

## A TUYÈRE FRAGMENT FROM MAPHORORONG (DORINGBERG), NEAR VENTERSBURG, FREE STATE\*

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### ABSTRACT

Convincing descriptions by early missionaries and travellers during the 18th and 19th century, of the smelting and smithing of iron, may be considered as circumstantial evidence for metal-working during the Late Iron Age on the Highveld. However, archaeological research in the area over the past three decades has not found any proof for these activities, although a few surface finds of ceramic blow pipes or tuyères in the Free State have been mentioned by Laidler (1936) and Maggs (1976). The present note aims to put a third tuyère find on record, describes its cultural context and summarises previous occurrences of tuyères in the area.

### INTRODUCTION

Preliminary archaeological reconnaissance on the farms Jansfontein and Fraaie Uitzicht in the Doringberg area near Ventersburg was done between 1986 and 1989 (Fig. 1). The work was later extended to include the well-preserved sites in the adjacent Willem Pretorius Game Reserve (Dreyer 1994). During an intensive survey the stone-walled structures inside the Game Reserve were identified on low level aerial photographs and plotted on topographic maps (Fig. 2). The sites were investigated afterwards and the layouts described.

The overlap of Type V and Type Z settlement patterns in the Doringberg area had previously been described by Maggs (1976:41, 230, 317, 318). The different patterns inside the Game Reserve include Type V, characterised by corbelled huts and byres with connecting walls, Type Z represented by the remains of bilobial huts, and another pattern, which resembles the settlements at Doornpoort, Winburg, and consists of cattle byres without connecting walls and with no corbelled huts (Dreyer 1992). Sites located at the foot of the mountain, facing south towards the Sand River do not compare with any of the known patterns which have already been described. Ceramic ware on the surface at all the sites seems to correspond with the Type Z associated pottery assemblage (Coetsee, 1986, 1987).

### THE FIND

During field work in December 1994, a single tuyère fragment (Fig. 3) was found on a flat hill locally known

as Oordkoppie (28.16.47S; 27.11.43E.), which overlooks the Allemanskraal Dam (Fig. 2, site 1).

The tuyère fragment measures 100 mm from the flange to the broken end. The outside diameter at the flange is 100 mm and measures at the broken end about 80 mm. The internal diameter is between 40 mm and 50 mm, tapering towards the broken end. It can be accepted that tuyère-making requires specialised knowledge, practice and experience. In this case the surface texture of the tuyère is rough and unburnished and has no marks or decorations. From its appearance it was obviously professionally made. The clay was fired and shows patches of black colouring at the broken end. It is not clear if this tuyère was used in any iron-working process, for it contains no indication of either smelting or glazing nor any back-flow of slag. No other tuyère fragments, ore, slag or indications of metal-working were present on the site.

The tuyère fragment was found on the surface adjacent to and in association with the wall base (Fig. 4) of a bilobial hut (Maggs 1976). The particular settlement pattern at Oordkoppie fits the description of the OMB1 (Mophathe) variant of the Type Z settlement pattern (Maggs 1976:267-275, 286). In this layout the base of the clay screening wall forming the front courtyard (*lelapa*) is indicated by a double row of upright stones. In the vicinity of OMB1 near Bothaville this same settlement layout was also identified on the farm Middenspruit 151 (27.35S; 27.09E), near the Vals River west of Kroonstad (Fig. 1). The site at Oordkoppie in the Willem Pretorius Game Reserve, therefore, indicates a wider southern distribution of this specific variation of the Type Z settlement pattern.



