

THE HÉTA INDIANS: FISH IN A DRY
POND

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ABSTRACT

The Héta, a group of South American Indians who are now extinct, lived in the forests of the state of Paraná in southern Brazil. The first recorded contact with them did not occur until December 1954. After this contact, the Brazilian Indian Protection Service organized several expeditions to find the Héta again. Vladimír Kozák joined one of these

expeditions as a photographer, and during this and many subsequent visits to the Héta, he made a valuable photographic record of these Indians and their stone-age culture. This monograph is a detailed description of the Héta based on notes and photographs made by Mr. Kozák before the disappearance of the Héta and their culture.

INTRODUCTION

The history of how this monograph came to be written and why it appears in Anthropological Papers of the American Museum of Natural History is a complicated one. But it is one that the reader should know. The purpose of this introduction is to recount this history and to describe the role played in it by each of the four persons who appears as co-author.

Vladimír Kozák was born in Czechoslovakia in 1897, and as a young man studied mechanical engineering in the city of Brno. In 1923 he visited Brazil and decided to settle there, pursuing a career in engineering.

While still a boy in Czechoslovakia, Kozák's interest in Indians was aroused when he read *Winnetou* by the popular German author Karl May, a novel about Indians of the North American Plains. Kozák saw his first Brazilian Indians in 1925 when he visited the Aimoré (Botocudo), a group of which still survived in the state of Espírito Santo. In the years that followed, he visited several other tribes, including the Carajá, Urubú, Northern Cayapó, Bororo, and various villages of the Upper Xingú. His longest stay in the field was six months with the Urubú.

Kozák had studied painting in Brno, and during his visits to the Indians, in addition to taking notes and photographs, he sketched them and later made paintings and sculptures from these sketches.

In 1950, Kozák joined the Department of Research and Documentation of the University of Paraná in Curitiba (where he still lives), and remained an active member until 1967.

In 1953–1954, I studied the Kuikuru Indians

of the Upper Xingú in central Brazil, and while flying out of the interior on a Brazilian Air Force flight, I met Vladimír Kozák, who was a passenger on the same plane. In the two days the flight lasted we became friends, and in Santa Isabel on the Island of Bananal in the Araguaia River, where the plane stopped overnight, Kozák showed me around the Carajá Indian village there, which he knew from a previous visit.

After my return to the United States, I continued to correspond with Kozák, mostly about his visits to Indian tribes. Impressed with his knowledge of Indians and by his excellent photographic documentation of them, I encouraged him to write up his material. Several years later I was instrumental in having an article of his on the elaborate funerary ceremony of the Bororo published in *Natural History* (January 1963).

In November of 1955, in his capacity as photographer for the University of Paraná, Kozák was invited to join an expedition organized by the Brazilian Indian Service to try to locate some unknown Indians that had been reported near the Ivaí River in the northwestern corner of the state of Paraná in southern Brazil. This expedition met 16 Héta Indians camped temporarily on a small farm near the edge of the forest.

Kozák's second visit to the Héta came two months later, in February 1956, with another Indian Service expedition. This one, led by Dr. José Loureiro of the University of Paraná, was fortunate enough to make contact with a small group of Héta encamped within the forest.

Much to Kozák's dismay, only three days after locating this camp the leader of the expedition decided to leave the Héta and return to civilization. This group of Héta was never encountered again.

While the University of Paraná did not resume work with the Héta, Kozák retained a strong interest in the tribe, and by his own efforts and without outside funds returned to the Héta many times. On visits to them in 1960, Kozák became the first person to record, through notes and on film, the entire process of stone ax making by a tribe of American Indians. He later sent me this material and I collaborated with him in preparing an article on Héta stone ax making which was published in *Natural History* in October 1972.

Altogether through 1974 Kozák made about 20 visits to the Héta, first in the forest and later on farms and in cities where the few survivors had wandered after life in the forest had ceased. During these visits he continued to take notes on their culture and to photograph them extensively. Kozák's photographic record of the Héta is outstanding, and the photos reproduced in this monograph add immeasurably to our grasp of their culture.

During the course of various field trips to the interior of Brazil, Kozák acquired a valuable collection of artifacts from several Amazonian tribes, and in 1967 a substantial part of this collection was purchased by the Glenbow Foundation of Calgary, Alberta. The Foundation also purchased a collection of water colors and pastels that Kozák had made of the Indians he had visited.

In August 1967, David Baxter, then employed by the Glenbow Foundation, entered into correspondence with Kozák in connection with cataloguing his collection. The following year, Baxter prepared an exhibition catalogue of Kozák's watercolors and pastels to accompany their first public exhibition. As his correspondence with Kozák continued, Baxter's interest in him and his work increased. He applied for and received a research grant from the Canada Council which enabled him to spend almost four months with Kozák in Curitiba in 1969.

Baxter's study of Kozák's career focused on his work as an ethnographer and photographer

of Indians. In this connection he viewed some 26,000 feet of 16 mm. color film that Kozák had shot documenting the vanishing culture of several Indian tribes, including the Héta. Baxter made a detailed footage inventory of all of Kozák's films, including those on the Héta. He checked this footage inventory against Kozák's field notes on the Héta, thinking that this material might some day serve as the basis for writing ethnographic film scripts. Later, he combined the information extracted from the Héta films and Kozák's field notes into a manuscript of 44 pages.

In July 1971, Baxter sent me a copy of this manuscript and I wrote him saying that it was by far the largest single body of data on the Héta in existence. I added that it deserved to appear in print, and expressed my willingness to help edit it for publication. Baxter concurred in this. In March 1973, Baxter wrote to me saying that his academic commitments would prevent him from participating in revising the manuscript and authorized me to go ahead with the editing required.

Finding that other commitments were delaying my progress in preparing the manuscript for publication, I asked my research assistant, Laila Williamson, if she would undertake the remaining work, and she agreed.

As she immersed herself in the manuscript, it became apparent to Williamson that more than mere copy editing would be required if the full potential of the material was to be realized. She then began to check the other sources available on the Héta for comparative data. She also combed through the many photographs of the Héta that Kozák had sent me over the years for whatever ethnographic details could be gleaned from them. And she went back into the letters I had received from Kozák for more than 20 years, looking for scattered bits of information on the tribe. As questions arose, Williamson wrote to Kozák asking him for further information and clarification. Thus a large body of data accumulated which she thoroughly reorganized and often rewrote.

My own contribution to the project was to oversee it generally and, particularly, to read successive drafts of the manuscript, adding to it or clarifying it where I could. While keeping Kozák informed of the status of the project, I

have elicited further information from him.

The present work constitutes by far the largest collection of material on the Héta ever published, and because of their virtual extermination, it is the last substantial body of data about them that will ever appear.

With the great theoretical interest in hunting and gathering societies nowadays, the information on the Héta presented here should prove useful in further delineating this mode of life. Whether the Héta were autochthonously hunters and gatherers or whether they were once agriculturalists forced by circumstances to regress to the hunting-and-gathering level, the fact remains that when discovered a quarter of a century ago, they subsisted entirely on wild foods and were well adapted to a nomadic way of life in a forest environment.

The present monograph does not pretend to be comprehensive. Not all aspects of Héta culture became known to Kozák. Moreover, what remains unknown will never be known. As a tribe the Héta are now extinct and the few surviving individuals are strongly acculturated and have either forgotten or never learned the old ways. But thanks to the intelligence, dedication, and perseverance of Vladimír Kozák, a significant amount of information is now made public on nearly the last group of nomadic hunters in the New World.

Robert L. Carneiro

While this monograph was in press, we learned that Vladimír Kozák had died on January 3, 1979.

EARLY CONTACT

In December 1954, a group of Indians emerged from the dense forests of the Serra dos Dourados in the northwestern part of the state of Paraná, Brazil, to make contact with a white settler. They were the Héta.¹

The Héta were believed to be a previously unknown group of Indians, and that is how they were described in the first news accounts of their contact with Brazilians. The ethnographic literature on this area contains only a few notes on Indians similar to the Héta. The earliest account is by a British explorer Thomas Bigg-Wither (1878). In the early 1870s Bigg-Wither encountered a small band of "wild Botocudos" around Salto Ariranha on the Ivaí River, about 120 km. (75 miles) north of the present city of Guarapuava and almost 300 km. (186 miles) southeast of the Serra dos Dourados. These Indians wore large wooden pins through the lower lip fitted into wooden

crossbars between the lower lip and gum. The Héta wore similar lip ornaments made of resin. Bigg-Wither illustrated a long, unilaterally-barbed wooden arrowhead, a blunt arrowhead, and an ax with a wooden handle and a stone blade embedded in it (1878, opposite p. 127) (fig. 1). These artifacts are almost identical with those used by the Héta. This evidence indicates that the Héta could well be the descendants of, or at least closely related to, Bigg-Wither's wild Botocudos.

Bigg-Wither's is probably the only published report of an encounter with a group of Indians closely resembling the later Héta prior to contact with the latter in their forest encampments in the 1950s.

The published accounts of Indians of this area, following Bigg-Wither's report, describe a few captured individuals living with the Kaingáng in south central Paraná. The first of these is by the Brazilian Colonel Telêmaco Morocines Borba. In 1899 he found two captives of an unknown tribe among the Kaingáng. The Kaingáng called them Kurutó which means "without clothes." The captives reportedly called their tribe Aré.

In 1907 the Czech scientist A.V. Frič found three captives in a Kaingáng village on Rio Ivaí. They were also called Kurutó by their

¹The Indians of the Serra dos Dourados have been called by several names: Botocudo, Aré, Yvaparé, Šetá, Xetá and Héta. We prefer the designation Héta, meaning "all of us," because it is the name the people themselves used. The incorrect name Xetá has recently appeared in several publications, perhaps in the mistaken belief that these Indians are the same people located elsewhere in Paraná that A. V. Frič called Šetá. The pronunciation of *é* in Héta is close to the vowel *ö* in German.

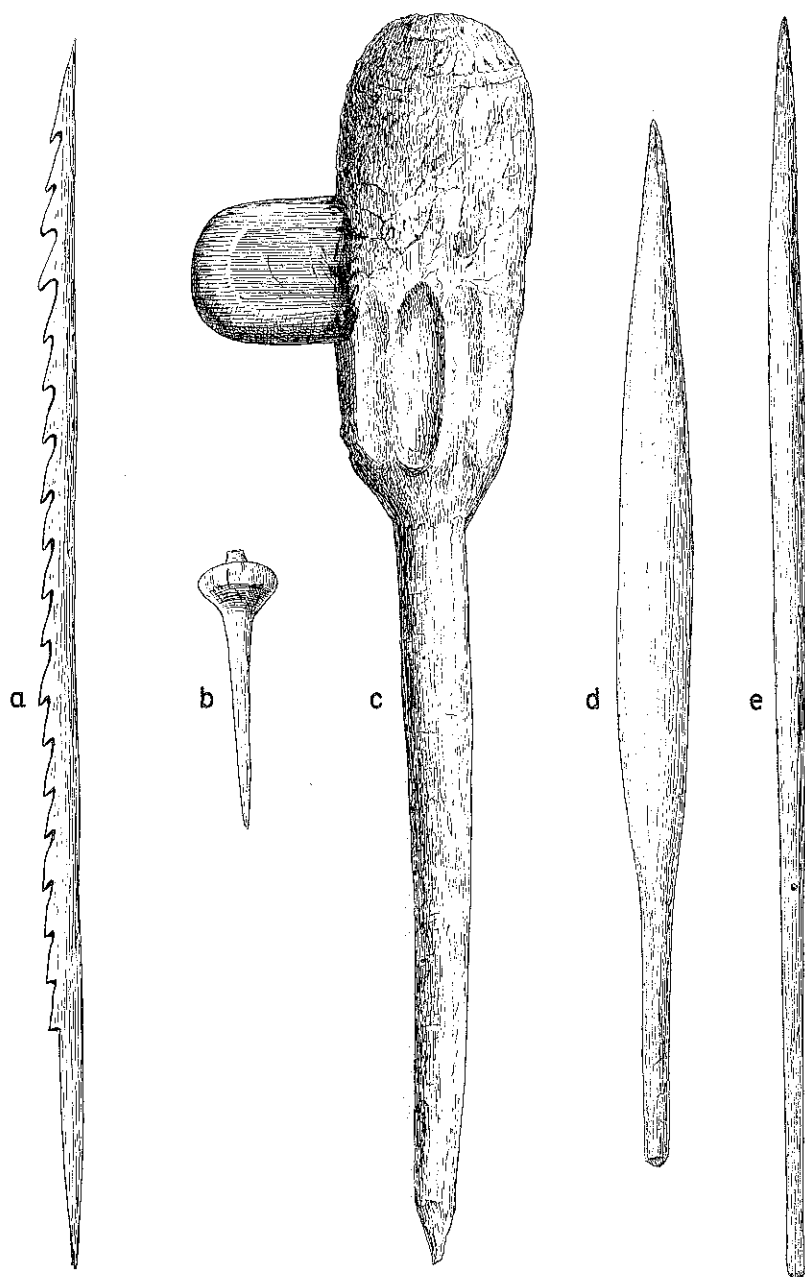


FIG. 1. Stone ax, *c*, and wooden arrowheads illustrated in Bigg-Wither (1878, opposite p. 127). His caption describes the arrowheads as follows: *a* for jaguar shooting from ambuscades; *d* and *e*, for tapir, deer, pig, and the larger monkeys; *b* for birds and the smaller kinds of monkeys. Drawn by Nicholas Amorosi from the original.

