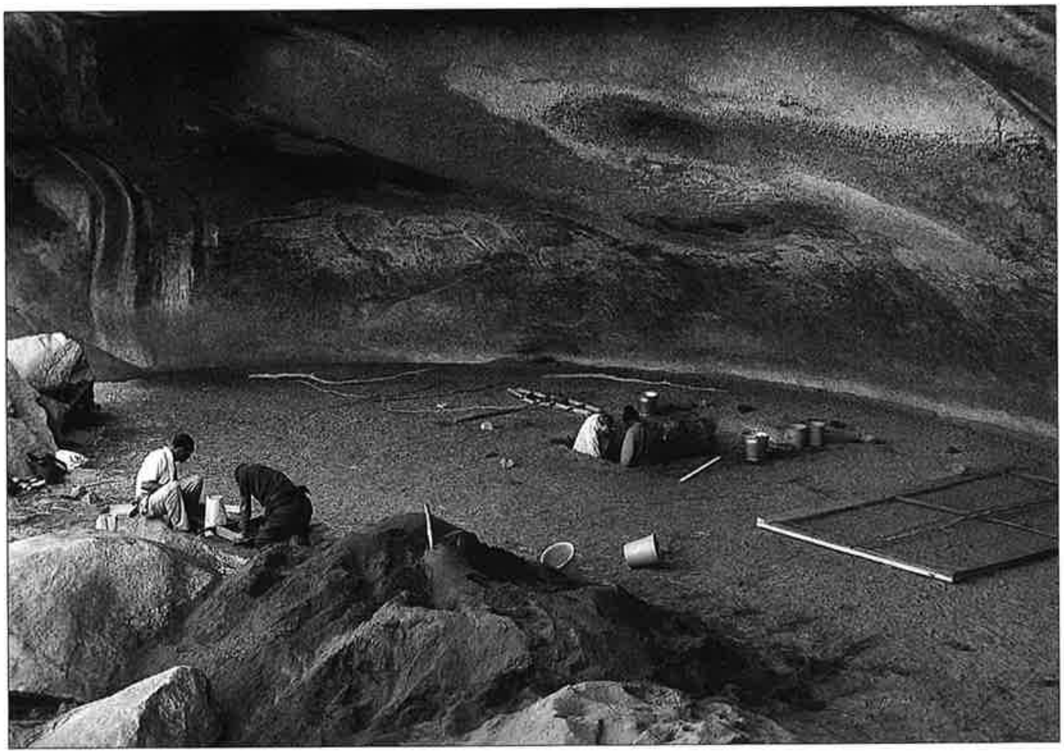

Fig. 14. The Ruchera cave during excavation.

a height of about 6 m (Fig. 14). However, about two-thirds is exposed and becomes damp during wet weather conditions.

Large stones form a natural wall outside the cave, the result of rock falls, which have facilitated the accumulation of sediments (Fig. 15). The cave can be reached by a short but steep climb on stones eroded from the dome (Fig. 12). Above the cave the side of the dome is very steep, so the top can only be reached by a steep climb along a passage to the west of the cave.

The cave is a rock art national monument. It is adorned by a panel of rock art which is over 20 m long. For a long time it has been this rock art which has spurred interest into the cave (Garlake 1992). A large variety of animals as well as people are depicted. During a close study of the paintings, as many as four different layers of different motifs could be discerned.

The cave had not previously been excavated. Studies at the site were initiated by C. A. Bollong (1986) as a systematic intensive surface survey within the cave. The 1996 excavations used both the results of this surface collection as well as those of a series of augers. These results influenced the location of the excavation trench by providing information about the depth of the deposits.

The excavation

The Ruchera cave was chosen for various reasons. There was suspected good preservation of deposits from the surface collection project. This seemed to be partly confirmed by the pre-investigation augering exercise. In addition, it was chosen to be a key site in the LSA settlement according to pre-investigation studies.

The excavated area of 11 square metres was located on the basis of the augering result the previous year and was also intended to include both the damp and dry zones (Fig. 15). The trench was placed deep enough to improve the prospects of good preservation. The trench covered 3 x 3 m. It turned out that the maximum depth was about 1.5 m. The trench was later extended to an addi-