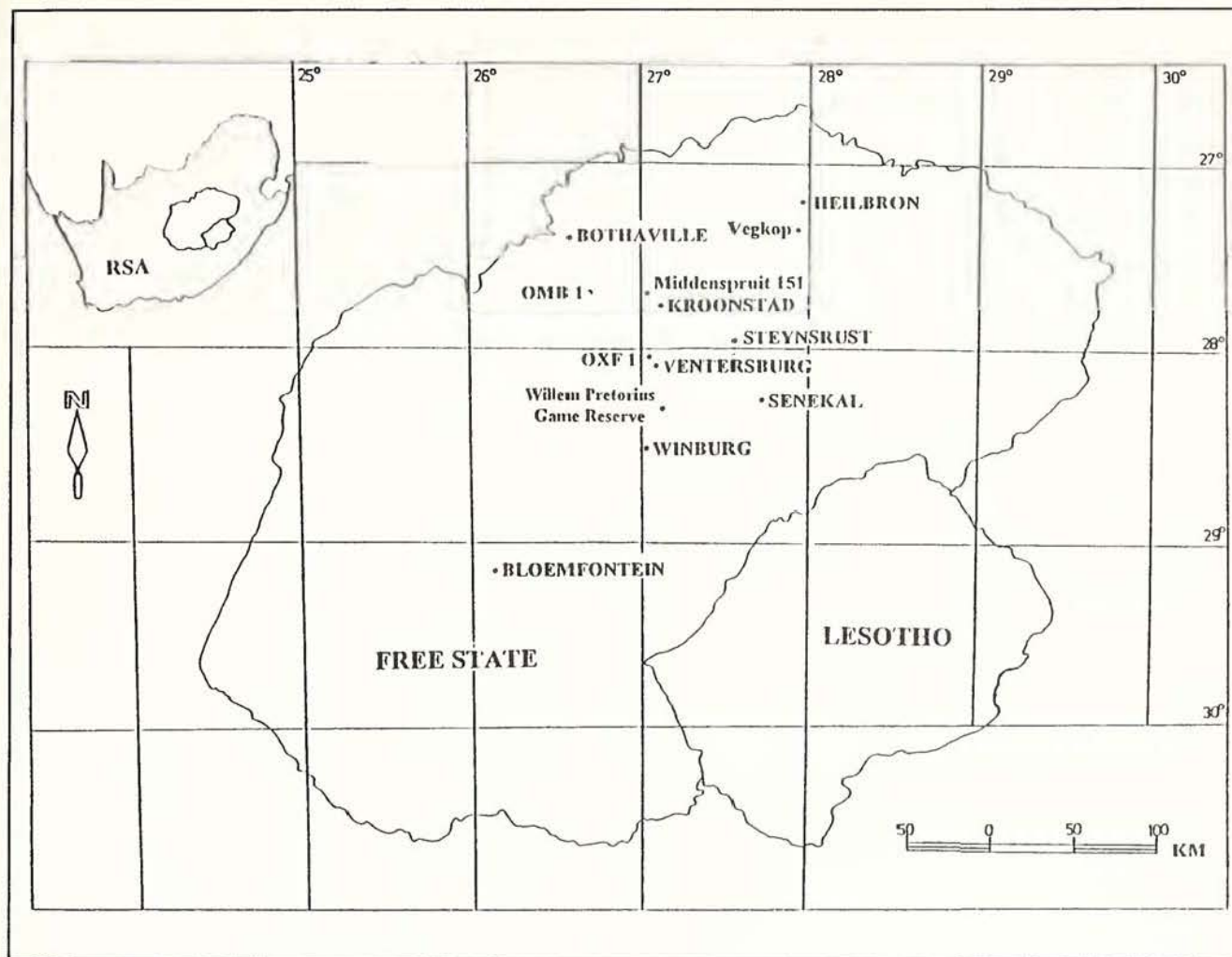


Fig. 1. Locality of places mentioned in the text.

## DISCUSSION

The written descriptions by early observers of the actual smelting and smithing of iron on the southern Highveld seem to be convincing (Fig. 5), although no archaeological evidence of such activities has so far been found. (Dreyer 1997).

Descriptions by early investigators of iron implements from stone-walled sites near Steynsrust (Daubenton 1938:366) and Vechtkop (Van Riet Lowe, 1927) did not produce any confirmation for iron-smelting, nor did the extensive work by Maggs (1976). At Krugerskraal near Heilbronn slag, vitrified stones and lumps of clay on a central circular fire place inside a hut were interpreted as furnace remains (Laidler 1936:28, 42). This claim for metal-working is further based on the description of a "mining gad" and three pieces of tuyère from the same locality. Maggs (1976:8, 321) did not find these investigations satisfactory and considers the descriptions and discussions inadequate. From his own research Maggs merely mentions surface finds of tuyère fragments and half-forged hoes, suggesting local smithing at Mequatling (Maggs 1976:321). Although the process of smithing has been described as being of a temporary

nature (Friede & Steel 1986:82), the fact that the remnants were inside a hut does not indicate that the Krugerskraal finds were the remains of smithing either.

