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Some 30 years ago, I was wandering about in Addis Ababa with a young Galla companion. When I said I should like to look at the smiths' section of the main market place, my companion pointed out: "Smiths in general are not well considered among us. They have a poor reputation — so many of them are sorcerers' — going through their part of the market one is apt to be troubled by the evil eye or some other form of mischief!" We went to see the smiths' market nonetheless and found it to be a dark, soot-stained, and generally forbidding place — yet, I believe neither of us was bewitched in any form during this visit.

This little experience came to my mind on looking at the two works I propose to review here. Indeed, in all of Africa, but especially in its sub-saharan parts, the smelting and working of iron is widely distributed; then, too, in many places the art and its practitioners have retained something of a haunted character in the popular mind. Among scholars this technology and its relation to the cultures in which it is found have been matters of interest ever since the first reports came to Europe in the eighteenth century. Currently, this would seem to comprise three major question complexes:

1. How and when did iron smelting come to Africa and how did it come to be so widely diffused throughout the subsaharan portion of the continent — by diffusion- from a center or centers in Africa, or from other continents- or as a multifocal autochthonous development? — and the related question as to the date when the technology can first be demonstrated in Africa.

2. How significant were the differences between smelting technologies found in different parts of Africa? How do they com-
pare with iron technologies in other continents, and what kind of a product did they yield?

3. Given the superstitious awe which still surrounds the blacksmith in much of sub-Saharan Africa, the diversity of functions collaterally exercised by blacksmiths in various of its societies, and the variety of ritual which surrounds the acts of smelting and forging the metal — what were the real social functions of the blacksmith in the different settings and what is the relation between iron working and other aspects of the diverse cultures with which the technology has been associated?

The two books being reviewed here are valuable contributions, useful to the specialist as convenient summaries of a great deal of work, and helpful for those whose primary interests are not centered on these questions but who are interested in the implications of research on this topic. The two works differ greatly from one another, and by their very differences should be useful together to those who desire to gain an insight into the present status of this exciting and important field of ethnocultural inquiry.

Prof. Herbert's volume is a summary of her studies and her thought up to the early 1990s. It reflects her insistence (still evident in her contribution to Schmidt's volume in 1996) on not seeing the ceremonialism and the incorporation of the iron working techniques into artistic expression as incidental manifestations but rather as integral parts of the technology, more significant than the profusion of technological detail surrounding the practice. She has worked on and written about the smelting and manufacturing of copper in Africa, perceives her findings in that regard as having substantial significance in relation to the question of the autochthonous origin of iron working in subsaharan Africa, and has given some expression to this interest in the volume under review. Last, but by no means least, she is bent on undoing what she perceives as an injustice to the role of the female gender in these societies: the strong male dominance most workers find in the sociologic characteristics of the art and its practitioners. The most persuasive part of her argument seems to me to be her insistence upon the concept of ‘transformation ritual’. She sees in this the key idea that not merely allows, but compels the important participation of women in the smelting and
working of iron in subsaharan Africa. In making her case she has presented a brief discussion of African iron technology and a more extended section dealing with its relation to the cultural pre-occupations shared by smiths and by the general society of the Banjeli in Togo. She has supplemented this by an informative section concerning Power and Fertility, including discussions of relations between the smith and kingship, hunting ritual and its relation to the smith, and the art of pottery-making — often a preferred activity of the women of the tribe — and sought for parallels between the two fire-using technologies which might shed light on the gender question to which they might be related.

Herbert’s treatment of these matters makes no real attempt at appearing unbiased; it seems to me that it is rather intended to make the case for certain important conclusions she has reached, and to cast this into a form in which it might be accessible and persuasive — and incidentally highly informative! — for the non-specialist as well as for colleagues who labor in the same field.

Prof. Herbert has enriched her volume by an impressive bibliography which greatly enhances its value — 860 titles of which 160 deal with matters directly related to iron technology.

The volume edited by Prof. Schmidt represents an altogether different enterprise: It lets the reader in on what is in fact a seminar in which specialists with extensive field experience or substantial credentials in related fields — such as metallurgy — air conflicting views on key topics based on their own work. The reader is thus enabled to form his own conclusions as to the status of the debates of which these papers form parts. In the process the reader has an opportunity to gain some insight into the wide dispersion of iron working in subsaharan Africa and the degree of diversity in the technologies developed.