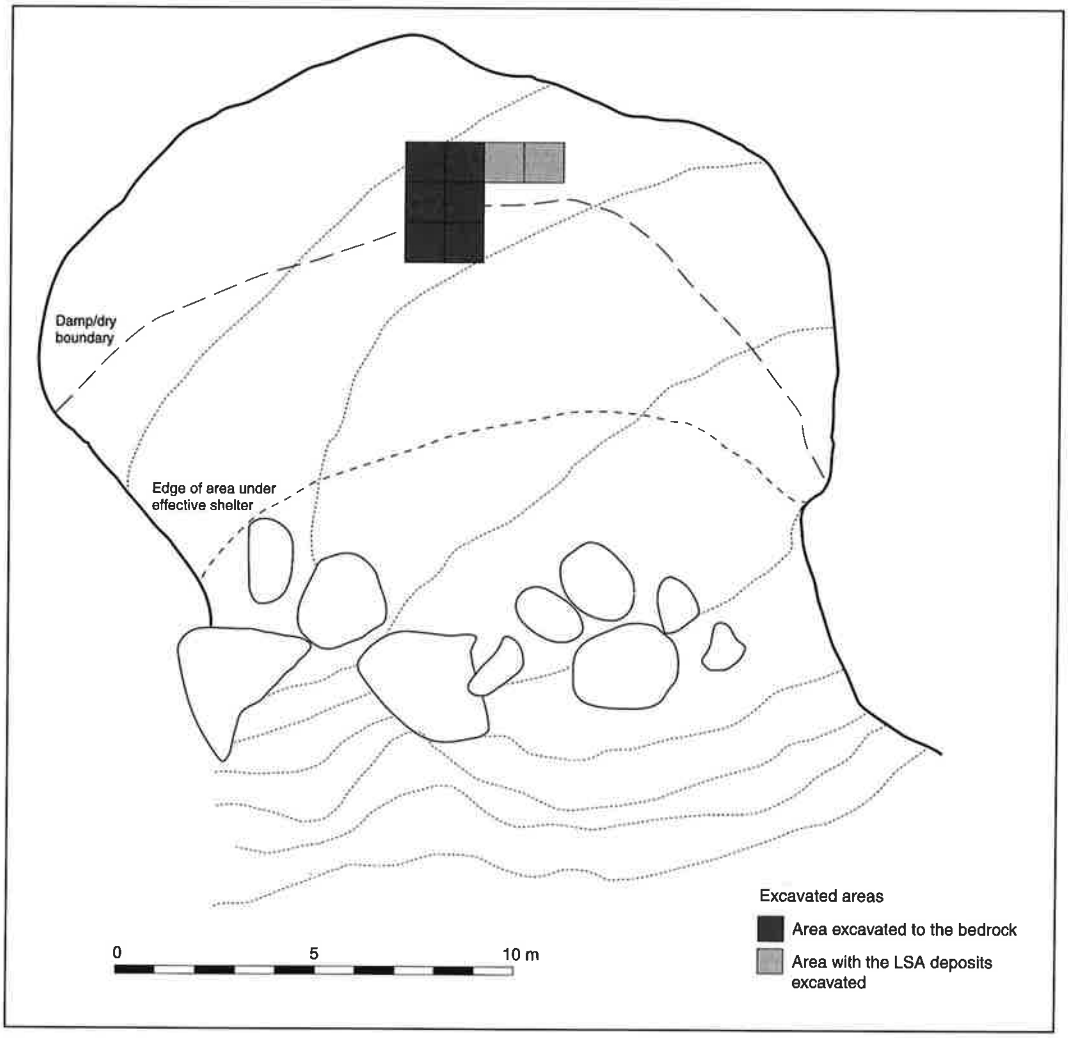

Fig. 15. Plan of the Ruchera cave with the excavated trench. The equidistance is 0.25 m

tional two square metres which was excavated to a level 0.5 m below ground level in order to obtain better insight into the depositions of the LSA. The trench was excavated according to identified layers. In cases of thicker layers they were excavated in artificial splits of 0.1 m.

The observed stratigraphy was complicated with several layers, some very easy to distinguish a few with an uneven delimitation (Fig. 16). The topmost light grey ash layer has a clear colour different from to the other, much darker layers. Two black layers, the topmost with a high content of soot, were recorded in the topmost part of the sequence divided by a partly blackish layer. In the sequence closest to the bottom granite, floor layers with a variation of brown colour could be distinguished.

Despite marked colour changes, no clear division as to artefact distribution or features was observed. Most of the larger stones, the largest 0.5 m in size, were found in the levels at a depth of about 1 m below surface. These were partly weathered and no regularities could be observed in their distribution. In the bottommost part of the black layer a slight increase in granite stones could be observed.

