



University of
Salford
MANCHESTER

Some recent radiocarbon dates from Southern Africa

Hall, M and Vogel, JC

Title	Some recent radiocarbon dates from Southern Africa
Authors	Hall, M and Vogel, JC
Publication title	The Journal of African History
Publisher	Cambridge University Press
Type	Article
USIR URL	This version is available at: http://usir.salford.ac.uk/id/eprint/2655/
Published Date	1980

USIR is a digital collection of the research output of the University of Salford. Where copyright permits, full text material held in the repository is made freely available online and can be read, downloaded and copied for non-commercial private study or research purposes. Please check the manuscript for any further copyright restrictions.

For more information, including our policy and submission procedure, please contact the Repository Team at: library-research@salford.ac.uk.

Some Recent Radiocarbon Dates from Southern Africa

Author(s): Martin Hall and J. C. Vogel

Source: *The Journal of African History*, Vol. 21, No. 4 (1980), pp. 431-455

Published by: Cambridge University Press

Stable URL: <http://www.jstor.org/stable/182003>

Accessed: 09/12/2009 10:36

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Please contact the publisher regarding any further use of this work. Publisher contact information may be obtained at <http://www.jstor.org/action/showPublisher?publisherCode=cup>.

Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Cambridge University Press is collaborating with JSTOR to digitize, preserve and extend access to *The Journal of African History*.

SOME RECENT RADIOCARBON DATES FROM SOUTHERN AFRICA

BY MARTIN HALL AND J. C. VOGEL

THIS review follows earlier articles in the series which have been published in the *Journal*.¹ In common with these other surveys, we have concentrated on new radiocarbon dates for farming settlements², although relevant determinations which have been omitted in earlier articles, as well as important dates for hunting and gathering communities have also been included. In a departure from earlier approaches we have restricted our geographical scope to southern Africa, thus allowing closer coverage of new information which has followed the considerable expansion of archaeological research in recent years. A similar survey for eastern Africa is currently in preparation.³ For our purposes, southern Africa lies to the south of a line between the Cunene and Zambezi Rivers including South Africa, Lesotho, Swaziland, Namibia, Zimbabwe, Botswana and all but the northern provinces of Mozambique.

Following convention, we have used the old radiocarbon half-life of 5,568 years.⁴ Unequivocal calibration curves have yet to be produced for the southern hemisphere and so we have listed only uncorrected determinations, indicating their status by the use of the lower case 'b.c.' or 'a.d.'. But in the present millennium, calibration is often crucial in archaeological interpretation and so, where necessary, we have calculated most probable calendar ages⁵ and discussed the results in the text of the review.

In describing the archaeological chronology of our area, we have broken with the system of trans-regional cultural categories and instead considered the full sequence area-by-area. In this, we are following the present research trend in which the plotting of direction and chronology of population movements is being replaced by research, in a regional context, into the nature of such societies. As modern political boundaries are of little relevance to the prehistory of Africa we have used a regional system based on physiographic

¹ Previous reviews of the southern African radiocarbon dates which have appeared in this *Journal* are by T. Maggs (xviii, 2, 1977, 161-91), R. C. Soper (xv, 2, 1974, 175-92), J. E. G. Sutton (xiii, 2, 1972, 1-24) and D. W. Phillipson (xi, 1, 1970, 1-15).

² The terms 'Early Iron Age', 'Middle Iron Age' and 'Late Iron Age', as well as 'Late Stone Age', which have been used for classifying southern African archaeological sites in the past, have not been employed in this review. This is in the belief that such a system, although essential in earlier stages of research where it was necessary to establish basic sequences, is currently confusing the interpretation of southern African prehistory by introducing *a priori* concepts of population movement and cultural breaks. Instead the loose economic categories of 'hunting and gathering' and 'farming' have been used and chronological developments within natural landscape units stressed.

³ G. Mgombezulu has a survey of recent radiocarbon dates from eastern Africa in preparation.

⁴ *Antiquity*, xlvi (1972), 265.

⁵ J. C. Lerman, W. G. Mook and J. C. Vogel, 'C₁₄ in tree rings from different localities', in I. U. Olsson (ed.) *Radiocarbon Variations and Absolute Chronology*. Nobel Symposium 12 (Stockholm, 1970).

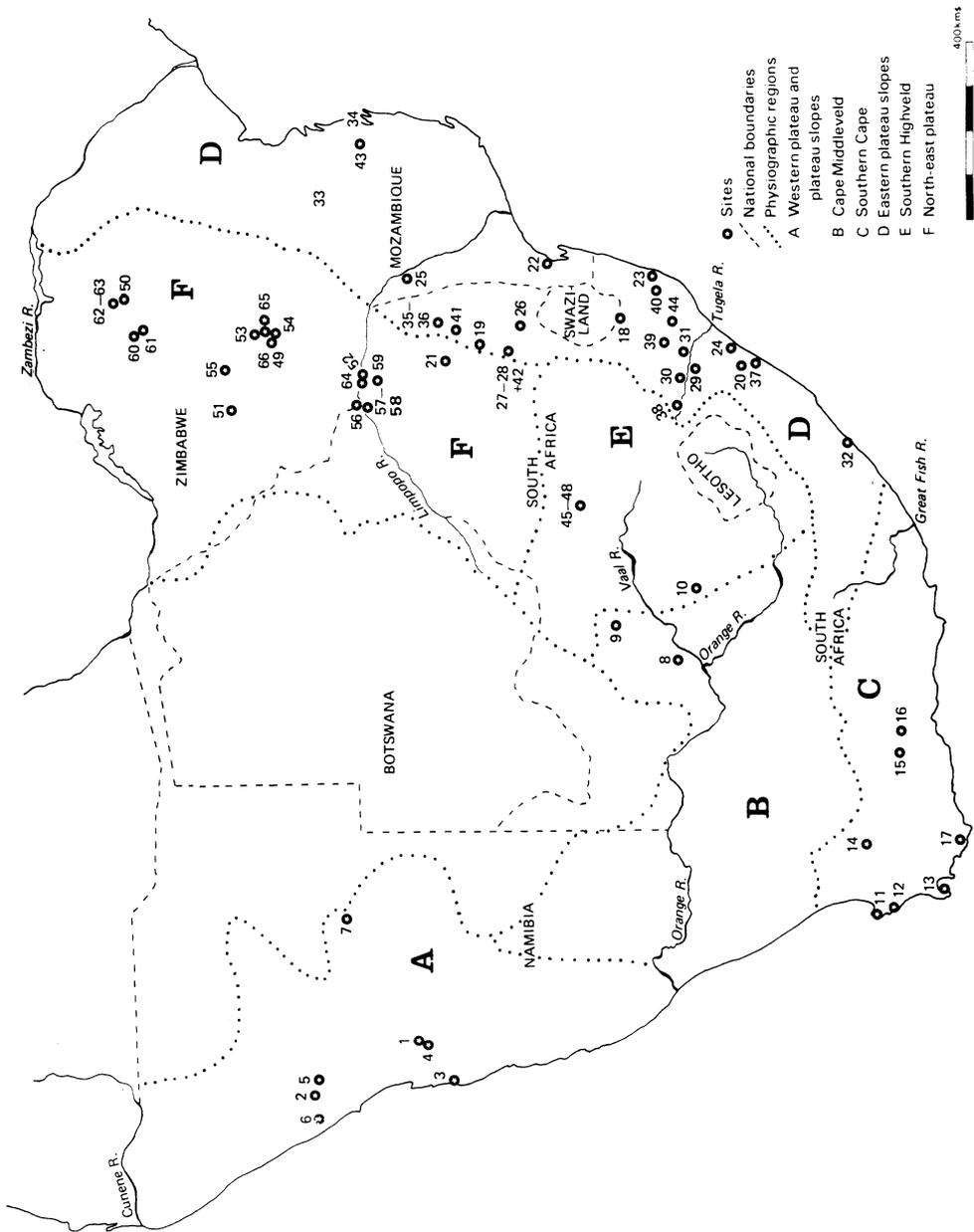


Figure 1

KEY TO MAP

Sites are numbered in the order in which they are mentioned in the text.

1. Mirabib Hill Shelter: 23° 28' S, 15° 19' E
2. Lower Numas Cave: 21° 07' S, 14° 25' E
3. Conception Bay: 23° 55' S, 14° 30' E
4. Gorob Grave Cairn: 23° 37' S, 15° 18' E
5. Tsisab Schlucht: 21° 06' S, 14° 41' E
6. Zerrissene Mountain sites: 21° 05' S, 13° 59' E
7. Karamba: 21° 57' S, 18° 08' E
8. Dikbosch 1: 28° 46' S, 23° 55' E
9. Powerhouse Cave: 27° 37' S, 24° 38' E
10. Voigtspost: 29° 08' S, 25° 22' E
11. Paternoster: 32° 48' S, 17° 53' E
12. Stofbergfontein: 33° 09' S, 18° 04' E
13. Smitswinkelbaai Cave: 34° 17' S, 18° 27' E
14. Aspoort Cave: 32° 31' S, 19° 32' E
15. Buffelskloof: 33° 31' S, 21° 52' E
16. Boomplaas Cave: 33° 23' S, 22° 11' E
17. Byneskranskop: 34° 35' S, 19° 28' E
18. Border Cave: 27° 01' S, 31° 39' E
19. Bushman's Rock Shelter: 24° 35' S, 30° 38' E
20. Shongweni: 29° 52' S, 30° 43' E
21. Silver Leaves: 23° 56' S, 30° 09' E
22. Matola IV: 25° 57' S, 32° 27' E
23. Enkwazini: 28° 11' S, 32° 31' E
24. Mzonjani: 29° 44' S, 31° 03' E
25. Massingir: 23° 09' S, 32° 00' E
26. Plaston: 25° 20' S, 31° 04' E
27. Sterkspruit: 25° 06' S, 30° 30' E
28. Klingbeil: 25° 06' S, 30° 29' E
29. Ntshokane: 28° 58' S, 30° 24' E
30. Msuluzi Confluence: 28° 45' S, 30° 08' E
31. Ndongonwana: 28° 53' S, 31° 02' E
32. Mpame: 32° 06' S, 29° 03' E
33. Hola Hla: Precise location unavailable
34. Chibueni: Precise location unavailable
35. Kgopolwe: 23° 57' S, 31° 11' E
36. Nagome: 23° 58' S, 31° 08' E
37. Mpambanyoni: 30° 17' S, 30° 44' E
38. Mgoduyanuka: 28° 43' S, 29° 24' E
39. Nqabeni: 28° 22' S, 30° 52' E
40. Hluhluwe Furnace Site: 28° 06' S, 32° 05' E
41. Square: 24° 03' S, 30° 56' E
42. Lydenburg: 26° 06' S, 30° 29' E
43. Manekweni: 22° 11' S, 34° 51' E
44. Mgungundlovu: 28° 26' S, 31° 17' E
45. 2627CD 4, Buffelshoek: 26° 46' S, 27° 25' E
46. 2627CD 2, Buffelshoek: 26° 46' S, 27° 24' E
47. 2627CD 5, Buffelshoek: 26° 48' S, 27° 23' E
48. 2827CD 6, Buffelshoek: 26° 48' S, 27° 23' E
49. Mabveni: 20° 19' S, 30° 28' E
50. Surtic Farm: 17° 31' S, 31° 02' E
51. Taba Zika Mambo: 19° 31' S, 29° 04' E
52. Schroda: 22° 11' S, 29° 25' E
53. Chivowa Hill: 20° 06' S, 30° 41' E
54. Gumanye Hill: 20° 20' S, 30° 28' E
55. Gwelo Kopje: 19° 28' S, 29° 50' E
56. Commando Kop: 22° 08' S, 29° 11' E
57. Pont Drift 1/1: 22° 14' S, 29° 09' E
58. Pont Drift 1/2: 22° 14' S, 29° 09' E
59. Icon: 22° 26' S, 29° 15' E
60. Tarnagulla: 17° 47' S, 30° 34' E
61. Gwebe Junction: 17° 48' S, 30° 36' E
62. Chisvingo Lower Site: 17° 23' S, 31° 00' E
63. Chisvingo Hill Furnace Site: 17° 23' S, 31° 00' E
64. Greefswald sites (Mapungubwe): 22° 12' S, 29° 22' E
65. Great Zimbabwe: 20° 16' S, 30° 56' E
66. Montevideo Ranch: 20° 15' S, 30° 40' E