captors but called their own people Šetá. Frič illustrated several of their artifacts including the bullet-shaped lip pin with a crossbar which is

very similar to those worn by the Héta (Frič, 1943, p. 81).

Are the Héta of the 1950s the same people

as the Šetá found by Frič in the early 1900s? According to Kozák this is unlikely, because the Czech sound *sh* is pronounced very strongly and could not be confused with the heavily aspirated *h* or *kh* sound in the word Héta as pronounced by the Héta themselves. Furthermore, a linguistic comparison by Čestmír Loukotka (1960) of the Šetá and Héta vocabularies revealed that only 30 percent of words in the two vocabularies were related. This percentage is too low for them to be considered the same people. Both are apparently Tupián languages, although the Šetá of Frič's time spoke a language influenced by Guaraní, while the Héta language shows unidentified foreign influences (Loukotka, 1960, pp. 367–368). The Héta and the Šetá, however, appear to be culturally related.

Two captives of the Kaingáng were next studied by the Brazilian ethnographer Curt Nimuendajú in 1912. He called them Botocudo and reported that they were called Kurutó by the Kaingáng and Yvaparé by the Guaraní.¹ He classed their language as belonging to Guaraní (Nimuendajú, 1946, pp. 93–94). After 1912 these Indians disappeared from view and there were no reliable reports of them until after the Second World War.

The literature on the Héta is almost non-existent. *The Handbook of South American Indians* listed the Ivaparé-Aré-Sheta as a Tupi-speaking group (Steward, 1946, vol. 6, p. 298). In a brief paragraph (vol. 3, p. 72) they are reported living in the same area where the later Héta lived (lat. 24°S and long. 53°W). They had reportedly abandoned farming and had become nomadic. This information was based on Borba (1904) and Loukotka (1929).

The paucity of knowledge about the Indians of the Serra dos Dourados region and the unreliability of this information is well illustrated by the following paraphrase of a passage from Frič (1943, pp. 86–87): The Ššetá tribe whose ancestors had a high cultural level, were forced by whites and their Indian neighbours from Rio Ivahy, state of Paraná, to take refuge in the jungle. Living there, isolated for centuries, they lost their former culture and social behaviour.

¹One of his Héta informants, Eirakán, told Kozák, that his father had been captured by the Kaingáng in the 1920s, but had managed to escape and taken a steel ax with him.

By intermarriage they degraded in their stature and intelligence and spoke in grunts (like monkeys). They lived in trees for protection and became very hostile. An unusual characteristic of the Ššetá tribe was their big toe which was movable like the thumb on their hand and similar to four-footed animals (like monkeys). They also had long arms.²

New information on the Héta has become available since 1956. Several papers have been published by José Loureiro Fernandes, as well as articles by Čestmír Loukotka, Vladimír Kozák, and Annette Laming-Emperaire. However, these papers are short or deal with a specific aspect of the culture only. An overall, detailed description of the Héta culture has been lacking. The present manuscript, which encompasses the work of Vladimír Kozák with the Héta from 1955 to 1976, is an attempt to present all the information on the Héta that is now available.

CONTACT IN THE 1950s

Until the second half of the twentieth century there was very little economic development in the northwestern corner of the state of Paraná in southern Brazil (fig. 2). The Brazilian population there was small and the nearly impenetrable forests slowed the expansion of settlements. This was especially true of the heavily wooded region known as the Serra dos Dourados. Much of this area, containing the last remaining primeval forest in southern Brazil, had been a forest preserve until the late 1940s.

After the Second World War the state of Paraná began to sell land to private companies to promote settlement in the area and encourage the spread of coffee plantations. These companies in turn surveyed large tracts of land for resale to prospective colonists. As survey crews and colonists penetrated the forests, vague reports began to circulate of the existence of unknown Indians in the forests. These stories were suppressed by the authorities for fear that colonists would not settle in an area where Indians were believed to live free.

The Indian Protection Service (Serviço de Proteção aos Índios, SPI) sent an expedition in

²Translation from the Czech original by Helen DeDube.

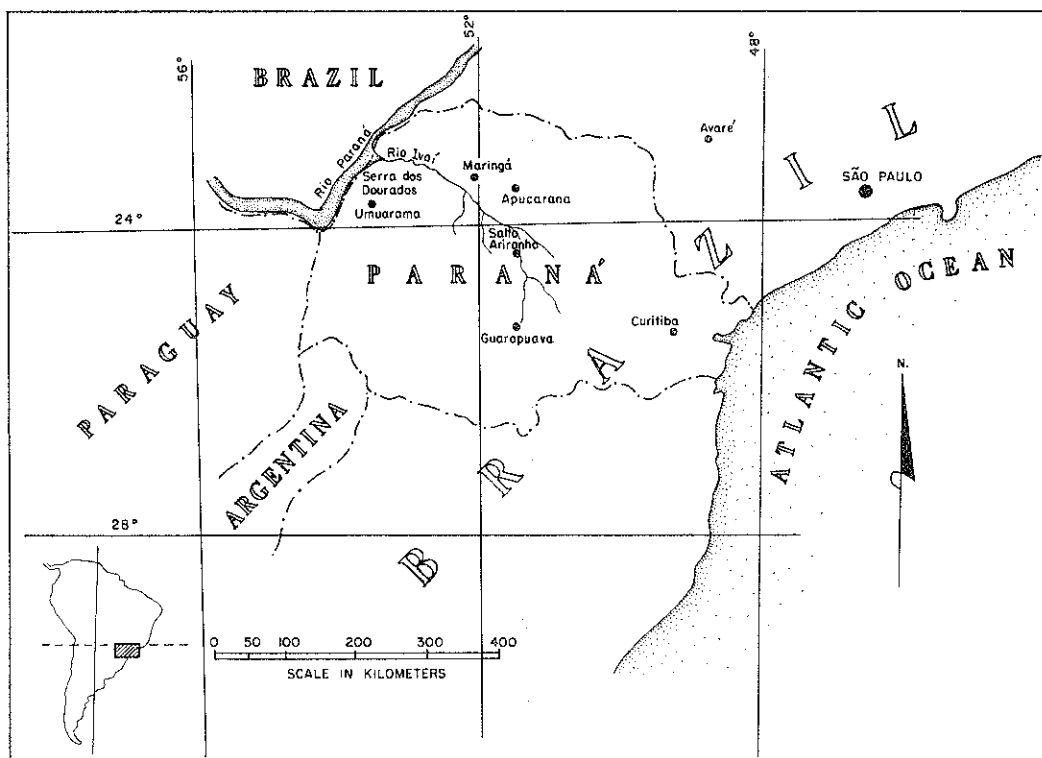


FIG. 2. Map of the state of Paraná in southern Brazil. Drawn by Nicholas Amorosi.

1945 and again in 1949 to search for the Indians (fig. 3). The latter expedition located about 10 of their abandoned campsites but returned after a month without finding any Indians.

By 1950 the number of settlers had greatly increased, and settlements were pushed farther into the forest. In 1952, a fazenda foreman, Antônio Lustosa de Freitas, and his family settled in the area, about 4 km. (2.5 miles) northwest of Douradinha. He began to clear the forest for a farm and established a small ranch with some huts on the land. He named the farm Fazenda Santa Rosa.

The same year, surveyors and woodsmen captured a lone Indian boy in the forest, about 7 or 8 years old, who was handed over to the SPI in Curitiba. A year later another Indian boy about the same age was captured and sent to Curitiba. These two boys were given the names

Kaiuá and Tuka.¹ They spoke an unknown language and understood neither Kaingáng nor Guaraní. There was some speculation that they were descendants of Friç's Šetá.

Meanwhile Antônio Lustosa de Freitas continued clearing the forest around his ranch. For nearly two years, unbeknown to him, the Héta in the surrounding forest were watching his activities with great interest. He often left his steel axes in the woods overnight. One night the Indians took one of them, and some time later they took another.

On December 8, 1954 an event occurred which changed the life of the Héta forever, and led to the final destruction of their culture.²

¹In later parts of this paper Kaiuá will be referred to by his Héta name Tshékenwaio. Tuka's Héta name is Namowaguáka.

²The events described here follow the accounts of the

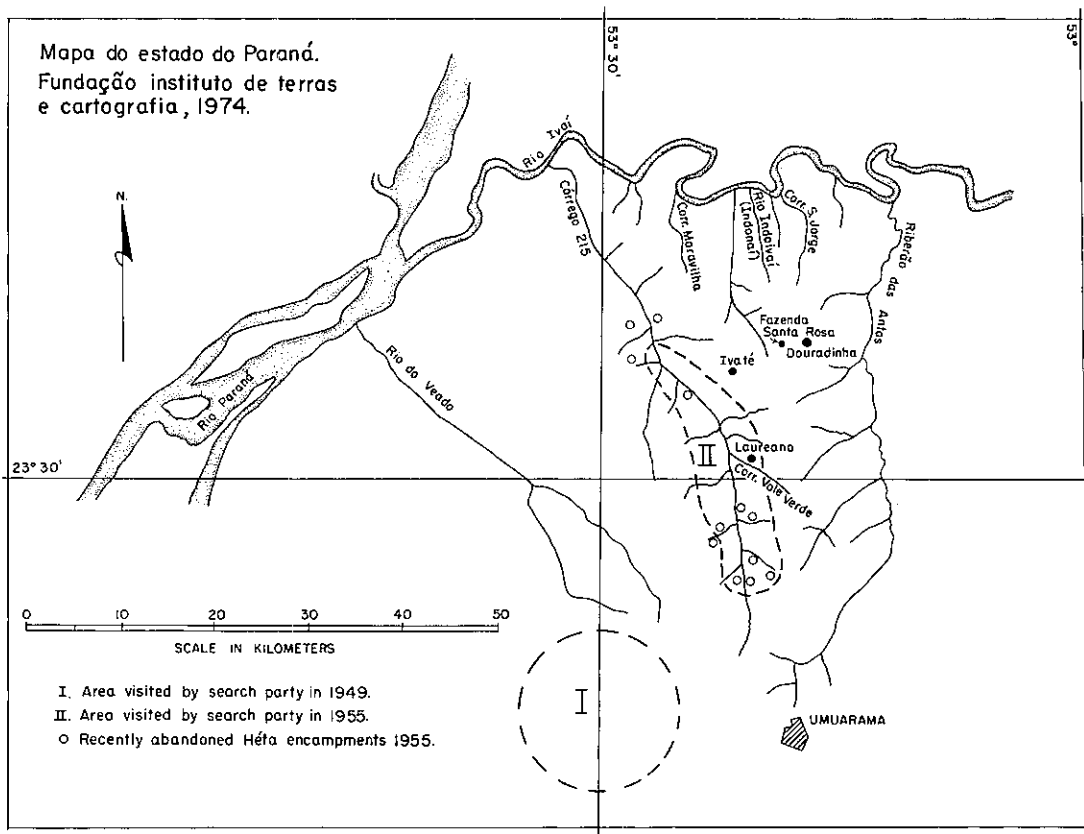


FIG. 3. Map of the Serra dos Dourados area in northwestern Paraná. Drawn by Nicholas Amorosi from the original.

