

Forge with coffee trees

SIGNS OF THE SPIRITS, SIGNATURE OF THE SMITH: IRON FORGING IN TANA TORAJA*

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The Context of Contemporary Iron Forging

Although in many parts of Indonesia people no longer forge their own iron implements, in Tana Toraja blacksmithing is still an important practical activity. Indeed, the Toraja smith provides many of the iron implements crucial for the everyday life of the Toraja. Smithing is open to anyone who is skillful with his hands and capable of learning the necessary operations. ¹

Approximately two hundred and fifty smiths work within the regency of Tana Toraja in two centers of forging: ² a village called La'bo (the word in Toraja means "sword"), and clusters of villages on the slopes of Mount Sesean, the highest peak in Toraja. From these centers the smiths supply tools not only to the areas within walking distance of their forges, but also to the wider region. At the Rantepao market, the hub of a six-day cycle of rotating markets, smiths obtain stocks of iron and sell their products: axes, everyday knives, a variety of large knives, scissors, small knives used to harvest rice, and the tips of spades which are used to turn the soil in freshly weeded rice fields and vegetable gardens.

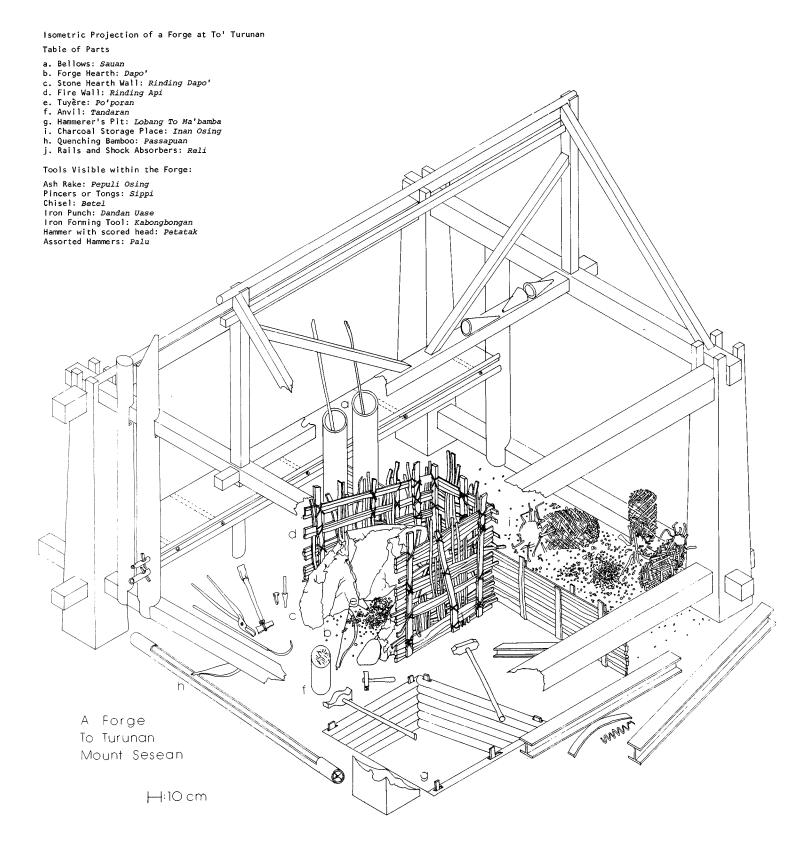
On Mount Sesean the forge (inan pande bassi or inan to ma' tampa) usually stands near a source of running water which can be used to quench and temper the iron. Water from a nearby waterfall or a swift stream may be piped through a series of linked split-bamboo conduits to the smithy, which is commonly on the periphery of a village, near the blacksmith's home.

The forge's appearance varies, depending on its age and the materials of which it was built. A traditional forge is a simple wall-less shelter, with four upright wooden posts, linked by heavy horizontal timbers at their upper and lower ends. These form an armature on which a roof of carefully split sections of bamboo has

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^{1.} In many Indonesian cultures the role of the smith is bounded by membership prohibitions concerning status and caste. See Roelof Goris, "The Position of the Blacksmiths," in *Bali: Studies in Life, Thought, and Ritual* (Bandung and The Hague: van Hoeve, 1960), pp. 289-300, and R. J. Forbes, *Studies in Ancient Technology* (Leiden: Brill, 1964), particularly pp. 69-78.

^{2.} Orang Toraja di Ujung Pandang (Ujung Pandang: University of Hasanuddin Research Report, 1978).



been lashed and layered, sheltering the workspace below from rain and the enervating rays of direct tropical sun. Especially in the older forges, the building elements of the simple structure clearly have been precisely designed, and joined with craftsmanship and ingenuity. These old forges are dark places, covered with a thick layer of black soot, a charcoal patina that has thickened with the years. Newer, less elaborately constructed forges are as green as freshly cut bamboo, open and airy.

The Toraja Forge: Layout and Parts

At the center of the forge is the dapo' (hearth), a fireplace bounded on three sides by a wall of rocks. A secondary "fire wall" of woven mats surrounds the hearth to prevent sparks from flying into the faces of the men working the bellows. At the open end of the dapo' stands a metal anvil (tandaran), secured to a wooden anchor buried in the ground below. Near the anvil is the hammerer's place: a depression about three feet deep and three feet on either side cut into the earthen floor. Lying near the anvil are the smith's own tools: an assortment of hammers and sledges (palu), long tongs (sipi), a bamboo-handled chisel (betel or beten), and a rake (pe'puli ossing) used to heap up and arrange the embers in the dapo'.

The bellows (sauan) stand along one side of the fireplace. They are of the classical Malayan piston type, become consisting of a pair of hollowed-out logs, about three feet high and one foot in diameter, lashed together with rattan. Their pistons are long bamboo rods to which circular wooden stoppers, surrounded by chickens' feathers, are attached, which seal the bellows chamber. Sitting upon a raised platform, straddling the bellows with his legs, the bellowsman pumps the pistons up and down. Through a hole at the bottom of each bellows' cylinder runs a narrow bamboo tube (suling: lit. flute). The two "flutes" meet in a hollow clay joint (po'poran) beneath the rock wall of the dapo'.

On the upstroke of the bellows, air is drawn up through the "flutes" into the bellows; on the downstroke, it is pumped out through them and into the dapo', providing oxygen to the glowing embers and occasionally causing flurries of sparks to fly upwards in bursts "like fireflies."