The find of the Maphororong tuyère fragment in a domestic context and the description of the Krugerskraal material from inside a hut, however, raise the question of preferences and taboos applicable during the smelting process. From the ethnography it is clear that in many cases strict rules applied to the smelting process, prohibiting foreigners and women, and even sometimes the King, from entering the smelting place (Küsel 1979), but it is possible that these rules were relaxed during the smithing stage.

Despite certain visible indications of such activities in our area (Laidler 1936, Maggs 1976:321), no definite archaeological evidence of iron-smelting has so far been found (Maggs 1976:123, 260, 321). We have to accept, therefore, that the source of metal objects which were used in the Free State during pre-colonial times lay either to the east in Natal, or possibly in the former Tswana-occupied territories to the north and west beyond the Vaal River. Finds from east of the Drakensberg confirm the working of iron in this area (Hall 1981:169) and before the *Difaqane* flourishing trade links existed across



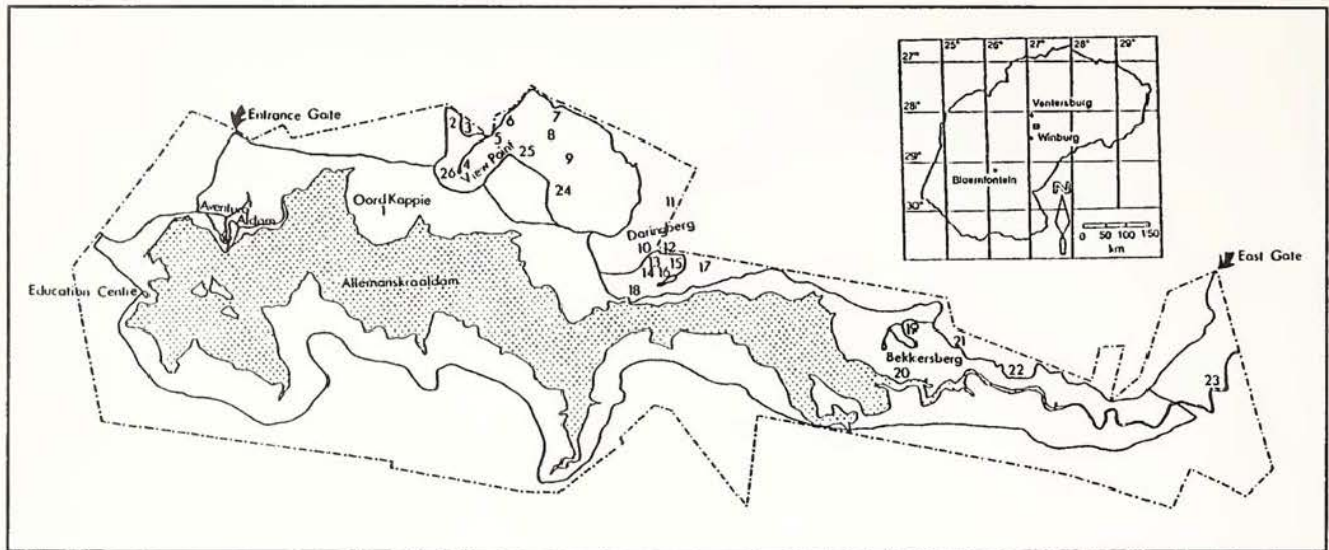


Fig. 2. Plan of the Willem Pretorius Game Reserve. The localities of archaeological sites are indicated by numbers. Number 1 = Oordkoppie.

