

# BAMANA BLACKSMITHS

PATRICK R. MCNAUGHTON

Technology is evident everywhere in the traditional societies of sub-Saharan Africa, but it differs in use and character from Western technology. In the small towns and the countryside it is decidedly less specialized and more slowly paced. One encounters it principally in the tools by which people ply their trades: the many types of implements used by farmers, the spears and harpoons used by fishermen, and the weapons used by hunters. Technology is and often has been applied to the making of splendid types of sculpture, from the classic cast-bronze portrait heads of the ancient state of Ife to the finely wrought iron figures made by modern Bamana and Yoruba artists. The primary technologists of traditional Africa, then, are the metalsmiths.

Through radiocarbon dating we have placed the first use of iron in Africa to about 500 B.C., with every expectation that additional inquiry will demonstrate even earlier use.<sup>1</sup> It is possible that techniques of smelting and forging were discovered and developed independently on the continent. There have been ample centuries of expertise in Africa for an industrial revolution to have occurred long ago; yet it has never happened and could not, I would argue, because of the nature of African societies. Their philosophies regard progress in terms that are quite unlike our own. What results is a technology strictly controlled within social and intellectual systems.

I wish to examine here some of the ways technology is governed in traditional African society. My focus will be on the Western Sudan and specifically the Bamana people, whose blacksmiths are among the most accomplished in Africa. I lived and worked with Bamana smiths for one year in 1973, and I learned some of the reasons why they are uniquely qualified to control the application and orientation of their technological knowledge. Their skill as smiths is augmented by capabilities in a great many areas that have nothing at all to do with working metal. They involve instead the numerous concerns of Bamana religion, the medical concerns of communities, the educational concerns of families and the social concerns of individuals anxious to maintain harmony within their society. Blacksmiths play vital roles in all these areas. In order to discern the forces that have kept technology at the service of everyone among the Bamana, we must look at these additional responsibilities of the blacksmiths.<sup>2</sup>

The Bamana belong to the Mande civilization, a large and powerful grouping of societies in West Africa. Their area begins in the grasslands of western Upper Volta and extends west all the way to the sea at The Gambia, dipping occasionally into the southern highlands and forest regions. Such societies as the Mandinka, Mandingo, Somono, Soso, Soninke and Bozo belong to this broader Mande grouping. They are centered in the modern nation of Mali, named after the ancient empire, and in the nation of Guinea, located immediately to

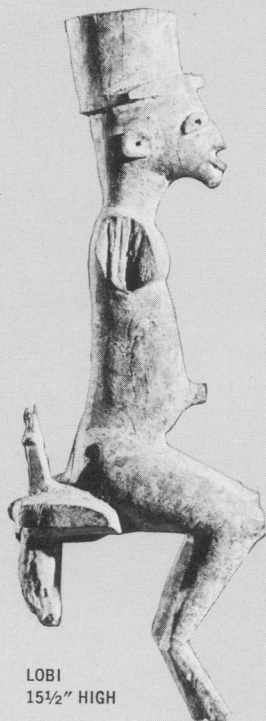
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the south. One member group, the Dyula, is a society of traveling merchants whose trading networks stretch across much of West Africa, extending the tangible borders of the Mande into many nations, including Ivory Coast and Ghana. The history of this civilization extends back to the early centuries of the first millennium after Christ, when the Ghana Empire was founded by the ancient ancestors of the Soninke. It flourished until the twelfth century, at which time it fell to Islam. A century later it was replaced by a larger and more powerful empire. This, named Mali, re-established the gold trade that had made the Ghana Empire great. It became extremely wealthy and began to appear on European maps as a principal source of gold. Founded by the ancestors of the Mandinka and Mandingo, it fell ultimately to yet another African empire, the Songhai, which in turn was destroyed by the Moroccans. In the seventeenth century, the Bamana established two strong states, Kaarta and Segou, which played a large role in Western Sudanic politics well into the nineteenth century. That latter century became a time of turmoil, a time of religious wars that set Islamized societies against societies that remained faithful to their traditional views. The Mande Dyula chose this time to build a state of their own and did so with voracity and much bloodshed, until they were finally defeated by the French at the beginning of the colonial era.

