

# Ancient mining and Zimbabwe

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## SYNOPSIS

Ancient gold mining and Zimbabwe have been commonly associated for over a hundred years, either in terms of an exotic colony for gold export or as an African state based on the East Coast trade. The stratigraphy and radiocarbon dates from Zimbabwe and the known sequence for the Rhodesian Iron Age demonstrate that Zimbabwe was built after A.D. 1000. A review of the evidence for ancient gold mining shows a similar antiquity, and a complementary rise in prosperity in Arab settlements on the East Coast indicates that gold was not extensively mined until the eleventh century. Large quantities of imported articles at Zimbabwe indicate the extent of trading during the fourteenth and fifteenth centuries, and the origins of Zimbabwe probably lay in an overflow of wealth from the gold trade during the twelfth and thirteenth centuries. Zimbabwe was abandoned by the sixteenth century because of environmental factors.

## SAMEVATTING

Die goudontginning van ouds en Zimbabwe is vir meer as 'n honderd jaar geassosieer, hetsy in terme van 'n eksotiese kolonie vir gouduitvoer, hetsy as 'n Afrikaanse staat wat op die Ooskushandel gebaseer was. Die stratigrafie en radiokoolstofdatums in verband met Zimbabwe en die bekende volgorde van die Rhodesiese Ystertydperk toon dat Zimbabwe na 1000 n.C. gebou is. 'n Oorsig oor die tekens van ou goudontginning dui op dieselfde ouderdom en verder dui 'n toename in welvaart in die Arabiese nedersettings langs die Ooskus daarop dat goud nie voor die elfde eeu op groot skaal ontgin is nie. Groot hoeveelhede invoerartikels by Zimbabwe dui op die omvang van die handel gedurende die veertiende en vyftiende eeu en Zimbabwe het waarskynlik sy oorsprong te danke aan 'n oorloop van rykdom van die goudhandel gedurende die twaalfde en dertiende eeu. Zimbabwe is teen die sestiende eeu vanweë omgewingsfaktore ontruim.

## INTRODUCTION

Since the beginning of recorded history in Southern Africa, ancient gold mining has been associated with Zimbabwe. Early Portuguese chroniclers, such as De Barros<sup>1</sup>, linked Rhodesia with ancient Ophir and the gold mines of King Solomon. Mauch<sup>2</sup>, Bent<sup>3</sup>, and Hall and Neal<sup>4</sup> supported this supposition, and they believed that Zimbabwe was the product of an exotic civilization.

Both MacIver<sup>5</sup> and Caton-Thompson<sup>6</sup> largely avoided the question of ancient mining in their investigations, but their medieval dating and essentially-African theory were diametrically opposed to the great antiquity and exotic origins attributed to Zimbabwe by others. Subsequent research on the Zimbabwe culture has tended to concentrate on aspects other than the relationship between Zimbabwe and ancient mining, and this association has only recently been re-examined<sup>7</sup>.

Over the last one hundred years, the main hypotheses about Zimbabwe have been that Zimbabwe was an exotic colony for the exploitation of gold, or that Zimbabwe was an indigenous African state based on the East Coast gold trade.

## THE ZIMBABWE SEQUENCE

Before any hypothesis about Zimbabwe can be regarded as a theory,

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it must be based on the stratigraphical sequence there. Decomposed bed rock on the Acropolis was mixed with Early Iron Age Gokomere pottery and charcoal, which has been radiocarbon-dated to A.D.  $320 \pm 150$  (M-913)<sup>8</sup>. Similar sites in southern Mashonaland date between the second and sixth centuries A.D. (Table I). The Gokomere people were probably some of the first negroes to cross the Zambezi, and their sites have yielded the remains of iron smelting, domestic

animals, and pole-and-daga huts<sup>9, 10</sup>.

The Gokomere component at Zimbabwe represents Period I. It is buried some 14 feet below the first stone walls and clearly is unrelated to the Zimbabwe culture.

