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CHAPTER EIGHT

IRON PRODUCTION IN UGANDA: MEMORIES OF A NEAR-FORGOTTEN INDUSTRY

Louise Iles

Introduction

The production of iron on an industrial scale played a central role in the development of political, social, economic and physical landscapes of several pre-colonial Ugandan kingdoms through the second millennium AD. However, with the escalation of modern globalisation from the nineteenth century onwards, local markets became ready consumers of cheaper imported iron from Europe. This, in combination with often disparaging colonial attitudes towards local crafts, meant that many indigenous iron industries were undermined and fell into decline. Nevertheless, pockets of 'traditional' iron production remained, and knowledge (and practice) of smelting survived well into the twentieth century.

This chapter will discuss the memories of smelting that were shared by local informants during recent archaeometallurgical fieldwork in southern and western Uganda, alongside a consideration of what the significance of the research could be to local communities. Through this twofold approach, the reciprocal value of the research is highlighted: not only are these memories relevant to the archaeologist studying past iron production (and not just those working within east Africa), the process and outcomes are also valued by those who live today within these industrial landscapes.

The Early Impacts of Industrial Iron Production

The advent of metallurgy throughout the world is often associated with transformations in society. Through the control of knowledge, raw materials and trading networks, metals provided a new means by which to appropriate power, offering fresh opportunities to negotiate social status and a medium through which to manifest symbolism and social meaning.

The eventual wide-scale appropriation of metal technologies, and in particular iron and steel, was in part due to the dual creative and destructive potential of these materials. Through the production of hardwearing agricultural tools, the clearance of dense forest was increasingly made possible, facilitating the expansion of agriculture as well as increased sedentism and the growth of urban centres. It also enabled the production of strong, durable weaponry with which to equip armies, which in turn played a role in precipitating the rise of complex political systems. Through their eventual uptake on industrial scales, iron technologies are widely considered to have driven great political, economic and environmental change, shaping social and physical landscapes.

Nevertheless, winning iron from an ore is a complex process, and one that is difficult to master. Within it are brought together a range of technologies that have to mesh together as a complete technological system to result in a successful outcome. A viable ore has to be procured, charcoal has to be prepared, furnaces have to be constructed; each is as critical to the outcome as the next. However, as much as iron production constitutes a chemical and physical transformation, there are many ways in which its material requirements can be met. Iron technologies are adapted and transformed across space and time in connection with changing environments and cultural contexts. As a consequence, there exists a vast range of variation in the iron technologies that have been developed across the world and through time, in terms of scale, social and political organisation, technique, style, symbolism, which range, for example, from the large wind-powered smelting furnaces in Sri Lanka (Juleff 1996, 2009) or small Romano-British shaft furnaces (e.g. Jackson et al. 1988), to ceramic-hungry smelts in Mafa, Cameroon (David et al. 1989) and crucible steel production in southern India (Srinivasan 1994).

Above all, technologies are social processes, and iron production is no exception. Smelters and smiths – with their wealth of individual knowledge and experience – operate in relation to constraints and expectations specific to the communities within which they live and work. All technologies have to (or at least have to appear to) operate within certain frameworks and rules that are deemed acceptable to the public and governing systems at large. These frameworks and rules (e.g. whether children or women should be allowed to work) are formed by those groups' wider world-views, and are subject to flex and reform in quite significant fashion through time. These

world-views and changes therein, can leave their mark on the technological methodologies that are implemented and the products that are manufactured, allowing archaeologists a glimpse into past social contexts through the critical examination of material remains.

Yet, even while recognising this technological diversity, and recognising the significance of iron as a key innovation, the finer details of the development of iron production are poorly understood: there is much still to discover about how this important technology took hold, and was transformed and embedded within the many iron-using cultures across the world.

The Role of Ethnoarchaeology in Understanding Iron Industries

One of the most important avenues into learning about these technologies in recent years has been through the application of ethnoarchaeological approaches. Across many regions of the world, numerous studies of modern metal technologies (and reconstructions of remembered metal technologies) have provided a wealth of data as to the many various ways in which societies undertake and organise metallurgical activities (cf. Iles and Childs, in press).