Today a marvelous dichotomy exists in the Western Sudan. One can reside in a large city like Dakar or Bamako amid tall buildings, banks and automobiles. Traditional things enter these cities too. The markets abound with beautiful cloth, clothes and jewelry, and the great Mande bards and various masked dancers come to town and draw crowds away from the cinemas. Yet traditional life, refined and graceful and possessed of the values that make the Mande great, is found in smaller towns in the countryside beyond the orbits of the cities. Here farming remains the most common means of livelihood, though hunters are present in every community and the Bozo and Somono specialize in fishing. Art and craft account for a number of additional professions. Weavers, potters, leatherworkers, bards and sculptors are among the most prominent. They receive careful training, and some in each generation become famous for their work. The bards put history to music and sing the praises of those who earned renown. The sculptors encode their civilization's thought, mixing vitality with dignity and linking the resulting forms to the religious and social ideas that characterize the Bamana and all Mande societies.

Two basic designations distinguish the members of Bamana society. The *horonw* (sing., *horon*), the farmers, are the common and most populous class. The second category, the *nyamakalaw*, comprises the craftsmen and the artists.<sup>3</sup> One is born into this rank and then trained painstakingly for at least eight years.

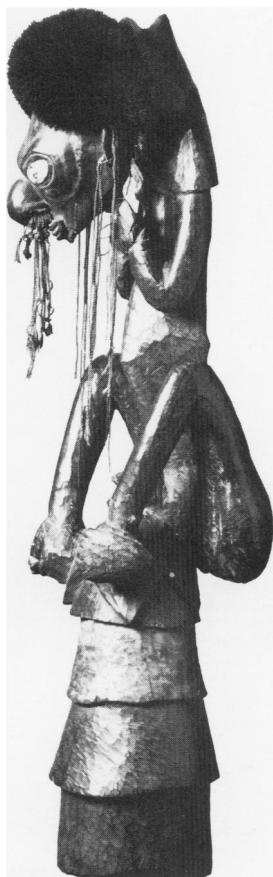
*Nyama* is the Bamana term for energy, the energy that animates our universe, gives life and breath to all living things and gives rise to the forces of nature (see Bird 1972, 1974 [intro.]; Dieterlen 1950; Cissé 1971:131-179). It is within us all and it exists at large as well, invisible but present everywhere. The Bamana conceive of it as the "energy of action" because it is a prerequisite to the implementation of any worldly act. It is also a by-product, being released as an act is carried out. *Nyama* can become dangerous. One must first possess it in substantial amounts and then acquire the knowledge to manipulate and direct it to capitalize on its potential benefits.

Acts that are difficult or dangerous—like hunting, or smelting and forging iron—demand that a greater quantity of energy and a higher degree of knowledge be possessed by the

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actor. *Nyama* can be acquired by various means, but many individuals are born with especially large concentrations of it. These are the *nyamakalaw*, and among them are the blacksmiths. Oral traditions state that God gave smiths this greater store of energy, and they have protected it through endogamy from time immemorial. They also learn to augment it, refine it and direct it with precision during their many years of apprenticeship.

Their knowledge and their power make the smiths special and earn them the title of *nyamakala*. *Kala* means "handle" or "staff," a source of support or a means of holding something else. The blacksmiths are staffs supporting *nyama*, or energy; they are handles of power. Through them, all others have access to the world's moving forces. Iron, a substance that demands great skill, wisdom and power to produce, is wrought by the smiths into implements upon which the Bamana depend. All citizens need *nyama* frequently during their lives, and often their recourse to it is through the smiths.

The generic term for smiths is *numu* (pl., *numuw*). It does not mean blacksmith, however.<sup>4</sup> Rather, it designates those who possess a host of abilities: some in the realm of craft, others in art and others still in a variety of areas that we shall look at later. Both women and men are *numuw*. As craftspersons and artists the women generally work in clay, while the men generally work in iron and wood. Both possess large stores of *nyama* and the knowledge that allows its subtle manipulation, and both play important roles in Bamana life. My work was with the men, and I shall focus on them here.