Period II is a Later Iron Age occupation characterized by cattle figurines, cattle bones, bone points, pole-impressed hut daga, and a different assemblage of pottery. Charcoal from this zone has been radiocarbon-dated to A.D.  $1075 \pm 150$  (M-914). Period II sites have not

TABLE I  
THE DATING OF SITES IN SOUTHERN MASHONALAND

Zimbabwe Sequence	Other sites
PERIOD V 19th century Duma	
Sterile lens	16th-18th century Khami Portuguese imports Dhlo/Dhlo
PERIOD III/IV (M-915) $1440 \pm 150$ (SR-47) $1380 \pm 90$ ZIMBABWE (Pta-) $1320 \pm$ CULTURE	(SR-120) $1460 \pm 90$ Lillte Mapila
PERIOD II (M-914) $1075 \pm 150$ LOWER ZIMBABWE	(SR-134) $1090 \pm 95$ Mawala Hill (Y-135-17) $1050 \pm 65$ K2 (SR-218) $1070 \pm 80$ (SR-217) $1070 \pm 65$ (SR-216) $1000 \pm 50$ (N-772) $900 \pm 100$ } Leopard's Kopje
Sterile lens	(I-4862) $820 \pm 95$ (SR-55) $700 \pm 110$ (SR-225) $670 \pm 90$ (N-1275) $690 \pm 65$ Makuru } Zhizo level } Leopard's Kopje
PERIOD I (M-913) $320 \pm 150$ GOKOMERE	(SR-117) $540 \pm 95$ Kinsale (SR- 26) $530 \pm 120$ Gokomere (SR-119) $410 \pm 95$ Sigwa (SR- 79) $570 \pm 110$ (SR- 43) $180 \pm 120$ } Mabveni

been positively identified anywhere else, although a few surface collections from the Chibi district are thought to represent this archaeological culture<sup>8</sup>. A similar Later Iron Age culture, Leopard's Kopje, first appears in Matabeleland during the eleventh century<sup>11</sup> and provides an indirect confirmation for the Period II date.

Before the Later Iron Age cultures of Lower Zimbabwe and Leopard's Kopje began, a second phase of the Early Iron Age, Zhizo<sup>12</sup>, continued in southern Mashonaland. The Period II zone is separated from Period I by a sterile lens<sup>8</sup>, and, since Zhizo pottery has not been found at Zimbabwe, the sterile layer probably represents a period of two or three hundred years when Zimbabwe was unoccupied.

The Period II levels lie from 2 to 12 feet below the first stone walls and therefore predate the Zimbabwe culture, but no break comparable to that between Periods I and II separates Period II from III.

Instead, there is a transition in material culture. First the pottery undergoes certain alterations, then pole-and-daga huts are replaced by solid daga huts and, only afterwards, are the first stone walls constructed. The combination of all three (changed pottery, solid daga huts, and stone walls) characterize Zimbabwe Period III/IV, the time of the Zimbabwe culture. A Period III/IV deposit near the Great Enclosure has been radiocarbon-dated to A.D. 1380  $\pm$  90 (SR-47), and one on the Acropolis has been dated to A.D. 1440  $\pm$  150 (M-915).

Two wooden lintels from drain 7 of the inner wall of the Great Enclosure were radiocarbon-dated in 1952<sup>13</sup> to between the fifth and eighth centuries A.D. (C-613, C-917, and GL-19). One of these beams has recently been redated to A.D. 1320 (pta) which eliminates the previous dating inconsistency.

Thousands of glass beads have been recovered from the III/IV levels, as well as datable imports such as fourteenth century Syrian glass<sup>14, 15</sup>, fourteenth century Persian faience<sup>16, 17</sup>, fourteenth to sixteenth century Chinese celadon<sup>16-20</sup>, and a fourteenth century Kilwa coin<sup>21</sup>.

The lack of later imports associated with the Portuguese, especially Chinese blue-on-white porcelain, prompted the hypothesis that Zimbabwe was abandoned by the sixteenth century<sup>22</sup>. However, two pieces of this porcelain have been recovered recently, one from the salvage excavations of a Period III/IV hut complex, and the other from a public camping area. Even though they are widely separated, both fragments may be from the same vessel. Neither could be conclusively dated, although they were placed in the early trade period (i.e., pre-1700) and not the later period<sup>23</sup>. The fragment from the excavation was in the upper fill and not on any hut floor. Consequently, these finds do not significantly alter Garlake's hypothesis.