Ethnoarchaeology, with the inherent advantage of witnessing technological systems in practice, has been particularly useful in terms of highlighting the social and ideological elements of the processes involved, and how they merge with technical procedures to form a technological whole (cf. David 2001; David and Kramer 2001). Rather than assuming a purely 'mechanistic perspective', the growing use of ethnoarchaeological methods and approaches has meant that research into past technologies has increasingly aimed to explore the relationship between 'cultural paradigms, mental constructs, shared world views … and material cultural practice' (Dobres and Hoffman 1999, 1, 5; e.g. Lechtman 1977, 1984; Lemonnier 1986). In this way, the study of technology has become an examination of 'past social relationships and how they were forged, mediated, and made meaningful during the everyday practice of material culture production' (Dobres 2000, 1; see also Costin 2005; Hegmon 1998). The study of material transformation is revealed as a tool not only to investigate the development

of a technology, but also the history of a group of people (Gosselain 1992; O'Brien and Leonard 2001).

Studies of African iron production have so far dominated the body of work that deals with metallurgy, and in many cases have provided a challenge to predominant theoretical considerations of the organisation of technology. Ethnoarchaeological examples of African iron production have shown that problem solving was commonly approached with a combination of ritual and technical methodologies, and as noted above these were structured according to the specific world-views of the particular culture in question. Many of these technological processes are expressed in terms of analogies with bodily and social processes: procreation and fertility – social, human and technological reproduction (Childs and Killick 1993; Eliade 1962; Helms 1993; Herbert 1993; Schmidt 2009). Through the smelt, iron is created; through pregnancy and childbirth, children are born. Each process transforms matter, and enables societies to multiply and grow.

Examples of these associations are many and varied. In the case of the Fipa smelters of southwest Tanzania, it is reported that the furnace is seen as analogous to a bride; if the smelters have sex during the period of the smelt, they are in essence committing adultery against their furnace wife, and the bloom and the success of the smelt may be compromised. Adultery amongst the Fipa is associated with problems of fertility or death at childbirth – a dangerous act. In this way, the iron production technology of the Fipa is inherently linked with the Fipa's wider belief system: an insertion of 'social and cosmological ideas into the technological activities' (Barndon 1996, 66, 68-71). In the case of the Phoka of Malawi, 58 different types of specialised medicine were seen to be involved in preparing for a smelt, many buried in a ritual pit beneath the furnace (van der Merwe and Avery 1987). In a general sense, these often correlated with medicines used in local healing, including those for fertility, those to protect against witchcraft, and those that imparted certain qualities, such as strength and toughness (Schmidt and Mapunda 1997) – qualities that are hoped for in a furnace as much as they are in a person, again anthropomorphising the furnace. Far from being a subsidiary or supplementary technology to the technical process, such ritual and symbolism often involves a large amount of knowledge and requires a substantial input

of energy, time and resources. Such technology is therefore an integral and essential part of the process: the 'technical' and the 'ritual' are not mutually exclusive categories.

The value of such ethnoarchaeological investigations is clear: through these and similar examples, technology has been revealed as a broader socio-technical system (Pfaffenberger 1992), and without an analytical and integrated focus on these interwoven elements, an important part of technology would be lost to researchers. Furthermore, this body of research has not only made a significant impact on the interpretation and understanding of archaeometallurgical remains, it has also influenced the development of research agendas that increasingly prioritise social elements of technology and industry. In this way, information gathered through the recording and examination of modern examples of African iron production have gone on to influence the study of other materials and technologies on a global scale (e.g. Costin 2000; Dobres and Hoffman 1999), ultimately revealing technology in its wider social context.

Industrial Iron Production in Western Uganda: A Brief Introduction

In light of these thoughts, the remainder of this chapter will discuss memories of iron production technologies recorded in an area of western Uganda called Mwenge – a region that fell within the borders of the precolonial kingdom of Bunyoro, a kingdom which was noted for its prolific ironworking (Fig. 8.1). Iron production is thought to have played a prominent role in the early acquisition of power and the eventual development of the kingdoms that dominated the region by the second millennium AD: this was an important industry, both in terms of material wealth and social leverage.

[Figure 8.1 near here]

Mwenge is the focal point for a relatively extensive range of multi-disciplinary information relevant to a consideration of past iron production. Not only are there rich ethnohistorical and historical resources for the region, detailed studies of oral histories have also been undertaken (Buchanan 1974), as well as several excavations of archaeological iron production sites (including Iles 2009, 2011), ethnoarchaeological examinations of local iron production, and sediment-based palaeoenvironmental

studies (Robertshaw et al. 2004). Ethnoarchaeological resources in particular have played a key role in the interpretation of iron metallurgy in the region, contributing towards discussions of how the organisation of this industry related to shifts in authority and control.