As artisans, blacksmiths fabricate a wide array of useful objects. They carve bed frames, stools, trunks and doors, and they forge iron keys for carved wooden door locks. Square-sectioned nails, grappling hooks for clearing wells, and bridle bits and stirrups for horses—occasionally found in northern Bamana country—are among the iron implements wrought by smiths. They also manufacture a variety of knives, as well as many types of hoes and other farming tools. Their small iron pins whose shafts twist and terminate in double spirals are worn in a woman's hair. Professional leatherworkers and boat builders purchase wood and iron tools from the smiths.

Hunters make the most exacting demands upon the smiths: along with various other weapons, blacksmiths make guns and rifles. We have no idea when gun-making began in the Western Sudan. Moroccan soldiers introduced early versions of the weapon when they conquered the Songhai Empire. On his exploration of the Niger River, Mungo Park recorded the making of gun powder by the Bamana in the late 1790s (Park 1815:116-7; 1799). Although he saw no guns, Major Gray, another English explorer, observed that in 1818 smiths made turn screws, which are used for nothing else in this part of Africa (Gray 1825:41). In the late nineteenth century, when the great King Samory welded his Mande Dyula state into a great power, we know his smiths were making and repairing rifles. He even sent one of them to St. Louis, Senegal, to receive instruction in the French foundries before the Dyula and the French went to war (Legassik 1966:95-117). Today guns and rifles are made and repaired by a sizeable number of smiths—though by no means the majority of them. Some make the enterprise their specialization and are good enough and in sufficient demand to need no other source of income.

All the firearms I know are shoulder weapons, some of which have several centimeters of rifling at the end of the barrel. Bullets are perfectly spherical, except those used formerly for hunting elephants—they are about 2.5 centimeters long and shaped like cold chisels. There are at least six standardized gun sizes, the variation occurring in the length and



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diameter of the barrel, and the highest caliber can bring down any beast.

Iron mining and especially smelting were formerly blacksmith enterprises.<sup>5</sup> Both shaft- and dome-type furnaces were used, but the more sophisticated dome type seems to have been favored. The shapes and dimensions of the furnaces' interior surfaces had to be calculated exactly so that heat would be retained in a predictable manner. The proper ratio of heat, air and fuel also had to be established unerringly; otherwise the ore would not reduce properly and the result would be an inefficient smelt. European iron is now available in most regions of West Africa, and although most smiths prefer their own traditionally smelted bloom they find the imported material perfectly serviceable.

Thus, *numuw* are the Bamana's principal technologists, solely responsible for making iron implements and capable of undertaking a number of sophisticated manufacturing procedures. For the most part the profession has remained the same for many centuries. It surely could have "developed" in any number of ways, but it has continued to be small-scale and unindustrialized, and few who live traditional lives are troubled by that fact. In the Western Sudan iron technology is useful but not overly prominent or unduly demanding of either human or natural resources.

The restraints applied to technology result in large part from the other things that blacksmiths do. I don't mean by this that the smiths are preoccupied with other activities and therefore haven't the time to develop their craft. Many choose to work iron fulltime. My point is that other significant activities accrue solely to smiths, activities that demand great wisdom and circumspection and influence the orientation of technology.

Smiths are involved in virtually every realm of human enterprise that the Bamana consider important. They are, for example, doctors. Treatment is generally accomplished with recourse to an extensive corpus of herbal medicines, which the smiths make themselves.<sup>6</sup> Some become quite famous for their medical abilities and have clients who come from more than 150 kilometers away. Bamana smiths also practice smallpox inoculation. It is older in West Africa than it is in Europe or America, and, although as yet unsung, it should be counted as an important African discovery (see Herbert 1977:539-59; Imperato 1968:869-70). Circumcision (and excision, carried out by women blacksmiths) is another medical specialty.<sup>7</sup> Because the operation takes place when boys are well into their teens, it is more serious than it is in the West. Heavy bleeding must be controlled and infection prevented, both through the use of herbal medicines. Some smiths say they were trained for a year in the making and use of these medicines.