Antônio de Freitas was preparing to leave for his daily work on the farm when his wife, Carola, called to him that she heard voices outside. They looked out the window and saw six Indians walking toward the house.¹ They

Héta as they told them to Kozák, a few years later, and also the accounts of Antônio and Carola de Freitas. The first stories of the de Freitas' contact with the Héta published in the newspapers are somewhat confused and inaccurate. These inaccuracies are corrected here.

¹These six Héta men were Hatshuakán, the leader of the group; Iratshonbawái, an older brother of Hatshuakán; Eirakán, who later became a most valuable informant to Kozák; Ñagua, a brother of Eirakán; another man named Eirakán; and Kuen, a brother of both the first mentioned Eirakán and Ñagua.

were naked except for a small pubic apron. They wore amber-colored pins in their lower lips and animal-tooth necklaces. Although the Indians were unarmed and advancing slowly, Antônio de Freitas believed that his house was under attack. He opened the door and started beating against the jamb with the flat of his machete hoping to scare them away. Carola de Freitas then went out and put some food and sugar on the ground, knowing that Indians generally love sweets. The Héta, however, showed little interest in the sugar and the food because they did not know that these substances were edible. The group of Indians stayed in front of the house for several hours. Before they left, they appeared to be very pleased with some

sweetened boiled rice that Carola de Freitas gave them. Two days later, Eirakán, accompanied by his wife, Alúa, and two children, returned to Santa Rosa where they stayed for three days, receiving food from the de Freitas throughout their stay.

Antônio and Carola de Freitas saw no more of the Indians until some six months later when 29 of them came to camp near Santa Rosa. In July and August, 1955, the Indians appeared for a few days, apparently attracted to Santa Rosa by the prospect of food and a natural curiosity about the de Freitas household, their utensils, and other possessions. Then they vanished again into the forest. These visits were probably part of hunting and gathering forays that carried the Héta considerable distances from their camps deep in the forest. Antônio de Freitas formed such a good relationship with this group of Héta that they took him twice to their large encampments in the forest many kilometers from Santa Rosa.

Antônio de Freitas had notified the Indian Protection Service in Curitiba immediately after the first appearance of the Indians. Following his report, the SPI organized a small search party which set out in August 1955 (fig. 3) in an effort to establish permanent contact with the Héta, but the party failed to find any Indians. Two months later, Antônio de Freitas again reported Indians around Santa Rosa. A second SPI expedition left Curitiba on October 15 taking along with them the two Indian boys Tuka and Kaiúa (Tshekuenwaio). About eight abandoned campsites were located, one of them near the Ribeirão Indoivaí (Indonaf) about 6 or 7 km. (4 miles) northwest of Santa Rosa (fig. 3). Some of the encampments showed signs of recent occupation; small camp fires were still smoking slightly. A stone ax, bone points, and clubs were found lying about in one of the sites. Remains of palm nuts and animal bones were found in all the encampments. While passing through these abandoned camp sites the search party left machetes and knives as presents for the Héta. The party returned to Curitiba on October 26, again having failed to contact any Indians.

A message from Antônio de Freitas was re-

ceived in Curitiba on November 14 informing the SPI that the Indians had reappeared at Santa Rosa. A third expeditionary party was organized, and Kozák accompanied this one. The party left Curitiba on November 18 heading northwest and arriving at Santa Rosa about three days later. Sixteen Héta were present at the fazenda. The group consisted of four families: those of the two brothers Hatshuakán, the leader of the group, and Haikumbawái, both of whom had two wives and several children; those of Eirakán and those of another man.

The next day the search party, led by these Héta, visited a partially abandoned campsite on the Ribeirão Indoivaí (Indonaf), a short distance northwest of Santa Rosa. Some information was collected on the size and general composition of the temporary camp site, as well as on cooking methods and material culture. Other abandoned encampments were also visited during the few days' stay with these Héta; after that the party returned to Curitiba.

Yet another expedition left for Santa Rosa on February 10, 1956, and Kozák was again one of the participants. Another band of Héta was rumored to be in this area and an effort was made to locate them. On February 16 the party had decided to give up the search and return to Curitiba when they encountered a local woodsman, Pedrinho Nunes. He reported having seen a child's footprint in mud a few days earlier, and since there were no known white children in the area it was decided that it must be that of an Indian child.

The party was already on its way back to Curitiba, but Kozák insisted that an effort be made to pursue this clue. The search began once more and after a long trek, the party found signs of Indians. Following the signs they suddenly came upon a small hunting group resting in their temporary hut. Within the next two days the expedition located three semi-permanent encampments with a total of about 30 Héta Indians. All these sites were in dense forest in the general vicinity of Laureano, a settler's ranch, 21–24 km. (13–15 miles) south of Santa Rosa. The contact that this search party made with the Héta of the Serra dos Dourados during these three days constitutes



FIG. 4. Eirakán and his wife Alúa. Both wear animal tooth necklaces. Eirakán is making a spear and Alúa is working on caraguatá fiber yarn. Note the palm sheath container with feathers and a rolled piece of jaguar skin inside.

the first and only recorded encounter with them in their own forest environment.¹ The Indians were at first surprised and frightened at seeing the group of strangers. But after their initial reaction, they accepted presents of axes, knives, and sugar. The Indians were naked, except that the men wore small pubic aprons woven of smooth *Bromelia* fiber. Men and women wore a peculiar stick-type of necklace to which many small animal teeth had been very carefully attached. The most striking body ornament, however, was a small bullet-shaped

¹This contact was preceded only by Antônio Lustosa de Freitas' two unrecorded trips with the Héta into their forest camps (see p. 360).

lip plug of resin worn by most of the men and boys. These labrets were inserted through a hole in the lower lip and fitted into a wooden crosspiece inside the mouth so that a man's lower lip was distended (figs. 6 and 7). Children wore necklaces of several strands of black seeds with pendants of small animal bones and bird skulls.

Many of the women and children sat quietly in the small huts, while several men sat on palm leaf mats excitedly talking about the visit of the strangers. Some men were pounding erva mate leaves to make a tea-like brew; others were sharpening their stone axes or carrying on their other daily activities.

As it turned out, the days of February 20 to

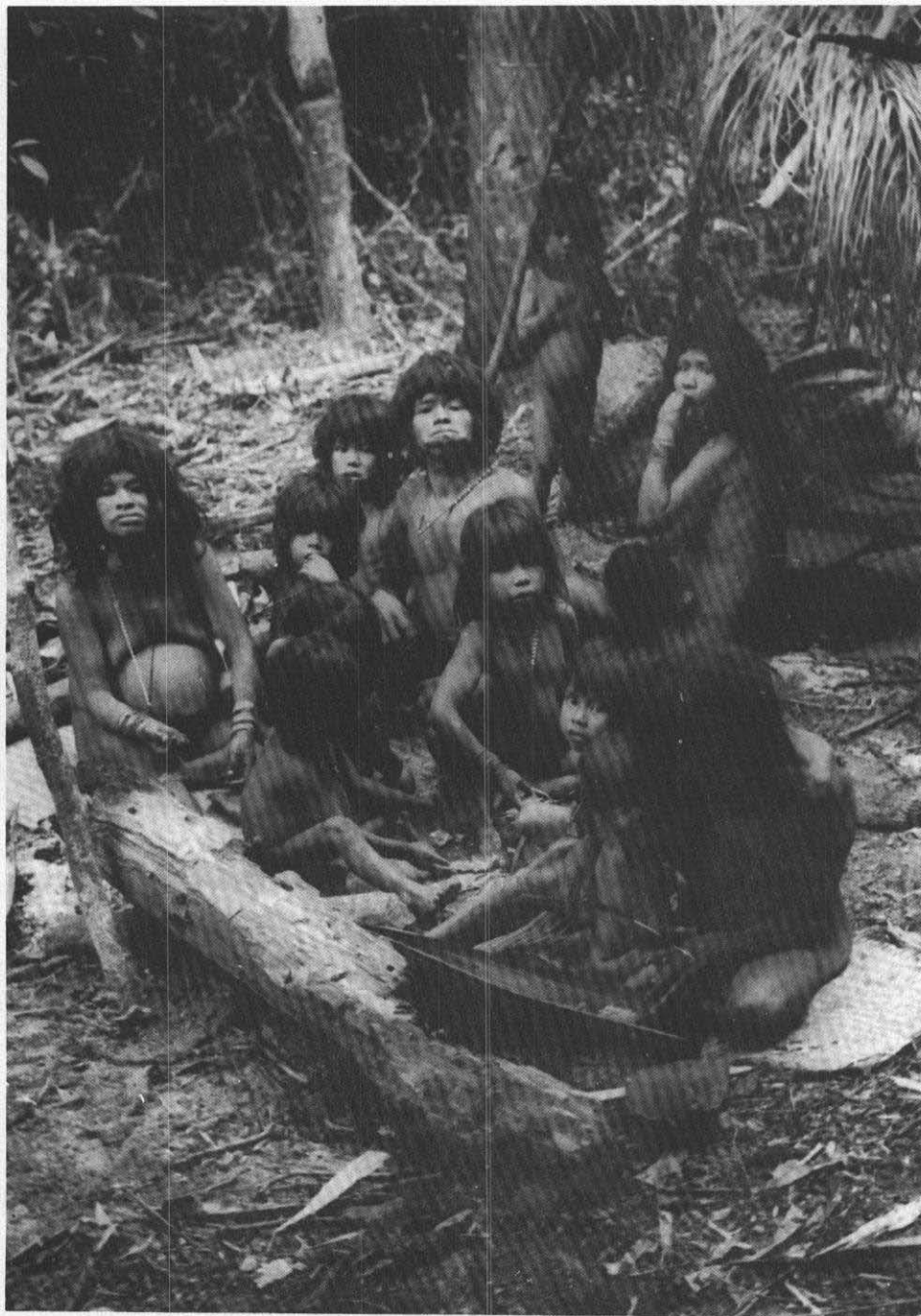


FIG. 5. Group of Héta in their encampment.

22, 1956, were the last time this large group of Héta was ever contacted. Despite Kozák's pleas

to take full advantage of this rare opportunity to study a living stone-age people in their natu-

ral environment, the expeditionary party returned to Curitiba. Nevertheless, during the three days of the expedition's stay a considerable amount of information was collected, primarily on material culture. Many of these data were recorded on film by Kozák. However, a

chance to make a detailed ethnographic study of the culture of the Héta is now lost forever. The several subsequent attempts to find this large forest group failed. Most of the Héta had simply vanished.