The earliest European accounts of the iron industries of western Uganda are by James Grant, Samuel Baker and Emin Pasha, who travelled through the region in the late nineteenth century, and who mention local smithing trades in their diaries (Baker 1867; Grant 1864; Schweinfurth et al. 1888). However, the first detailed descriptions of smelting technologies were recorded by the Reverend John Roscoe (1911, 1915, 1923), who travelled to Uganda in the early twentieth century, and who wrote accounts and took photographs of the royal smelters in Hoima, and of the smelting technologies of the Kooki and Buddu areas (by then part of the kingdom of Buganda). Later in time, an account of mining was also recorded by Lanning, the District Commissioner, when he encountered an old miner and his friends near Butiti, Mwenge (1958, 188-189).

A detailed account of a complete iron production process in southwestern Uganda was recorded by MacLean (1996), from an informant in Kamugenyi, Rakai called Kalilo Lwakulya (a smith and former smelter), who was born in 1910 and who had undertaken a smelting apprenticeship in his youth. However, by far the most in-depth accounts derive from interviews conducted by S. Terry Childs (1998a, 1998b, 1999, 2000) – an experienced archaeometallurgist – concerning the mining and smelting technologies of a localised area of Mwenge around Butiti, as well as the social and economic contexts that shaped them. In 1994 she revisited an elderly male smelter named Ndunga, whom she had interviewed in 1991 while undertaking previous archaeological survey in Mwenge. Childs' in-depth interviews provide an extensive array of detailed and important insights into the technical and social aspects of smelting, and have proved to be invaluable to scholars undertaking ethnoarchaeological fieldwork addressing any form of metal technology worldwide.

By conflating the available evidence from all of the available sources, it is possible to build a picture of iron production in Mwenge over the past thousand years or so (Iles 2013a). Although iron production in western Uganda currently appears to have been

undertaken at a relatively small scale in the early second millennium AD, correlating with a thinly dispersed population at that time, by the sixteenth century the iron industries of the Nyoro kingdom were well established and regionally famous. The 'international' significance of these iron resources is demonstrated by the contribution of iron products to local and long-distance trade networks of the region (Tosh 1970, 105-106; Uzoigwe 1976, 34), and by the territorial incursions of the neighbouring Buganda kingdom into Bunyoro in the early eighteenth century. As a result of this aggression Buganda won the districts of Kyagwe and Buddu, gaining not only access to the prevalent iron resources located there, but also winning control over local skilled ironworkers (Humphris et al. 2009; Mair 1934; Reid 2002, 3, 76; Schoenbrun 1998).

By the early twentieth century, the most important production industries in Bunyoro were ironworking and pottery, manufacturing goods that were said to have been produced to a much higher standard than in surrounding states (Roscoe 1923, 217). Indeed, Nyoro craftsmen maintained a reputation as skilled manufacturers of iron implements into the twenty-first century. The desire to take part in smelting, with the prospects of wealth attached to it, must have been strong. Marriage in Nyoro occurred comparatively late (at least in more recent centuries), with women often being 18 or 20 before they were wed, and men being considerably older, due in the most part to a lack of wealth preventing men from being able to afford a dowry (Doyle 2000). In 1904, brideprice was, on average, the equivalent of a quarter of a cow, rising to the value of six cows by 1911. By the 1930s, brideprices were so high that the average worker needed eight years to accumulate that wealth (Doyle 2000, 455). In contrast, we know from other sources (e.g. Childs 1999) that one or two hoes might have been sufficient payment for a wife during roughly the same period, a more reasonable outlay for a smelter. Brideprice highlights the importance of these iron industries to the very structure of society, and suggests that the production of iron was indeed very closely tied to the reproduction of society, emphasised by the memorable phrase coined by Childs' informant: 'after all, a hoe bought a wife' (1999, 23).

Despite this high social value, colonial rule of the early twentieth century managed to discourage local iron smelting, with its often ritual and sexual overtones. In 1911, new colonial government rules prohibited the mining of pits deeper than three feet, except

for latrines and burials (Robertshaw 1991), and by the 1920s and 1930s smelting had all but died out (MacLean 1996). Iron implements and scrap iron were subsequently obtained through colonial trade networks, diminishing demand for the costly task of primary smelting from ores. However, modest smelting and ironworking for local iron needs did continue in some rural areas, at least into the 1950s (Herbert 1993).