In the act of circumcision especially, smiths are responsible for the welfare of human beings under trying circumstances. The operation paves the way into adulthood. It is a prerequisite for entry into the most powerful religious and political association, for marriage and for beginning mature and responsible participation in community life. The operation is without parallel in the number of significant ways it affects peoples' lives. And it is for the young neophyte a time of acute vulnerability, when loss of blood and the release of much *nyama* can each do great damage. The smiths are responsible for the young men's recovery, and they take the task very seriously.

The Bamana, like most African peoples, view the world through a complex combination of scientific and supernatural beliefs. Within the context of these beliefs, blacksmiths are masters of divination and amulet-making. Divination involves the use of various procedures—such as throwing stones, drawing in sand or playing special harps—which have as their



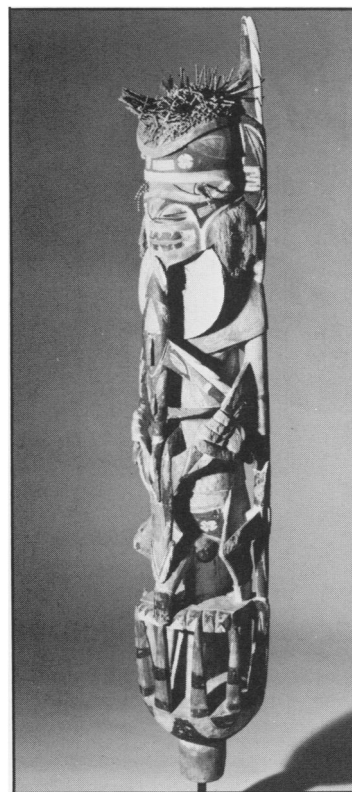
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goal the discovery of probable future events or the cause of present calamities. Amulet-making calls upon the ability to combine specific herbal and other ingredients in precise measurements and according to prescribed formulae, so that masses of energy can be marshalled and controlled to accomplish specific ends. Both amulet-making and divination are used by smiths to improve other peoples' lives.

The Bamana use a number of associations that combine religious, social and political orientations and govern large segments of traditional life. Eight such associations exist, and Komo, generally considered to be the most powerful, is headed and administered totally by blacksmiths. Nye gwan is its female counterpart, and it, too, is headed by smiths (Zahan 1960, 1974). Blacksmiths are eminently qualified to hold such positions because of their power as *nyamakalaw* and their knowledge as doctors, diviners and amulet-makers.

Within Komo, smiths are sanctioned to wield vast reservoirs of *nyama* and other more visible powers such as strong, efficient police forces. They are careful always to act on behalf of their community, however, or their power would surely be challenged. Historical precedent exists for such challenge. Between the Ghana and Mali empires, there arose the state of Soso, headed by blacksmiths of the powerful Kante family. Their greatest leader was Sumanguru Kante, who enlarged the state most aggressively until every other leader in the Western Sudan feared him. At that point the Mandinka arose to defeat him, thereby forming ancient Mali (Niane 1965). The smiths never held such unadulterated power again. They can head Komo, but they cannot serve as heads of state.

Because blacksmiths can become so wise, and because the Bamana value wisdom as the key to all beneficial action,


smiths are charged with the responsibility of providing the young with their primary education. They do this in the bush retreats held after circumcision and in the Komo association joined after leaving the bush schools. Their instruction is both pragmatic and philosophical. It centers on rules and roles in society, and on the universe as the Bamana view it. One learns, for example, the rudiments of divination so that simple problems can be solved at home, and so that when one consults professionals, it can be done with an understanding of what will occur and why.

The knowledge and power of smiths also make them important advisors and intermediaries. They may be asked to vouch for individuals involved in disputes. If they happen upon the scene of an altercation, no matter how serious or for what cause, their very presence is an unspoken command that the antagonists instantly come to rest and avail themselves of the blacksmiths' cool reason. The knowledge of smiths is used to calm the combatants, "to make their spirits settle down."

All of these roles of smiths are linked through their most fundamental purpose: to exercise their power and wisdom in the service of society. One could characterize them as seeking to establish or maintain harmony and balance in nearly every area of traditional life. The technological abilities of smiths are a part of this broader pattern.