Forging a Tool: Technical Process and Dance

Two materials are needed for operating a forge: wood chips and iron. The smiths of Mount Sesean obtain wood chips from villages in the colder upland regions some twenty kilometers to the north, where the forests have not yet been cleared for wet-rice cultivation and hardwood trees grow plentifully. Raw stocks of iron are bought at the Rantepao market. Land Rover shock absorbers and springs are said to be "the best, the strongest, number one." More common are reli, railroad ties first laid by the Dutch, imported from Java to Ujung Pandang and brought to Rantepao by Buginese traders.

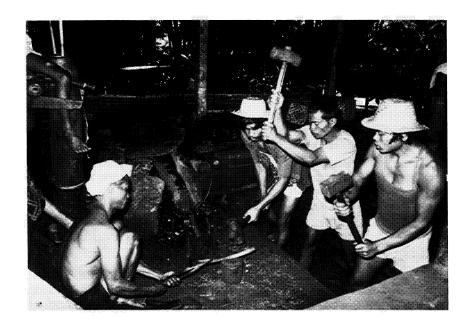
The iron railroad ties are first heated and cut into sections, then split into flat lengths of about one-and-a-half feet long and six inches wide. Blanks of this size are used for most purposes. The smith selects a blank appropriate for the size of the desired tool. If, for example, a sword (la'bo) is required, the smith places a

^{3.} The name comes from the Dutch beitel, "chisel," and it seems probable that the Dutch introduced it after their arrival in Tana Toraja in 1906.

^{4.} See Forbes, Studies, for accounts of forging techniques and equipment within the history of technology.



A smith works on a knife in an open-air forge. The stone cistern contains water in which heated metal is tempered. (Photograph by Toby Volkman.)



A smith living on the slopes of Mount Sesean holds a glowing la'bo blank on the anvil while three hammerers shape the heated bar.

long blank in the dapo', heating it until it glows bright red (borrong: emanating or glowing bright red). Retrieving it from the dapo' with tongs, he places it upon the anvil, the surface of which has been grooved so that the metal will not slip. The hammerer begins to strike, and continues to shape the tool until the metal blank has cooled beyond the point of malleability. It is then returned to the dapo', and the process is repeated until the tool blank begins to approximate the intended form. At times the smith uses the vetel to trim and shape the contours, holding it over the tool while the hammerer strikes it. While the blade is being hammered to produce thin, tapered edges, the smith periodically dips the hot iron form into a bamboo tube containing cool water. Through this quenching the blade is hardened and strengthened, and Toraja say the process "cleans the blade." To finish the tools, they are ground and filed upon stones of varying hardness and grain.

Team work and a sense of rhythm are needed to operate a forge. At least three men have to work in close concert: ⁵ the smith, the bellows pumper, and the hammerer. Squatting before the anvil, with the dapo' on his left and the quenching bamboo (pasapuan: lit. the cleaner) to his right, the smith controls the pace, and directs and integrates the sequence of critical actions. He determines when to retrieve a hot tool blank from the dapo', or where to place a section of newly heated iron so that it is struck at the proper angle. It is the smith who signals the bellows pumper to slow down (as overheating a tool blank may ruin the shape already attained) or to pump again.

While the blank is being heated the hammerer stands ready in the pit. When the smith grunts "yaaaaa" and positions the tool, held in his tongs on the anvil, the hammerer strikes. There is a definite beat to this working dance of smith and hammerer. During a passage of continuous hammering, the smith may set up a counterpoint to the heavy, periodic beat of the hammerer's blows. Between swings of the sledge, which produces a heavy, metallic "whack," the smith lifts the metal blank with his tongs and lightly clicks it against the anvil. So it goes: "whack," then "click," "ka-chunk," "clickety-click," until a kind of percussion section is set up, alternating heavy and light metallic sounds which punctuate the working rhythm between smith and hammerer(s), and help regulate and integrate their movements. The sounds of an operating forge carry far down the mountain, and as one approaches, one hears the sizzling water, the "clickety-clack" of the smith at the anvil, the heavy answering "ka-chonk" of the hammer, and the periodic soft whooshing sounds of the pumping bellows. Occasional clouds of smoke rise from the dapo' with showers of hot sparks sent aloft by an imprudent stroke of the bellows pumper. The air itself tastes of smoke and iron, steam and charcoal.

The smiths of Mount Sesean transform these raw stocks of iron into tools for building houses, carving and incising wood, cutting firewood, harvesting rice, and turning the soil in both gardens and padi fields. In former times, certain iron swords were regarded as vessels of power within ritual contexts; now the contemporary Toraja smith creates tools which are still held in high esteem and are essential for the most practical of tasks: maintenance of everyday life.

^{5.} The size of the work force depends, in part, upon the availability of labor and the season. A full crew may include five or more men. During harvesting and other labor-intensive activities, including "lively times" associated with rituals, work at the forge ceases for weeks or even months. During the time preceding harvest, the smith works continuously, making hundreds of small harvesting knives.

Iron Forging in Myth, Story, and Ritual: A Generative Idiom

In ritual verse, Pong Sirintik from Seko, the mythical master smith, "sees the mother of iron." For the Toraja, iron not only has a progenitor or "mother," but iron forging itself is generative, the paradigm formative process. The characteristics of forging as a process, its site, its tools, and its products, as well as the technical properties of iron itself, suggested an idiom in which the creation of "the contents of the world," including mankind, could be described.

In the Toraja creation myths, the creator god, Puang Matua, also known as to menampa, "the forger," is said to have forged the contents of the world: 6

Forged the heavens
Forged the earth
Forged the ancestor of the earth
Called Patala Bunga
Forged the ancestor of cool water
Called Patala Merang
Forged the ancestor of fire
Called Patala Lamma
Forged the ancestor of mankind
Called Datu Laukku'

(verses recited by tominaa Tandi Datu, Mount Sesean)

The creator god, then, is portrayed as a smith and the forge as a site of creation. In prayers addressed to Puang Matua, the ritual specialist (tominaa) requests riches and old age for the forger, and blessings for the bellows and "criss-crossed flutes."

A myth still told on Mount Sesean recounts the forging of the ancestor of rice. In an older version collected by van der Veen, ⁷ this ancestor is formed from pure gold thrown into a pair of golden bellows "like unhusked rice." In it, Puang Matua desires children, and is told by his wife to pan for gold at a well. There he fills his betel nut pouch with nuggets which are heated and fused in a cooking pot. This mass of gold is thrown into a pair of bellows and eight children are forged, including Datu Laukku', the ancestor of mankind. Thus, images and metaphors of the formative processes from the natural world, and those derived from maninitiated processes interpenetrate: unalloyed gold is likened to uncooked rice, while the ancestor of rice is derived from forged gold.