Of the fourteen papers included in this volume, one deals on a broad cultural basis with the question of the probable age of iron technology on the continent; four deal with the relation of iron working to the general cultures of African societies in which iron working is practiced — including questions of the ceremonial and everyday uses of the smiths’ products, and the problem of gender roles in relation to the ritualism of iron smelting; the remaining nine are focused on technical aspects of smelting and forging technologies in Africa and on the degree of technological innov-
ativeness they might indicate. Much of this debate is focussed on the disputed significance and magnitude of the preheating of the air supplied to the charge in tall smelting furnaces such as those of the Haya on its way through initially long tuyères protruding deeply into the body of the charge. Both the very existence of the effect and the possibility that it might affect the metallurgical properties of the product of a given smelting were the subject of controversy. If by the inclusion of no less than nine out of fourteen papers (just under 65%) this last group seems to have been given disproportionate weight, it should be remembered that concern with this topic was originally prompted by discoveries of the organizer and editor of this volume about twenty years ago. In all this time Prof. Schmidt has been engaged in enlarging and testing his data, and has found himself involved in prolonged controversy with some of his colleagues over the validity and the interpretation of the results. He should consequently be complimented for having invited as contributors to this summary not only those who share his views but also most if not all of those who disagree with him.

It is this section, above all, that gives the entire volume something of the character of a ‘symposium in writing’. I regret that the assembling of this material in this form has not provided an opportunity for the sort of discussion of each paper that would have enlivened a real symposium. The reader benefits, however, by having the subject illuminated from many angles and with techniques ranging from field archeology in selected sites to carbon dating and to the microscopic examination of thin sections of the slag and of the iron produced. I found the article by S. Terry Childs of the U.S. National Park Service particularly helpful in following this controversy: It provided data concerning the effects on the physical properties and forgeability of the metal of the uptake by the iron produced in these furnaces not only of carbon but also of phosphorus and other elements, and the effect thereon of the different temperatures and the oxidizing or reducing properties of the furnace atmosphere at various points in the stack. The article included a fascinating demonstration of the variability of the metallurgy of the reduced metal found at various levels of the furnaces. The information thus provided sheds important light on several topics touched upon by other discussants, including the
question of steel production in the native tall furnaces, the effects of such preheating of the blast air as could possibly be expected on the processes in the furnaces, and the degree of ingenuity shown by African smiths in learning to manage phosphorus-containing iron in the forge and benefitting from the special properties this addendum confers upon the material that comes to the smith.

Prof. Schmidt's volume has a profusion of references — I counted more than 780 — but these appear in the form of bibliographies to the individual papers dealing with a common theme and hence include a considerable amount of duplication. There is a relatively brief index of subjects but none of authors.

These two works do not make easy reading for the non-specialist. Between them, however, they provide the interested scholar with a remarkably broad and up-to-date insight into the present status of research on a fascinating area of the material and ritual cultures of sub-Saharan Africa. They supplement each other remarkably well: Herbert's volume contributes its concern for the importance of the ritual accompanying a technology still of the greatest importance for the societies in which it is practiced — though the smelting has nearly died out, the 'forgeron', the smith, survives, using his — possibly uncanny — skill and ingenuity to adapt raw materials from the outside world to the needs of his village and of his customers, and continues to perform other functions linked to the supposedly supernatural knowledge his handling of iron requires. Schmidt's compilation contributes a wealth of information rarely collected in one place concerning multiple aspects of the field: aspects of iron metallurgy pertinent to the performance of the sort of furnaces in use in Africa; the degree of variability of the techniques employed by different peoples of subsaharan Africa; and the probable significance of the idiosyncrasies of this temperamental metal to the definition of the properties of the product coming to the forge and to the quality of the products wrought from it.

These volumes make valuable contributions to a broader understanding of the cultures of which iron technology formed such a vital part as well as to a more adequate assessment of the role which inventiveness and patient observation may have played in molding the technologies as well as the cultures of the
different societies of the African continent.

To those to whom these goals appeal I strongly recommend these volumes, preferably to be perused side by side.

Ralph W. Brauer

NOTES

1. The prevalence and validity of these opinions were lucidly examined for the case of the Mande blacksmiths of the lower Niger region by P. McNaughton in his book by the same title.

2. Different papers deal with one or another of these matters among the following: the Shona of Zimbabwe, the Barongo of northwestern Tanzania, the Fipa of Zambia and Tanzania, the Banjeli of northwestern Togo, the Luba of the Upamba depression in Zaire, the Haya of Uganda and Tanzania, and the Mandara and the Wandala of northern Cameroon.


An international committee of distinguished scholars began planning UNESCO's eight volumes on the history of Africa in 1964. The eighth volume has now been issued, in several languages, and so have eleven supplementary volumes on specialized topics. To cover adequately the history of such a large and complex continent, each of the eight volumes is twice the size of a normal book. This one is 1025 pages and the contributing writers are from 17 African countries, the Caribbean, the U.S.A., and Europe, yet each of the chapters dovetails nicely into a smoothly integrated whole.

Professor Ali A. Mazrui of Kenya, the principal editor, holds a D.Phil. degree from Oxford University and taught at SUNY-Binghamton and Cornell University, as well as at African universities. Author of numerous books and articles, he is at once