Memories of Iron Production

The fieldwork discussed in this paper was centred on the sub-county of Mwenge (Fig. 8.2) in part because of the rich body of multi-disciplinary evidence outlined in the previous section. Principally archaeometallurgical in focus, the initial task of the 2007 fieldwork was to undertake a combination of systematic and informant-led survey in order to locate archaeological iron production sites for excavation. These sites would in turn produce samples for metallurgical analysis through a materials science approach (cf. Iles 2011). The research that was undertaken was intended solely as an archaeometallurgical study into the relationship between the developing Nyoro kingdom (of which Mwenge was a part) through the second millennium AD and the craft practitioners that operated within it. It was not anticipated that informants would be encountered that could recall smelting technologies; in fact, it was expected that because industrial iron production in the area had long since ceased, little knowledge of these industries would be retained in modern memory. However, as the fieldwork progressed, it became increasingly clear that this was not the case.

[Figure 8.2 near here]

In order to locate new sites, two complementary survey approaches were implemented. Firstly, leads from local community leaders were followed. The heavily bureaucratic process of fieldwork authorisation necessitated that the fieldwork team registered with several levels of local government in each district and sub-district that was worked in. This in itself presented frequent opportunities to talk with local officials – usually, though not always, older men – who would more often than not be able to introduce us to other members of the community (again, mostly older men) who were linked to smelting in some way, and who could therefore lead us to historical ironworking sites. The second approach utilised walking survey, examining all roads and exposed surface areas within a given area. Using these two methods, over the course of several weeks

120 previously unrecorded sites across a 25 km^2 area were located and recorded within Mwenge (Fig. 8.3; for a more detailed account of the survey methodology and the survey results see Iles 2009).

[Figure 8.3 near here].

The walking survey, as a dynamic activity, provided many additional opportunities to talk to older residents of the Mwenge area. As strangers – from obviously a variety of backgrounds, Ugandan and otherwise – the research team was easily recognisable and was frequently approached by people who wanted to know who we were and what we were doing: conversations throughout the working day were easy to come by. Many of those we spoke to remembered seeing smelting, or hearing stories of smelting, during their childhoods; many were from families with a long and proud generational history of iron smelting.

In response to this, we began to carry out informal, unstructured interviews when we met someone while walking – whether male or female – who retained such knowledge. These impromptu conversations were carried out in the local languages of Rutoro and Lunyoro by one of the project's Ugandan field assistants, Elijah Kisembo, or by Dismas Ongwen of the National Museum of Uganda, both highly skilled and trusted conversationalists, who had been briefed at the start of the project about potential issues of terminology and phrasing (cf. Madden 2010). The conversations were mostly unplanned, and much of the discussion developed naturally, with a few core questions framed and directed to the interviewee through Elijah, who translated key points back into English at the side of the road. Although these short interviews were not translated and transcribed in full, brief notes were written at the time of the interviews, jotted on to the back of the survey forms that were being used to record archaeological sites. The discussions covered topics ranging from the technical 'recipes' of smelting to more socially oriented aspects of the production processes, and all participants were very keen and excited to share their knowledge and experiences with us (Fig. 8.4).

[Figure 8.4 near here].

Several interesting social insights emerged from a comparison between the earlier ethnohistorical and ethnographic accounts and the thoughts and ideas collected from conversations as part of this fieldwork. The existing, normative accounts (e.g. Childs 1998a, 1998b, 1999, 2000; Roscoe 1911, 1915, 1923) emphasise the ritualised nature of the iron production episodes that they depict, illustrating the social rules and taboos that governed smelting activity. The symbolism surrounding these recorded rituals tended to be highly sexualised, with frequent references to reproduction, menstruation and marriage, although sacrifice, spirit mediums and awareness of colour were also recurring themes. All indicate that women were excluded from smelting, and most suggest that knowledge of these industries was protected by various social mechanisms (for example, the restriction of participation to those from a certain clan, or the undertaking of industrial activity in an isolated area). These themes are in some form common to several of the recent iron producing communities of eastern Africa as outlined earlier (cf. for example Célis and Nzikobanyanka 1976; Herbert 1993; Reid and MacLean 1995).