From stories, prayers, and songs to the spirits (deata), as well as from contemporary ritual practices, it appears that iron working and iron tools have always been more than practical acts and products. When a new forge is inaugurated, for

^{6.} There are a family of related meanings which stem from the root tampa: to forge; to bring objects or life into being; to act. The blacksmith is usually referred to as "the one clever or skilled with iron" (pande bassi) or simply "the forger" (to ma'-tampa). To menampa may also mean "the spirit (deata) who makes mankind." See J. Tammu and H. van der Veen, Kamus Toradja-Indonesia (Rantepao: Jajasan Perguruan Kristen Toradja, 1972), p. 605.

^{7.} See H. van der Veen, The Merok Feast of the Sa'dan Toraja (The Hague: Nijhoff, 1965), pp. 88-89.

^{8.} Ibid., pp. 86-89.

example, a ritual is held when the bellows are first erected, to ask for good fortune from the bellows' guardian spirit. Tominaa, whose most notable power and prerogative is the use of speech in addressing the spirits and ancestors, recite prayers. A chicken is cut and eaten with rice; offerings are made on banana leaves with betel nut and tobacco. The spirit responsible is called Pong Sauan Sibarung: sauan are bellows; sibarung means to share a dwelling. Thus the bellows are like a couple, united under the same roof. 9

For the Toraja, who prepare wet-rice fields and gardens with iron-tipped spades, and harvest rice with small iron knives, the connection between agricultural abundance and iron tools is explicit, and iron implements are honored in rituals performed at certain critical junctures in the agricultural cycle. At a preplanting ritual, the iron-tipped tools used in agricultural activities are gathered on a mat and dabbed with the blood of a freshly sacrificed chicken by the tominaa. He calls upon the spirits to bless the implements and to bring forth a full harvest of tall, large-kerneled, and healthy rice.

Each year, after harvest, a small rite is performed at which sticky rice is cooked, wrapped in leaves, distributed, and eaten. The leaves that have wrapped these offerings are hung upon the bellows, where they remain

Some Toraja say that in former times the site of the forge was considered special and perhaps potent, a place "which makes things become large." Theft of any kind, whether of tools or of materials, was taboo (pemali). It is also said that women were not allowed to stand within the boundaries of the forge. Iron, the raw stuff of forging, constituted a particularly potent material: hard, durable, resistant to change, and yet made into a multitude of tools which could cut down the forest, clear the land for the cultivation of rice, and thus transform the natural landscape on an unprecedented scale.

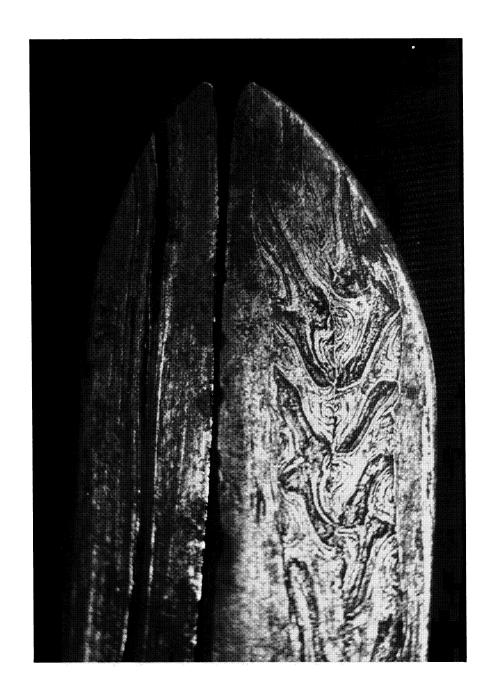
Swords of the Ancestors: Quarrying, Pattern-Welding, and Pamor

Among the products of iron forging, it is the *la'bo to dolo* (swords of the ancestors) which have captured the imagination of the Toraja, and served in certain rituals to epitomize the powers of iron and its connections to the spirits and ancestors. Contemporary Toraja distinguish la'bo to dolo from everyday swords (*la'bo biasa*) by the wave-like or linear patterns on the surface of the blades, which they call "nerves" or "veins" (*ura'*). The ancestral swords are given names according to the pattern on the blade.

It is probable that la'bo to dolo were never made by Toraja smiths, but were obtained through trade from peoples in regions a few days' journey from the Toraja heartland: the Seko-Rongkong area to the northeast, and, to the east, Palopo, the former capital of the Buginese kingdom of Luwu, on the Gulf of Bone, with which Seko had a tributary relationship.

In former times, according to the Toraja smiths, iron was quarried and smelted from deposits of "iron rock" (batu bassi) found in Seko, and the Toraja probably gained knowledge of quarrying, smelting, and specialized forging techniques on

^{9.} One Toraja expression meaning marriage is "to become one kitchen" (mendapo'). Note that dapo' refers to the forger's fireplace and the domestic hearth. It is not clear whether heirloom swords or other iron tools are actually regarded as the offspring of the marriage of the bellows. For a generalized formulation of the connections between forging; sexuality, and birth, see Mircea Eliade, The Forge and the Crucible (New York: Harper and Row, 1971).



Distinct "nerve" patterns or pamor are visible on the blade surfaces of two la'bo to dolo.

trading journeys to these areas. The "iron rock" to which they refer was actually a variety of iron ores and nickelous iron, or pamor, which may have been meteoric. Quarried in large open-pit mines, the iron and nickelous iron ores were smelted in fires that burned for several days, and during this period rituals were performed near the fires. Subjected to such prolonged and intense heat, the rock yielded molten iron and nickelous iron which, upon cooling, condensed to form "seeds" or concentrations which metallurgists refer to as "sponges" or "bloom." Both nickelous iron and la'bo to dolo may have been transported and traded in Palopo, where the Toraja periodically traveled to pay tribute to the Luwu ruler, and to exchange rice for fish and salt. 10

Evidently the smiths of Seko used the techniques of forge- and pattern-welding made famous by the Javanese in creating the magnificent keris of the Majapahit period. ¹¹ The Buginese smiths of the kingdom of Luwu were also no strangers to pattern-welding; and the keris they created were traded throughout the Indonesian archipelago, being surpassed in terms of technical sophistication only by the superlative works of the Javanese smiths. ¹² Malili, currently the site of the world's largest open-face nickel mine (owned by the International Nickel Company), appears to have been the source of the high-quality "Pamor Luwu," and the center of extensive quarrying, smelting, and forging activities. ¹³ In visiting Palopo, Toraja, then, would have had the opportunity to view the products of a sophisticated Buginese tradition of pattern-welding as well as having access to the wares of smiths from Seko.