Ethnographic work continued with the 18

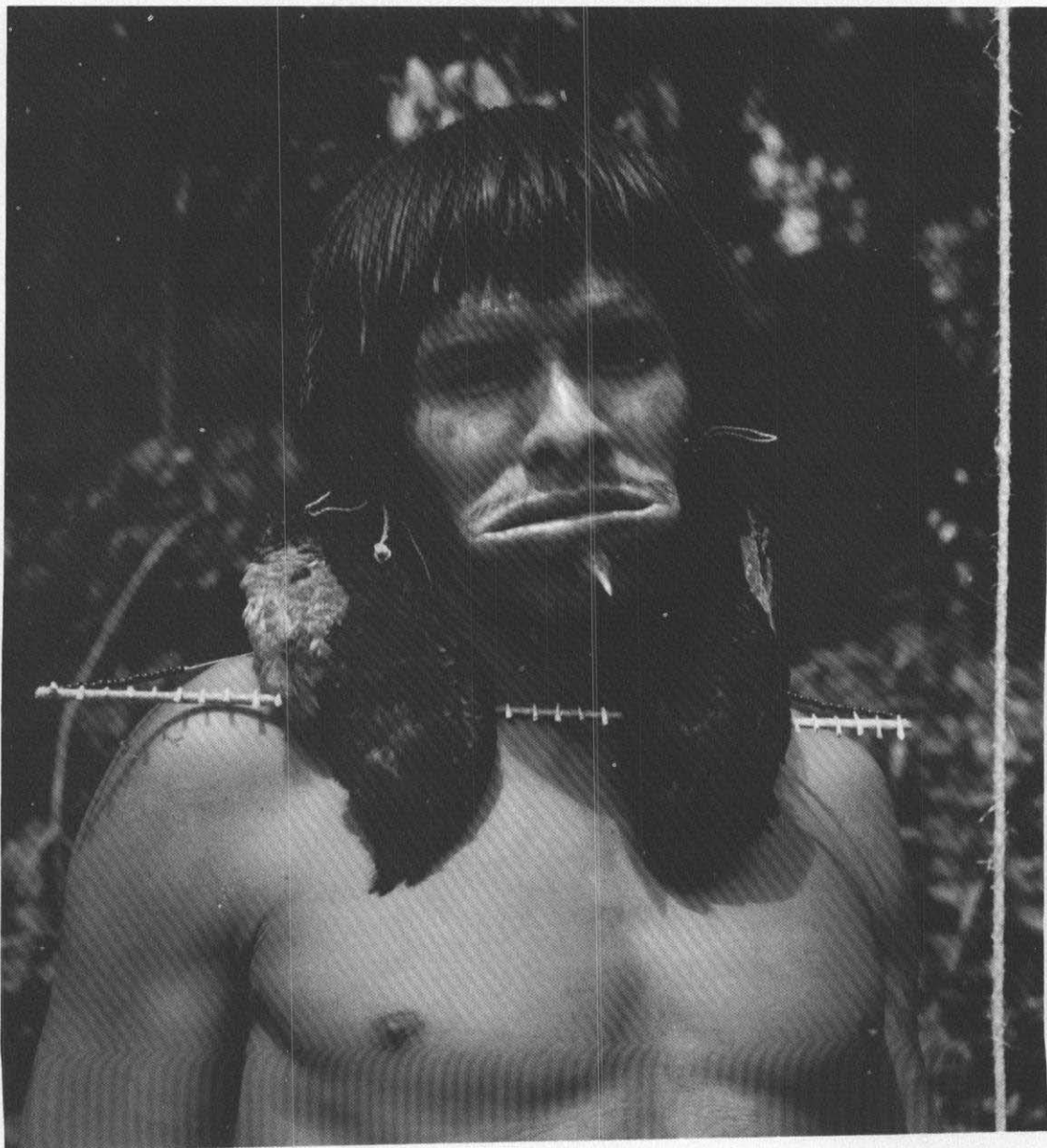


FIG. 6. Héta man with his lip plug in place. He is wearing ear ornaments made of skins of whole birds.

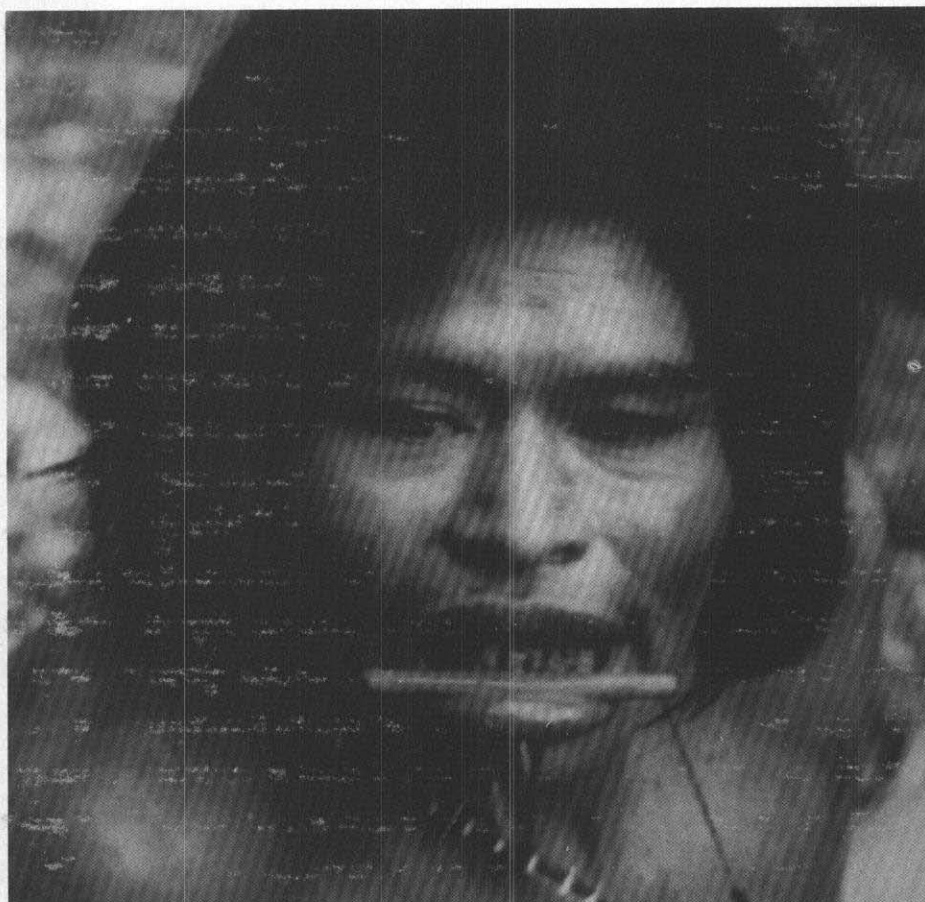


FIG. 7. Man wearing a lip plug with the wooden crossbar showing.

Héta who belonged to the group camped at Santa Rosa in 1955–1956. Most of this work was done with Ñango, the only known survivor of the forest group, contacted in February, which had been severely decimated by an influenza epidemic; also with the two children captured several years earlier. This remnant group of Héta had settled in an old encampment of Eirakán's father's band which is situated a little over 16 km. (10 miles) from the Fazenda Santa Rosa. This group was visited on and off between 1956 and 1961 by representatives of the SPI, the University of Paraná, and several newspaper reporters. Kozák continued to study and film these Héta on his own, and he made about 20 trips to their camp since 1961.

Gradually the Héta of this group died or

scattered to other areas. Hatshuakañ, the group's leader, died in Santa Rosa in 1964. His wife, Ñatjé, died of tuberculosis brought on by malnutrition in March 1966. Eirakán and his wife, Alúa, and their child died in June 1967. Haikumbawái died in 1972. Today very few, if any, old-timers survive, perhaps only one: Ñango. Kuen, the brother of Eirakán, if alive, and a few Héta who were small children in 1954, are scattered throughout western Paraná. Those who were children at the time of the first contact have lost their culture and even their language. Kozák has summarized this tragedy as follows: "For generations, these Indians lived on the products of the primeval forest which also protected them from outsiders. Once the forest was gone, however, the Indians were

like fish in a dry pond. They had no further means of survival, and because the civilized world was not kind to them, they died."

LOCATION AND HISTORY OF THE HÉTA

In the 1950s the Héta lived between longitude 53°W and 54°W, and around latitude

23°30'S. According to Bigg-Wither's report the wild Botocudos of the 1870s apparently lived much farther east. It is interesting to note, however, that several of the Héta informants had been as far east as the environs of Maringá and Apucarana in the late 1940s and early 1950s. Apucarana is north of Bigg-Wither's Salto Ariranha (fig. 2).



FIG. 8. Kozák with a Héta man in front of a shelter (*tapuy*).

It is possible that the Héta once lived close to the Guaraní-speaking Guayakí of the upper Paraná River. Both the Guayakí and the Héta (see fig. 56) on rare occasions made cylindrical hats of jaguar skin (see Métraux and Baldus, 1946, p. 439 and plate 96). The Héta wore these hats during a ceremony at the harvesting of the guavirova fruit. Several Héta reported that they were familiar with the wearing of jaguar skins for hunting jaguars and peccaries by "neighboring peoples," who might be the Guayakí. It may be noted also that some of the weapons of the Guayakí and the Héta show certain similarities, such as the long, unilaterally barbed arrowpoints (see fig. 1 and Métraux and Baldus, 1946, plate 95).

Another possibility is that the Héta came to northwestern Paraná from Paraguay. The men's small pubic apron, *hamiá*, woven of caraguatá fiber is strikingly similar to burlap. It may have originated in the sixteenth and seventeenth century Jesuit missions of Paraguay, where Indians, particularly men, were forced to cover their genitals.

The Héta themselves have given some information about their history. They lived in at least two, perhaps several, larger groups. One of the groups was called "Opfábaita." All the Héta encountered in the 1950s are believed to belong to this group except Eirakán. He was reportedly captured from another Héta group called "Aigaraté Aguey."

According to several informants, the Héta used to live in four large villages with up to 10 dwellings in each. They occupied both sides of the Ivaí River before these villages were attacked by unidentified men wearing white headbands. Whether these attackers were other Indians or the front guard of colonizers has never been ascertained. These attacks presumably began before the 1940s and forced all factions of the Héta to move south of the Ivaí River. Much reduced in numbers, they abandoned their large settlements and became nomadic. It is possible that the Héta formerly practiced manioc cultivation since the name of this plant appears in both Héta and Šetá vocabularies (Loukotka, 1960, p. 363). Frič reported that the Šetá were familiar with the cultivation of manioc, maize, cotton, and tobacco (in

Loukotka, 1960, p. 336) However, the Héta themselves had no knowledge of plant cultivation nor any oral tradition indicating that their ancestors had ever practiced horticulture.

The small amount of available historical information on the Héta does not give us much data to build on. The Héta were apparently more numerous in former times, lived in semi-sedentary villages and practiced some plant cultivation. The pressure and danger from both the white settlers and their old enemies, the Kaingáng, forced the Héta to scatter in small groups and adopt a nomadic hunting and gathering life. The destruction of their forest habitat by the encroaching settlers and coffee growers forced them to retreat farther into their steadily diminishing forest home. The Héta did not make or use canoes or other water craft, therefore they could only cross the wider Ivaí and Paraná rivers during low water by wading across the river in shallow places.¹ Thus their habitat was restricted even farther to the area southeast of the rivers Ivaí and Paraná.

Because of the dislocation they have suffered for a century or more, Héta culture, as it is described in the following pages, must be understood to be a mere shadow of what it once was.

ENVIRONMENT

The Serra dos Dourados lies south of the Rio Ivaí, southeast of its confluence with Rio Paraná. In the 1950s this was a forested area surrounded on all sides by Brazilian settlers. Despite the name, the Serra dos Dourados highlands are not really mountains, but hills that were covered with dense virgin forest. Their altitude varies between 500 m. and 700 m. (1640–2300 feet). The area has a semi-tropical climate with regular rainfall during the rainy season which extends from September through February. Summers are warm but not hot; the average January temperature in the northwestern part of Paraná is 24°C. (75°F.) (Schwertdfeger, 1976, p. 234). In the winter the temperature rarely drops below freezing, and the mean July temperature in two sections

¹It is not known whether they had formerly used swimming logs to cross rivers.

of the northwest corner of Paraná is 14°C. (57°F.) and 16°C. (61°F.) (Schwerdtfeger, 1976, p. 235).