There were no features recorded apart from what appeared to be a area of knapping debris and

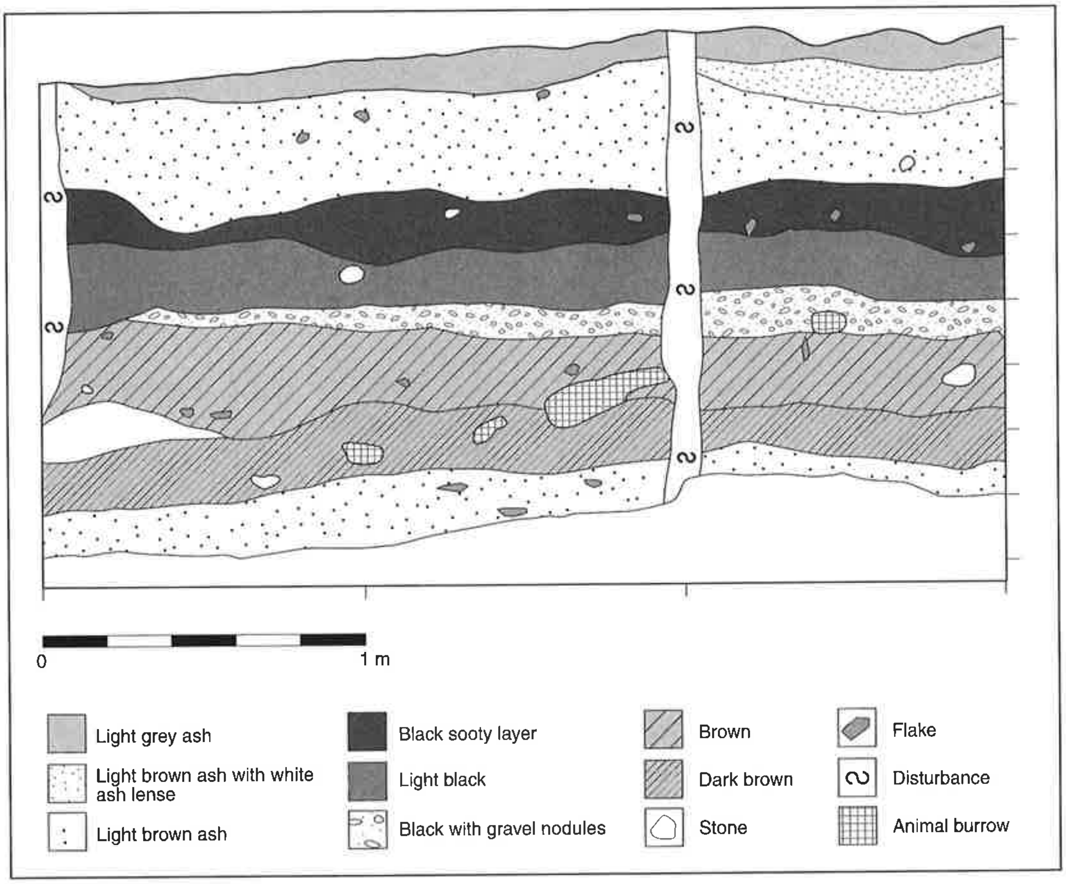

Fig. 16. The stratigraphy of the Ruchera cave. The disturbances are the auger samples.

two small pits in the upper black sooty layer.

The remaining stratigraphy, including layers dark brown to light brown in colour due to the content of charcoal and ash, has a variety of rock fall remains without any marked differentiation as at Zombampata.

Find situation

A marked deviation of the artefacts was recorded. In the layers above the black occupation layer the tools and cores are of typical LSA assemblage with geometrics (Fig. 17:1–2), small points (Fig. 17:3), bladelets and small scrapers (Fig. 17:5). Some animal bones as well as ostrich eggshell beads were found.

The black occupation layer marks a change in the material culture with uni- and bifacial points characteristic of the MSA (Fig. 18:7 and 9) and cores (Fig. 17:5) and flakes (Fig. 17:6) of a typical levallois technique. The layer was rich in charcoal and suggested a period of intensive occupation.

All layers down to the underground were rich in artefacts from the MSA. The number of tools such as awls (Fig. 17:8), scrapers (Fig. 17:10 and 13) and denticulates (Fig. 17:11–12) is however small in relation to the situation at Zombampata.

Several lumps of reddish or orange colour, most of them hematite and limonite, were found. In some cases the lumps have been prepared into a shape similar to a chalk and the tip showed clear facets of either being used directly for drawing or grounded on a stone (Fig. 18). A very small number of bones and enamel were preserved in the layers including MSA material.