According to Toraja smiths, Seko forgers produced the nerve patterns on the blade surface by creating a sandwich of iron sponges and nickelous iron-a kind of ferrous layer cake. Through forge-welding the sponges were fused together to form a laminated stack or billet of iron and pamor. This billet was repeatedly heated, hammered, folded, and sliced in a process called pattern-welding. The forger's masterful manipulation of laminations through pattern-welding produced the variegated "nerves" so highly regarded by the Toraja. 14

^{10.} According to one smith from Sesean, the Toraja obtained both the la'bo to dolo and the batu bassi from the Bugis-Luwunese of the Palopo region, and also learned forge- and pattern-welding techniques from them. The Bugis-Luwunese "were originally skilled at iron forging, and the Toraja asked them how they did it."

^{11.} According to G. and B. Solyom, The World of the Javanese Keris (Honolulu: The East-West Center, 1978), p. 18,

^{12.} Sir Richard Winstedt asserts that the Buginese, among others, supplied the Malays with swords of surpassing excellence, as well as meteoric iron (besi pamur) used in forging the Malay keris. See Richard O. Winstedt, Papers on Malay Subjects (Kuala Lumpur: F.M.S. Government Press, 1909), Pt. 1, particularly pp. 27-45.

^{13.} O'Connor and Solyom refer to the Pamor Luwu or Pamor Bugis, which was traded throughout the Indonesian archipelago. S. J. O'Connor, "Iron Working as a Spiritual Inquiry in the Indonesian Archipelago," History of Religion, 14, 3 (1975), pp. 173-90. Pamor is a Javanese word which refers not only to the laminated patterns found on Javanese keris, but also to the nickelous iron which is used to create those patterns. "The word also carries the meaning to mix, and thus to become one, and indeed, in the forging process, pamor becomes one with the iron to which it is symbolically wedded." See Solyom, World of the Javanese Keris, for a detailed analysis of the arts of pamor, patination, and pattern-welding as practiced on Java.

^{14.} Although Buginese smiths of the kingdom of Luwu, operating from their center

Blade patination, or control of the tonal characteristics of the blade's surface, formed part of the art of the Seko smiths. The newly fashioned blade was rubbed against sharpening stones and treated with the acetic juice of the lemo, a citrus fruit whose liquids etched the laminations exposed on the blade's surface and brought them into sharp relief. Iron laminations oxidized more quickly than the nickelous "nerves," and the "bathing" of the blade was halted while the nickelous laminations remained a lustrous silvery white: a bright nickelous figure against a dark iron ground. In ritual verse, the newly made blade is

Made to lie upon the rock
Made to sleep upon the sharpening stone
Made to lie upon the lime
Made to dream upon the citrus
The beautiful nerves are seen.

A Toraja smith amplified this description of the etching of the blade: "the nerves were brought out by treating the blade with a mixture of pulverized leaves from the *simbuta* plant, water, and the juice of the lemo."

The completed blade with its striking patterns of pearly white nerves was highly valued, compared in ritual verse to salt-water fish carried inland to a mountain-dwelling people, and displayed as if it were the magnificent cockatoo. ¹⁵ The la'bo to dolo compelled attention, admiration, and perhaps wonderment when shown at ritual occasions, where they were

Carried on the shoulder like a cockatoo Brought like salt-water fish Lifted up at the market Raised high at the meeting place.

The object of extensive long-distance travel and exchange between the people of Toraja and Seko, the swords were purchased with Dutch or Portuguese money, or traded in exchange for water buffalo and cloth. Ne' Batu, reputedly the oldest living smith still working on Mount Sesean, claimed that "one fine nerved sword from Seko was valued at one everyday buffalo--a very considerable price!" Once acquired, the la'bo to dolo were considered the possessions of the living family and their ancestors; the swords became concrete markers of family history and were associated with ancestral houses. Sale of the swords by family members was strictly forbidden. 16

near present-day Malili, evidently employed meteoric, nickelous iron, a chemical analysis of the Toraja la'bo to dolo has not yet been performed. It is clear, however (Cyril Smith: personal communication), that the smiths of Seko produced their designs by mixed metal forging and utilization of the techniques of forge- and pattern-welding. For details concerning Indonesian forging techniques and the history of textured metal, see Cyril Smith, A History of Metallography (Chicago: University of Chicago Press, 1960).

^{15.} In the Rantepao market, Toraja smiths display their wares next to the stalls of men selling expensive salt-water fish brought inland by Buginese traders on motorcycles. Swords and fish are conjoined in contemporary places and ritual verses.

^{16.} Today, however, under the impact of Christianity and, perhaps most importantly, tourism, la'bo to dolo as well as other heirlooms, such as cloth, beads, and drums, are sold in shops in Rantepao that cater to a growing tide of French, German, and Australian tourists.



Traders in the Rantepao market sell iron stock (railroad ties, springs, and shock absorbers) from Java to a Toraja smith.



In the Rantepao market, Islamic traders sell a variety of imported metal objects, as well as locally forged tools including la'bo and an assortment of knives.

Animate Iron and Ancestral Swords

The la'bo to dolo are a central part of the diverse symbolic structures, myth, story, and ritual of the Toraja. What are the characteristics that distinguish them and harmonize with Toraja religious beliefs in such a way as to make them vessels charged with meaning and power?

In part, the extraordinary value placed on these swords derived from their being the creations of alien peoples outside the Toraja heartland. The makers of la'bo to dolo, whether from Seko or the coastal Buginese kingdoms, were clearly masters of fire, forging, and the technical secrets of the nerved patterns. To the Toraja, the swords embodied something of the strangeness of their creators--people who spoke different languages, followed other customs, and lived in regions beyond. 17

But the arcane knowledge of the smiths of Seko was not merely a body of technique for manipulating an inert substance. In ritual verse iron is revealed as an animate entity, a being endowed with consciousness. Through the actions of Pong Sirintik, the mythical master smith from Seko, we have seen that animate iron is controlled, is "made to sleep" and "made to dream" upon the citrus and the sharpening stone. 18

Pong Sirintik is thus the master of animate iron. Techniques for quarrying and smelting iron ores, and manipulating these ores through forge-welding, pattern-welding, and control of blade patination, were interpreted by the Toraja as signifying that the smith possessed, simultaneously, technical secrets and spiritual power. Pong Sirintik's mastery of living substance allies him squarely with both the spirits and those ritual practitioners, the tominaa and the to medampi, or curers, whose knowledge enables them to affect the course of life. It is tantamount to understanding the origin or "mother" of iron:

He sees the mother of iron The possessor of the sharp. 19

His prodigious feats of forging, and in particular, his control over this living substance associated with the spirits, constitute ownership. In the verses quoted below, the same word (puang: lit. owner) is used to describe Pong Sirintik's possession of iron, a high-status Toraja's ownership of slaves, and the deata's dominion over the land:

^{17.} See Eliade, Forge and the Crucible, p. 27, concerning the Bhil people's use of metal arrow-points obtained from neighboring tribes: "It was not a matter of superstition but a sacred respect for a strange object outside their familiar world, an object coming from elsewhere and hence a sign or token of the 'beyond,' a near image of the transcendental."