Finally, there is the realm of art. It is more important than we might expect. The Bamana value art and encourage its presence in a vast range of contexts, and it is the blacksmiths who are carefully trained to be the sole makers of nearly every type of sculpture. The Western world seems to value technological prowess over artistic merit, but the accuracy of such a statement applied to the Bamana would be questionable indeed. To be sure, farmers need hoes and hunters need guns. Yet the farming season must be ended with the grace and joy of public festivals in which music, dancing and masks made by blacksmiths are brought together for everyone's entertainment. The Bamana religious associations use sculptures to symbolize the values they hold dearest and to assist in the actions they deem most important. Sculpture is a potent force respected by all, and it influences, I believe, all other blacksmith enterprises.

Mande sculpture can be traced back to the Mali Empire, where masks shaped like birds appeared before the king and were noted by the Muslim traveler Ibn-Battuta (1843, 1922: 403-8, 413-14). It was probably used earlier; the capital of the Ghana Empire was said to have had "idols" stored in sacred and secret groves (Al-Bakri 1913:325). Today the Bamana make a great variety of sculptures. They carve figural wooden door locks, dolls for children and memorial figures for deceased twins. Masks are made in a broad range of types, each of which demonstrates much variation. The Ton voluntary work association, for example, which stages the annual harvest festivals, commissions a great many masks for that event. A very different category of mask, generally inclined toward delicacy and clarity of form, is manufactured for the Ntomo, a religious and social association that prepares boys for circumcision and adulthood. The masks of the Komo association literally prickle with aggression, having enormous carved mouths and numerous antelope horns and porcupine quills attached to their tops, all of which symbolize the *nyama* the masks possess. Like the amulets, these Komo sculptures are made by special procedures, ritualized and related directly to Mande beliefs about the world, its sources of energy and the ways they can be harnessed. These beliefs would be described by Western scholars as the unification of complementary philosophical, religious, supernatural and scientific compo-



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nents. Sculpture that seeks to use this energy is designed according to the tenets of those beliefs. While they contain carefully orchestrated combinations of symbols, they are also empowered to help human beings carry out various kinds of activities, such as divination or the eradication of antisocial persons. The realm of art, then, here extends beyond symbolism and aesthetic configurations into the area of power and action.

In addition to wood figures and masks, and I have by no means listed them all, the smiths make art of iron. With the exception of rifle-making, their most difficult task at the forge is the sculpting of small standing iron figures of women and equestrian men, which honor and enhance altars. In part these figures are made to be admired; their severe but graceful appearance is perfectly in accord with Bamana aesthetics. They average only 18 centimeters in height, and the finest are embellished with delicate and precise facial features. Torsos must be straight and strong; these characteristics are praised in human beings. They must not be rigid, however, or appear inflexible, for such traits run precisely counter to Bamana philosophy. Master smiths forge their figures to appear taut with the energies of life, but supple or pliable enough to act swiftly, as people should react to their environment. Thus the torsos of these iron sculptures will be rounded, and the most gentle of arches might be set in the back. The breasts of some pieces emerge vigorously, perhaps balanced by a bend in the legs that produces a sense of vibrancy. Arms sweep around or up at the elbow joints in a manner that seems to extend the range of their reach. Every part of these sculptures is a reduction of the natural. But the blacksmith-sculptors nevertheless capture that which is quintessential in human beings.

Thus, if we pursue an interest in Bamana technology, we encounter sculpture like the iron figures, which is among the

most difficult of technical accomplishments and the most significant of art forms. Because art is so intimately linked to technology, it is only natural that technological enterprises are fraught with artistic tenets. Their work reveals their sensitivities regarding relationships of form and the ultimate appearance of a piece, the links between form and the context in which it will be used, the interaction of symbols to form something larger, and the interrelationships between meanings and form that can create subtle and effective messages.

This kind of circumspection becomes a *modus operandi* for the smith. He would have to disengage consciously the judgment and sensitivity so painstakingly acquired to approach technology as cold, mechanical applications of science. The character of the Bamana smiths makes this extremely unlikely. To be sure, they are pragmatic and economical in their lives and in their works, and these qualities go with being good sculptors. Yet all the characteristics of blacksmiths as sculptors fit the pattern we found in their other roles. Smiths perceive technology as part of something grander—an environment of human beings and nature, both of which must be considered and served if technology is to remain viable. In applying it, blacksmiths subject it to Bamana notions of balance and harmony within the broadest possible perspective. They are qualified to do so by virtue of their knowledge in a great many domains, and they are charged to do so by virtue of the responsibilities this knowledge addresses. The Western world's idea of progress and some of our uses for technology would seem unreasonable to most of these smiths. They continue to work iron by hand, deriving great pleasure from the knowledge that they truly bring the fruits of their labor to the whole of their society.