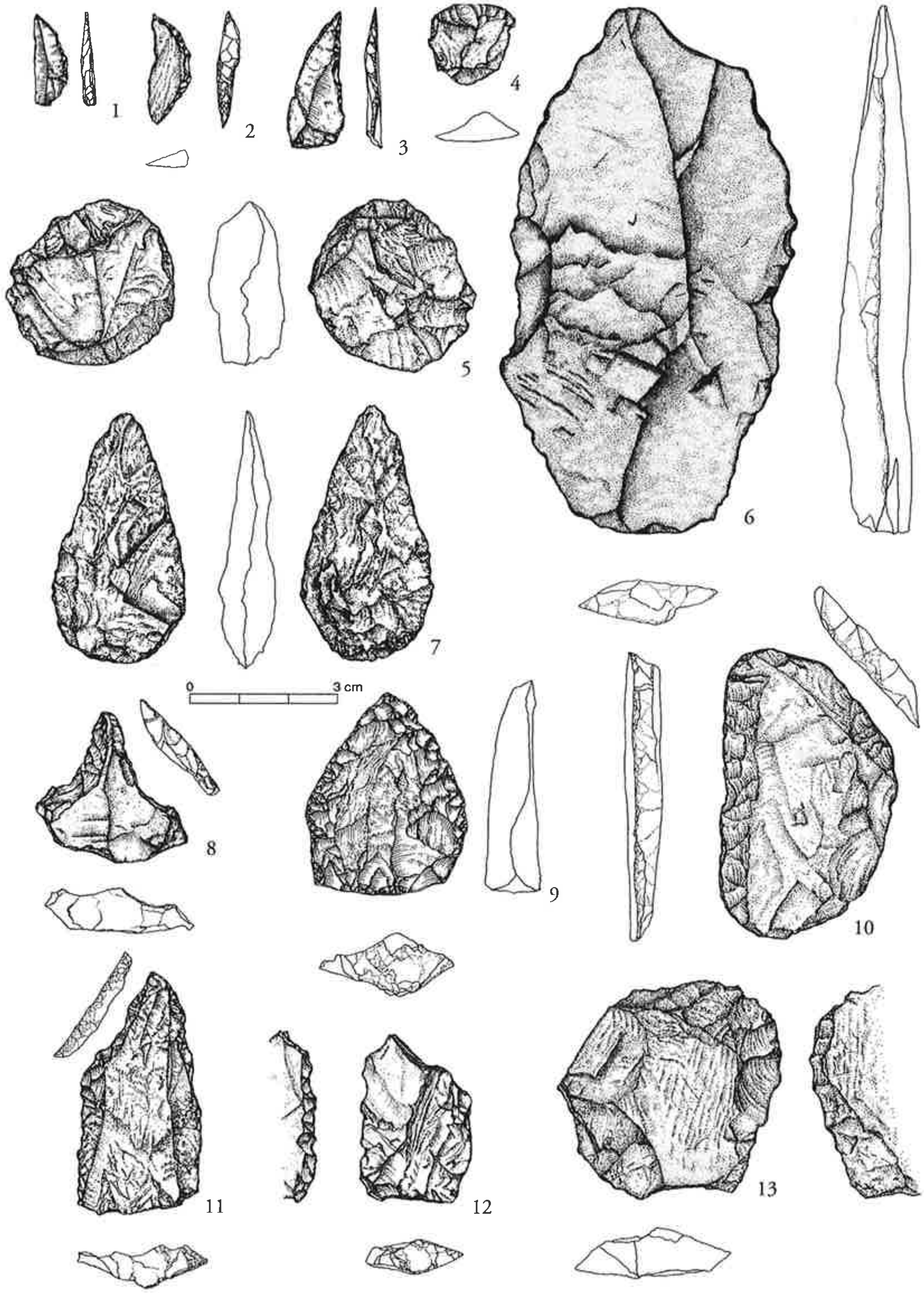

Fig. 17. Artefacts from the excavation of the Ruchera cave. 1–4: Later Stone Age and 5–13: Middle Stone Age. 1–2: geometrics, 3: point, 4: scraper, 5: levallois core, 6: levallois flake, 7: bifacial point, 8: awl, 9: unifacial point, 10 and 13: scrapers, 11 and 12: denticulates. Quartz: 3, 4, 5, 7, 8, 9, 10, 11 12, 13; dolerite: 6; rock crystal: 1. Drawings by Björn Nilsson. Scale 2:3.

Quartz, in several qualities, is the raw material most commonly used at Ruchera, with more than 80%. Dolerite is the next most common raw material while rock crystal, chalcedony, slate made up a couple of percent. In relation to time there is a tendency for an increase of dolerite in the layers with MSA material as well as an increase of rock crystal in the layers with LSA material, involving greater use of this material for the manufacture of backed tools. A marked variation in raw material composition between different layers, however, indicates that the choice of raw material might have changed depending on the utilization of the Ruchera neighbourhood.