Other ruined settlements, such as Khami, which had the Portuguese imports, also used a locally made band-and-panel ware<sup>24</sup>. Caton-Thompson<sup>6</sup> is credited with finding band-and-panel ware in the Mauch ruins at Zimbabwe. On closer inspection, however, the sherds in question appear to be nineteenth century Refuge pottery and not Khami band-and-panel ware. Thus, there is little ceramic evidence of any substantial occupation after A.D. 1500.

This abandonment of Zimbabwe is confirmed by the stratigraphy on the Acropolis, where a sterile lens separates Period III/IV deposits from Period V. Period V at Zimbabwe represents the nineteenth century Duma, who were living on the north side of the Acropolis when Mauch and Render visited the ruins in A.D. 1871.

The stratigraphy and radiocarbon dates at Zimbabwe, correlated with the Iron Age sequence of Rhodesia, demonstrate that Zimbabwe was inhabited between about A.D. 1200 and 1500, and clearly not before A.D. 1000. Consequently, Phoenicians<sup>3</sup>, Sabaeo-Arabians<sup>4</sup>, or pre-Muslim Arabs<sup>25</sup> could not have built Zimbabwe.

Nor was Zimbabwe a product of a civilization. No evidence for writing, city status, full-time specialists, or intensive agriculture has been found, and even the one characteristic that Zimbabwe ostensibly shares with

recognized civilizations—monumental architecture—is considerably less technically advanced. The simple stone construction consists of walls that are wide at the bottom and narrow at the top, with no bonded joints, domes, or arches. The objects that form the major part of the Period III/IV deposits—handmade pottery, simple iron implements, and copper ornaments—are not the typical products of a civilization, but of a subsistence horticultural society. These finds are the basis of the 'essentially African' theory about Zimbabwe<sup>5, 6</sup>. The multitude of glass beads and other imports in the Period III/IV deposits indicate the extent of the East Coast trade connections. MacIver concluded that '. . . Zimbabwe, being the great distributing centre, must have owed its very existence to that trade with the coast first opened up by the Arabs of Magadoxo . . .'<sup>26</sup>, and Caton-Thompson thought that 'The trade connection with India is undoubtedly strong—indeed, I believe it to have been the primary stimulus which led to the development of the indigenous Zimbabwe culture'<sup>27</sup>.

It has been suggested that gold was mined as early as A.D. 600 in Rhodesia by Asians<sup>7</sup>, and also that the gold trade was important to the Zimbabwe state only after its initial development by a religious elite<sup>28</sup>. Therefore, the evidence for the antiquity of the gold trade in Rhodesia and its association with Zimbabwe would be worth reviewing here.

## ANCIENT GOLD MINING IN RHODESIA

Some evidence for generalized trade or barter can be found in the Early Iron Age record, but it is impossible to associate it with gold mining.

The oldest artifact connected with an ancient working is a coin of Antoninus Pius, which was reputedly found at a depth of 70 feet in an ancient shaft near Umtali<sup>3</sup>. However, Hall subsequently discredited the authenticity of this find<sup>4</sup>, and the coin's association with an ancient working is no longer acceptable.

The next evidence for early gold mining comes from the Golden

Shower claims near Arcturus<sup>29, 30</sup>. In 1943, miners unearthed a considerable amount of pottery in a quarry. The pottery was concentrated with clay figurines, charcoal, and iron slag in a few shallow pits and on a level just under the surface. The pits were only about six feet deep<sup>31, 32</sup>.

The pottery belongs to the Ziwa facies of the Gokomere Tradition, approximately A.D. 200 to 600<sup>33</sup>, and is somewhat earlier than was previously thought<sup>34</sup>.

Three long parallel drives had apparently been destroyed by the quarry, and the pits were thought to be ancient stopes filled with the pottery of the miners<sup>29, 31</sup>. Open bowls with a graphite interior were regarded as panning dishes, although a consulted geologist did not agree<sup>35</sup>. No gold ore or any tools for gold mining were found, and the proposed association between the pottery and gold miners rested on an interpretation of the pits.