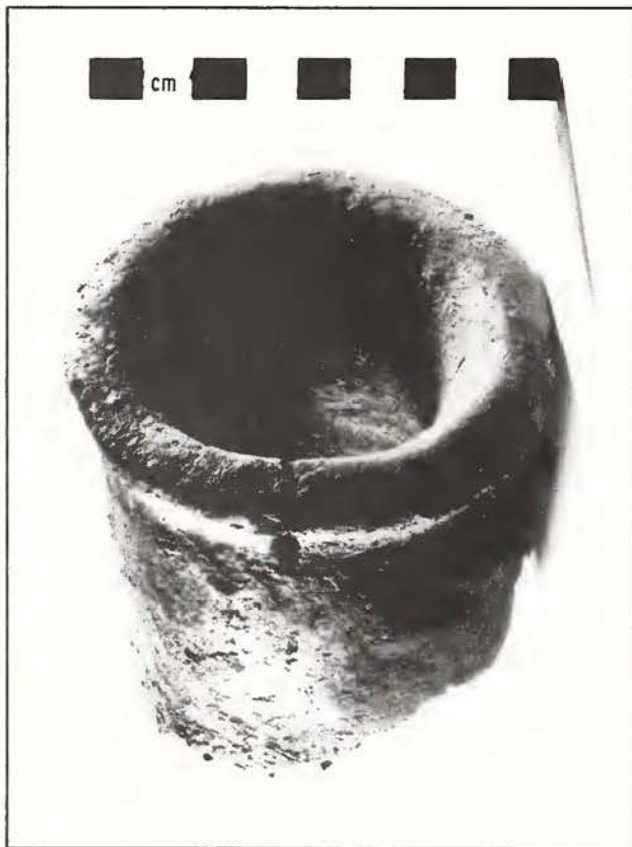


Fig. 3. Tuyère fragment found at Oordkoppie, Willem Pretorius Game Reserve, Ventersburg.

the Drakensberg between the Nguni and Sotho (Wilson 1969; Sanders 1975). This system of external trade of cattle for iron implements exploited the Basotho, who gradually became dependent on the Zulu for their supply of spears and hoes (Ashton 1967:159).

Tuyère finds from different areas have never been compared, and the relationship between Free State and

trans-Vaal finds is not clear. Based on measurements only, the Maphororong specimen seems to compare with Klapwijk's (1986) Group B classification of tuyères with an internal diameter of over 33 mm and no external markings. Iron-smelting furnaces manufactured and used by Sotho/Tswana people were described and classified by Friede and Steel (1985). Single tuyère furnaces are rare, while others, with two and three tuyère inlets, occur more frequently. Structures with no obvious tuyère inlets are also found in the area across the Vaal River (Friede & Steel 1988).

The majority of furnaces discussed by Küsel (1979) from Phalaborwa, Groot Marico and Olifantspoort in the trans-Vaal, date between the 17th and 19th century. This would correspond with the occupation of the OMB1 site, which dates between the 18th and early 19th centuries (Maggs 1976:270, 275), and the OXF1 site occupied from the 16th to early 19th century (Maggs 1976:237, 246, 265, 293.). A Type Z site at Jansfontein just outside the Willem Pretorius Game Reserve dates to about 1670 AD (Dreyer 1992:355).

### CONCLUDING REMARKS

Judging by the position and context of the find at Maphororong, this particular tuyère fragment obviously had no relation with iron-smelting. The unused appearance of the object and the lack of evidence of furnace remains, slag and ore in the Willem Pretorius Game Reserve, seem to point to the tuyère fragment being an isolated occurrence, probably carried in from elsewhere.

The actual locality of the find near the hut wall does not support metal-working either. Its association with the OMB1 Type Z hut type, could represent an origin from distant traditional Tswana communities, such as the Kubung, Tlhaping and Rolong to the west (Maggs 1976:293).