The dating of the sequence

Judging by the finds, the upper sequence of roughly 0.5 metres thickness should be dated to LSA, the rest to MSA. In order to obtain a certain view of the time perspective of the habitation of the cave, two radiocarbon datings were made from charcoal of the black coloured occupation layer which is equal to the uppermost layer with MSA. The results are >33,100 BP (Beta-96596) and >36,800 BP (Beta-96597), meaning that both datings gave infinite values. The age of the layer as well as the time span of the accumulation of layers with MSA material cannot be estimates without luminescence datings.

The history of two sites

Zombampata, like Ruchera, was largely used by the MSA people and was subsequently occupied by the LSA populations. In Zombampata the datings, however questionable, indicate that there was no main intermediate period in between the MSA and the LSA. The combination of tool kits and knapping technique combined with accelerating dates hint at a transition MSA/LSA dated to about 20,000 BP. However, the dates do not reveal any basis in order to establish whether the shelter was occupied during the dry and cold Glacial Maximum when many sites seem to have been unsettled in most areas of the interior of southern Africa (Walker 1990). The differences in accelerator and TL datings make it much more difficult to establish the presence or absence of continuous settlement in the late MSA. The amount of tools and waste does not show any major decrease in number as was stated by Cooke (1971). If the luminescence datings are to be trusted, the lower sequence does not cover more than the later part of the MSA starting at 40,000–50,000 BP. However, finds such as a hand axe mark some use of the shelter during the Early Stone Age (ESA).

As to the disputed presence of Tshangulan as a transition phase from the MSA to the LSA in Zombampata, the find material does not provide any real evidence of its existence. The level with

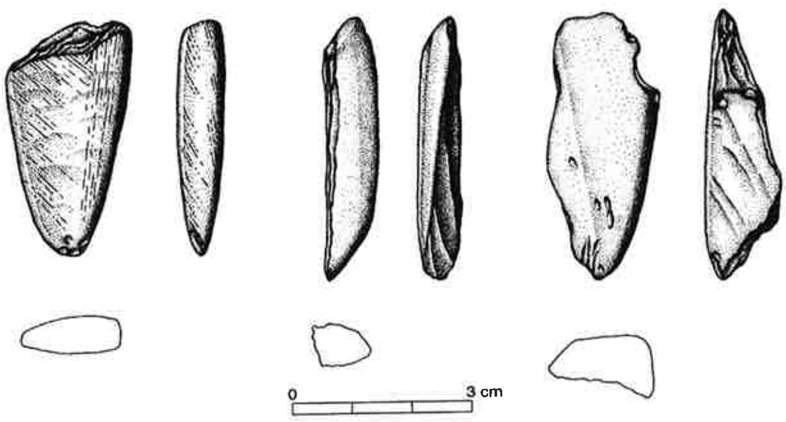

Fig. 18. Lumps of hematite and limonite, found in the MSA horizon, with facets after use. Drawings by Björn Nilsson. Scale 2:3.

blade-like flakes identified by Cooke was not recognized during the excavation in 1995. Elongated flakes and true blades appear (Fig. 10:16–18) but they do so more or less throughout the sequence. A small number of backed blades similar to those of Howieson's Poort in South Africa were found (Fig. 10:6–8). However, the number is small and might just indicate a certain influence from the south.

Based on the radiocarbon dating from Ruchera, there is a considerable time gap between the layers from the LSA and those from the MSA. The late part of the MSA seems to be totally absent in the cave. The limited number of characteristic tools do not provide any clue concerning the date of the MSA. However, the presence of denticulates flakes (Fig. 17:11–12) might indicate an old age for the MSA sequence.

At both sites the MSA does not show any major changes of tool composition or technical change throughout the sequences. In Zombampata the change from MSA to LSA is not abrupt but more of a transition which might have taken several generations. However, a certain mixture of material in the soft soil cannot be ruled out. The time gap between MSA and LSA in Ruchera might be very great and does not give any basis for the study of the transition MSA/LSA.

The shelter at Zombampata as well as the cave at Ruchera were both used as a home base during MSA, as a great deal of tool preparation of various materials, local and regional, was carried out. In addition, use wear shows that many tools were intensively used at the site. Judging by the limited excavations, the number of raw materials brought to each site must have weighed several tons. This find situation is common in southern Africa but in contrast to the much more limited number of finds in most European shelter and cave sites.

No organic remains indicating diet were preserved. Bones at MSA sites of central and south-western Zimbabwe provide evidence of hunting based on large animals, while in the LSA hunting primary focused on small game (Klein 1977; Walker 1995). The location of Zombampata and Ruchera high above the plain provided an excellent view of the big game in a wide area around the site. At Zombampata excellent biotopes for hunting of small game were easily accessible, which was not the case at Ruchera.