Rainfall in the Serra dos Dourados area has been recorded to average about 150–200 mm. (6–7.9 inches) a month during the rainy season and between 50–100 mm. (2–4 inches) a month during the dry season.

The vegetation of the Serra dos Dourados

was tropical forest, although not so luxuriant as in the neighboring, less hilly areas. The forest was composed of several kinds of deciduous trees, and palms and bamboos. Several streams ran through the forest and there were a few small ponds and swamps. The most common tree in the forest was the jerivá palm (*Cocos romanzoffiana*). Other palms, such as macaúba (*Acrocomia sclerocarpa*) and palmito (*Euterpe*



FIG. 9. Group of Héta traveling in the forest. A log is used as a bridge and a tree branch tied to two poles serves as a hand rail.

edulis), were less numerous. This forest did not contain a great variety of fruit-bearing trees, but some, like those of the genus *Cocos*, produced in abundance and throughout the year.

Most of this forest has since been cut down to provide land for coffee plantations.

ENCAMPMENTS AND SHELTERS

The Héta selected a site for their encampment (*oka*) within a short walking distance from a stream which provided water for drinking and bathing. The encampment was built in a clearing amidst high, dense forest. The tall trees afforded protection against the wind and cold. The clearing itself and the shelters opened

toward the east to catch the warmth of the early morning sun.

The encampments consisted of 3–5 partially thatched dome-shaped shelters (*tapuy*). The shelters were arranged roughly in a circle which was about 6 m. (19 ft.) in diameter. The framework for each shelter was made from about 12 flexible branches of trees or from saplings which were between 4–8 cm. (1½–3 in.) in diameter at the base, and about 2.5–3 m. (8–10 ft.) long. To secure these poles in the ground, the Héta dug holes of about 50–60 cm. (2 ft.) deep by pounding a sharpened stick into the ground (fig. 11). A shelter pole was then pushed into each one of the holes and the ground around it was tamped down firmly with

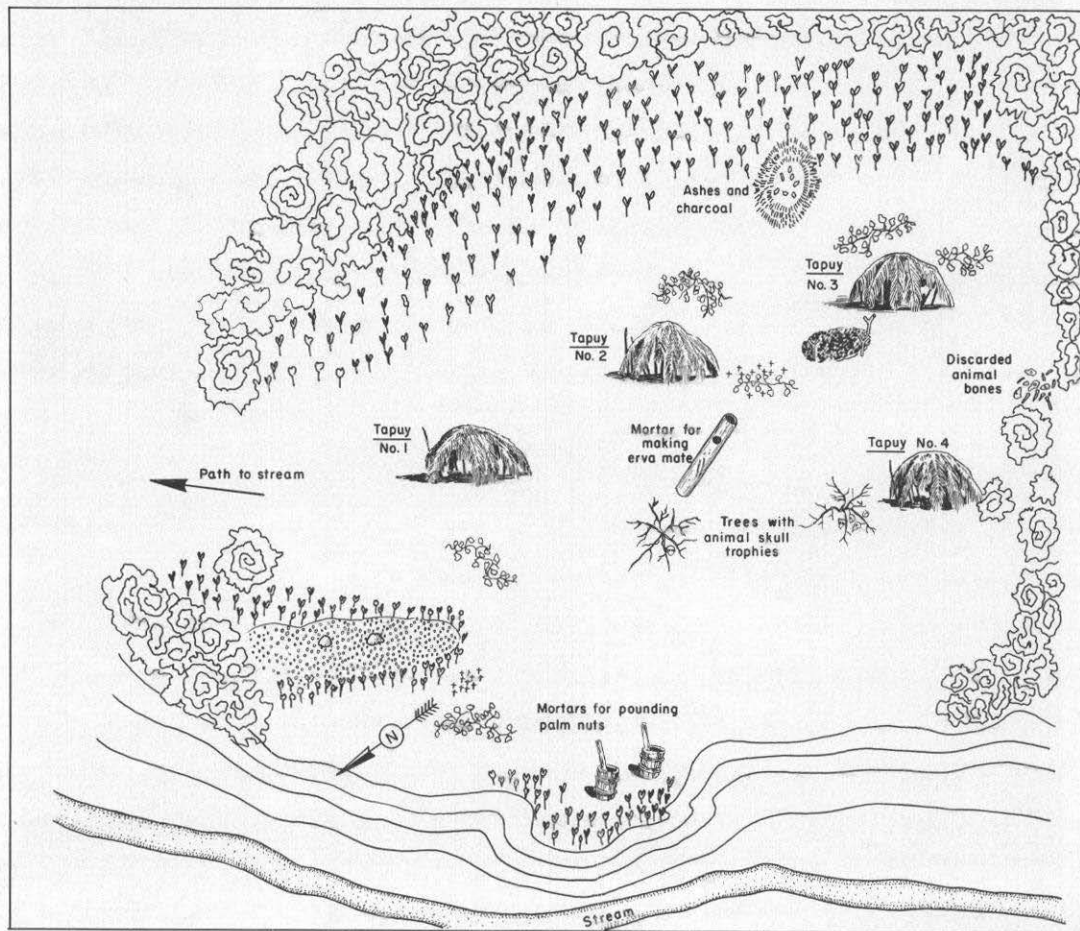


FIG. 10. Plan of a Héta encampment. Drawn by Nicholas Amorosi from the original by Ney Barretto.

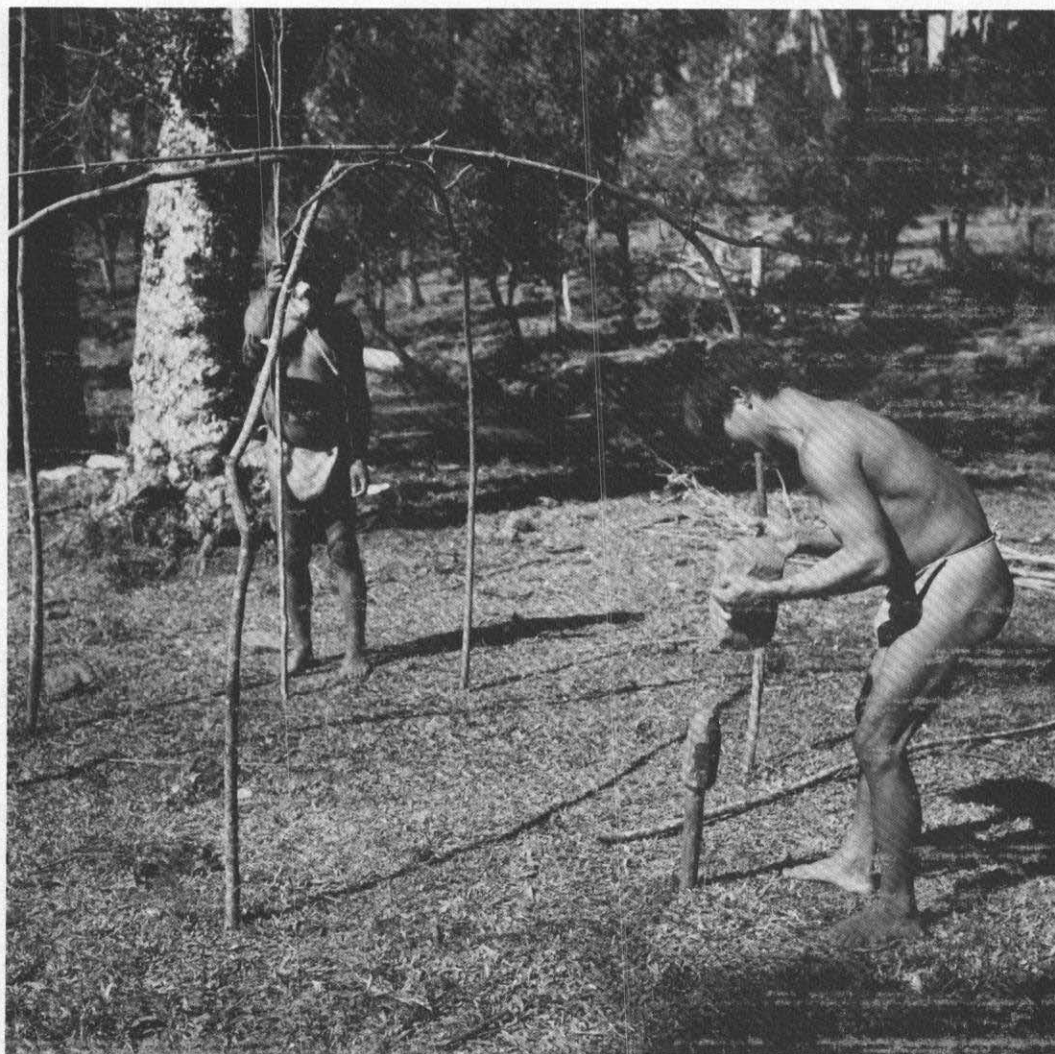


FIG. 11. Building a *tapuy* framework of vertical poles.

the feet. The poles were arranged in a circle about 2.5–3 m. (8–10 ft.) in diameter, bent inward at the top, and tied together there with vines or bark strips.

Short sticks were tied crosswise on the bent poles with pliable bamboo splints, vines or some other flexible material to strengthen the framework (fig. 12). One man, often assisted by another, built the framework of a *tapuy*. When attaching the horizontal sticks to the vertical poles, they often used their toes to lift up the material used to tie the poles. The roof was

thatched with jerivá palm leaves (fig. 13). The leaves were not generally attached to the framework by separate binding. Instead the stems of the leaves were twisted around sections of the framework. The Héta *tapuy* provided little protection against cold and wind, since the bottom part of the shelter was usually left open (fig. 14). The open part could, however, be easily covered by attaching more palm fronds onto the framework.

Each hut sheltered from four to six people. Protection from rainy weather was the main



FIG. 12. Building a *tapuy* framework; tying the horizontal sticks on the vertical poles.

function of the *tapuy*; very little time was spent in it in good weather (fig. 15).

The Héta usually slept outdoors, and did not use their *tapuys* for sleeping except when it was raining. Even while sick they preferred to rest outside by the fire, in the shade of a tree branch or sapling stuck into the ground. They used no hammocks, but prepared a sleeping area outdoors by covering the ground with sev-

eral palm frond mats of varying sizes. Small stakes were driven into the ground around the sleeping area to prevent people from rolling over into the fires which burned throughout the night around the sleepers. Parents and children slept huddled together without any body covering. Halves of small logs, called *aúra pera*, were used as headrests (fig. 16).

Food preparation was carried on outdoors,



FIG. 13. Building a *tapuy*; attaching palm fronds to the framework.

except in very bad weather when a hearth was built inside the shelter.

According to Kozák's informants, Tshékenwaio and Eirakán, the Héta, before they were forced to become totally nomadic, used to live in permanent or semi-permanent villages also known as *oka*. These earlier *oka* were different from later settlements because they had a large dome-shaped ceremonial structure called the *apoenge*.¹ The last *apoenge* was probably built

between 1945 and 1950. The exact dimensions of this structure are not known. Apparently it was occupied by an extended family while one or more of its members underwent a rite of passage, such as lip piercing or a wedding. The *apoenge*, unlike the small *tapuy*, was completely thatched down to ground level and had

¹Kozák has made a documentary painting depicting a

Héta wedding in a large semi-permanent village. Tshékenwaio, who assisted in the ceremony, estimated that it took place sometime between 1945 and 1948.