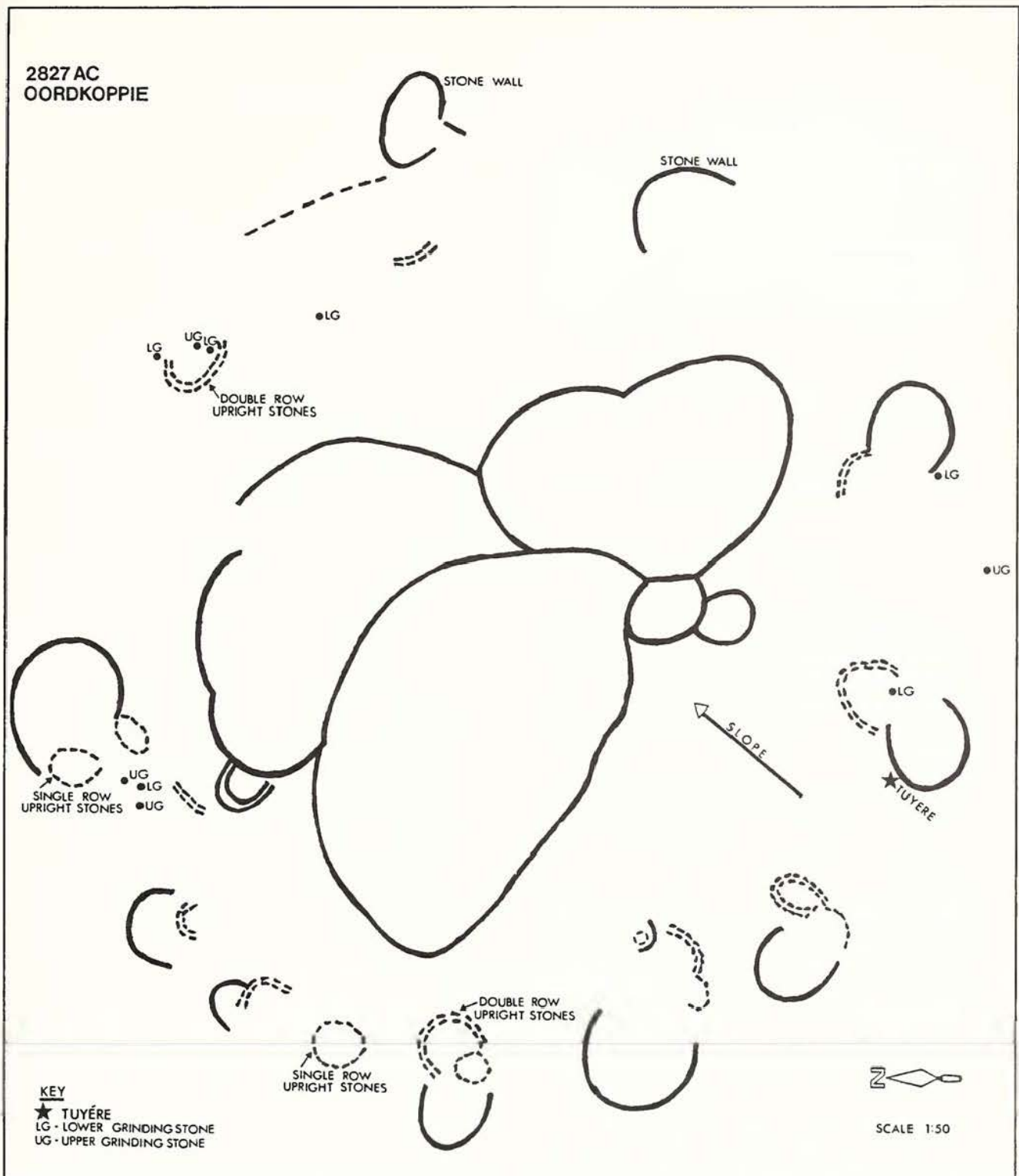


Fig. 4. Site plan of Oordkoppie. The settlement pattern corresponds with the OMBI (Mophathe) version of Type Z layout as described by Maggs (1976). Note the position of the tuyère find.

If this tuyère was indeed manufactured at the site or in its vicinity, it could mean that iron-smithing was actually done in this area as implied by the early writers (Dreyer 1997). In this case confirmation of actual iron-working may still be waiting to be discovered on the Highveld. Future research and investigations of trace elements could possibly throw new light on the subject

and may solve the question of local versus distant provenance.

#### ACKNOWLEDGMENTS

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Fig. 5. Boy using the bellows (Casalis 1861:131). Note the anvil stone and hammer to the right.

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