Even within present-day Zimbabwe, however, ecological conditions and social networks might have acted differently. One example is that no MSA open-air settlement was found in the Matopos of south-western Zimbabwe, despite intensive surveys (Walker 1995). The situation differs in northern Zimbabwe, as open sites from the MSA are present in the area round Ruchera. In the same area excavations in three shelters provided LSA material without any remains from the MSA. This indicates that different settlement systems existed, partly due to the topography of the region.

In a southern African perspective, the Late MSA displays several partly different sets of tools and the networks allowed for regional and inter-regional relations. The transition from the MSA to the LSA seems to have taken place between 40,000 and 15,000 BP in southern Africa – a remarkable period for this change. The change in southern Africa is not linked to specific groups of people like the *Homo sapiens sapiens* and *Homo neanderthalensis* in Europe. Even there the transition stage is now recognized as a phase with a duration of 15,000–10,000 years. Earlier than the transition phase, the influence of the Howieson's Poort tool composition with the microlithic backed tools shows that the "Mesolithic" material culture was not unknown to members of the MSA, at least not in the southern part of the region. Groups with different material cultures might have existed where the differences were related to the ecological or social use of tools rather than implying a fundamental change in culture.

The transition MSA/LSA was not a dramatic innovation in technology but rather a gradual occurrence with, for example, symbolic use of material culture within the MSA (Clark 1999). Perhaps we should concentrate our efforts in the study of the change from the MSA to the LSA on the similarities which existed instead of the differences. To view the transition in a much longer time perspective, the transformation of material culture during the late MSA and the early LSA was of much greater importance than that from the MSA to the LSA.

Acknowledgements

The project "Middle and Later Stone Age in Southern Africa" has been financed by the Department of Research Cooperation (SAREC) of the Swedish International Development Cooperation Agency (SIDA). The radiocarbon and luminescence datings were financed by the Swedish Council for Research in the Humanities and Social Sciences (HSFR).

I would like to thank Dr D. Munjeri, Head of The Museums and Monuments of Zimbabwe, and Dr G. Mahachi, former Director of the Museum of Social Sciences, Harare, for permits to perform excavations and study collections. Senior archaeologist K. T. Chipunza has been of much help in the research into the Stone Age of Zimbabwe. I would also like to thank Edward Mtenga, Ivan Murambiwa, Paul Sinclair, Robert Soper and Nick Walker for help and advice. My Swedish colleagues at the excavations in Zimbabwe, Magnus Johansson, Björn Nilsson, Henrik Pihl, Folke Richardt and Arne Sjöström have been of great support. Mr Folke Richardt has provided important information based on a study of the material from the excavation dated to the Middle Stone Age.

Notes

1. The responsibility for the project was divided between the author of this article, who is in charge of the analyses of the MSA deposits, and senior archaeologist K. T. Chipunza, Harare, who analyses the LSA sequences and sites.
2. The samples were analysed at the Chemistry and Soil Research Institute of the Agriculture Specialist Services of Zimbabwe, Harare.
3. Dr Mats Regnell, at the Lund regional office of the Archaeological Excavations Department of the National Heritage Board, carried out the loss-of-ignition analyses as well as the analyses in combination with flotations.

References

Allsworth-Jones, P. 1993. The Archaeology of Archaic and Early Modern *Homo sapiens*: An African Perspective. *Cambridge Archaeological Journal* 3:1.

Armstrong, A. L. 1931. Rhodesian Archaeological Expedition (1929): Excavations in Bambata Cave and Research on Prehistoric Sites in Southern Rhodesia. *The Journal of the Royal Anthropological Institute of Great Britain and Ireland* LXI.

Arnold, G. & Jones, N. 1919. Notes on the bushman cave at Bambata, Matopos. *Proceedings of the Trans Rhodesian Scientific Association* 17:1.

Barham, L. S. & Smart, P. L. 1996. An early date for the Middle Stone Age of central Zambia. *Journal of Human Evolution* 1996, No. 3.

Barham, L. 2000. *The Middle Stone Age of Zambia, South Central Africa.* Bristol.

Beaumont, P. B. 1973. Border Cave – a Progress Report. *South African Journal of Science* 69.

Beaumont, P. B., De Villiers, H. & Vogel, J. C. 1978. Modern man in sub-Saharan Africa prior to 49 000 years B. P.: A review and evaluation with particular reference to Border Cave. *South African Journal of Science* 74.

Bollong, C. A. 1986. Work in progress: Stone Age research at Ruchera Cave, Mutoko district, Zimbabwe. *Cookeia* 1, No. 4.

Bond, G. 1948. Rhodesian Stone Age Man and His Raw Materials. *The South African Archaeological Bulletin* III.

Bräuer, G., Yokoyama, Y., Falquères, C. & Mbua, E. 1997. Modern humans origin backdated. *Nature* 386.