structure.⁶ The country in which each site is found is given in the list at the end of the review. While not giving a deterministic role to the environment, this system provides a context for the bare radiocarbon dates.

Physiographic regions, with the sites mentioned in this review, are shown in Figure 1. The regions follow the overall geological structure of southern Africa, where a peripheral escarpment separates a shield of high grasslands and arid deserts which are largely flat and featureless from marginal coastlands where deeply incised river systems have often produced rugged and varied environments. At the centre is the Kalahari Desert, which falls in Botswana, eastern Namibia and the northern Cape Province of South Africa. As no new radiocarbon dates are available from this area, it is not considered further in this review.

The Western Plateau and Plateau Slopes

This region, which covers most of Namibia, consists of a series of high plateaux separated by the peripheral escarpment from the western coastal plain. Most of the coastal area is desert with moving sands, exposed rock surfaces and sparse vegetation. Rainfall increases towards the escarpment and much of the higher land, while still dry, carries good grasslands. Further inland these dip into the Kalahari Basin and arid conditions again prevail.

Mirabib Hill stands out on the coastal plain north of the Kuiseb River. Excavation of a rock shelter in the cliffs of the outcrop has given insight into the people who lived in this area during earlier parts of the Holocene. The outline chronology of the site was given in a previous review⁷ and further radiocarbon dates and other information are now available.⁸ The main occupation was from the mid-seventh millennium (Pta-1368)⁹ until the mid-fourth millennium,¹⁰ although there are some inconsistencies in the chronology.¹¹ The lithic industry is characterised by microlithic tools made from quartz, an assemblage similar to collections from the edge of the western escarpment and from the drier areas to the south. Analysis of botanical material is incomplete but it includes many !Nara seeds (*Acanthosicyos horrida*) which have considerable nutritional value.¹²

Further north, at Lower Numas Cave in the Brandberg Mountains of western Damaraland, microlithic artefacts have been dated to the third millennium b.c. (Pta-1620, Pts-1623), thus following the main occupation at

⁶ An outline of the physiographic structure of southern Africa is given by J. H. Wellington, *Southern Africa, a Geographical Study* (Cambridge, 1955).

⁷ T. Maggs, 'Some recent radiocarbon dates from eastern and southern Africa', *J. Afr. Hist.* xviii, 2 (1977), pp. 161-91.

⁸ B. H. Sandelowsky, 'Mirabib - an archaeological study in the Namib', *Madoqua* x (4), (1977), 221-83. B. H. Sandelowsky, J. H. van Rooyen and J. C. Vogel, 'Early evidence for herders in the Namib', *S. Afr. archaeol. Bull.* xxxiv (1979), 50-1.

⁹ Sandelowsky, Van Rooyen and Vogel, 'Early evidence'.

¹⁰ Pta-1012 dates to the mid-fourth millennium and was cited by Maggs ('Dates'). This reading is confirmed by Pta-1348.

¹¹ Pta-1368 reads some two millennia older than other samples from the same context. The excavator considers this to be the result of contamination.

¹² Sandelowsky, 'Mirabib'.

Mirabib. The excavator notes that the assemblage is similar to the Wilton Industry of the Cape region.¹³

The major occupation levels of Mirabib are overlain by a series of fourth century a.d. dung floors (Pta-1535). A sample from one floor contained sheep hair similar to that of modern Persian and fat-tailed breeds.¹⁴ This is the earliest direct evidence for domesticated sheep in Namibia, although dates from the south suggest that earlier sites have yet to be found.¹⁵

Other new radiocarbon dates from sites in this arid western region are important in understanding its more recent prehistory. On the coast at Conception Bay the carbonaceous crust from two ceramic jars has provided determinations which suggest, after calibration, that the vessels were last used in the sixteenth or seventeenth centuries A.D. (Pta-902, Pta-1801).¹⁶ Style is similar to that of more recent Khoi ceramics. A short distance inland, however, a thirteenth-century burial has been excavated (Pta-1344).¹⁷ Examination of the skeleton has suggested that this individual belonged to a Bergdamara rather than a Khoisan population.¹⁸ Further research may unravel the intricacies of the prehistory of this area.

Further north some of the historical processes behind the archaeological data have been identified. Stone enclosures at Tsisab Schlucht date to the sixteenth, seventeenth and eighteenth centuries a.d. (Pta-1783, Pta-1784, Pta-1820, Pta-1821).¹⁹ These were probably pastoral stations used by semi-desert and desert living Dama communities. Similar sites, classified as the Brandberg Industry, have been found nearer the coast in Zerrissene Mountains.²⁰ It would seem that these herders were moving into the marginal western coastal deserts in the face of pressure from Herero-speaking pastoralists.²¹ Little is known archaeologically about these latter communities although there is evidence for extensive copper smelting on the margins of the Kalahari and slag from one such site, Karamba, has been dated to the last century (Pta-1627).²²

¹³ L. Jacobson, pers. comm.

¹⁴ Sandelowsky, Van Rooyen and Vogel, 'Early evidence'.

¹⁵ See Maggs, 'Dates' for a review of the chronology for the introduction of sheep in the Southern Cape Region.

¹⁶ L. Jacobson and J. C. Vogel, 'Radiocarbon dates for two Khoi ceramic vessels from Conception Bay, South West Africa/Namibia', *S. Afr. J. Sci.* LXXV (1979), 230-1.

¹⁷ Sandelowsky, 'Mirabib'.

¹⁸ H. de Villiers, 'Report on human skeletal remains from a grave (Gorob) in the central Namib desert', in B. H. Sandelowsky, 'Mirabib - an archaeological study in the Namib', *Madoqua*, x (4), (1977), 221-83.

¹⁹ L. Jacobson, pers. comm.

²⁰ M. J. Carr, A. C. Carr and L. Jacobson, 'Hut remains and related features from the Zerrissene Mountain Area: Their distribution, typology and ecology', *Cimbebasia*, II (11), (1978), 237-58.

²¹ L. Jacobson, pers. comm.

²² L. Jacobson, pers. comm.

The Cape Middleveld

This area, in southern Namibia and much of the Cape Province of South Africa, forms the southern edge of the interior plateau. Although there are some prominent mountain outcrops, the landscape is for the most part subdued. Rainfall is low and consequently vegetation is sparse with expanses of bare rock. In the east, the Middleveld rises in altitude and merges imperceptibly into the grasslands of the southern Highveld.

Although it has been assumed for some time that the southern interior regions were occupied throughout the Holocene,²³ it was suggested a number of years ago that there was a sustained period during which the Middleveld was abandoned by man.²⁴ This hypothesis has received support recently as a result of research in the north-eastern periphery of the region.²⁵ Among the sites investigated were the rockshelters of Dikbosch 1 and Powerhouse Cave from which new radiocarbon dates have been reported.

The available second millennium b.c. date for Level 2 of the Dikbosch 1 shelter has already been listed in this *Journal*.²⁶ The set of four determinations for Levels 3–6 complete the dating of the deposits (Pta-1067, Pta-1068, Pta-1200, Pta-1288).²⁷ These all fall within the eleventh and twelfth millennia providing firm evidence for a gap of some 10,000 years between Layer 2 and Layer 3. At Powerhouse Cave, a new first millennium b.c. date (Pta-1763)²⁸ confirms that the entire occupation of this site postdates 2,000 B.C. These dated horizons, in conjunction with other information from sites in the northern Middleveld, provide support for the argument that there was a sustained hiatus in the occupation of the southern interior which spanned the mid-Holocene. This may have been due to a period of increased aridity during which an already marginal climate became more difficult for hunting and gathering communities, encouraging them to move to the coastal margins of the subcontinent.²⁹ It should be noted, however, that not all the archaeological evidence supports this interpretation; at the site of Voigtspost, which is to the east of Dikbosch 1 and Powerhouse Cave, an industry has been dated to the fifth millennium (Pta-1520).³⁰

Both Dikbosch 1 and Powerhouse Cave have assemblages of artefacts which are similar to late-Holocene collections from sites on the southern Cape coast. Diachronic patterns, such as reduction in numbers of segments and progressive increases in scraper length, suggest that the northern Middleveld

²³ C. G. Sampson, *The Stone Age archaeology of Southern Africa* (New York, 1974).

²⁴ J. Deacon, 'Patterning in the radiocarbon dates for the Wilton/Smithfield complex in southern Africa', *S. Afr. archaeol. Bull.* xxix (1974), 3–18.

²⁵ A. J. B. Humphreys, 'The Holocene sequence in the northern Cape'. Unpublished Ph.D. thesis, University of Cape Town (1979).

²⁶ Maggs, 'Dates'.

²⁷ Humphreys, 'Holocene sequence'.

²⁸ A. J. B. Humphreys, 'The re-excavation of Powerhouse Cave and an assessment of Dr Frank Peabody's work on the Holocene deposits in the Taung area', *Ann. Cape Prov. Mus. (nat. Hist.)* xi (1978), 217–43. Some of the determinations from this site were reviewed earlier (Maggs, 'Dates').