Interestingly, the chance conversations recorded in 2007 did not all conform to this pattern, and instead revealed an unexpectedly wide range of experience (cf. Iles 2013b). On the one hand, an elderly informant named Ezekiel Kaheru categorically stated that the presence of women at a smelt was strictly forbidden, and that men who were involved in a smelt were prohibited from sexual interaction around the time of a smelt – a conceptualisation of the smelt somewhat similar to that documented of the Fipa in Tanzania, among others. If these taboos were not honoured, he said that the smelt would fail and no iron would be produced. However, not all of our informants agreed with this. An elderly woman named Kabajugusi Keloi – the daughter of a smelter – interviewed only eight km to the west of our interview with Ezekiel, told us that women were involved in many stages of her father's work, including preparing the ore and pumping the bellows for the furnace. Kabajugusi herself often contributed to these tasks. In this case, it appears that symbolic associations between the smelt and gender may have been absent, or had been transformed somewhat to enable women to participate.

Another frequent theme was the relationship between clans (meaning, in this context, kinship-based lineal groups, see Willis 1997, especially page 587) and participation in iron smelting activity, although here the earlier accounts as well as the 2007 interviews reported a more variable range of experience. Fisher (1911, 36) stated that in order to be a blacksmith, you had to be born into a certain clan, which agreed with sentiments in Roscoe's (1923) and Buchanan's accounts (1974). In contrast, Childs' (2000, 223) informant notes, 'you do not select [by] clan at a smelt. You only choose one who knows how to smelt', although in practice, if knowledge is transferred through clan and family links, this may be one and the same thing. A similar extent of variation was noted during the 2007 survey. Almost as many informants believed that affiliation to an ironworking clan was an essential attribute for a smelter, as those who believed that all that was necessary was a desire to learn the craft.

Regarding both of these themes, variation in terms of the social contexts of production has been highlighted by these impromptu conversations. Many accounts of African iron smelting depict such technologies as 'hidebound by taboo and ritual, inherently conservative with no tendency to innovate' (Fowler 1990, 37; see, for example, Austen and Headrick 1983); iron production in African contexts is traditionally seen as a static, tightly controlled process. However, in all of the questions asked of them, the informants in Mwenge revealed a much more variable scenario than might have been expected.

Discussion: Ethnoarchaeology as Research Method and as Cultural Heritage

A clear question was brought up by these interviews: why were these divergent opinions highlighted during this fieldwork and not before? Out of a number of possibilities (see Iles 2013b), one factor worth exploring in more detail concerns the survey methodology that was used in this research.

The benefit of the particular research strategy that the 2007 fieldwork employed was that it incorporated the views of a wide range of people. Indeed, despite the fact that the collection of oral histories was not a stated research aim, the fieldwork team's enthusiasm for the subject matter meant that a large number of people wanted to speak

to us about their experiences. This contrasts with a common approach to (ethno)archaeology within sub-Saharan Africa, where a local community leader (often an elderly man) would generally be approached as a sole contact for identifying relevant informants for interview, who would often, in turn, be elderly and male. Not to devalue the useful information obtained from the community leaders that we spoke to during this fieldwork, the walking aspect of this survey methodology did provide further opportunity to engage with an additional cross-section of rural society, and this enabled voices to be heard that would not otherwise have been encountered. The informality of the 2007 conversations also avoided the artificiality that may accompany prearranged interviews, and might have encouraged a more spontaneous (and therefore perhaps more sincere) response to the questions being asked. Equally, these chance encounters meant that the informants were unlikely to have had prior expectations as to the aims of the interviews, and importantly, at the side of the road, no one could overhear what was being said by the interviewees. By interacting with a different set of individuals in a different way, this research has been able to contribute an alternative perspective to the existing dataset from the region.

However, it is also relevant to consider the possibilities that highly ritualised industries might be more likely to survive in the collective memory of a community, or that there is a propensity for researchers to seek out and report those technologies that are considered to be more interesting (cf. Iles 2013b). Importantly, these may include the technologies that functioned as 'royal' industries, which were documented more commonly in the early twentieth century (i.e. Roscoe 1923), and which were thus strongly incorporated into the ethno-historical legacy.

Aside from the academic value of these interviews, further social value is also apparent. Nineteenth and early twentieth-century perceptions of the iron industry of the region were heavily influenced by the prevailing colonial legacy concerning the technological 'backwardness' of African societies. Early thoughts of the inception of Nyoro smelting were not immune from the widespread colonial presumption that any ironworking knowledge held by Bantu Africans must have been acquired from more civilised outsiders: 'the totally savage Negro received his knowledge of smelting and working iron' from the 'superior races coming from the more arid countries of

Southern Abyssinia and Galaland' (Johnston 1902, 486). It is only more recently that the sophisticated nature of these industries has been recognised, and that they have been rightfully attributed to local populations.