Clark, A. M. B. 1997. The MSA/LSA transition in southern Africa: new technological evidence from Rose Cottage Cave. *The South African Archaeological Bulletin* LII, No. 166.

– 1999. Late Pleistocene Technology at Rose Cottage Cave: A Search for Modern Behavior in an MSA Context. *African Archaeological Review* 16, No. 2.

Clark, D. J. 1977. *World Prehistory: a New Perspective.* Cambridge.

– 1988. The Middle Stone Age of East Africa and the Beginning of Regional Identity. *Journal of World Prehistory* 2.

– 2001. *Kalambo Falls, Prehistoric Sites. III.* The Earlier Cultures: Middle and Earlier Stone Age. Cambridge.

Cooke, C. K. 1950. The Middle Stone Age site at Khami, Southern Rhodesia: a further examination. *The South African Archaeological Bulletin* 5.

– 1955. The occurrence of bored stone in the Magosian industry. *The South African Archaeological Bulletin* 10.

– 1963. Report on excavations at Pomongwe and Tshangula caves, Matopo Hills, Southern Rhodesia. *The South African Archaeological Bulletin* XVIII.

– 1966. Re-appraisal of the industry hitherto named the Proto-Stillby. *Arnoldia* 22.

– 1968. The Early Stone Age in Rhodesia. A Review of the Written Evidence and a Discussion on its Validity Following on the Findings of Wenner Gren Symposium No. 29 at Burg Wartenstein 1965. *Arnoldia* 39.

– 1969a. A re-examination of the "Middle Stone Age" industries of Rhodesia. *Arnoldia* 2.

– 1969b. Radiocarbon dates for Rhodesian Stone Age. *Rhodesian Prehistory* 3.

– 1971. Excavation in Zombepata Cave, Sipolilo district, Mashonaland, Rhodesia. *The South African Archaeological Bulletin* 26.

– 1978. The Redcliff Stone Age site, Rhodesia. *Occasional Papers of the National Museum of Southern Rhodesia.* A, Human Sciences 4.

– 1979. Excavation at Diana's Vow rock Shelter, Makoni district Zimbabwe Rhodesia. *Occasional Papers of the National Museum of Southern Rhodesia.* A, Human Sciences 4.

– 1984. The industries of the Upper Pleistocene in Zimbabwe. *Zimbabwea* 1.

Deacon, H. J. 1984. *The Late Stone Age of Southernmost Africa.* British Archaeological Reports International Series 213.

– 1992. Southern Africa and modern human origins. Aitken, M. J., Stringer, C. B. & Mellars, P. A. (eds.), *The Origin of the Humans and the Impact of Chronometric Dating.* Princeton.

– 1995. An unsolved mystery at the Howieson's Poort name site. *The South African Archaeological Bulletin* 50, No. 162.

D'Errico, F., Zilhão, J., Julien, M., Baffier, D. & Pelegrin, J. 1998. Neanderthal Acculturation in Western Europe? A Critical Review of the Evidence and Its Interpretation. *Current Anthropology* 39, supplement.

Foley, R. & Mirazón Lahr, M. 1997. Mode 3 Technologies and the Evolution of Modern Humans. *Cambridge Archaeological Journal* 7, No. 1.

Garlake, P. S. 1992. *Rock Art in Zimbabwe.* Ph.D. thesis. University of London. London.

– 1987. *The Painted Caves.* Harare.

Jones, N. 1940. Bambata cave: a reorientation. *Occasional Papers of the National Museum of Southern Rhodesia.* A, Human Sciences 9.

Jones, N. & Summers, R. 1949. The Magosian culture near Khami. *The Journal of the Royal Anthropological Institute of Great Britain and Ireland* LXXXI.

Kaplan, J. 1990. The Umhlatuzana Rock Shelter sequence: 100 000 years of Stone Age history. *Natal Museum Journal of Humanities* 2.

Klein, R. G. 1978. *Preliminary analysis of the mammalian fauna from the Redcliff Stone Age Cave site, Rhodesia.* Occasional Paper of the National Museum, Southern Rhodesia Human Sciences 4, Part 2.

Larsson, L. 1996. The Middle Stone Age of Zimbabwe. Some aspects of former research and future aims. Pwiti, G. & Soper, R. (eds.), *Aspects of African Archaeology. Papers from the 10th Congress of PanAfrican Association for Prehistory and Related Studies.* Harare.

– 1998. Review of Nicholas J. Walker: Late Pleistocene and Holocene Hunter-gatherers in the Matopos. An archaeological study of change and continuity in Zimbabwe. *Fornvännen* 1997:3-4.