²⁹ Humphreys, 'Holocene sequence'.

³⁰ A. Horowitz, C. G. Sampson, L. Scott and J. C. Vogel, 'Analysis of the Voigtspost Site, O.F.S., South Africa', *S. Afr. archaeol. Bull.* xxxiii (1978), 152–9.

industry should be regarded as an 'Interior Wilton' and the older concept of the 'Smithfield' should be abandoned.³¹

The Southern Cape

The Southern Cape region falls to the south of the interior plateau and is separated from it by the Great Escarpment. Prominent in the landscape are the extensive Cape Folded Mountains with their high rainfall and rugged topography. Between the Folded Belt and the Escarpment is the Great Karoo, an extensive area with low rainfall and sparse vegetation. The Coast Forelands lie between the Folded Belt and the sea.

This tripartite landscape structure has heavily influenced the economies of both hunting and gathering and herder communities and archaeological interpretations have emphasized the seasonality of vital resources. It has been suggested, for the western part of this region, that people congregated on the coast and in parts of the Karoo during winter months and moved into the mountains during the summer.³² Recent radiocarbon dates reflect research which has stemmed from this ecological hypothesis. At the coastal site of Paternoster, the eleventh century a.d. dates given previously³³ have been supplemented by two further determinations (Pta-1637, Pta-1717),³⁴ although both are inconsistent with the first readings and the excavator considers that they may have to be discarded. Although the uppermost layer of the Paternoster midden probably reflects winter occupation, the presence of bones of immature birds and tortoise in the lower levels suggest perennial use. Slightly to the south a similar shell midden at Stofbergfontein on the Langebaan Lagoon has been dated to the fourth century a.d. (Pta-1903).³⁵ The fauna from this site also seem to reflect a flexible pattern of occupation. Further south again, on the Cape peninsula, Smitswinkelbaai Cave, which has a set of stratified middens within the shelter, was utilized between the sixth and eighth centuries a.d. (Pta-2198, Pta-2200).³⁶ Full presentation of the results of this excavation, which yielded pottery throughout the sequence, is awaited. Thus there is a suggestion that, although the model of winter utilization of the western coastal forelands may hold good for some sites, the true pattern of prehistoric behaviour could have been more complex.

The original seasonal model also suggested that the large herds of gregarious antelope such as eland, gemsbok and springbok which congregated on the sparse but productive grasslands of the Karoo during winter months attracted occupation. Recent excavations at Aspoort Cave, which lies on the

³¹ Humphreys, 'Holocene sequence'.

³² The first formal statement of the western Cape seasonality hypothesis was made by J. E. Parkington, who has carried out a considerable amount of research in this area which is of relevance. For the general model, see: J. E. Parkington, 'Seasonal mobility in the Late Stone Age', *African Studies*, xxxi (1972), 221-43.

³³ Maggs, 'Dates'.

³⁴ P. Robertshaw, 'Excavations at Paternoster, south-western Cape', *S. Afr. archaeol. Bull.* xxxii (1977), 63-74.

³⁵ P. Robertshaw, 'Archaeological investigations at Langebaan Lagoon, Cape Province', In E. M. van Zinderen Bakker (ed.), *Palaeoecology of Africa, Vol. 10* (Rotterdam, 1978).

³⁶ P. Robertshaw and C. Poggenpoel, pers. comm.

east bank of the Doorn River, were prompted by this hypothesis. Four radiocarbon dates indicate that initial occupation was in the eighth millennium b.c. and that the cave continued to be used at least into the fourteenth century a.d. (Pta-2179, Pta-2182, Pta-2250, Pta-2422).³⁷ The lithic assemblage contained a limited range of formal tools with scrapers the most common type and with pottery in only the uppermost horizons. The faunal list shows that the range of species hunted by the prehistoric occupants of the shelter was similar to that available today, suggesting that the seasonality hypothesis is applicable in this area.

Buffelskloof is also a rock shelter located on the margins of the Karoo environment but on its southern boundary. An outline chronology for the site was given in an earlier review;³⁸ new determinations supplement this sequence (Pta-1805, Pta-1841).³⁹ A further two dates are unexpectedly early, falling in the twenty-first millennium b.c. (Pta-1807, UW-339),⁴⁰ suggesting that layer HE 2, the upper part of which is dated to the tenth millennium by Pta-1805, spanned some 10,000 years. This is surprising as the lithic industry is homogeneous and similar to the Albany, which is not known to predate 10,000 b.c. at other southern Cape sites. The excavator suggests that Pta-1807 and UW-339 might in fact date late Pleistocene sediments which accumulated when the shelter was unoccupied. The Buffelskloof sequence alone is inadequate for a revision of the chronology of the Albany Industry.⁴¹

To the south of the Cape Folded Belt, on the southernmost promontory of the continent, the shelter of Byneskranskop has a well-dated sequence which extends from the seventeenth century A.D. to the eighth millennium B.C. Layers 1-9 contain a Wilton Industry which post-dates 4,500 b.c. (Pta-1569, Pta-1571, Pta-1631, Pta-1772, Pta-1864, Pta-1865, Pta-1866, UW-409)⁴² and is thus only slightly after the earliest Wilton horizon at Buffelskloof. The assemblage has small convex scrapers, backed microliths, borers and segments. The earliest occurrence of pottery, dated to the first century a.d. (Pta-1865),⁴³ is in Layer 1, where sherds from up to 20 vessels were found.

The Byneskranskop faunal assemblage indicates that the economy during the later Holocene included sheep as well as small, non-gregarious herbivores, particularly grysbok and steenbok. This evidence suggests that the environment was essentially similar to that of the present day. The collection of

³⁷ A. E. Smith and M. R. Ripp, 'An archaeological reconnaissance of the Doorn/Tanqua Karoo', *S. Afr. archaeol. Bull.* xxxiii (1978), 118-33. The determinations, as published, have subsequently been corrected and, in addition, two more samples have been processed (Smith, pers. comm.).

³⁸ Maggs, 'Dates'.

³⁹ H. Opperman, 'Excavations in the Buffelskloof rock shelter near Calitzdorp, southern Cape', *S. Afr. archaeol. Bull.* xxxiii (1978), 18-38.

⁴⁰ Opperman, 'Buffelskloof'.

⁴¹ At the nearby site of Boomplaas the earliest Albany, dated to about 10,000 B.C., is underlain by assemblages of the Robberg Industry, which are absent at Buffelskloof. This longer sequence adds further support to Opperman's interpretation. See H. J. Deacon, *Where Hunters Gathered*, South African Archaeological Society, 1976.

⁴² F. R. Schweitzer and M. L. Wilson, 'A preliminary report on excavations at Byneskranskop, Bredasdorp district, Cape', *S. Afr. archaeol. Bull.* xxxiii (1978), 134-40.

⁴³ Schweitzer and Wilson, 'Byneskranskop'.

shellfish, fishing and the exploitation of birds were also important activities during this period.

The pre-Wilton levels at Byneskranskop have been dated to between 4,500 and 8,000 b.c. (Pta-1587, Pta-1905).⁴⁴ Lithic material from this period has not been correlated with assemblages from other sites in the southern Cape as there is a paucity of formal tools. The fauna show interesting contrasts with the later collection, as the assemblage is dominated by larger grazers suggesting a floral mosaic with a more substantial grassland element than is found today.

The Eastern Plateau Slopes

The eastern margin of the central plateau is marked by its subsidence and monoclinical folding; geological processes which have created a steep landscape deeply incised by river valleys. But towards the coast the water courses flow over an even-surfaced plain which, from a narrow southern point in Zululand, widens to cover most of Mozambique. Along the littoral itself, high dunes often block the lower river courses and form lagoonal systems. Orographic rainfall confers a high natural productivity on this region.

Hunting and gathering communities of this area remain little understood in contrast with the wealth of comparable information from other parts of southern Africa. The full series of dates from Border Cave, located in the Lebombo Mountains above the valley of the Pongola River, suggests a particularly early inception of microlithic technology. Distinctive small, scaled pieces of quartz and chalcedony, crude and irregular rhyolite flakes, ground bone arrowheads and ostrich eggshell beads have been dated to between 31,000 and 36,000 b.c. (LJ-2892, Pta-422, Pta-424, Pta-433, Pta-704).⁴⁵ This early settlement was followed by a marked hiatus in occupation during which an inhospitable climate may have made the site uninhabitable. These assemblages are considerably earlier than similar material from elsewhere in southern Africa, suggesting that the lithic sequence to the east of the central plateau will prove important in understanding the general pattern.

There is little direct, dated evidence for the detailed economies of hunting and gathering communities of this region.⁴⁶ In addition, the suggestion that cultigens from the rock shelter of Shongweni were dated to the third millennium b.c. must now be corrected.⁴⁷ New radiocarbon dates, from samples of the domesticated plants themselves, fall in the late ninth and early eleventh centuries a.d. (Pta-1948, Pta-1951).⁴⁸ It would seem that the lower

⁴⁴ Schweitzer and Wilson, 'Byneskranskop'.

⁴⁵ J. C. Vogel, 'Radiocarbon dating of the Border Cave sequences; An evaluation of the Pretoria readings', in P. B. Beaumont, *Border Cave*. Unpublished M. A. thesis, University of Cape Town (1978).

⁴⁶ An exception is I. Plug's examination of the assemblages from Bushman's Rock Shelter. See I. Plug, 'Die latere Steentydperk van die Boesmansrotsskuiling in Oos-Transvaal', Unpublished M.A. thesis, University of Pretoria (1978).

⁴⁷ O. Davies, 'Excavations at Shongweni South Cave: The oldest evidence to date for cultigens in southern Africa', *Ann. Natal Mus.* xxii (1975), 627-62. Cited in Maggs, 'Dates'.

⁴⁸ O. Davies, pers. comm.

levels, which were thought to be intact, were cut by pits dug down at a later stage of occupation. Thus the apparent association between *Pennisetum typhoides*, *Eleusine coracana* and carbon samples with early dates was due to disturbance of the deposits.

In contrast with the lack of research into hunting and gathering societies, considerable advances have been made in the last few years in establishing the chronology of the first farming communities of the south-eastern part of the subcontinent. There is now general agreement that these groups moved southwards within the Eastern Plateau Slopes region. They formed part of a 'stream' which has been established on the basis of ceramic style.⁴⁹ There has, however, not been a consensus on appropriate naming. These sites have sometimes been collected together as 'Silver Leaves' after the first site in southern Africa at which the Kwale/Nkope connexion with the north was proposed.⁵⁰ This, however, may not be a satisfactory type site, and the alternative of the 'Matola Tradition' has recently been proposed, based on collections from a site in southern Mozambique which may be more representative of the ceramic style as a whole.⁵¹ Here, in recognition of the lack of formal definition of ceramic groupings in southern Africa, we have used the collective term 'cluster' to indicate loose, nascent typology.