^{18.} See Solyom, World of the Javanese Keris, p. 18, on Javanese beliefs concerning the "aliveness" of pamor and the ritual context surrounding the meteoric pamor of Prambanan. From a Javanese perspective, pamor Bugis was regarded as "less alive" than Javanese sources of nickelous iron because its appearance was greyish rather than silvery.

^{19.} In ritual verse, iron swords are referred to as "the sharp," an epithet which reveals the ambivalent potential of the blade. The "sharp" is capable of cutting in activities which lessen or destroy life, such as headhunting, and conversely, those activities which are constructive or constitutive. The construction of the things of the Toraja cultural world, houses, granaries, and everyday artifacts, is founded upon the use of sharpened iron tools.

Who is the owner of iron Who is the possessor? It is said to me from there Pong Sirintik from Seko.

Veins, Nerves, and Leaves

If Pong Sirintik is a master of living substance, iron, and "the possessor of the sharp," the core of his power lies in his creation of nerved swords. The Toraja, after all, were themselves capable of forging iron and creating many unnerved iron tools. The signal characteristics of the la'bo to dolo noted by contemporary Toraja are that they contain nerves, were the possessions of the ancestors, and were, in former times, used as the instruments of decapitation in headhunting raids. The following are some speculations on what nerves and nerve patternings may have meant to the Toraja.

In everyday life and within ritual contexts, Toraja reveal a fascination with the surface of living things. The disposition of spots and splotches of color on a water buffalo's hide determines the animal's value: an elaborate classificatory scheme codifies these patterns. The direction of veins on a banana leaf determines which side of the leaf is used in life-affirming or life-waning offerings. Toraja are also acutely aware of "the unblemished skin"--the pure, unsullied surface without flaw. Such surfaces are highly valued, and said to be "without wrong or untruth." The appearance of freckles on white skin was viewed as a kind of surprising and vexing impurity. Certain surface patterns constitute signs of the active presence of the spirits, as the spots of smallpox on the human body were the signature, as it were, of the deata. Rather than being neutral or purely aesthetic, these configurations on the surface of things of the natural world, on skins and leaves, hides and hands, are laden with meaning, and used by the Toraja in making sense of the world.

The Toraja use the same term, ura', to note the patterns of pamor on the blades of la'bo to dolo, the furrows and lines on human hands, the veins on human bodies, and the veins on the leaves of plants. 20 It seems probable that the swords' nerves were perceived as living patterns, and the blades themselves, made of animate iron, were regarded as alive. If iron itself was endowed with consciousness (as some ritual verses suggest), then the nerved la'bo to dolo were even more completely alive in their mimicry of natural patternings. 21

The quintessential powers of the ancestral swords to take away life and to confer life are epitomized, respectively, in the ritual contexts of headhunting, and in the maro (lit. "excess" or "crazy") ritual. In the maro these swords conduct the powers of the spirits to earth in a life-affirming, life-furthering ceremony. Nerved labo to dolo magnify the implicit powers of iron.

^{20.} The Buginese call one complete circle of hull-boards about the keel of a Buginese perahu one urat, or one "muscle." Proper installation of these "muscles" is considered a critical juncture in the construction of the perahu and is regulated by the precise instructions of Sawerigading, the Buginese culture hero. See Usman Pelly, "Symbolic Aspects of the Bugis Ship and Shipbuilding," Journal of the Steward Anthropological Society, 8, 2 (1977), p. 97.

^{21.} If la'bo to dolo could be "put to sleep" and "made to dream," perhaps they could experience other states of consciousness and feeling: anger, grief, hunger, and satiation. The logic which links iron nerves and nature may lead to the unraveling of some puzzles of headhunting.

Signs of the Spirits, Signature of the Smith: Iron Writing

For the Toraja, the smith's control of pamor appeared remarkable. The nerved blades not only seemed like natural things, but also manifested a kind of image- or pattern-making which was distinct, controlled, and durable. Regarding iron as animate, the creation of living things as exclusively the domain of the spirits, the Toraja may have seen the man-made furrows on the surface of the blade as a kind of iron writing embodying the mysteries of natural configurations. Like the indentations on the surface of certain Javanese keris which were seen as the thumbprints or lip marks of the empu (Javanese: smith), the la'bo to dolo testified simultaneously to the workings and works of the spirits and the suprahuman powers of the smith. 22

Two of the most treasured heirlooms of the Toraja are artifacts with man-made images and patterns on their surfaces: nerved swords and batik cloth. Both are focal points of certain rituals and act as markers for the Toraja to trace their past family connections. They are signs of social status, and also hierophanies, manifestations of the spirits. If, through the manipulation of pamor the smiths of Seko "wrote" in iron, then the nerves which they forged constituted a dual signature: that of the spirits and that of the smiths. 24

Because the la'bo to dolo are such powerful presences, if not personages, their use is regulated by custom and taboo. When not in use during ritual, they are stored in special places. On Mount Sesean they are still kept either in the rafters or in the back of the house, along with other objects such as treasured cloths. In Pantilang, east of Tana Toraja, heirlooms such as these were formerly guarded by a slave. In Buntu Tagari, west of Mount Sesean, the sacred heirlooms are placed in a basket in the southernmost room, the "root" of the house. The house is conceived as a living entity: a plant. From the "root" at the south, the blessings of the spirits and ancestors, concentrated in and conducted through the medium of the iron and cloth heirlooms, are conveyed to the house and its associated family.

La'bo to dolo are owned by families associated with certain ancestral houses rather than by particular individuals, and their possession is linked to and restricted by social status. Inherited from powerful ancestors, the swords are a sign of the wealth and exalted position of the founding family. Through these blades, ancestry and affiliation can be traced, demonstrated, and affirmed. A family which possesses one or more of these ancestral swords is still considered to be "rich in ancestors." 25

^{22.} The Javanese smiths, masters of imagery in iron, evoked both natural patternings and abstract conceptions of "power," "protection," and the "self," in their manipulations of pamor, according to the Solyoms in World of the Javanese Keris, p. 18.

^{23.} Like the simbuang batu, rocks which are erected at the funerals of high-status nobles and which function as markers of ancestry, the la'bo to dolo are both hard and relatively permanent.