The crucial evidence at Golden Shower has been destroyed, but recent finds from the Mkanga Mine near Shamva helped clarify the situation. Almost every aspect of Golden Shower was repeated at Mkanga: modern miners recovered pottery from pits several feet deep and from just below the surface; and the pottery is identical to that at Golden Shower. However, there were no ancient workings in the immediate vicinity.

Very few ancient workings are as shallow as the pits at Golden Shower and Mkanga; most are 40 to 50 feet deep and often several hundred feet long<sup>36</sup>. But storage pits 5 to 6 feet deep are common features in many Early Iron Age sites, such as Place of Offerings<sup>37, 38</sup>, Coronation Park<sup>33</sup>, Doddiburn<sup>39</sup>, and the Zhizo levels at Leopard's Kopje Main Kraal<sup>41</sup>. Both the Golden Shower and Mkanga sites are in open ground between a vlei and a small hill—typical village locations—and it is highly improbable that the pits at Golden Shower could have been ancient workings. They were probably common storage pits.

The Three Mile Water site on Chicago farm, Que Que, is another Early Iron Age site that has been used as evidence for early gold

mining<sup>40</sup>. A few dolly holes on the bank of a small stream are about 200 metres from the site and about 3 miles from the ancient workings on the present Globe & Phoenix and Gaika Mines. Because of the proximity of the ancient workings to the permanent water, dolly holes, and village site, the villagers were considered to be the miners.

It is impossible, however, definitely to connect the dolly holes with the Early Iron Age village because other people lived in the area at different times. Furthermore, the ancient workings have several sets of grinding hollows nearby, and the need to carry ore for 3 miles seems dubious.

Dolly holes are not necessarily features exclusively associated with gold mining, either. Presumably, the technology of gold extraction had its origin in earlier mining activities, and dolly holes could be used equally for the crushing of copper and iron ores as for gold ores. The site itself has produced a large quantity of copper ore and copper ornaments, but no gold. If the inhabitants of this Early Iron Age village made and used the dolly holes, it was probably for crushing copper ore.

Tafuna Hill, near Shamva, has several ancient workings, and there are dolly holes some two miles away. Garlake stated that gold was the only metal in the vicinity obtainable by an Iron Age technology, and the dolly holes were consequently equated with gold milling<sup>41</sup>. The dolly holes surround a ninth century Early Iron Age village<sup>42</sup>, and since the excavation report assigned a single component to the site, it was argued that the villagers must have been gold miners<sup>41, 43</sup>.

Some doubt exists whether, in fact, the Tafuna site does have only one component, since illustrations of the ceramics include classes exclusive to Ziwa<sup>44</sup>, Coronation<sup>45</sup>, and Sinoia<sup>46</sup>. Later peoples also lived in the area, e.g., Maxton, Musengezi, and the Portuguese, and any of them could have made the dolly holes. The Tafuna excavation uncovered no gold ore or gold-mining tools, only iron slag<sup>41</sup>. There is banded ironstone nearby<sup>47</sup>, and, if the Tafuna

villagers mined any ore, it presumably was iron.

Other sites have been associated with gold mining because they are near ancient workings or are on modern gold claims. This is not considered acceptable evidence here unless gold ore or smelted gold is found in the site, for, in all cases, a variety of peoples have lived in the same area at different times.

The earliest reliable evidence for gold mining comes from radiocarbon dates of fire-setting at the Geelong and Aboyne Mines:

Geelong SR-143 A.D. 1170 ± 95

Aboyne SR-53 A.D. 1170 ± 110

SR-58 A.D. 1300 ± 110.

There is no clear evidence that gold was mined in Rhodesia before A.D. 1000.

The suggestion that Asians, specifically Indians, mined the first gold is based on similarities in the extraction methods in India and Rhodesia<sup>7</sup>. This argument is untenable since the technology in question is too simple for cross cultural comparisons. Furthermore, the Kilwa chronicle states that Kilwa took over the Sofalan gold trade from other Arabs, not Indians<sup>1</sup>, and there is no obvious reason why Indians should not be mentioned had they been there first.