FIG. 14. The finished *tapuy*.

an entrance at ground level facing east. As a safeguard against prowling jaguars this ground level opening was sometimes covered with leaves and a second opening was made higher up the wall. Those using this entrance climbed up the outer wall and descended inside on a notched log ladder. According to Tshéken-waio, the *apoenge* was usually built at the western end of the oval clearing with its entrance facing east. The *apoenge* also had a

raised platform where boys were secluded after their lip piercing ceremony while waiting for their lips to heal.¹

The Héta moved their camp to a new loca-

¹In 1958 Haikumbawái and Ñango took Kozák to an abandoned encampment which according to them used to have an *apoenge*. Unfortunately, the structures were so badly deteriorated that very little information could be obtained from them.

tion when the food resources of an area became seriously depleted. Each group apparently had a strong sense of territoriality, especially over the faunal resources of an area. In order to deter the hunters of another encampment from straying into a group's "home" area to steal game caught in traps, the Héta dug small pit traps (*mandukas*) in the paths leading to their traps. They were set with sharp spikes of jatobá

(*Hymenaea courbaril*) or *araúte* wood and were camouflaged with leaves. Although these pits did not kill a trespasser, they usually wounded his foot or leg badly, making it clear that his presence and activities in the area were unwelcome. If the thief was a member of one's own group, he could be recognized by his wounded foot.

When moving to a new campsite, the Héta



FIG. 15. A family outside their *tapuy*. The log in the foreground at right is used as a mortar to pound *erva mate* leaves.

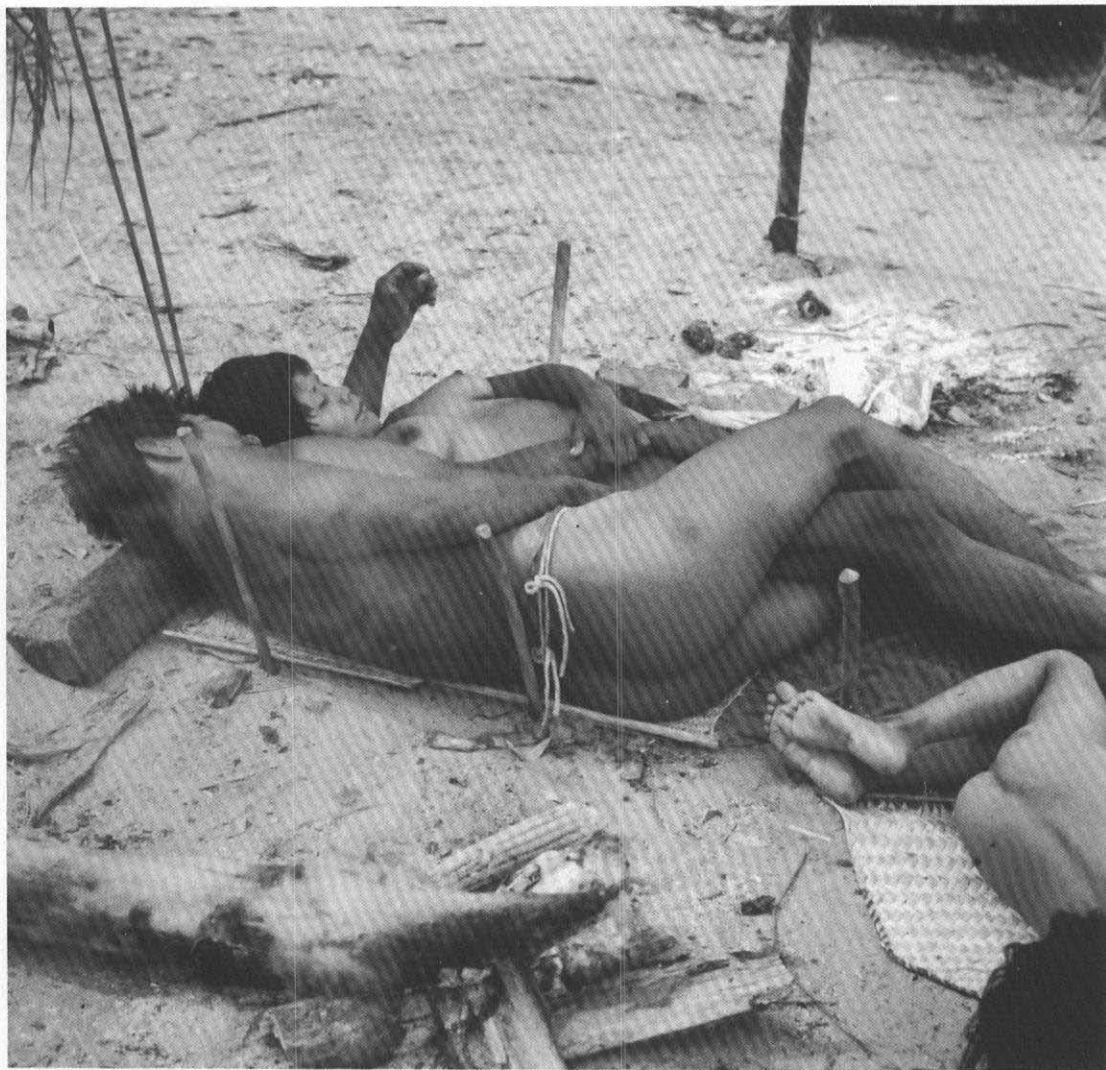


FIG. 16. A family sleeping outside on palm leaf mats. The pegs driven into the ground around them prevent them from rolling off the mats and into the fire.

built only the temporary lean-to shelters. The better constructed shelters were erected solely in semi-permanent villages.

POPULATION, APPEARANCE, AND PERSONALITY

There are no reliable estimates of the size of the Héta population at the time they were contacted. Altogether, Kozák saw approximately

150 adults, and on that basis we might estimate that there were perhaps 300 Héta in all.

Héta men were of medium height, between 165–170 cm. (5 ft. 5 in. to 5 ft. 7 in.) (Loukotka, 1960, p. 336) and had a somewhat stocky, muscular body build. They had little body hair and most of it was plucked out with the fingers. They wore their hair loose, down to the shoulders, and it was parted in the middle (fig. 17). They did not make or use combs

and kept their hair at shoulder length by cutting it with a bamboo knife or a sharp stone flake. The Héta kept themselves clean by frequent

bathing. They did not swim but enjoyed splashing in the water (fig. 18).

At the time of contact in 1954–1955 the Héta

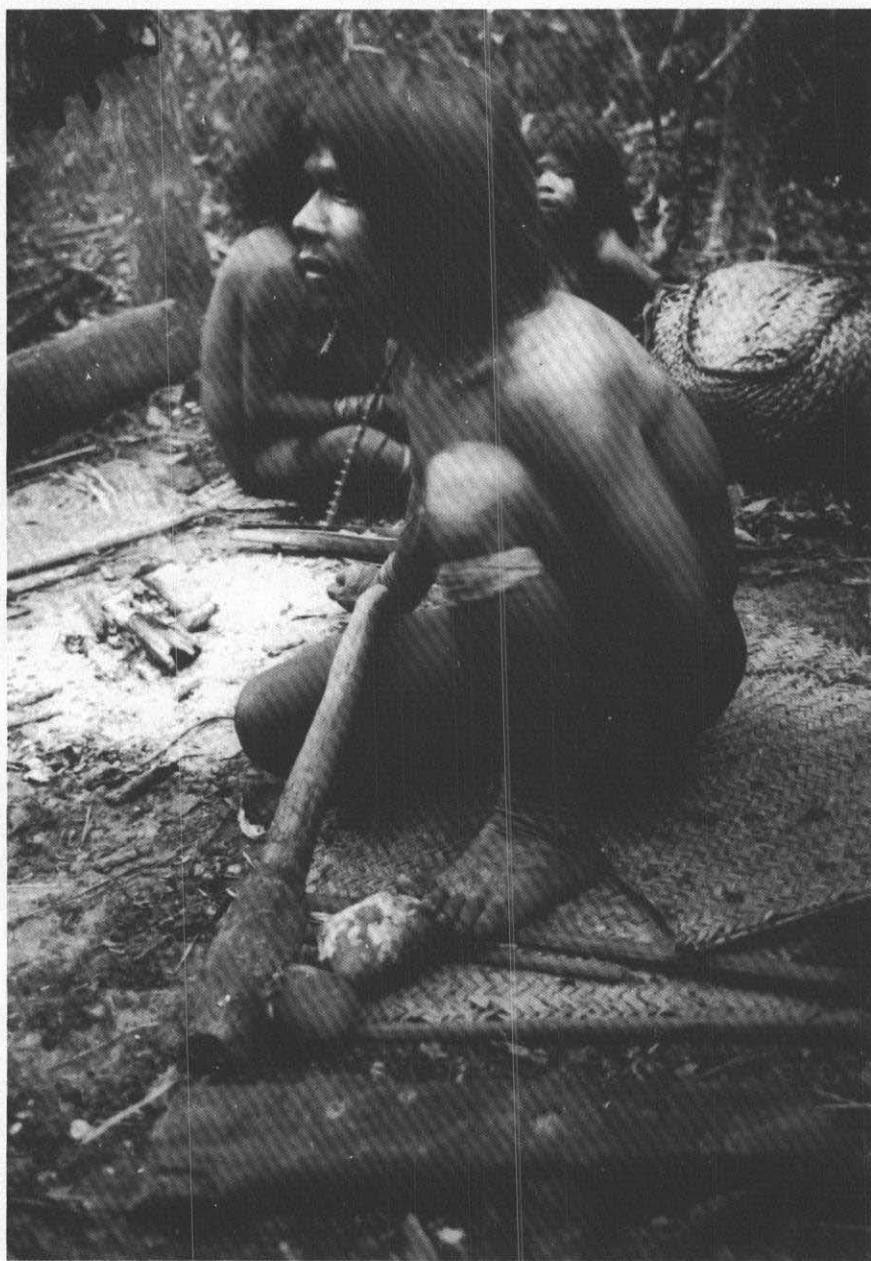


FIG. 17. Man taking a rest from sharpening his stone ax. His hair is cut in the typical Héta hair style, shoulder length and parted in the middle.



FIG. 18. Group of Héta bathing in the stream.

showed signs of malnutrition. Several of the children looked very thin. Others had extended stomachs which are evident in some of the photographs in this monograph. The adults had poor dentition, several of them had teeth missing (fig. 19). The children had good teeth.

The Héta that Kozák met were pleasant people with a sense of humor. They laughed easily but were also quick-tempered. Violence was a part of their earlier life in the forest. Informants told Kozák of several incidents in which a man killed another man or even a woman. Often the

motive was the killer's desire to acquire the victim's wife. Kozák was also told by two young boys that in the time of their great-grandfathers and earlier, the Héta practiced cannibalism. They reportedly captured any white people appearing in the encampment and ate their flesh. The bodies, particularly the skulls, of the prisoners (whether they were dead or alive at this time is not clear) were crushed under a well-aimed falling tree or wedged between two halves of a thick tree partially split in two. According to these young



FIG. 19. Two men laughing; missing and poor teeth are evident.

informants the skeletons were then placed in nearby brooks or small streams to frighten away any other white people approaching the *oka*.

SOCIAL ORGANIZATION

The Héta lived in small, nomadic, widely scattered bands. They lived on the products of hunting and gathering, and also practiced a little fishing. The distance between neighboring settlements was not great, 4 or 5 km. (3 miles), and members of different settlements visited each other. The bands consisted of a few nuclear families, up to six in number. The core members of the band were often brothers or sets of brothers. The members agreed informally on a leader with limited authority. Kozák was in a position to observe on a few occasions that a quietly spoken request from the headman was obeyed without argument.

The Héta practiced polygyny. The older men frequently had two wives, and in earlier times some men had as many as four. Sometimes a

man with several wives gave one of his younger wives to another man.¹ Women were not always treated well; they were occasionally beaten by men.

DIVISION OF LABOR

Among the Héta, as among many small hunting and gathering groups, the division of labor by sex was not strict. Women and men shared or cooperated in many tasks. They both participated in gathering activities and in the preparation and cooking of food.² Both wove the *hamía* aprons and made baskets and ornaments. Some tasks were performed primarily by one sex, but could occasionally also be done by the other sex. Men usually manufactured the basketry sieves used in straining palm fruit

¹Hatshuakán gave his second wife, Alúa, to Eirakán, who had no wife.