New radiocarbon dates are available from several sites representing these first farming communities. On the coast at Delagoa Bay, Matola IV has been dated by two determinations which are difficult to interpret. Here, the same occupation horizon has been attributed to both the first and ninth centuries a.d. (R-1327, R1328).⁵² The excavators consider the later reading to be a result of contamination by subsequent occupation of the site. The first century date, however, poses a greater problem, for if it is accepted it may necessitate a revision of the chronology of early farming along this part of the African coastline.

Further to the south, the settlement of Enkwazini, sandwiched between the coast and St Lucia Lake, has two radiocarbon dates in the fourth and fifth centuries a.d. (Pta-1847, Pta-1977).⁵³ In the light of the chronology established from other similar sites, this may be regarded as a fairly late manifestation of its type, although if the determinations are regarded as 'linked dates'⁵⁴

⁴⁹ The original model, proposing an 'eastern stream' of migration which included, among other types, the earliest pottery described here was proposed by D. W. Phillipson (see for a summary, *The Later Prehistory of Eastern and Southern Africa* (London, 1977)). This hypothesis has been criticized, and an alternative version proposed, by T. N. Huffman, 'African Origins', *S. Afr. J. Sci.* LXXV (1979), 233-7.

⁵⁰ M. Klapwijk, 'An Early Iron Age site near Tzaneen, N.E. Transvaal', *S. Afr. J. Sci.* LXIX (1973), 324.

⁵¹ T. Maggs, 'The Iron Age sequence south of the Vaal and Pongola Rivers: Some historical implications', *J. Afr. Hist.* XXI (1980).

⁵² These determinations were provided by the Archaeology Section, Eduardo Mondlane University, Maputo. Matola is described by T. Cruz e Silva, *A preliminary report on an Early Iron Age site, Matola IV 1/68* (Maputo, 1976).

⁵³ M. Hall and J. C. Vogel, 'Enkwazini, fourth century Iron Age site on the Zululand coast', *S. Afr. J. Sci.* LXXIV (1978), 70-71. M. Ha., 'Enkwazini, an Iron Age site on the Zululand coast', *Ann. Natal Mus.* XXIV (1980).

⁵⁴ The concept of 'linked dates' is described by T. N. Huffman, 'The interpretation of Iron Age radiocarbon dates', *Arnoldia*, VIII (17), (1977), 1-5.

a best estimate falling in the early fourth century is obtained. The dating of a third site in this group, Mzonjani, which is south of the Tugela River, is more consistent with the readings from Silver Leaves. A sample of charcoal associated with a mass of pottery buried in a pit has been dated to the third century a.d. (Pta-1989).⁵⁵

There is little direct evidence for the economy of these people. Seed impressions in pottery indicate bullrush millet (*Pennisetum americanum*) at Silver Leaves⁵⁶ but elsewhere organic preservation has tended to be poor. However, patterns of site locations have suggested that agriculture was an important activity.⁵⁷ No sites have produced definite evidence for cattle keeping and the suggestion that the first farmers of southern Africa were grain cultivators alone is still a possibility.⁵⁸ A marked feature of the chronology is the rapidity of spread, as the initial farming settlements of the eastern littoral of Africa seem to be contemporary, although sites are often many hundreds of kilometres apart. This may be the result of the demand for highly specialized ecological niches, or it may prove a result of archaeological sampling.

There is disagreement among archaeologists as to the association between the ceramics of this earliest group of farmers and those of the communities which immediately followed them.⁵⁹ But despite differences in pottery, there is important continuity in settlement pattern. Villages continued to be located along the coastal plain and in the valleys of the major rivers while the higher interfluvial areas were eschewed. Farming was still important but cattle bones have been recovered from these settlements,⁶⁰ indicating that livestock were a component of the economy by this stage.

Two broad groupings based on pottery type have been used to classify assemblages which immediately followed the Matola Tradition. Sites of the Lydenburg cluster,⁶¹ dating to between the sixth and tenth centuries A.D.,

⁵⁵ T. Maggs, 'Mzonjani and the beginnings of the Iron Age in Natal', *Ann. Natal Mus.* xxiv (1980).

⁵⁶ Klapwijk, 'An Early Iron Age Site'.

⁵⁷ M. Hall, *The Ecology of the Iron Age in Zululand* (in preparation).

⁵⁸ D. W. Phillipson (*The Later Prehistory*) has suggested that his 'eastern stream' communities were without cattle and that this resource was brought south by later movements of people. Although this hypothesis is not tenable as it stands, as cattle are among the fauna from a number of sixth, seventh and eighth century sites in Natal and the Transvaal, it is still the case that cattle seem unknown from sites of the Matola Tradition. See also: C. Thorp, 'Cattle from the Early Iron Age of Zimbabwe-Rhodesia', *S. Afr. J. Sci.* Lxxv (1979), 461.

⁵⁹ T. N. Huffman ('African Origins') has suggested that there was a complete break between the Matola Tradition and those ceramic styles that followed it and that this hiatus represents the immigration of a new population. It should be noted, however, that some stylistic elements characteristic of the Matola Tradition are also present in pottery marking this 'second wave' and it is quite possible to support a counter hypothesis of internal evolution (T. Maggs, pers. comm.).

⁶⁰ Cattle were among the species identified at the sites of Msuluzi Confluence and Ndongonwana, both in the Tugela River valley. T. Maggs, pers. comm., and Msuluzi Confluence, a seventh century Early Iron Age site on the Tugela River', *Ann. Natal Mus.* xxiv (1980).

⁶¹ There has been little agreement on terminology for classifying ceramics of this period. Huffman, for example, refers to a 'Bambata, Sterkspruit and NC3...stepped continuum'

have been found at many localities in the Eastern Plateau Slopes region. New radiocarbon dates from some of these help in the confirmation of this chronology. Massingir, on the Mozambique coastal plain beneath the eastern escarpment, has pottery of a relatively late phase of the cluster which has been dated to the tenth century a.d. (Pta-1640).⁶² The site of Plaston, located on a spur between the confluence of the White River and a minor tributary, is considerably earlier and its seventh-century radiocarbon date (Pta-1635)⁶³ indicates an early example of the cluster.

Near the town of Lydenburg itself, two further sites have recently been excavated which also lie close to the White River. Sterkspruit, where the original 'Lydenburg Heads' were recovered,⁶⁴ has been further investigated and dated to the sixth century a.d. (Pta-1634)⁶⁵ thus confirming the chronology of this important site. Remains of huts, signs of smelting activities and a faunal assemblage including evidence for cattle and small stock were recovered. Klingbeil lies within the boundaries of Lydenburg itself. Three determinations date this site to the eighth, ninth and tenth centuries (Pta-1633, Pta-1747, Pta-2160).⁶⁶ The excavator considers it unlikely, however, that the settlement was occupied for this full period and prefers to take a weighted average which places the settlement in the mid-ninth century a.d. Such an interpretation fits the ceramic style, which is close to that of Ntshekane, a late Lydenburg cluster site in Natal.⁶⁷

These dates confirm the chronology already established from other sites in the eastern Transvaal. In Natal, in contrast, settlements of the Lydenburg cluster had not been dated prior to recent research. Msuluzi Confluence lies in the Tugela valley between the Tugela and Msuluzi Rivers. Both cattle and caprines are among the fauna and there is evidence for iron smelting on a considerable scale. Two determinations place this site in the late sixth and early seventh centuries (Pta-2195, Pta-2197).⁶⁸ Ndongondwana, also in the Tugela River valley, is somewhat later, dated to the eighth century a.d. (Pta-2388, Pta-2389).⁶⁹ The ceramics from this site are a late expression of the Lydenburg cluster and include, apart from pottery, part of a large model of what is possibly a crocodile, which calls to mind the clay heads from Sterkspruit.⁷⁰ The faunal assemblage includes cattle, caprines and a variety of wild species including hippopotamus and elephant.

In the south of the region, the lack of dated farming settlements of these

('African Origins'), while Maggs prefers to abandon such labelling completely (T. Maggs, and M. A. Michael, 'Ntshekane, an Early Iron Age site in the Tugela Basin, Natal'. *Ann. Natal Mus.* xxii (1976), 705-39). In this review, we follow the older terminology in referring to a 'Lydenburg Tradition', a unit which may be taken as the equivalent of Huffman's 'continuum'.

⁶² R. Duarte, pers. comm.

⁶³ T. M. Evers, 'Plaston Early Iron Age site, White River District, Eastern Transvaal, South Africa', *S. Afr. archaeol. Bull.* xxxii (1977), 170-89.

⁶⁴ R. R. Inskeep and T. Maggs, 'Unique art objects in the Iron Age of the Transvaal, South Africa', *S. Afr. archaeol. Bull.* xxx (1975), 114-138.

⁶⁵ T. M. Evers and J. C. Vogel, 'Radiocarbon dates for Iron Age sites at Lydenburg and White River, Eastern Transvaal', *S. Afr. J. Sci.* (1980) (in press).

⁶⁶ Evers and Vogel, 'Lydenburg and White River'.

⁶⁷ Maggs and Michael, 'Ntshekane'.

⁶⁸ Maggs, 'Msuluzi Confluence'.

⁶⁹ T. Maggs, pers. comm.

⁷⁰ Inskeep and Maggs, 'Unique art objects'.

early clusters may be a result of the distribution of archaeological research. Indeed, some indication of the true extent of such settlement is given by the site of Mpame, a shell midden found on the coast of the southern Transkei. Pottery is similar to typical Lydenberg from Natal and has been dated to the seventh and eighth centuries a.d. (Pta-2019, Pta-2045).⁷¹ The midden consists mostly of the brown mussel, *Perna perna*, although fishbones and a faunal collection, possibly including cattle, were also found. Mpame is the southernmost dated site of its kind on the African continent and is probably close to the limit of early farming settlement.

A second cluster, broadly contemporary with the Lydenburg, has been named Gokomere.⁷² Relatively little is known of such sites in the Eastern Plateau Slopes region, although current research in Mozambique is providing some important information. The site of Hola Hola, on the banks of the Sabi River, has a ceramic assemblage which has been used to define a regional facies of the Gokomere cluster. Hola Hola has been dated to the ninth century a.d. (R-1326).⁷³ A coastal midden further to the north at Chibuene was occupied about a century earlier (R-1325)⁷⁴ but has similar pottery.