As the Arabs on the East Coast initiated the gold trade, their rise in prosperity should indicate the first intensive gold mining in the interior. The Arab settlements were independent city-states that competed with one another for the maritime trade, and they were not particularly prosperous until the end of the eleventh and the beginning of the twelfth centuries<sup>48</sup>. Apparently, the Zanzibar islands and Pemba group were the first of any importance. By the second half of the twelfth century, Mogadishu, Mafia, and Kilwa had surpassed them. Kilwa experienced a marked increase in wealth in the second half of the thirteenth century, after it had gained control of the Sofalan trade<sup>49</sup>. Consequently, a substantial gold trade with the interior probably did not begin until after A.D. 1000.

Gold mining in Rhodesia clearly preceded the development of Zimbabwe by at least one century, if

not two. It has been suggested, however, that external trade was not important until after the initial development of Zimbabwe by a religious elite, and that the gold trade had little influence on the basic subsistence economy<sup>50</sup>.

The development of a religious elite with political power is the kind of social phenomenon that is associated with the growth of complex societies based on intensive agriculture, and not with horticultural societies<sup>51</sup>. Neither are the characteristics attributed to this proposed elite compatible with the role of religion in Shona-speaking societies today<sup>52</sup>. Religious leaders just do not have the kind of power that would have been necessary to consolidate a people and then organize a sustained labour force. At present there is simply no evidence that any primarily religious group during the Later Iron Age was in control of a political organization<sup>53</sup>. Instead, the evidence indicates that Zimbabwe grew specifically out of the gold trade.

## SECONDARY STATE FROM GOLD TRADE

Trade implies a physical contact, and the contact between Arab communities on the coast and Iron Age people in the interior may have been a factor in the rise of Zimbabwe. The most important aspect, however, was probably the socio-economic changes brought about by excess wealth.

Prior to the gold trade, the economy of the Iron Age people in the interior was virtually a closed system. Whatever wealth existed was largely recycled within the system. Once a value was placed on gold, however, an outside source of wealth was introduced that was far greater than that which the subsistence economy could generate on its own. The system had to be adapted, and, for the first time, individuals—presumably hereditary leaders—could be tremendously wealthy and powerful. It may be that the structure of Later Iron Age societies, with their apparent emphasis on cattle, made these people more responsive to individual wealth and social stratifi-

cation than their predecessors had been<sup>28</sup>.

The picture 800 years later is obviously blurred in the detail of events, and it may never be known why the Zimbabwe people were the first successful group to consolidate wealth and power. Perhaps the alluvial goldfields nearby<sup>54</sup> gave them that extra advantage.

Whatever the reason, this sociological transition must have occurred at Zimbabwe by approximately A.D. 1200, for by A.D. 1250 other groups, notably later Leopard's Kopje, were beginning to imitate Zimbabwe in such things as pottery decoration and hut construction<sup>55</sup>. The large population first concentrated at Zimbabwe early in Period III/IV, when solid-daga huts were replacing those of pole-and-daga. Among other things, this large population had to be controlled, and the construction of stone walls was probably one means of organizing a large labour force, as well as being an ostentatious display of wealth. Walls the size of those at Zimbabwe could never have been built before this time because the necessary wealth had never previously existed.

Even though the Zimbabwe state was based on trade, it was primarily a political organization. The spread of Zimbabwe settlements in the fourteenth century, then, was probably not for the guarding of goldfields, but for the extension of political authority. The distribution of Zimbabwe-phase ruins is not particularly correlated with ancient workings or gold areas *per se*, but with areas of contemporary human habitation.

Great Zimbabwe was probably abandoned by the sixteenth century because of an overwhelming depletion of natural resources<sup>22</sup>. Archaeologically, Khami is a direct continuation from Zimbabwe, and, consequently, Khami was probably the next centre of the Zimbabwe state. Before this time, however, a few Zimbabwe settlements had been established in northern Mashonaland. The Monomatapa dynasty apparently grew out of one of them and became an active rival of the Khami state, probably because Zimbabwe had earlier over-extended its

political organization.