^{24.} That these textured metal blades are not unlike texts is supported by the ritual specialist's "reading" of their nerved patterns during the maro ritual. The blades are arranged in corresponding pairs on the basis of this reading.

^{25.} The conception of heirlooms (pusaka) as signs of power linked to and legitimizing the rule of elite families or particular rulers is echoed throughout the archipelago. See, for example, Benedict Anderson, "The Idea of Power in Javanese Culture," in Culture and Politics in Indonesia, ed. Claire Holt et al. (Ithaca: Cornell University Press, 1972), p. 12; W. H. Rassers, Pañji, the Culture Hero (The Hague: Nijhoff, 1959).

In former times, "not just anybody" could claim to own la'bo to dolo or such illustrious ancestors. Slave families were not permitted to own these swords, although at certain times they might employ them in the maro ritual. Within this context a slave might borrow a la'bo to dolo from his owner, thereby substituting himor herself in the owner's place.

Violation of the taboos surrounding these potent swords could result in misfortune. There was, for instance, a sword called Tonapo, with "eyes" of golden nuggets embedded in its blade. If a commoner or slave unsheathed this blade, it was said that heavy rains would fall. ²⁶ Another pair of swords, said to be male and female, were thought to bring disaster if they touched. It is said that a villager bought this pair of swords at the Rantepao market from a spirit in the form of a man. As the villager walked home with the two swords in one hand, chaos erupted in the market. Hearing the cries of people at the market, he examined the blades, and discovered that they were indeed a sexed pair of ancestral swords. He ran back to the market to return them, but the spirit had already departed. From then on the swords were stored in separate houses in this man's village, guarding the serenity and security of his community. If they were carried beyond the boundaries of the village, their powers would dissipate; were they to touch again, calamity would result.

The Maro: Spirits, Speech, and Iron Swords

The crucial role of ancestral swords as powerful vessels linking the spirits, ancestors, and the prosperity of the living community, reaches its apex in the maro ritual. The maro is performed in order to transform an ancestral ghost into a spirit (deata), and to bring blessings and wealth upon the family associated with the ancestral house. ²⁷ In a dramatic moment at the climax of the maro, iron swords act as mediums through which the powers of the spirits are conducted, made tangible in a benevolent form, and displayed to the assembled community. Preceding this extraordinary, otherworldly interlude involving the swords, a carefully orchestrated sequence of actions, including the manipulation of plants, animals, objects, and speech in the form of chants or verses, called *gelong*, ²⁸ establishes contact with the spirits.

For five consecutive days and nights, tominaa gather in the house and invite the deata to come from wherever they dwell. Offerings of chickens are made periodically as the tominaa recite the gelong myths of creation, seemingly endless genealogies, and stories of well-known Toraja ancestors.²⁹ Chanters call for the bounty,

^{26.} Eric Crystal, "Mountain Ikats and Coastal Silks: Traditional Textiles in Southern Sulawesi," in *Threads of Tradition: Textiles of Indonesia and Sarawak* (Berkeley: Lowie Museum of Anthropology, 1978), pp. 53-62, reports parallel powers for the heirloom cloths: "Particular cloths are said to be so powerful that at their unfolding on ceremonial occasions rain quickly comes."

^{27.} Riches have connotations of blessings, power, fertility, and increase. See Toby Volkman, "The Pig Has Eaten the Vegetables: Ritual and Change in Tana Toraja" (Ph.D. thesis, Cornell University, 1980).

^{28.} Gelong are usually arranged in pairs. Compare James Fox, "Our Ancestors Spoke in Pairs: Rotinese Views on Language, Dialect, and Code," in Explorations in the Ethnography of Speaking, ed. Richard Bauman and Joel Sherzer (Cambridge: Cambridge University Press, 1974), pp. 65-85.

^{29.} The recitation of ritual poems acts like a switch in an electrical communication

both natural and man-made, of the surrounding regions. La'bo to dolo and iron are prayed for and the spirits are asked to bring them from Seko:

It bends like a bamboo towards Seko It sways momentarily for a while It sprouts iron and ancestor swords Everything that can be used All that can be eaten.

Far into the night, sometimes until dawn, the tominaa chant and pray, spit scarlet betel juice into bamboo spittoons, and make offerings of chicken, rice, and betel nut to the deata. The tominaa too are plied with chicken, rice, and betel nut, as well as freshly roasted Arabica coffee. Occasionally they call out for palm sugar, as their voices grow hoarse and crack under the strain.

At sunrise on the sixth day (one full market cycle) the bate, a composition of swords, cloths, leaves, and bamboo, is constructed, in a sense an image of the body or spirit of the deceased ancestor. 30 Family members of the sponsoring house bring labo to dolo and heirloom cloths (maa', sarita) to the village yard. The head tominaa inspects the swords and they are lashed in pairs according to their nerve patterns to a "Y" shaped bamboo frame about thirty feet long. The cloths are also tied to the bamboo armature in horizontal bands, giving it the appearance of a colorful flag or banner festooned with nerved iron swords, a myriad of printed and woven patterns in cloth. The bate displays both male and female qualities, for, as in most Southeast Asian cultures, men are associated with knives and iron and women with weaving's products. 31 Signs of the spirits are also present, for the top of the bate is adorned with the deep red leaves of the tabang plant (Cordyline terminalis), commonly associated with the deata, which appear as dark vermillion plumes crowning a multicolored tree of swords and cloths.

In a boisterous procession, led by children bedecked with leafy garlands, jumping up and down and shouting verses, the bate is then carried from village yard to ritual field, the "market." Dense, filled with movement, and frequently ringed with many brilliantly colored bate, the ritual "market" is the spatial focal point and dramatic arena of the maro. 33

system, opening circuits between the realms of the spirits and the community. These poems activate or energize the ritual apparatus. A more literal manifestation of this sacred circuitry is found in the *merok* ritual: cloths and ropes connect drums to the house rafters; then to a tall pole in the village yard where tominaa declaim verses; then to the granary, and from the granary to an offering stand. A Toraja, commenting on this system of connections, said: "Indeed, it is a sort of telegraph!"

^{30.} A kind of inverted bate, called a bandera, is erected at the funeral of the ancestor in whose honor this ritual is held.

^{31.} M. J. Adams, "Structural Aspects of a Village Art," American Anthropologist, 75 (1973), pp. 265-79. In the Sesean epic poem Lando Rundun, the heroine's mother is portrayed characteristically working at her loom. The effigy constructed for a deceased male is adorned with heirloom swords and other knives. "Is it beads, or is it a dagger?" is a question asked on Mount Sesean at the birth of a child. Beads are associated with a daughter, the dagger with a son.

^{32.} At maro in former times, the entrance of the bate into the market was preceded by a man wearing a headdress with iron horns (to ma' tanduk bassi).