A major change took place in some areas of south-eastern Africa at the end of the first millennium and the beginning of the second millennium A.D.; a change which is marked in most aspects of the archaeological record. Thus ceramics are completely different in both structure and style of decoration. Settlements, as well as in the lower parts of the region, are also found on the high land between the major river systems and in the foothills of the escarpment. Many were built in stone, showing considerable variation in architectural style. There were some important economic changes. The reasons for this transition, described by one writer as a *Difaqane* of the eleventh century,⁷⁵ are poorly understood. Nevertheless, a number of new radiocarbon determinations are available which provide a chronology for some aspects of this later period.

Archaeological sites at Phalaborwa, on the inland margin of the Mozambique plain, have provided evidence for a continuing sequence of settlements over the past millennium. Two dated burials have given some indication of the physical type of the prehistoric occupants of this area. At Kgopolwe a skeleton has been dated to sometime between the tenth and thirteenth centuries a.d. (Pta-338, Y-1638, Y-1662).⁷⁶ This has both negro and non-negro physical features, suggesting a complex genetic interplay. A later burial at Nagome (Pta-289)⁷⁷ which, when the date is calibrated, may be attributed to the

⁷¹ M. Cronin, pers. comm.

⁷² Again, the term 'Gokomere Tradition' has been adopted as a general category following terminological disagreements. It is taken to include a number of regional facies, some of which are mentioned in the discussion which follows.

⁷³ Pers. comm., Archaeology Section, Eduardo Mondlane University, Maputo.

⁷⁴ Pers. comm., Archaeology Section, Eduardo Mondlane University, Maputo.

⁷⁵ T. N. Huffman, 'The origins of Leopard's Kopje: An 11th century Difaqane', *Arnoldia* VIII (33), (1978), 1-23.

⁷⁶ G. P. Rightmire and N. J. Van der Merwe, 'Two burials from Phalaborwa and the association of race and culture in the Iron Age of southern Africa', *S. Afr. archaeol. Bull.* XXXI (1976), 147-52.

⁷⁷ Rightmire and Van der Merwe, 'Two burials'.

seventeenth century A.D., falls within the known range of variation for the southern African negro physical type.

A standard assumption may be dethroned as a result of excavations carried out on the south coast of Natal. It has long been believed that Nguni communities and, by implication, earlier farming societies in these parts of Africa, enforced a prohibition on fish as a food resource. Excavations at the site of Mpambanyoni have shown that fish were eaten in considerable quantities. The faunal assemblage from this hilltop settlement close to the sea also includes a number of species of small antelope, probable cattle and molluscs. Three radiocarbon dates indicate that occupation was in the late tenth and eleventh centuries a.d. (Pta-2527, Pta-2528, Pta-2534).⁷⁸

There has been considerable interest in the origins of maize (*Zea mays*) in Africa for a number of years but there is as yet no firm evidence for pre-Columbian introduction. The suggestion of its use in the fifteenth century at the Natal site of Border Cave, made some years ago,⁷⁹ must now be corrected in the light of new evidence. Direct dating of the piece of cob itself has placed it in the early part of the last century (Pta-1728).⁸⁰ Thus it would still seem most likely that the crop was introduced via Delagoa Bay after the early seventeenth century. Maize cobs have been found in a midden at the site of Mgoduyanuka, in the upper part of the Tugela River Basin, which has a determination that, when calibrated, indicates occupation between the mid-seventeenth and mid-eighteenth centuries (Pta-1698).⁸¹ Further to the north, on the Babanango Plateau between the catchments of the Tugela and Mfolozi River systems, maize seeds from the site of Nqabeni are dated to some time after the late seventeenth century (Pta-1770).⁸² Thus although the evidence is still insubstantial, an outline for the chronology of the introduction of this important new crop is emerging.

The increase in the evidence for the economies of these farming communities is paralleled by a greater understanding of their technology. Iron smelting is known from a number of sites in different parts of the region and several examples of concentrated furnaces are known, where production was clearly on a large scale. One such site, in the valley of the Hluhluwe River in Zululand, has been dated, after calibration, to between the seventeenth and early nineteenth century (Pta-2445, Pta-2446).⁸³ A further area known for iron smelting is the vicinity of Phalaborwa in the eastern Transvaal. Here, a set of seven furnaces, which probably date to the nineteenth century (Pta-1402)⁸⁴ has been examined recently. Chemical analysis has shown that ore was carried a distance of 20 km to the smelting site and it is estimated that considerable quantities of timber were used to produce the amount of iron suggested by the size of the slag heap.

One of the notable characteristics of later farming settlements is that they were often built in stone, with considerable expertise and the employment

⁷⁸ T. Robey, 'Mpambanyoni: A late Iron Age site on the Natal south coast', *Ann. Natal Mus.* xxiv (1980).

⁷⁹ Soper, 'Dates'.

⁸⁰ Vogel, 'Border Cave sequence'.

⁸¹ T. Maggs, pers. comm.

⁸² M. Hall and T. Maggs, 'Nqabeni, a Late Iron Age site in Zululand', *S. Afr. Archaeol. Soc. Goodwin Series*, III (1979), 159-76.

⁸³ M. Hall, 'An Iron smelting site in the Hluhluwe Game Reserve, Zululand', *Ann. Natal Mus.* xxiv (1980).

⁸⁴ N. J. Van der Merwe, pers. comm.

of a variety of architectural styles. Radiocarbon dates from the site of Mgoduyanuka and Nqabeni have already been mentioned. Both had complex stone structures, probably used to enclose livestock. In the latter case, the style of building has been formally defined as Type B – an extension of the system of classification employed on the southern Highveld.⁸⁵ Further north, in the Transvaal, a number of stone walled enclosures have been recorded in the Lydenburg district. A charred post in a hut from one of these sites has been dated (Pta-1632).⁸⁶ Calibration suggests a true age in either the late seventeenth or early nineteenth centuries.

Building in stone is, of course, one of the defining characteristics of Great Zimbabwe and related sites. Most of these are in the North-Eastern Plateau region, which will be described later in this review. But Zimbabwe were also built on the Mozambique plain and one such site is Manekweni which is in the coastal lowlands to the north of Inhambane. Some radiocarbon determinations have been cited in an earlier Review⁸⁷ but the full series is now available. The sequence indicates continuity of occupation from the twelfth to the seventeenth century (HAR-1812, HAR-1813, HAR-1814, HAR-1815, HAR-1816, HAR-1817, HAR-1818).⁸⁸ The earliest structures, as well as the pottery, closely resemble those in the interior Zimbabwe while the lack of any sharp breaks or discontinuities in the sequence suggests a continually evolving tradition. Manekweni can be related to the ruling Shona dynasties of this area and it is possible that the site was the capital of the sixteenth-century ruler of Tonga, Gambe, who was mentioned by Portuguese chroniclers.

A second pre-colonial power was the Zulu kingdom. Principal settlements of this polity belong to the early nineteenth century, when chronologies constructed from travellers' accounts are far more reliable than the radiocarbon method. Recently, however, a new technique of dating, which relies on the record of the earth's magnetic field 'frozen' in clays fired at high temperatures,⁸⁹ has been used experimentally at the site of Dingane's capital Mgungundlovu, which was occupied between 1828 and 1839. Archaeomagnetic dates from samples taken from hearths had an accuracy of ± 30 years,⁹⁰ which indicates that the technique will be important in future dating of more recent settlements. Further application will depend on the successful construction of charts showing fluctuations in the earth's magnetic field on a regional basis.

The Southern Highveld

The Southern Highveld forms part of the interior plateau, grading into the Cape Middleveld along its western boundary and lying above the escarpment and its south-eastern slopes. The landscape is mostly flat although along the

⁸⁵ Hall and Maggs, 'Nqabeni'.

⁸⁶ T. M. Evers, pers. comm.

⁸⁷ Maggs, 'Dates'.

⁸⁸ P. Garlake, 'An investigation of Manekweni, Mozambique', *Azania*, XI (1976), 25-48.

⁸⁹ D. I. Henthorne, J. Parkington and R. C. Reid, 'An archaeomagnetic survey of Mgungundlovu', *S. Afr. Archaeol. Soc. Goodwin Series*, III (1979), 149-58.

⁹⁰ Henthorne, Parkington and Reid, 'Mgungundlovu'.

escarpment edge the Lesotho Highlands form a marginal band of particularly rugged country.

Little is known of the hunting and gathering communities which occupied these high grasslands before the arrival of farming societies. It would seem likely that they continued to live in the Highveld throughout the first millennium A.D., as the first farming communities, which spread down the south-eastern coastline of Africa, did not venture beyond the escarpment and into this region. The first permanent settlements were the numerous stone-built enclosures, the chronology of which has been described in a previous review.⁹¹

Recent research has been the close examination of a restricted area, the northern edge of the Vredefort Dome, which stands out in the otherwise flat grasslands. New radiocarbon dates are available from four sites, which have been arranged in three groups. Site 2627CD 4 represents the initial occupation of the area by farmers (Group 1) and is dated, after calibration, to the early sixteenth century (Pta-2166, Pta-2380).⁹² Each settlement is surrounded by a continuous wall, a feature of the more general 'Type N'⁹³ into which category the Group 1 settlements clearly fall.

Some two centuries later both settlement construction and ceramic style were different. Sites of this later period have been divided into two groups. Group 2 sites have a central ring of primary enclosures, surrounded by bilobial dwellings. Both this architectural style, and ceramic design, indicate an association with 'Type Z' sites recorded elsewhere on the Highveld.⁹⁴ In contrast, Group 3 sites lack bilobial dwellings and the stone walled enclosures across each settlement are joined in agglomerations, rather than forming a secondary enclosure. Pottery from Group 3 sites is a mixture of the styles found in both Groups 1 and 2.⁹⁵

Radiocarbon dates suggest that Groups 2 and 3 were broadly contemporary. Site 2627CD 2 represents Group 2 and is dated, with calibration, to the late seventeenth or early eighteenth century (Pta-2168).⁹⁶ The three determinations from the Group 3 sites, 2627CD 5 and 2627CD 6, seem to fall into the same period (Pta-2170, Pta-2172, Pta-2366).⁹⁷

Although several interpretations of the interrelationship between Groups 2 and 3 are possible, including the suggestion that they are functional variants of the same society, the excavator considers that they represent distinct communities. In this model, the Group 3 sites are descended from the Group 1 style of building, but with an architectural tradition modified as a result of proximity to Group 2 sites. This hypothesis is in keeping with the Group

⁹¹ Cited in Maggs, 'Dates'. See also T. Maggs, *Iron Age Communities of the Southern Highveld* (Pietermaritzburg, 1976).