²However, the man was served food first, next came his wife and their son. After them the man's second wife and others were served in turn.

pulp, and women wove the sleeping mats from jerivá palm fronds as well as made the large baskets for collecting nuts and fruits.

Hunting was a male activity, as was making tools, such as stone axes. Men made most of their weapons, but in at least one aspect of

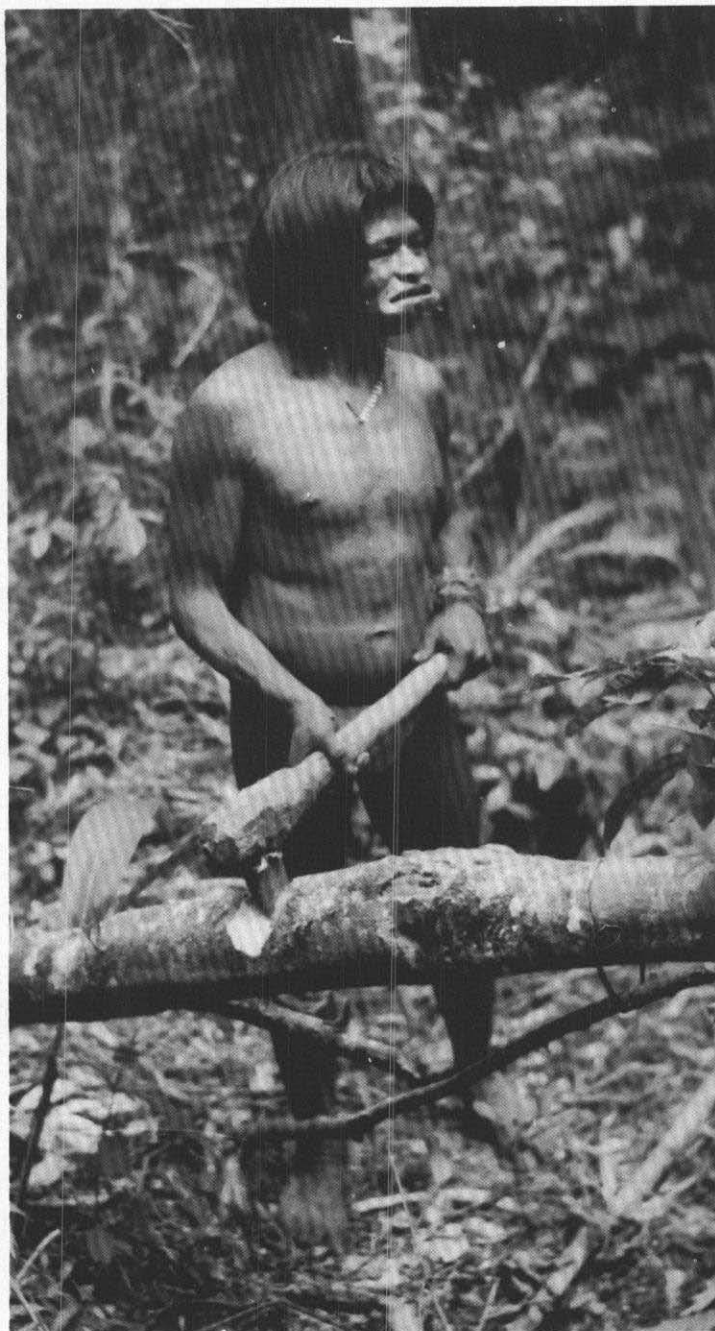


FIG. 20. Man with a stone ax.

weapon manufacture women participated: they made the strings for the bows.

When moving to a new encampment women carried the household belongings and food in large baskets made of jerivá palm fronds which only they knew how to weave. They carried the

loaded baskets on their backs supported by a tumpline of plaited palm fiber across the forehead (see fig. 36). Men carried their bows, arrows, and clubs, always ready for hunting when game was sighted.

SUBSISTENCE

GATHERING AND PREPARING PLANT FOODS

The Héta lived on the products of the forests around them. They exploited almost all the available wild resources of edible plants, insects, and larger animals. Like other hunting and gathering peoples they had a thorough knowledge of the local flora and fauna. While the tropical forest of the Serra dos Dourados did not have a large variety of fruit-bearing trees, some of them produced abundantly. Most of the Héta diet consisted of vegetable products some of which were available year-round. Several kinds of nuts and fruits ripened at different times of the year, making for seasonal variation in the vegetable diet. The months between May and August were the poorest in fruits and nuts.

Nuts of two palms, jerivá (*Cocos romanzoffiana*), and macaúba (*Acrocomia sclerocarpa*) were staples in the Héta diet. The jerivá nuts were a reliable food resource available throughout the year. They were collected in a cooperative effort with both men and women participating. The men first climbed the tall, straight trunks of the palms to get to the nuts. They used climbing rings, made of twisted split bamboo or vine to give them the necessary grip on the trunk to scale the trees (figs. 21 and 22). The men then threw the clusters of nuts down to the ground, where women collected them in large carrying baskets. When the baskets were filled, the women carried them back to the encampment on their backs by means of a tumpline.

The ripe nuts were placed in a large wooden mortar and pounded with a heavy log pestle. The loosened stones of the nuts were removed. The meat of the nuts was pounded into a thick pulp to which water was added, and it was then passed through small round basketry sieves and carefully squeezed by hand until all the juice was extracted. The pulp was discarded. The

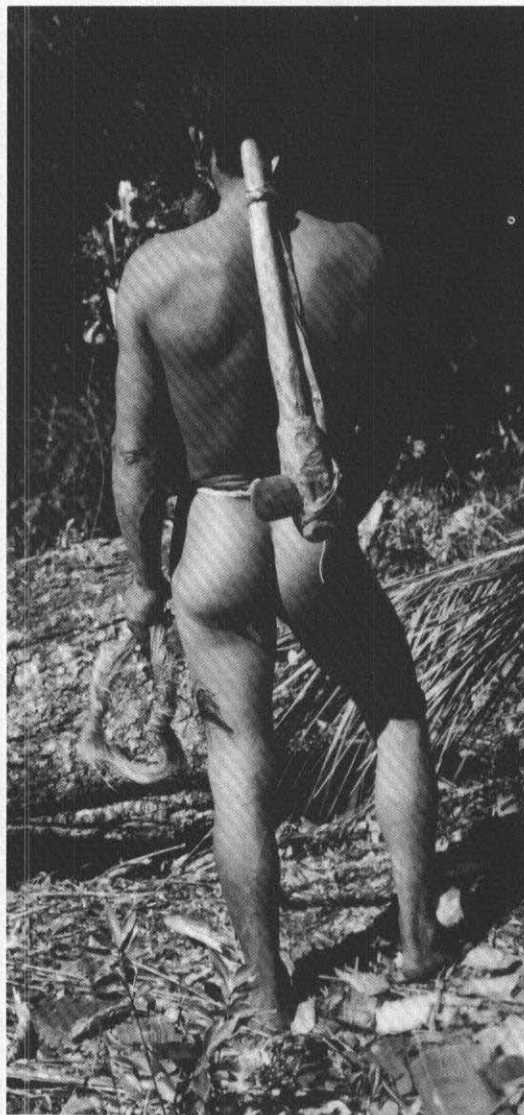


FIG. 21. Man holding a tree climbing ring. His stone ax is suspended by a cord down his back and is ready for use up in the tree.



FIG. 22. Man climbing a notched log prior to ascending a tree with the help of a climbing ring.

juice was collected in gourd bowls and drunk immediately, or sometimes left for a few days to ferment into a mildly alcoholic drink. If no other food was available, the Héta cracked open immature palm nuts and ate the seeds.

The Héta also ate the hearts of palm trees. The succulent shoots of the new leaves growing in the basal part of the crowns of these palms form their hearts, which are called palmito. The slightly woody shoots were cut from trees felled with a stone ax. Palmito could be eaten raw, but it was generally cooked in water or roasted on hot coals. Boiling was the usual method of preparation when it was to be mixed

with honey to make a syrup for treating sore throats.

The nuts of macaúba palms were generally collected after they had ripened and fallen to the ground, which occurred from November through April. The trunk of this palm is covered with spines which made it impossible for the Héta to climb the tree. Sometimes they climbed a neighboring tree of another species to reach the nuts.

The Héta broke open the nuts with a stone to extract the kernel. They also collected old macaúba nuts for the small larvae that had developed inside them (Loureiro Fernandes, 1960, p. 41). This palm offered still another source of food. The center of the trunk contained an edible pith that could be extracted after the tree was felled with a stone ax. This material was dried over fire, pounded in a mortar, and then put through a sieve. The flour thus produced was shaped into tiny cakes, which were baked in the fire (Loureiro Fernandes, 1960, p. 41).

Another basic daily source of nourishment was a beverage made from the leaves of the erva mate tree (*Ilex paraguariensis*). The leafy branches of the tree were lightly scorched in a very hot, blazing fire in the forest, before being packed in large, hastily-made bundles which were carried to the encampment. The leaves were then bound into smaller bundles and hung upside down to dry on vertically placed poles which were slightly inclined over a fire. The dried leaves were pounded in a small wooden mortar (fig. 24). The pulverized leaves, when mixed with cold water, made a refreshing and nourishing drink called *kukuai*. In the cold months of June and July the Héta made their *kukuai* with warm water that was heated by thrusting glowing embers into the water. The hot *kukuai*, frequently sweetened with honey, helped warm the people in the chilly mornings.

The Héta consumed several other wild plant foods. Fruit of the banana do macaco (*Philodendron bipinnatifidum*), which ripen in October and November, were gathered and roasted on the fire. This plant is a liana, and the Héta had to climb up very high on its stocky tendrils to pick the elongated, green fruit. The maize-

like seeds acquire a sweet taste when roasted. The egg-sized fruit of the jacaratiá (*Jacaratia dodecaphylla*), which ripen from February to April, were also roasted on hot coals. Tubers of *kogua* plant, a creeper, were dug up with a digging stick or the end of an ax handle. The roasted tubers tasted like potatoes. The *kogua* tubers, which sometimes grew to the size of a human head, were available during the winter season. Tree fungi, some as large as 30 cm. (1 ft.) in diameter, were roasted and eaten on the spot in the forest whenever found.

Several fruits, especially the dark purple, cherry-sized jaboticaba (*Myrciaria cauliflora*), which ripen in September and October, guavirova (*Campomanesia guaviroba*) which ripen in October–December, and pitanga (*Eugenia* sp.) which ripen in October and November, were crushed and allowed to ferment in a wooden trough (*tanuango*). The troughs were made of logs about 1.2–1.5 m. (4–5 ft.) long which had been split in half and hollowed out. The fermented juice was usually prepared for

special festivities, such as a boy's lip piercing, a wedding, or celebration in honor of one of the wild fruits themselves. The fibrous inside of a jatobá (*Hymenaea courbaril*) pod, surrounding the seed, was sometimes eaten. This food was available from December through June, even after the ripe pod had lain on the ground for a couple of months (Loureiro Fernandes, 1960, p. 42).

Certain small plants grew near some of the camps visited in 1956. These plants may have been specially tended because of their seeds. Also common around the encampments was a creeper (*Serjania* sp.) which produced small gourds. The flesh of the gourds was eaten while the outer shells were used as containers.

COOKING PLANT FOODS

Most nuts, fruits, and tubers were roasted directly on the hot coals. Some, such as palmito, were boiled in water. People who, like the Héta, do not make or own pottery, gener-



FIG. 23. Large wooden mortar with pestle. Bunches of jerivá palm nuts in the background.