^{33.} The everyday market is the paradigmatic, nonritual site for exchanges between people. At the ritual market, instead of strangers arriving on motorcycles and



Tominaa Lumbaa (left) recites a portion of the creation myth to other tominaa. Above Lumbaa's head are visible the horns of buffalo slaughtered at previous rituals.



The bate is carried in procession into the center of the ritual market where garlanded children and men cluster about the sandalwood tree (right center) which marks life-affirming rituals. (Photograph by Toby Volkman.)

As the crowd departs from the village yard, both bate and market are heated up through the recitation of gelong which call forth the glowing redness of heated iron. In these verses, the bate and the market are described as "scorching," "truly on fire," "aflame." Images of intense, concentrated heat are accompanied by images of redness: the bate is "crimson as a torch," and the market is "glowing red." Extraordinary activities, spinning, running, and jumping, and "play" with the la'bo to dolo, will transpire within this red-hot ritual field where even thistles cannot survive: 34

Bate red as fire
Crimson bate already a torch
The tree of the bate red as the afterbirth
The market glows hotly
Glowing red within the meeting place
Truly red, surely on fire
There is no more grass at the market
There are no more thistles
There are many people running and jumping
The sky people are spinning
The market is adorned
The meeting place is aflame.

The creator god, described as a smith, watches from above as mountains are pressed down and valleys raised up. The cataclysmic geophysical imagery of uplifted valleys is both a sign of the powers of the arriving spirits and the turmoil, movement, and agitation which follow as people invite and are taken by the spirits:

All the mountains are pressed down Valleys are lifted up
The tall spirit arrives
The great spirits come
The forger looks down from above
The big man in the crotch of the tree
Ruler of the earth
He who completes.

As the spirits approach the earth they are implored not to leave the ritual field, but rather to form pairs with those possessed, the to kandeatan:

Spirits here in this village Lord (puang) here in this village Ruler (datu) at the edge of the house

minibuses from outlying districts, spirits arrive from mountain tops, rocks, and springs. In exchange for performance of the maro, blessings and wealth are conferred upon the family.

^{34.} The Toraja view "glowing red" as a sign or emanation of an attractive, extraordinary quality. Karaeng Dua', a hero of the rice stories, born of a human father and a female pig, is said to have glowed as he carried his load of rattan into the Palopo market. The female Datu could not resist this handsome, glowing mountain man, and she immediately proposed marriage. The glowing red atmosphere which pervades the ritual market, which emanates from the face of an attractive man of unusual birth, and which characterizes the color of heated iron, is suggestive of the Javanese conception of the emanation of power as articulated by Anderson, "The Idea of Power," pp. 16-17: the aura observed about the faces of ascetics and kings is a sign of concentrated spiritual power (kesaktian).

Come here, let us be together jumping, Spirits surround/cover my body
Lord at the edge of my outside
Do not go far from the jumpers
I follow the custom of the ancestors
Exemplar guarding the earth
Does not want to be left behind
Returns to be remembered.

People do not consciously choose which deata will take possession of them, nor what the deata will choose to do once in power. "It is the deata who govern here. Spirits come and ask for swords or bamboo, cool water or mud to eat. They each have their own wish. We don't know who takes us, nor do we remember when we are well again."

Possession entails three phases of consciousness. At first people "still remember," as deata are called "from the mountain tops, from the springs, from the winds and the wells." Then the deata come, and those to whom they come perform extraordinary feats. The Toraja term "kandeatan" (from the root "deata") suggests that spirits enter the subject; another expression, na ala deata, suggests that the subject is taken by the spirits. Toraja verses speak mainly of the deata approaching and staying close to the skin. 35

Playthings of the Spirits

Spirits arriving at the market are addressed intimately by the to kandeatan:

Whatever you desire
Whatever you wish in your heart
Go there and take me
Even if only for one night
Make visible your world
Whatever you desire from my heart
Go there and take me
Go and take it from me
Even if only for one night.

Speaking as if to a lover, the to kandeatan offers himself to the spirit in a tone of supplication. The instruments he uses, such as the la'bo to dolo, are said to be "the playthings of the spirits." In his complete receptivity to the deata's wishes, the to kandeatan himself may also be considered as the vessel or plaything of the deata. When possessed by the spirits, the to kandeatan may unsheath the la'bo to dolo and work the blades against their forearms, calves, or abdomen in a rocking motion, either simulating cutting or actually cutting the skin. Some stamp or dance upon the swords or poke their foreheads with the tips of small knives. Not all use ancestral swords, for some, usually women, dance on drums, or spin each other around, their long hair, normally bound up in a knot, flying freely until they dizzily release each other. These swirling pairs of women are referred to in gelong as "spinning sky people," thus linking them with the spirits.

^{35.} In the verse quoted above, the deata are referred to as datu, or rulers. The Datu of the coastal kingdom of Luwu was feared and exalted by the Toraja, who brought tribute to him and regarded his person "as if he were a deata." The deata are regarded not only as rulers, but as owners or masters (puang) of slaves, as in the above verse.



A woman in trance at the maro. The man behind her is pulling a la'bo to dolo against her exposed abdomen.

The Governing of Iron

The focal point in this drama of people, swords, spirits, and ancestral ghosts occurs when men and women use the swords against themselves. Life-taking blades momentarily become instruments which increase life, wealth, and prosperity.

Those to kandeatan who use ancestral swords as their instruments command the blade to be dull, to fold its sharp edge over so that cutting the skin will not be painful, but rather as "cool as hail, fruit of rain." These verses, and the process to which they refer, are known as "the governing of iron": ³⁶

Do not be sharp, iron
Fold over, sharpness
Make yourself dull on both edges
Become cool/blessed, iron
Become cool hail, fruit of rain, sharp
And we are all cool/blessed.

Pairing occurs not only between the deata and the to kandeatan, but also between the la'bo to dolo and the to kandeatan. The following verse describes the to kandeatan as the wife of the knife:

The wedge of iron is saved Hardwood shares one house with him Indeed iron's woman Indeed the bride of the sharp.

A woman commented: "Iron and our selves are married. In fact, they exchange selves. The knife is very sharp indeed, so it must be attuned, appropriate to our body." ³⁷ After the blades have been used, the bright red leaves of the tabang are rubbed on the wounds of the to kandeatan. If the ritual is perfectly performed and tabang immediately administered, no blood will leave the body and no scarring will result. The sharpest blades are said to be preferred: "they are the most delicious."