⁹² M. O. V. Taylor, 'Late Iron Age settlements on the northern edge of the Vredefort Dome', Unpublished M.A. thesis, University of the Witwatersrand (1980).

⁹³ Type N is an architectural style of stone building, with a surrounding wall and an inner ring of primary enclosures linked by secondary walling. Distribution is concentrated on the Vaal and Klip Rivers, extending north and southwards to areas of prominent hills. See Maggs, *Iron Age Communities*.

⁹⁴ Type Z sites are also built of stone and are associated with the Kubung, an offshoot of the Rolong. See Maggs, *Iron Age Communities*.

⁹⁵ Taylor, *Late Iron Age Settlements*.

⁹⁶ Taylor, *Late Iron Age Settlements*.

⁹⁷ Taylor, *Late Iron Age Settlements*.

2 and 3 ceramic assemblages, which do seem distinct. Further research may provide more information about intricacies such as these within the prehistory of the Highveld.

The North-East Plateau

Although this region lies inland from the peripheral escarpment and forms an extension of the interior plateau lying to the north of the Southern Highveld and to the east of the Kalahari Basin, the escarpment is here less marked and the catchment basins of a series of major rivers which have cut back towards the margins of the Kalahari dominate the area. Thus the Highveld falls away into the valley of the Olifants River which drains eastwards over the Mozambique plain. The Olifants system is separated from the Limpopo and its tributaries by the Soutpansberg range. The northern catchment of the Limpopo consists of the dissected country of the Zimbabwe Middleveld and the strip of high land which marks the divide beyond which rivers drain into the Zambezi.

These river basins are areas of low-rainfall where nutrient-rich soils provide good grazing conditions. As such they fulfil the environmental requirements, also found to the south-east of the escarpment, of the earlier farming communities and it is not surprising that archaeological sites belonging to this period have been found in them. Indeed, the site of Silver Leaves, which is in the valley of the Olifants River, was one of the first localities at which the early chronology for South African farming settlement was established.⁹⁸ Two new determinations confirm the third century a.d. date cited in an earlier review (Pta-2360, Pta-2459).⁹⁹

Silver Leaves, however, is not a usual site for this region as it falls on the westernmost boundary of the Matola cluster. More frequent are ceramic assemblages of the Lydenburg and Gokomere clusters, the interrelationships of which have been the subject of recent debate in the archaeological literature, with the most sophisticated and recent model suggesting a three stream movement of people southwards.¹⁰⁰ In this scheme, the coastal Matola cluster is paralleled by a contemporary movement of communities through western Zambia and Zimbabwe, leaving behind them pottery which can be regarded as an early stage of the Lydenburg cluster. These people passed through the Zambezi and Limpopo Basins, eventually becoming established to the east and south-east of the plateau slopes. Behind them was a third movement of people, some two centuries later, whose ceramics are now known as Gokomere.

Some support for this hypothesis is given by radiocarbon dates from the site of Mabveni, on the northern slopes of the Limpopo catchment. Here, pottery suggested to be Bambata, which is seen as early in the Lydenburg cluster, has been dated to the second century a.d. (SR-43).¹⁰¹ Higher levels have a Gokomere assemblage which has been dated to the sixth century

⁹⁸ Klapwijk, 'An Early Iron Age site'.

⁹⁹ Earlier determinations from Silver Leaves were cited by Maggs ('Dates') and the new dates have been provided by M. Klapwijk, pers. comm.

¹⁰⁰ Phillipson, *The Later Prehistory*, and Huffman, 'African origins'.

¹⁰¹ T. N. Huffman, pers. comm.

(Pta-2105).¹⁰² As yet, however, the Bambata facies has not been adequately defined.¹⁰³

Despite such problems, the Gokomere cluster itself is firmly established and dated and recent research has outlined regional variants. In the upper reaches of the Zambezi River system, a late facies (Maxton) at the site of Surtic Farm has been dated to early in the eleventh century (Pta-1842),¹⁰⁴ supporting comparable dates from a nearby site.¹⁰⁵ Near to the watershed between the Zambezi and Limpopo Basins a further variant, Zhizo, has been dated to the eighth century at Taba Zika Mambo (Sr-512).¹⁰⁶ Similar pottery has been dated to the eighth and ninth centuries at Schroda, a farming settlement lying close to the Limpopo itself (Pta-1819, Pta-1967).¹⁰⁷

Further disagreement, however, surrounds the interpretations of these ceramic traditions which followed Gokomere and Lydenburg. Earlier suggestions were that Gokomere, through a process of evolution, formed the basis for the ceramic styles which were found in this region during the second millennium.¹⁰⁸ But typological re-evaluation has shown major differences between Gokomere pottery and later styles¹⁰⁹ and it has been suggested that changes took place to the south, within the Lydenburg cluster, and that communities moved back northwards, replacing those societies marked by the Gokomere style. The name 'Kutama Tradition' has been suggested for this new group.¹¹⁰

Radiocarbon determinations dating the Kutama Tradition are available from a number of sites. Chivowa Hill and Gumanye Hill are both on the northern margins of the Limpopo Basin. The former site has been dated to the tenth and eleventh centuries a.d. (Pta-1919, Pta-1922, Pta-1979),¹¹¹ while Gumanye Hill was settled in the eleventh century (Pta-1916).¹¹² Similar pottery has been found at Gwelo Kopje, which is further to the north on the watershed between the Limpopo and Zambezi River systems. This site has been dated to the ninth century a.d. (Pta-2144)¹¹³ and although the is early, it is not considered excessively so.

Problems with this concept of the Kutama Tradition stem from excavations at sites lying in the immediate valley of the Limpopo, as three have assemblages containing pottery both of the Zhizo facies of Gokomere and the Leopard's Kopje facies of the Kutama Tradition. At Commando Kop, in

¹⁰² T. N. Huffman, pers. comm.

¹⁰³ Bambata pottery has been regarded as an adoption by hunting and gathering communities (see Phillipson, *The Later Prehistory*) but has subsequently been reincluded within the Lydenburg cluster (Huffman, 'African origins'). Despite this rather crucial change in status it has never been adequately defined.

¹⁰⁴ T. N. Huffman, pers. comm.

¹⁰⁵ Similar sites at Coronation Park, Salisbury, have been dated to the tenth century a.d. See Soper, 'Dates'.

¹⁰⁶ T. N. Huffman, pers. comm. The sample was from an earlier excavation by K. Robinson.

¹⁰⁷ E. Hanish, pers. comm.

¹⁰⁸ See, for example, B. M. Fagan, *Southern Africa during the Iron Age* (New York, 1965), or K. R. Robinson, 'The Leopard's Kopje culture: its position in the Iron Age of southern Rhodesia', *S. Afr. archaeol. Bull.* XXI (1966), 5-51.

¹⁰⁹ T. N. Huffman, 'The Leopard's Kopje tradition', *Mem. natl. Mus. Rhod.* VI (1974), 1-150.

¹¹⁰ Huffman, 'Eleventh century Difaquane'.

¹¹¹ P. Sinclair, pers. comm.

¹¹² T. N. Huffman, pers. comm.

¹¹³ T. N. Huffman, pers. comm.

Botswana, this mixed collection has determinations which lie in the ninth and tenth centuries (Pta-1817, Pta-1957).¹¹⁴ Similar material at Pont Drift 1/1 falls in the ninth century (Pta-1961),¹¹⁵ while at Pont Drift 1/2, the assemblage is bracketed by ninth and twelfth century radiocarbon dates (Pta-1818, Pta-1959).¹¹⁶

The faunal assemblage from Pont Drift 1/2 is of particular interest. Here, apart from bones of cattle, caprines and non-domesticated fauna, were remains of the house rat, *Rattus rattus*. This is the earliest known occurrence of this species south of the Limpopo and its presence represents an addition to the fauna of southern Africa, probably a by-product of landfalls by traders on the east African coast.

As these Limpopo sites lie within the general distribution of the Gokomere cluster, it is difficult to accept that they are transitional stages between the earlier and later pottery styles. Such an argument would imply that the Gokomere cluster gave rise to the Leopard's Kopje facies, which must in turn rest on the invalidation of the typological disconformity which has been convincingly demonstrated.¹¹⁷ It would seem more likely that the Pont Drift and Commando Kop sites reflect the intermingling of an incoming ceramic style with an established tradition.

A further complication is the assemblage from the site of Icon, also located in the Limpopo valley. This early fourteenth-century settlement (Pta-1652)¹¹⁸ has pottery apparently bearing little relation to other assemblages in southern Africa. Less than a third of the fauna from this site was of domesticated species, indicating a heavy reliance on the hunting, snaring or gathering of wild animals. This settlement may represent an eastern manifestation of yet-unknown societies occupying the Kalahari margins in Botswana, or it may be related to sites on the Highveld.

The Icon assemblage indicates the potential complexity of ceramic style distributions in this part of southern Africa. Indeed, it is possible that a full understanding of the social networks, interaction between regions and population movements which lie behind the ceramic assemblages and their groupings will not be obtained until other aspects of the lifeways of these farming communities are further investigated.

One such facet which is becoming increasingly well understood on this north-eastern region of the plateau is iron working, thus paralleling information from sites to the south-east of the escarpment. At Tarnagulla, in the highlands of Zimbabwe between the two major river systems, a furnace has been dated to the fourteenth century a.d. (Pta-1840, SR-506).¹¹⁹ Excavation revealed at least ten tuyère holes, each with more than one pipe, suggesting

¹¹⁴ E. Hanisch, pers. comm.

¹¹⁵ E. Hanisch, pers. comm.

¹¹⁶ I. Plug, N. J. Dippenaar and E. Hanisch, 'Evidence of *Rattus rattus* (House Rat) from Pont Drift, an Iron Age site in the northern Transvaal', *S. Afr. J. Sci.* LXXV (1979), 82.

¹¹⁷ Huffman, 'Leopard's Kopje'.

¹¹⁸ E. Hanisch, 'Excavations at Icon, northern Transvaal', *S. Afr. Archaeol. Soc. Goodwin Series*, III (1979) 72-9. E. Voigt, 'Faunal remains from Icon', *S. Afr. Archaeol. Soc. Goodwin Series*, III (1979), 80-5.