By the sixteenth century, their rivalry had escalated to armed combat<sup>56</sup>, and they were fighting off and on for the next two-hundred years<sup>57</sup>. The wars restricted gold mining and the gold trade. They were financed by the trade, and they were waged at least in part for the control of the trade. These interlocking factors ultimately seriously undermined the trade economy. The Portuguese contributed to the general disruption and, by the late eighteenth century, both states were only vestiges of their former power and wealth. The Nguni invasions of the nineteenth century gave the final blow to these trading empires.

## CONCLUSION

The story presented here is somewhat different from that proposed a hundred years ago. King Solomon did not have a gold emporium at Zimbabwe nor did the Queen of Sheba. Nevertheless, gold mining and Zimbabwe were intimately associated. The gold trade was directly responsible for the rise of the Zimbabwe state, and the restriction of trade a few centuries later destroyed Zimbabwe's successors.

## ACKNOWLEDGEMENTS

The help of Miss V. Kerr and Mr M. A. Raath, who corrected drafts of this paper, is gratefully acknowledged.

## REFERENCES

1. THEAL, G. M. *Records of south eastern Africa*. Cape Town, 1898. vol. 7.
2. BURKE, E. E. (ed.). *The journals of Carl Mauch*. Salisbury, National Archives of Rhodesia, 1969.
3. BENT, J. T. *The ruined cities of Mashonaland*. London, Longmans, Green, 1896.
4. HALL, R. N., and NEAL, W. J. *The ancient ruins of Rhodesia*. London, Methuen, 1904.
5. MACIVER, D. R. *Mediaeval Rhodesia*. London, MacMillan, 1906.
6. CATON-THOMPSON, G. *The Zimbabwe culture*. Oxford, Clarendon Press, 1931.
7. SUMMERS, R. Ancient mining in Rhodesia. Salisbury, *Museum Memoir* no. 3, 1969.
8. ROBINSON, K. R. Excavations on the Acropolis Hill. *Occasional Papers Nat. Mus. S. Rhodes.*, vol. 3, no. 23A. 1961. pp. 159-192.
9. ROBINSON, K. R. An Early Iron Age site from the Chibi district, Southern Rhodesia. *S. Afr. Archaeol. Bull.*, vol. 16, no. 63. 1961. pp. 75-102.