Recalling tales of earlier maro with a sense of amazement, Toraja feel that belief in the spirits' powers and in the efficacy of ritual speech must have waned. They recount instances when death was suspended during the interludes of play with the ancestral swords:

In the old maro a to kandeatan would cut off his head with the la'bo to dolo. Placing his head upon the rice barn, he would dance for hours, jumping up and down. When the dancing was over, he would take his head in

^{36.} The Toraja seem to have both an instrumental and a substantial conception of gelong. When recited properly, within the right context, gelong initiate or inaugurate transformations: spirits arrive, sharp blades bend and become dull, people regain consciousness, and things glow red. In this sense the gelong are efficacious. But gelong are also viewed as substance: at a ritual in which a straw effigy of a woman is built inside the house (the effigy is fed daily and the house considered pregnant for a year) a rice priest was asked what was "put inside the effigy." The tominaa responded: "Gelong! Gelong are put inside her!" See Shelly Errington's comments in "Focus and Dispersion: Thoughts on Thinking through a Buginese Text" (unpublished manuscript, 1978): "Words do not stand apart from the world in an arbitrary relationship to it. Rather, they are themselves of the world's substance, they are effective in it."

^{37.} According to some Toraja, "iron's woman" may also be the wooden sheath or house of the ancestral swords.

his hands and place it firmly on his neck, rubbing tabang where head met neck. He didn't even bleed.

Infraction of the ritual rules governing performance would sometimes result in catastrophe:

Once, during the maro, a man cut off his head and placed it on the rice barn. While he danced, someone else ran off with his head, carrying it against his side. But the head bit him: it was still alive. He tried to tug it off but could not. He died with the head still attached to his side, clenching his flesh in its jaws. The person whose head had been stolen died as well. After all, he had no head! I never saw this happen but my mother told me the story. But this event was the beginning of no more of this.

During this extraordinary interlude, human beings are not katolinoan (from to lino: lit. human being or earth person) or subject to the conditions of mortal existence. If taboos regulating proper maro behavior have been violated, however, the to kandeatan becomes katolinoan or mortal. In such a state he might cut his belly open and bleed to death as violation of the relevant prohibitions has made him vulnerable and he has become merely human in the midst of the maro.

The "governing of iron" marks the apogee of the maro: for a brief interval, unpredictable, potentially lethal spirits, and the nerved swords which conduct their powers, are controlled and induced to appear on the ritual field in benevolent, life-affirming forms. The rules of everyday experience are, as it were, suspended, and mortality is held at bay for a brief moment.

Leftovers of the Teeth of the Spirits

Like red-hot iron that is cooled and quenched in water, the incandescent atmosphere of the ritual market is cooled after the appearance of the spirits:

Afternoon from there The bate is cooled/blessed (pasakke) 38 The bate is opened It is returned to the village.

The deata who descended from the peak of Mount Sesean to be present at the performance of the maro are now implored to return to their customary haunts, and the ancestral swords, already bathed, are returned to their sheaths:

Descended in procession are the people of Sesean ³⁹ The bathed iron returns home
The sharp is already watered
The la'bo is already home
Tonapa is already in his village. ⁴⁰

^{38.} Pasakke means "to cause to become cool" or "to become cool," as well as "to bless." Sakke means "cool water." Pasakke is also the name of a plant with bright red flowers which is planted near springs and pools of water where deata are said to dwell.

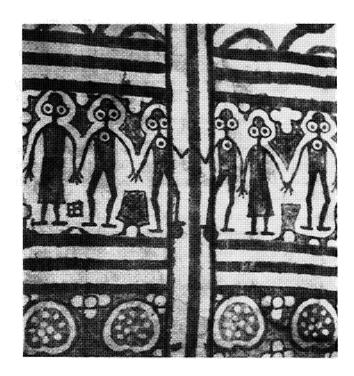
^{39.} The "people of Sesean" are deata. A Toraja commented: "Of course it is the deata; who else lives at the summit of Mount Sesean!"

^{40.} Tonapa is the name of a renowned and indomitable la'bo to dolo and also the proper name of a tominaa revered in the Sesean region.



Detail of sarita cloth used on the bate showing birds above; a man leading a water buffalo, knife in hand, and a houseyard scene. These sarita are Toraja hand-drawn batik cloths.

Detail of the same sarita showing men and women dancing, possibly representing a maro dance.



Consciousness, calmness, and "humanness"--a condition of vulnerability--is restored to the to kandeatan by the recitation of appropriate gelong. This welcome return of calm awareness is signaled by a cool skin and an unshaken breath:

So that our skin is cool/blessed So that our breath is unshaken.

The bate is opened. Ancestral swords and heirloom cloths are reclaimed by their owners. The collective portrait of the assembled family, a composition which temporarily unified that family, is now dissolved or decomposed into a series of discrete elements. The villagers head for their homes, swords and cloths in hand.

The central trunk of the bate is saved with the "fabulous blowgun" in the house, its root pointing south and its growing tip pointing north, 41 conferring blessings and coolness upon a transformed house and its associated family:

Above the house
Cradling mankind
The trunk of the bate is saved
Together with the fabulous blowgun
Will be laid down for riches
Is saved so that wealth increases
So that one can do anything and everything
It is the seamless bate.

As spirits depart and swords are sheathed, gelong act effectively to "cool it." Images which link coolness and water, bathing and blessings, are showered upon the bate, the swords, and those formerly possessed. What was initially heated and activated at the inception of the maro is now cooled again. Thus the course of events in the maro follows a thermal progression from cool to hot to coolness again, a process through which things, as well as persons, are considered blessed and transformed.

As the heat of the afternoon sun begins to abate, the market, formerly a "spring of garbage," a flaming, glowing, densely populated arena, a congested field of umbrellas, pigs, plants, and swirling people "doing sky," is now a deserted field in the late afternoon. Only dogs remain on the ritual field, wandering about and scavenging morsels of rice and meat,

Leftovers of the teeth of the spirits Remains are chewed The wages of speaking The rice foam of the bate inverted.

On the morning of the seventh day, tominaa return to the ritual market and fill with earth the hole in which the bate was inserted. Through this act, the ritual apparatus which functioned as a form of sacred circuitry linking men, swords, and spirits in a rite of renewal and transformation is disconnected: a temporary severance of the lines linking heaven and earth, as it were, until the next performance of the maro.

^{41.} The flow of blessings from the heirlooms stored in the southern end of the house parallels the direction of the growth of bamboo in the bate trunk. The botanical idiom in which the bate is described, as well as the conception of a house which contains nurturing heirlooms in its "root," is paralleled by the Toraja description of the tominaa as "mother" or "tree trunk" of the maro verses. The ritual specialist is seen as a vital center or progenitor of ritual speech. Speech springs from the tominaa as leaves from trees.