¹¹⁹ M. D. Prendergast, pers. comm. and 'A new furnace type from the Darwendale Dam Basin', *Rhodesian Prehistory* VII (1975), 16-20.

that this may have been run with an induced draught, rather than with bellows. Such a type was previously unknown south of the Zambezi, although it is common in Zambia. A similar furnace, a short distance from Tarnagulla at Gwebe Junction, has also been dated to the fourteenth century (Pta-2112).¹²⁰

Two further smelting sites, which were used considerably later and are different in design, have been described from localities slightly to the north. At the Chisvingo Lower Site one of a set of five similar furnaces was excavated. Four tuyère holes had been provided for the use of bellows and the forced-draught method. The calibrated radiocarbon date suggests that this site was last used in the mid-seventeenth century (Pta-1843).¹²¹ The nearby Chisvingo Hill Furnace Site was in use later, as the calibrated determination indicates a date younger than the mid-nineteenth century (Pta-1846).¹²²

Further insight into the social, economic and political organization of farming communities early in the second millennium may be expected as a result of research at sites on the Greefswald farm, slightly to the south of the Limpopo River. Three areas have been excavated, K2 (also known as Bambandyanalo) has the most extensive deposits, and lies in a sheltered valley. Nearby is Mapungubwe Hill, an isolated outcrop of sandstone which rises some 30 metres above the general landsurface. Earlier excavations were concentrated on the summit but more recent work has been carried out at its base in an area known as the Southern Terrace. These three sites clearly form part of an interrelated complex.

The first set of radiocarbon dates, obtained from samples taken from Mapungubwe Hill, suggested that occupation was during the fourteenth and fifteenth centuries (Y-135/9, Y-135/14).¹²³ These determinations, however, were made on carbonized grains which, because of the unusual carbon isotope composition of such crop plants, produce apparent dates which are too young. The more recent set of determinations confirms that this is the case.

The earliest ceramic assemblages from the Greefswald complex are undated, but clearly belong within the Lydenburg cluster of sites. Subsequently, villages were established at K2 and on the Southern Terrace. Nine radiocarbon dates from the first of these sites fall between the late tenth and late eleventh centuries a.d. (Pta-304, Pta-305, Pta-306, Pta-307, Pta-1157, Pta-1214, Pta-1215, Pta-1226, Pta-2051).¹²⁴ Three dates from the lower levels of the Southern Terrace – a part of the succession known as Phase 2 – indicate contemporary occupation, before the end of the eleventh century (Pta-768, Pta-2023, Pta-2024).¹²⁵ It should be noted, however, that the early tenth century date indicated by Pta-2024 may be too old as it was obtained from a carbonized beam which may predate settlement.

Subsequent horizons on the Southern Terrace have been divided into two

¹²⁰ M. D. Prendergast, pers. comm.

¹²¹ M. D. Prendergast, 'Stone-reinforced furnaces from Masembura Tribal Trust Land, Rhodesia', *Rhodesian Prehistory* VII (1977), 17–18.

¹²² M. D. Prendergast, 'Chisvingo Hill furnace site, northern Mashonaland', *S. Afr. Archaeol. Soc. Goodwin Series*, III (1979), 47–51.

¹²³ G. A. Gardner, 'Mapungubwe', Pretoria (1963).

¹²⁴ J. C. Vogel, 'Radiokoolstofdatering van nedersettings uit die ystertydperk op Greefswald', Unpublished paper.

¹²⁵ Vogel, 'Radiokoolstofdatering'.

further phases of occupation. Four determinations indicate that Phase 3 lasted from the mid-eleventh to the mid-twelfth centuries (Pta-437, Pta-438, Pta-439, Pta-1156)¹²⁶ and a further three dates place Phase 4 between the middle and end of the twelfth century (Pta-752, Pta-766, Pta-1209).¹²⁷ Pta-1138, which also comes from Phase 4 but dates to the mid-fourteenth century, was obtained from a sample near to the ground surface which had probably been contaminated.

Only four new dates are available from the excavations on the summit of Mapungubwe Hill but these fall consistently within the late eleventh and early twelfth centuries (Pta-372, Pta-1145, Pta-1158, Pta-1159).¹²⁸ This indicates that utilization of the hilltop was contemporary with Phase 3 of the occupation of the Southern Terrace.

The Greefswald sites have long been known for the richness of their archaeological deposits and for the spectacular nature of some of their artefacts.¹²⁹ Although ceramics show development through the phases of occupation, they may probably be placed within the more general Kutama Tradition. In addition, the site has elaborate copper, gold and gold-foil artefacts indicating production considerably beyond the needs of a subsistence economy.

Although such finds provided the initial impetus for work, research has also produced important evidence for social and economic organization. It is now clear that these sites fall firmly within the framework of indigenous southern African farming communities.

Excavations at K2 indicated that a number of huts were grouped around a central livestock enclosure and it is reported that the contemporary village on the Southern Terrace was similar. Spindle-whorls suggest the manufacture of cotton cloth and the use of gold indicates that mining must have been an important activity. Clearly, a specialized economy had developed, implying a network of interrelationships between these and other sites in the Limpopo valley and beyond. Indeed trade beads, ivory working and weaving suggest that the Mapungubwe community was involved in direct trade with the east coast.

Such an economic status is also reflected in the faunal assemblage. It has recently been suggested that the large concentration of livestock at Mapungubwe is a reflection of the political importance of its occupants and the role of the settlement in a trading economy.¹³⁰ The age structure of the domestic fauna, which accounts for more than 90 per cent of the estimated meat yield of the assemblage, indicates that animals were slaughtered when mature, rather than conserved for their secondary products such as milk – a pattern which certainly suggests that livestock were not in short supply.

As a result of the redating of Mapungubwe it is now clear that much of the occupation of this site pre-dated Great Zimbabwe and the group of stone-built structures which mark this polity. Thus, whereas earlier inter-

¹²⁶ Vogel, 'Radiokoolstofdatering'.

¹²⁷ Vogel, 'Radiokoolstofdatering'.

¹²⁸ Vogel, 'Radiokoolstofdatering'.

¹²⁹ L. Fouche, *Mapungubwe, ancient Bantu Civilization on the Limpopo* (Cambridge, 1937). Gardner, *Mapungubwe*.

¹³⁰ E. Voigt, 'The faunal remains from Greefswald as a reflection of Iron Age economic and cultural activities', Unpublished M.A. thesis, University of Pretoria (1978).

pretations saw Mapungubwe as either contemporary with, or an offshoot from, the early Zimbabwe state,¹³¹ the Greefswald sites must now be seen as an earlier, and entirely separate, development within the Limpopo Valley.

This re-interpretation is further supported by new radiocarbon dates from the site of Great Zimbabwe itself. Although an outline chronology was available from excavations near the western enclosure¹³² and woodwork from the great enclosure has been firmly dated to the thirteenth and fourteenth centuries,¹³³ there has still been ambiguity over the dating of the various phases of occupation. It is now clear that Period 3 dates to the eleventh and twelfth centuries (Pta-1984)¹³⁴ and that Period 4, the zenith of occupation of this site, can be attributed to the late thirteenth, fourteenth and early fifteenth centuries (Pta-1985, Pta-1986, Pta-2423, Pta-2429).¹³⁵ It is believed that the transition between Periods 3 and 4 marks the rise of Great Zimbabwe to the status of a centre of political and economic importance. This chronology is in accord with the sequence of dates from the site of Manekweni, which was described earlier in this review. It also matches the fourteenth century date (Pta-1920)¹³⁶ for a peasant living site associated with the main occupation at Great Zimbabwe and located some 20 km away on Montevideo Ranch. It has been suggested that the rise of the Zimbabwe state cut off the economic hinterland of Mapungubwe, leading to the decline of the earlier centre.¹³⁷

We should like to thank all those colleagues who provided information about their research prior to publication. J. Deacon, T. Maggs, T. Huffman and A. Mazel kindly read through an earlier draft of this paper and S. O'Connell typed the manuscript.

SUMMARY

In this paper we review radiocarbon dates which have become available over the past three years for the more recent archaeological sites south of the Cunene and Limpopo Rivers, assessing the determinations within the broader context of economy and society. For a framework, we make use of broad physiographic divisions of southern Africa, thus breaking from the artificial constraints of modern political divisions and allowing greater possibilities of synthesis.

Within the set of new dates there are several fields in which recent radiocarbon determinations have been particularly important. The nature of hunting and gathering and herding communities in the arid western regions of the sub-continent is now more fully understood and more information is available about the succession of lithic industries in the south-western interior. In the south-eastern coastal areas the geographical extent of the earliest farming communities has been firmly dated. New determinations are beginning to provide a firmer chronology for the succession of ceramic industries in the east, and reassessment of the dating of the important sites of Mapungubwe and Great Zimbabwe demands a revision of concepts of early state development and trading contact with the east coast.

¹³¹ For example, B. M. Fagan, 'Zambia and Rhodesia', in P. L. Shinnie (ed.), *The African Iron Age* (Oxford, 1971).

¹³² The chronology established on the basis of previous radiocarbon dates is summarized in P. S. Garlake, *Great Zimbabwe* (London, 1973).

¹³³ T. N. Huffman and J. C. Vogel, 'The controversial lintels from Great Zimbabwe', *Antiquity* LIII (1979), 55-57.

¹³⁴ T. N. Huffman, pers. comm.

¹³⁵ T. N. Huffman, pers. comm.

¹³⁶ P. Sinclair, pers. comm.

¹³⁷ Vogel, 'Radiokoolstofdatering'; T. N. Huffman, pers. comm.

APPENDIX

Radiocarbon dates not previously listed in this *Journal*.