Nevertheless, despite recent evidence to the contrary, these misconceptions have pervaded even modern thought; a common reaction – especially from the young – to a team of archaeometallurgists carrying out fieldwork on iron production in Uganda is epitomised by the comments of a Ugandan school teacher from the village of Nabuganyi, interviewed in 2000 by Reid, who stated, 'it was Europeans who brought science and technology to Uganda' (quoted in Humphris 2004, 4). This enduring yet erroneous belief compounds the value of modern ethnographic research into industrial heritage as stated in the previous section: it is through this kind of research that the richness of Uganda's past iron industries is appreciated. Discussing these memories in conjunction with tangible, archaeological remains that provide tangible time-depth gives an opportunity to reclaim ownership of this industrial past.

The application of ethnoarchaeological approaches has also drawn attention to the positive effects that such research can make on local cultural heritage. The simple task of speaking with local informants, as well as the more heavily invested task of commissioning technological reconstructions, can reinvigorate pride in near-forgotten local crafts (Childs 2000, 199), and can open a forum through which to communicate knowledge and experience of these industries to younger generations. As David and Kramer (2001, 335) found with regards to the smelting reconstructions that they commissioned of Dogon smelters in Mali, the participants 'were motivated less by money than by the opportunity to demonstrate their skills to a generation ignorant of their past achievements.' Regardless of any academic bias that may or may not be inherent in the approaches discussed in this chapter, the genuine interest shown by a visitor with regards to these past industries is seen as a very positive affirmation of their local importance.

Ethnoarchaeology's role in the heritage industry also extends to local museums. Through reconstructions and interviews, material can be generated (including visual and audio material, as well as artefacts), which can then be used to actively engage and educate school groups and other visitors. Several museums in Africa, such as the

National Museum of Rwanda in Butare, have in recent years run programmes that teach disadvantaged youths traditional crafts – basketry, weaving and so on; these programmes aim to maintain an interest and value in these industries that once formed the cornerstone of daily life. The goods can then be sold to tourists, thereby becoming a new source of local income. Cultural tourism can also be harnessed through reconstructions and heritage festivals that celebrate past industries, as seen in Cameroon and Tanzania (David et al. 1989, Wembah-Rashid 1969).

Conclusion

This study has demonstrated that through the integration of ethnoarchaeology, materials science, ethnohistory, history, and archaeological excavation, wider-reaching questions can be addressed of the social and cultural contexts of industrial remains. Such an interdisciplinary approach, incorporating a range of information regarding the present, can contribute to building a more complete, multi-vocal picture of the past, revealing metallurgy in its wider social context, while also illuminating the importance of these past industries to those that still live and work within the industrial landscape. However, care must be taken to involve a wide range of participants in order to present the fullest picture of past technology as possible. The information provided by Childs' informant, Ndunga, is an incredibly valuable resource, yet it represents one voice only. Hopefully, this chapter has reinforced the need to recognise the diversity and variation that can exist in cultural practices within even a small geographical area, let alone across a broad temporal range.

The fundamental question of diversity as illustrated here has had a significant effect on my consideration of past and future research into iron production in western Uganda in particular, and in Africa in general. The nature of primary fieldwork means that unforeseen events will always arise, which have to be negotiated (and solutions improvised) as best they can. Although I was regrettably under-prepared in time and resources for undertaking focused ethnographic research during the archaeometallurgical fieldwork discussed here, it offered a fantastic opportunity to explore alternative methods of community engagement and interaction.

Unfortunately, it is true that local memories of iron production across the region are

waning fast, and will be increasingly difficult to explore ethnographically as those that remember them pass away. However, this chapter has aimed to highlight the importance of these accounts, not just to academics. As Childs (2000, 199) tells us of her informant's fears:

[ext]… he was afraid that the knowledge of early colonial iron working, including mining, smelting, and forging, would be completely lost when he and his colleagues died. He wanted that knowledge recorded and shared with others, particularly Ugandans. [end ext]

Ethnoarchaeology can go a long way towards bringing the cultural heritage of these industrial landscapes to life.

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