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discussions with and encouragement from my wife.

1. As my first article on skin-colored masks (1974) was written for a special issue in honor of K. C. Murray, it dealt largely with Nigerian specimens. It is somewhat unfortunate that the titles of that and the present piece draw superficial attention to the political division between present-day Nigeria and Cameroon rather than to the underlying cultural unity of the Cross River region; this manner of publication is merely a matter of circumstance and convenience. This article was prompted by Perkins Foss's comments on the paucity of published data on Cameroonian art (1976:24). I am also much aware that the corpus of published material, excluding "art" pictures, on skin-covered masks is still very small indeed, despite evidence of increasing research interest during the 1970s, especially among some American art historians. My own research was hampered by the brevity of my Cameroonian stay and by the unavailability in my part of Nigeria of all the literature. I bring together here some scattered data and

comments on Cameroonian skin-covered masks, and I hope it will stimulate others to make available further information on the subject.

2. The origin and diffusion of the *ikem* masquerade are the subject of a forthcoming paper by my wife and me.
  3. Mask terminology is taken from K. C. Murray's "List of Classes" (unpublished).
  4. P. Amaury Talbot's major ethnographic collections are in the Museum of Mankind and the Pitt Rivers Museum.
  5. Described in my paper "Experiments in the Revival of a Traditional Art Form in Southeastern Nigeria," presented to the conference on Contemporary Nigerian Art, University of Nigeria, Nsukka, March 1976.
  6. In 1971 I commissioned an Anang Ibibio carver to produce a replica of an Ejagham skin-covered cap mask. The replica bore no resemblance to the original: it was covered with dried goat skin stuck to the carving with Evostick and colored with brown boot polish. The carver made several more masks, however, which were bought by a trader from a craftshop in Ikot Ekpene and later sold to the unwitting museum staff at Lagos and Jos.
  7. Village names are withheld for purposes of security.
  8. There is a description of this mask in my article "Border Incident, 1914," in press with *The Nigerian Field*.
  9. Bangwa art and society have been described in two excellent books: *Bangwa Funerary Sculpture* (1971) by Robert Brain and Adam Pollock, and *Bangwa Kinship and Marriage* (1972) by Brain. As a former student of Brain's, I was treated with lavish hospitality by Fontem Defang and also by Chief Fobella.
  10. Nigeria's Cross River State is composed of fourteen administrative divisions as follows: Calabar, Akankpa, Obubra, Ikom, Ogoja, Obudu, Oron, Uyo, Ikot Ekpene, Abak, Eket, Etinan, Opobo and Itu. In February 1976 the former South-eastern State became Cross River State.
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- MCNAUGHTON, Notes, from page 71  
 1. The archaeology of iron in Africa is in its infancy. The work of B. and A. Fagg and T. Shaw in Nigeria, and of O. Davies in Ghana and P. Munson in Mauritania, has only begun to scratch the surface of what should prove a rich chapter in the

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history of technology. I am presently preparing a monograph on central African sculpture that will include a discussion of our evidence for early iron use.

2. All of the material that follows, except where otherwise noted, is based upon my own research as a Ford Foreign Area Fellow in the Republic of Mali in 1973.
  3. The Bamana draw distinctions between what we would call art and craft, but they do so according to a different set of characteristics. See P. McNaughton (1977).
  4. "Blacksmiths" became the standard European appellation for the *numuu* because they were seen most frequently working at their forges by the early explorers and colonials.
  5. The best general source of information on smelting iron in Africa is Cline (1937).
  6. Much has been published on African herbal medicines. See U. MacClean (1971) and D. Traore (1965) for an initial exposure to the dimensions of its use.
  7. Many authors have taken up the topic of Mande circumcision. The most thorough is G. Cheron (1933:197-303).
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