- Manekweni, Mozambique
 HAR-1812: a.d. 1600 ± 80
 HAR-1813: a.d. 1540 ± 70
 HAR-1814: a.d. 1460 ± 70
 HAR-1815: a.d. 1520 ± 70
 HAR-1816: a.d. 1380 ± 70
 HAR-1817: a.d. 1700 ± 70
 HAR-1818: a.d. 1600 ± 70
- Border Cave, Natal
 LJ-2892: b.c. 31050 ± 2000
- Nagome, Phalaborwa, Transvaal
 Pta-289: a.d. 1750 ± 50
- K2, Greefswald, Transvaal
 Pta-304: a.d. 1070 ± 40
 Pta-305: a.d. 1060 ± 50
 Pta-306: a.d. 1100 ± 50
 Pta-307: a.d. 1020 ± 45
- Kgopolwe, Phalaborwa, Transvaal
 Pta-338: a.d. 1230 ± 45
- Mapungubwe Hill, Greefswald, Transvaal
 Pta-372: a.d. 1070 ± 45
- Border Cave, Natal
 Pta-422: b.c. 34850 ± 1000
 Pta-424: b.c. 33750 ± 1100
 Pta-433: b.c. 34150 ± 900
- Southern Terrace, Greefswald, Transvaal
 Pta-437: a.d. 1150 ± 45
 Pta-438: a.d. 1130 ± 60
 Pta-439: a.d. 1110 ± 50
- Border Cave, Natal
 Pta-704: b.c. 36650 ± 1500
- Southern Terrace, Greefswald, Transvaal
 Pta-752: a.d. 1160 ± 50
 Pta-766: a.d. 1100 ± 40
 Pta-768: a.d. 920 ± 50
- Conception Bay, Namibia
 Pta-902: a.d. 1330 ± 40
- Dikbosch 1, Cape Province
 Pta-1067: b.c. 10500 ± 100
 Pta-1068: b.c. 11820 ± 130
- Southern Terrace, Greefswald, Transvaal
 Pta-1138: a.d. 1360 ± 55
- Mapungubwe Hill, Greefswald, Transvaal
 Pta-1145: a.d. 1070 ± 40
- Southern Terrace, Greefswald, Transvaal
 Pta-1156: a.d. 1090 ± 40
- K2, Greefswald, Transvaal
 Pta-1157: a.d. 1000 ± 40
- Mapungubwe Hill, Greefswald, Transvaal
 Pta-1158: a.d. 1110 ± 50
 Pta-1159: a.d. 1110 ± 40
- Dikbosch 1, Cape Province
 Pta-1200: b.c. 11290 ± 125
- Southern Terrace, Greefswald, Transvaal
 Pta-1209: a.d. 1180 ± 50
- K2, Greefswald, Transvaal
 Pta-1214; a.d. 970 ± 40
 Pta-1215: a.d. 980 ± 50
 Pta-1226: a.d. 1000 ± 50
- Dikbosch 1, Cape Province
 Pta-1288: b.c. 11560 ± 120
- Gorob Grave Cairn, Namibia
 Pta-1344: a.d. 1235 ± 75
- Mirabib Hill Shelter, Namibia
 Pta-1368: b.c. 6460 ± 80
- Square, Transvaal
 Pta-1402: a.d. 1730 ± 35
- Voigstpost, Orange Free State
 Pta-1520: b.c. 4400 ± 75
- Mirabib Hill Shelter, Namibia
 Pta-1535: a.d. 400 ± 50
- Byneskranskop Shelter, Cape Province
 Pta-1569: b.c. 1450 ± 55
 Pta-1571: b.c. 1950 ± 60
 Pta-1587: b.c. 7810 ± 85
- Lower Numas Cave, Namibia
 Pta-1620: b.c. 2890 ± 50
 Pta-1623: b.c. 2000 ± 60
- Karamba, Namibia
 Pta-1627: a.d. 1865 ± 35
- Byneskranskop Shelter, Cape Province
 Pta-1631: b.c. 1270 ± 45
- Lydenburg 2530 AB: 3, Transvaal
 Pta-1632: a.d. 1820 ± 40
- Klingbeil 2530 AB: 1, Transvaal
 Pta-1633: a.d. 790 ± 50
- Sterkspruit, Transvaal
 Pta-1634: a.d. 540 ± 50
- Plaston, Transvaal
 Pta-1635: a.d. 635 ± 50

- Paternoster, Cape Province
 Pta-1637: a.d. 950 ± 70
 Massingir, Mozambique
 Pta-1640: a.d. 920 ± 40
 Icon, Transvaal
 Pta-1652: a.d. 1330 ± 50
 Mgoduyanuka, Natal
 Pta-1698: a.d. 1770 ± 45
 Paternoster, Cape Province
 Pta-1717: b.c. 1560 ± 60
 Border Cave, Natal
 Pta-1728: a.d. 1860 ± 105
 Klingbeil 2530 AB: 1, Transvaal
 Pta-1747: a.d. 980 ± 40
 Powerhouse Cave, Cape Province
 Pta-1763: b.c. 300 ± 65
 Nqabeni, Natal
 Pta-1770: a.d. 1890 ± 50
 Byneskranskop Shelter, Cape Province
 Pta-1772: b.c. 4420 ± 90
 Tsisab Schlucht, Namibia
 Pta-1783: a.d. 1530 ± 45
 Pta-1784: a.d. 1750 ± 40
 Conception Bay, Namibia
 Pta-1801: a.d. 1640 ± 20
 Buffelskloof, Cape Province
 Pta-1805: b.c. 9925 ± 115
 Buffelskloof, Cape Province
 Pta-1807: b.c. 20625 ± 270
 Commando Kop, Botswana
 Pta-1817: a.d. 835 ± 55
 Pont Drift, 1/2, Transvaal
 Pta-1818: a.d. 1110 ± 50
 Schroda, Transvaal
 Pta-1819: a.d. 840 ± 50
 Tsisab Schlucht, Namibia
 Pta-1820: a.d. 1675 ± 50
 Pta-1821: a.d. 1745 ± 50
 Tarnagulla, Zimbabwe
 Pta-1840: a.d. 1340 ± 40
 Buffelskloof, Cape Province
 Pta-1841: b.c. 5510 ± 65
 Surtic Farm, Zimbabwe
 Pta-1842: a.d. 1005 ± 35
 Chisvingo Lower Site, Zimbabwe
 Pta-1843: a.d. 1700 ± 50
 Chisvingo Hill Furnace Site, Zimbabwe
 Pta-1846: a.d. 1915 ± 45
 Enkwazini, Natal
 Pta-1847: a.d. 300 ± 50
 Byneskranskop Shelter, Cape Province
 Pta-1864: a.d. 1695 ± 50
 Pta-1865: a.d. 70 ± 50
 Pta-1866: a.d. 1415 ± 50
 Stofbergfontein, Cape Province
 Pta-1903: a.d. 400 ± 55
 Byneskranskop Shelter, Cape Province
 Pta-1905: b.c. 4590 ± 55
 Gumanye Hill, Zimbabwe
 Pta-1916: a.d. 1020 ± 35
 Chivowa Hill, Zimbabwe
 Pta-1919: a.d. 990 ± 35
 Montevideo Ranch, Zimbabwe
 Pta-1920: a.d. 1340 ± 40
 Chivowa Hill, Zimbabwe
 Pta-1922: a.d. 1085 ± 40
 Shongweni, Natal
 Pta-1948: a.d. 1010 ± 135
 Pta-1951: a.d. 870 ± 165
 Commando Kop, Botswana
 Pta-1957: a.d. 970 ± 40
 Pont Drift 1/2, Transvaal
 Pta-1959: a.d. 810 ± 50
 Pont Drift 1/1, Transvaal
 Pta-1961: a.d. 835 ± 50
 Schroda, Transvaal
 Pta-1967: a.d. 790 ± 50
 Enkwazini, Natal
 Pta-1977: a.d. 410 ± 60
 Chivowa Hill, Zimbabwe
 Pta-1979: a.d. 1010 ± 50
 Great Zimbabwe, Zimbabwe
 Pta-1984: a.d. 1130 ± 40
 Pta-1985: a.d. 1280 ± 45
 Pta-1986: a.d. 1330 ± 45
 Mzonjani, Natal
 Pta-1989: a.d. 280 ± 40
 Mpame, Transkei
 Pta-2019: a.d. 640 ± 60
 Southern Terrace, Greefswald, Transvaal
 Pta-2023: a.d. 1040 ± 40
 Pta-2024: a.d. 930 ± 40
 Mpame, Transkei
 Pta-2045: a.d. 720 ± 40
 K2, Greefswald, Transvaal
 Pta-2051: a.d. 1000 ± 40
 Mabveni, Zimbabwe
 Pta-2105: a.d. 585 ± 30
 Gwebe Junction, Zimbabwe
 Pta-2112: a.d. 1385 ± 45
 Gwelo Kopje, Zimbabwe
 Pta-2144: a.d. 865 ± 40

- Klingbeil 2530 AB: 1, Transvaal
 Pta-2160: a.d. 830 ± 50
 2627CD 4, Buffelshoek, Transvaal
 Pta-2166: a.d. 1600 ± 30
 2627CD 2, Buffelshoek, Transvaal
 Pta-2168: a.d. 1820 ± 70
 2627CD 5, Buffelshoek, Transvaal
 Pta-2170: a.d. 1810 ± 40
 2627CD 6, Buffelshoek, Transvaal
 Pta-2172: a.d. 1790 ± 40
 Aspoort Cave, Cape Province
 Pta-2179: b.c. 3170 ± 60
 Pta-2182: a.d. 1310 ± 30
 Msuluzi Confluence, Natal
 Pta-2195: a.d. 640 ± 40
 Pta-2197: a.d. 580 ± 30
 Smitswinkelbaai Cave, Cape Province
 Pta-2198: a.d. 530 ± 35
 Pta-2200: a.d. 775 ± 35
 Aspoort Cave, Cape Province
 Pta-2250: b.c. 7470 ± 160
 Silver Leaves, Transvaal
 Pta-2360: a.d. 250 ± 50
 2627CD 6, Buffelshoek, Transvaal
 Pta-2366: a.d. 1840 ± 50
 2627CD 4, Buffelshoek, Transvaal
 Pta-2380: a.d. 1650 ± 50
 Ndongonwana, Natal
 Pta-2388: a.d. 730 ± 50
 Pta-2389: a.d. 760 ± 50
 Aspoort Cave, Cape Province
 Pta-2422: b.c. 4900 ± 145
 Great Zimbabwe, Zimbabwe
 Pta-2423: a.d. 1400 ± 50
 Pta-2429: a.d. 1410 ± 40
- Hluhluwe Furnace Site, Natal
 Pta-2445: a.d. 1860 ± 50
 Pta-2446: a.d. 1790 ± 40
 Silver Leaves, Transvaal
 Pta-2459: a.d. 250 ± 40
 Mpambanyoni, Natal
 Pta-2527: a.d. 970 ± 50
 Pta-2528: a.d. 1020 ± 50
 Pta-2534: a.d. 1065 ± 50
 Chibuene, Mozambique
 R-1325: a.d. 770 ± 50
 Hola Hola, Mozambique
 R-1326: a.d. 890 ± 50
 Matola IV, Mozambique
 R-1327: a.d. 70 ± 50
 R-1328: a.d. 830 ± 50
 Mabveni, Zimbabwe
 SR-43: a.d. 180 ± 120
 Tarnagulla, Zimbabwe
 SR-506: a.d. 1455 ± 80
 Taba Zika Mambo, Zimbabwe
 SR-512: a.d. 740 ± 70
 Buffelskloof, Cape Province
 UW-339: b.c. 20850 ± 850
 Byneskranskop, Cape Province
 UW-409: b.c. 4150 ± 140
 Mapungubwe Hill, Greefswald,
 Transvaal
 Y-135/9: a.d. 1420 ± 60
 Y-135/14: a.d. 1380 ± 60
 Kgopolwe, Phalaborwa, Transvaal
 Y-1638: a.d. 960 ± 80
 Y-1662: a.d. 1130 ± 80