10. HUFFMAN, T. N. Iron Age archaeology. *Buchwa expedition*. Rhodesian Schools Exploration Society, 1973.
11. HUFFMAN, T. N. Excavations at Leopard's Kopje Main Kraal: a preliminary report. *S. Afr. Archaeol. Bull.*, vol. 26, nos. 101 and 102. 1971. pp. 85-89.
12. ROBINSON, K. R. The Leopard's Kopje culture; its position in the Iron Age in Southern Rhodesia. *S. Afr. Archaeol. Bull.*, vol. 21, no. 8. 1966. pp. 5-51.
13. SUMMERS, R. The dating of the Zimbabwe ruins. *Antiquity*, vol. 29, no. 114. 1955. pp. 107-111.
14. HALL, R. N. *Great Zimbabwe*. London, Methuen, 1905. p. 131.
15. SUMMERS, R. Excavations in the Great Enclosure. *Occasional Papers Nat. Mus. S. Rhodes.*, vol. 3, no. 23A. 1961. p. 270.
16. HALL, R. N. *Op. cit.*, p. 132.
17. MACIVER, D. R. *Op. cit.*, p. 80.
18. BENT, J. T. *Op. cit.*, p. 172.
19. WILLOUGHBY, C. J. *A narrative of further excavations at Zimbabwe*. London, George Phillip & Son., 1893. p. 15.
20. CATON-THOMPSON, G. *Op. cit.*, p. 67.
21. HUFFMAN, T. N. An Arab coin from Rhodesia. *Arnoldia*, vol. 5, no. 32. 1972.
22. GARLAKE, P. S. The value of imported ceramics in the dating and interpretation of the Rhodesian Iron Age. *J. Afr. Hist.*, vol. 9, no. 1. 1968. pp. 13-33.
23. Salisbury, Queen Victoria Museum, files TREGEAR to COOKE, 2nd May, 1973.
24. ROBINSON, K. R. *Khami Ruins*. London, Cambridge University Press, 1959.
25. GAYRE, R. *The origin of the Zimbabwean civilization*. Salisbury, Galaxie Press, 1972.
26. MACIVER, D. R. *Op. cit.*, p. 86.
27. CATON-THOMPSON, G. *Op. cit.*, p. 196.
28. GARLAKE, P. S. *Great Zimbabwe*. London, Chatto and Windus, 1973.
29. SCHOFIELD, J. F. Primitive pottery. Cape Town, *Handbook Series*, no. 3. 1948.
30. SUMMERS, R. Ref. 7, pp. 122-123.
31. Salisbury, Queen Victoria Museum, files GOODALL to SCHOFIELD, 28th Jul., 1943.
32. *Ibid.*, 18th Jun., 1944.
33. HUFFMAN, T. N. A guide to the Iron Age of Mashonaland. *Occasional Papers Nat. Mus. S. Rhodes.*, vol. 4, no. 1A. 1972. pp. 20-44.
34. SUMMERS, R. Ref. 7, p. 122.
35. Salisbury, Queen Victoria Museum, files GOODALL to SCHOFIELD, 7th Oct., 1943.
36. SUMMERS, R. Ref. 7, p. 109.
37. MACIVER, D. R. *Op. cit.*, pp. 30-34.
38. SUMMERS, R. *Inyanga—prehistoric settlements in Southern Rhodesia*. London, Cambridge University Press, 1958. pp. 26-37.
39. HUFFMAN, T. N. Iron Age archaeology. *Tshibidzini expedition*. Rhodesian Schools Exploration Society, 1972. pp. 14-15.
40. SUMMERS, R. Ref. 7, pp. 61, 122-123.
41. GARLAKE, P. S. An Early Iron Age site near Tafuna Hill, Mashonaland. *S. Afr. Archaeol. Bull.*, vol. 26, nos. 103 and 104. 1971. pp. 155-163.
42. GARLAKE, P. S. New radiocarbon date. *S. Afr. Archaeol. Bull.*, vol. 27, nos. 107 and 108. 1973. p. 166.
43. GARLAKE, P. S. Ref. 28, p. 159.
44. GARLAKE, P. S. Ref. 41, Figure 3.18.
45. GARLAKE, P. S. Ref. 41, Figures 3.19 and 20.
46. GARLAKE, P. S. Ref. 41, Figures 2.1 and 2.
47. TYNDALE-BISCOE, R. The geology of the country around Shamva, Mazoe District. *S. Rhod. Geol. Surv. Bull.*, no. 18. 1931.
48. CHITTICK, N. The 'Shirazi' colonization of East Africa. *J. Afr. Hist.*, vol. 6, no. 3. 1965. pp. 275-294.
49. CHITTICK, N. A new look at the history of Pate. *J. Afr. Hist.*, vol. 10, no. 3. 1969. pp. 375-391.
50. GARLAKE, P. S. Ref. 28, pp. 178-179, 183-184.
51. COHEN, Y. A. (ed.). *Man in adaptation; the cultural present*. Chicago, Aldine Press, 1968.
52. GELFAND, M. *Shona religion*. Cape Town, Juta, 1962.
53. BEACH, D. N. Personal communication.
54. PHIMISTER, I. R. 'Ancient' mining near Great Zimbabwe. *J. S. Afr. Inst. Min. Metall.*, vol. 74, no. 6. 1974. (This issue).
55. HUFFMAN, T. N. The Leopard's Kopje tradition. Salisbury, *Museum Memoir* no. 5. In press.
56. Letter from Diogo de Alcacova to the king, 1506. *Documents on the Portuguese*, vol. 1. pp. 389-401.
57. Letter from Joao de Sepulveda to the king, 1542. *Ibid.*, vol. 7. pp. 131-141.