– 1999. Neanderthalarna: våra kära kusiner eller avlägsna släktningar; plagiatörer eller innovatörer? *Fornvännen* 1999:3.

Marean, C. W., Goldberg, P., Avery, G., Grine, F. E. & Klein, R. G. 2000. Middle Stone Age Stratigraphy and excavation at Die Kelders Cave 1 (Western Cape Province, South Africa): the 1992, 1993, and 1995 field season. *Journal of Human Evolution* 38.

Mellars, P. 1991. Cognitive Changes and the Emergence of Modern Humans in Europe. Cambridge *Archaeological Journal* 1.

– 1999. The Neanderthal Problem Continued. *Current Anthropology* 40, No. 3.

Musonda, F. B. 1984. Late Pleistocene and Holocene microlithic industries from the Lunsemfwa Basin, Zambia. *The South African Archaeological Bulletin* 39.

Opperman, H. & Heydenrych, B. 1990. A 22 000 year-old Middle Stone Age camp site with plant food remains from the north-eastern Cape. *The South African Archaeological Bulletin* 45.

Parkington, J. 1990. A Critique of the Consensus on the Age of Howieson's Poort Assemblages in South Africa. Mellars, P. (ed.), *The Emergence of Modern Humans. An Archaeological Perspective.* Edinburgh.

Parry, E. 2000. *Legacy on the Rocks. The Prehistric Hunter-Gatherers of the Matopo Hills, Zimbabwe.* Oxford.

Robinson, K. R. 1952. Excavation in two rock shelters near the Rusawi river, Central Mashonaland. *South African Archaeological Bulletin* VII.

Sampson, C. G. 1974. *The Stone Age Archaeology of Southern Africa.* New York.

Schlanger, N. 1996. Understanding Levallois: Lithic Technology and Cognitive Archaeology. *Cambridge Archaeological Journal* 6, No. 2.

Singer, R. & Wymer, J. 1982. *The Middle Stone Age at Klasies River Mouth in South Africa.* Chicago.

Stagman, J. G. & Eng, C. 1978. *An Outline of the Geology of Rhodesia.* Rhodesia Geological Survey, no. 80.

Summers, R. 1957. Archaeology in Southern Rhodesia, 1900-1955. Clark, J. D. (ed.), *Third Pan-African Congress on Prehistory. Livingstone 1955.* London.

– 1960. Environment and Culture in Southern Rhodesia. A Study in the "Personality" of a Land-locked Country. *Proceedings of the American Philosophical Society* 104, No. 3

Thackeray, A. 1992. The Middle Stone Age South of the Limpopo River. *Journal of World Prehistory* 6.

– 2000. Middle Stone Age artefacts from the 1993 and 1995 excavations of Die Kelders Cave 1, South Africa. *Journal of Human Evolution* 38.

Van Peer, P. 1992. *The Levallois Reduction Strategy.* Monographs in World Archaeology 13.

Wadley, L. 1991. Rose Cottage Cave: background and a preliminary report on the recent excavations. *The South African Archaeological Bulletin* 46.

Wadley, L. & Harper, P. 1989. Rose Cottage Cave revisited: Malan's Middle Stone Age collection. *The South African Archaeological Bulletin* 44.

Wadley, L. & Vogel, J. C. 1991. New dates from Rose Cottage Cave, Ladybrand, eastern Orange Free State. *The South African Archaeological Bulletin* 87.

Walker, N. J. 1978. The Later Stone Age of the Matopos. *Rhodesian Prehistory* 16.

– 1980. Later Stone Age research in the Matopos. *The South African Archaeological Bulletin* 35.

– 1990. Zimbabwe at 18000 BP. Gamble, C. & Soffer, O. (eds.), *The World at 18 000 BP. Low Latitudes.* London.

– 1991. Excavations and Re-examination of Some Stone Age Sites in the Matopos. *Zimbabwea* 3.

– 1995. *Late Pleistocene and Holocene Hunter-gatherers of the Matopos. An Archaeological study of change and continuity in Zimbabwe.* Studies in African Archaeology 10.

– 1996. *The Painted Hills. Rock Art of the Matopos.* Gweru.

Walker, N. & Thorp, C. 1997. Stone Age Archaeology in Zimbabwe. Pwiti, G. (ed.), *Caves, monuments and texts. Zimbabwe archaeology today.* Studies in African Archaeology 14.

Walker, N. J. & Wadley, L. 1984. Evidence for early microlithic industry at Duncombe Farm in Zimbabwe. *Cookeia* 1.

Wurz, S. 1999. The Howieson's Poort Backed artefacts from Klasies River: an argument for symbolic behaviour. *The South African Archaeological Bulletin* LIV, No. 169.