FIG. 24. Man pounding erva mate leaves in a small mortar to make *kukuai* drink. Bunches of dried leaves are hanging on a pole behind him and the finished product is set on a palm leaf mat in the foreground.

ally heat water by inserting hot stones or other heated objects into a container of water. The Héta did this also, using hot coals as the heating agent (fig. 25), but only to warm the water, not to boil it. They boiled water directly over

the embers of a fire and had developed an ingenious and unusual method for doing so. The cooking bowl was made from the long, green spathe encasing the nearly mature blossom of a *jerivá* palm. After the spathe was

carefully split open with the pointed handle of a stone ax, it was placed on hot coals for a few minutes to shrink the blossom inside its sheath. This procedure facilitated the removal of the blossom. Small pieces of wood were then placed crosswise inside the empty spathe to prevent it from curling. Since the pointed end of the spathe was naturally watertight it needed no further modification. The opposite end was trimmed, pinched snugly together and bound with palm fiber to make a watertight seam. The cooking vessel was still green and could therefore be placed directly on the coals without danger of its burning. It could be reused several times.

COLLECTING AND PREPARING INSECT FOODS

The Héta diet included several insects, particularly their larvae, and the product of one

insect: honey. Insect larvae were a good nutritional supplement, and easily obtainable in large quantities.

The larvae of three species were especially appreciated by the Héta: *Rhynchophorus palmarum*, a black beetle known as *moko*; *Dynamis politus*, also a beetle, called *kangodzo* (both of which lived in jerivá palm trunks); *Rhinatus sternicornis*, a yellow bamboo weevil. The Héta were always on the lookout for these delicacies. They made an effort to provide a favorable environment for the growth of larvae by cutting down trees and then protecting the fallen trunks with branches and leaves. The rotting trunks of palm trees were covered in the same way, and thus birds and other small animals were kept away (Loureiro Fernandes, 1960, pp. 39-40).

To dig out the larvae the Héta broke the trunk with the sharpened end of the stone ax



FIG. 25. Alúa heating water by inserting a hot brand in a palm spathe container half-filled with water. The dog in the background was a post-contact, temporary addition to the encampment. The Héta had no dogs traditionally.



FIG. 26. Man and two children feasting on insect larvae.

handle. They pinched off the heads and ate the bodies of the larvae, sometimes raw. Generally, the larvae were roasted directly in the hot coals, or were suspended by their heads from a split stick which was then hung over the coals. The heads were always removed before eating, the rest of the larvae, including the skin was eaten.

A few insects, such as the serrador beetle and some species of large fireflies, were eaten whole after being roasted for a few minutes on hot coals. Large quantities of fireflies were found in December and January and they were easily caught by beating them to the ground at night with a leafy branch.

Wild bees were highly valued by the Héta. Although their larvae were eaten, the main rea-

son they were eagerly sought was for their honey. When a beehive was located, a man climbed the tree and chopped the hive out the hollow trunk with a stone ax, or cut down the branch with the nest. If this could not be done, the whole tree was felled. Some species of wild bees, e.g., *Trigona* species, called *arapuá*, are stingless and the Héta therefore needed no protection while extracting their honey (fig. 28). They sucked the honey from the honeycombs on the spot. If the hive contained a large quantity of honey, the Héta put it in a gourd bowl, and later sponged it out with fresh green moss. The honey of the stinging bees had to be collected more carefully. The hive was burned or smoked before the honey was removed.

Honeycombs of certain bee species provided

the Héta with black beeswax which they used as adhesive and as material for sculpting small animal figurines for children.

ANIMAL FOODS: HUNTING AND TRAPPING

The Héta considered most of the available wild fauna as suitable for food. They hunted and trapped a variety of mammals, birds, and reptiles. The bow and arrow along with several kinds of traps and snares were the usual methods of hunting. The men, accompanied by their families, inspected their traps almost every day. One man might have up to 20 traps and checking all of them sometimes took more than a day. The man always carried his bow and arrows along hoping to sight game during the trip. Trapped and wounded animals were killed with sticks, wooden clubs, or long bamboo lances.

The principal way of hunting mammals was

with the bow and arrow. A man generally hunted alone, but sometimes two or more men formed a hunting party. Each hunter carried his bow and a few arrows. When a hunter sighted game, he shot his arrows in rapid succession. He often hit his target with the first arrow, but shot several more arrows to prevent the wounded animal from fleeing into the forest.

In hunting such game as the white-lipped peccary (*Tayassu pecari*), collared peccary (*Tayassu tajacu*), deer (probably *Mazama* sp.), and several species of monkeys, which were a regular part of their diet, the Héta used arrows with unusually long wooden points (up to 100–120 cm., 4 ft.). Before the hunter shot his arrows, if he had time, he cut a deep notch in the head about 5 cm. (2 in.) from the tip which would break off when hitting the animal and stay in the flesh. A hunter could then recover his arrows almost undamaged, and prevent the loss or damage to an arrow which would result



FIG. 27. Digging for honey with the sharpened end of a stone ax handle.



FIG. 28. Stingless bees cover the bodies of honey gatherers. The man's hair is cut short in the manner of Brazilian whites, and he is using a new machete.

if it were dragged through the dense forest by a wounded animal. The broken arrowpoint was given a new tip by sharpening it with a stone scraper. The hunter could thus reuse the same arrow many times, and the head that originally might have been as long as 120 cm. (4 ft.) could shrink to about 45 cm. (18 in.) before it was discarded.

Several mammals which were hunted with bow and arrow were also caught with a wide variety of traps and snares (fig. 30). These included the paca (*Cuniculus paca*), armadillo (*Cabassous unicinctus*), agouti (*Dasyprocta aguti*), river otter (*Lutra paranensis*), coati (*Nasua nasua*), collared anteater (*Tamandua tetradactyla*), and ocelot (*Felis pardalis*). Throughout the year rats and mice were trapped for food. Traps and snares ranged in size from

small ones built to trap mice to those large enough to catch a tapir or a jaguar. Several of the traps were dead-falls. A baited trigger, when disturbed by an animal, released a heavy log that fell on the victim from above. Other traps depended on a baited spring which, when released by a mammal or a bird, tightened a noose around the neck of the animal reaching for the bait. Snares were frequently rigged atop old refuse heaps, particularly those that contained pounded and squeezed jervá palm nut pulp. The sweet-tasting pulp made an excellent bait to attract small mammals and birds.

Hunting a giant anteater (*Myrmecophaga tridactyla*) was a dangerous undertaking and required the cooperation of several men. These animals can fatally wound a man with one powerful swipe of their long forelimbs which

are equipped with very sharp claws. An arrow shot from a bow was usually not sufficient to kill a giant anteater, which when wounded would rear on its hind legs and turn on its as-

sailants. Several Héta hunters would try to kill the wounded beast with their heavy clubs while staying out of reach of the anteater's claws.

Formerly the Héta hunted large animals such



FIG. 29. A good day's catch: four monkeys and two toucans.



FIG. 30. Man setting a snare.

as jaguars (*Panthera onca*) and white-lipped peccaries in a special manner. The hunters, wearing jaguar skin robes, stalked the prey until it was cornered on the ground or in a tree. The animal was then killed by hurling large bamboo lances at it, or by jabbing it with lances at close range, or impaling it as it charged its attackers.

In the past, the Héta caught jaguars in baited traps. The bait might even be the corpse of a

Héta who had been killed by a jaguar.¹ Jaguars apparently caused a number of casualties among the Héta.

Several species of birds were hunted for food by the Héta, including the toucan (*Ramphastos* sp.), macaw (*Ara* sp.), chachalaca

¹One such incident was related to Kozák by his informants. A jaguar was actually caught and killed using its human victim as bait.

(*Ortalis* sp.), jacú (*Penelope superciliaris*),
oropendola (*Gymnostinops* sp.), and curassow

(*Crax* sp.). Birds' eggs were retrieved from the
nests and either sucked raw or roasted in hot

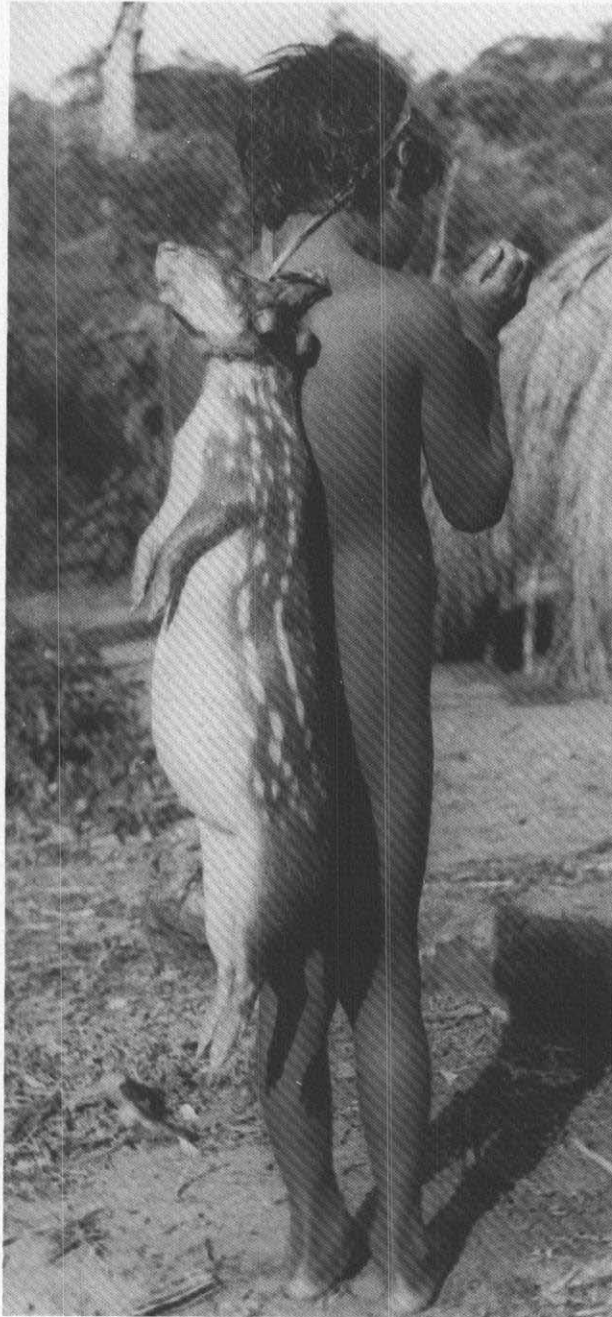


FIG. 31. Youngster carrying a dead paca.



FIG. 32. A giant anteater has been successfully caught.

ashes. Birds were caught with snares or shot with a special bird arrow. The blunt end of this arrow left the feathers and skin of the bird undamaged. The birds were eaten and the feathers used in ornaments and for fletching

arrows. The long wing and tail feathers of macaw, jacú, chachalaca, the king vulture (*Sarcoramphus papa*) were especially desired for these purposes. Birds of certain species were killed for magical-medical uses. An example

of this was the king vulture, which formed part of the ritual performed to cure eye ailments.

PREPARING AND COOKING ANIMAL FOODS

Sometimes smaller game animals were butchered, roasted, and eaten on the spot. As a rule, though, the kill was brought to the encampment. When a larger or more dangerous animal, such as a tapir or an anteater, had been killed, the successful hunter cut up the carcass of the animal and carried parts of it close to the camp. Another man took the meat from there to the hunter's hut or shelter. This custom was perhaps an effort to protect the hunter and the rest of the village from the spirit of the dead

animal. Perhaps for the same reason the name of the animal was not mentioned aloud.

The first step in preparing the carcass for eating was to singe off the fur or scales (in case of an armadillo) by placing it directly on the fire for a few minutes (fig. 34).¹ Cleaning and otherwise preparing the game animal for roasting was a man's work. He skinned and gutted the carcass with a stone chip or a bamboo knife, and then squeezed out the excrement

¹Only the skins of jaguars and ocelots were saved intact for use in curing illness. They were stretched to dry over a structure made of jerivá palm sheaths, and smoked to keep the flies from laying their eggs in the skin. The skins of birds, with their feathers still intact, were prepared in the same manner.



FIG. 33. Children spreading the wings of dead birds, a trogon at left and a woodpecker (*Campephilus robustus*) at right.

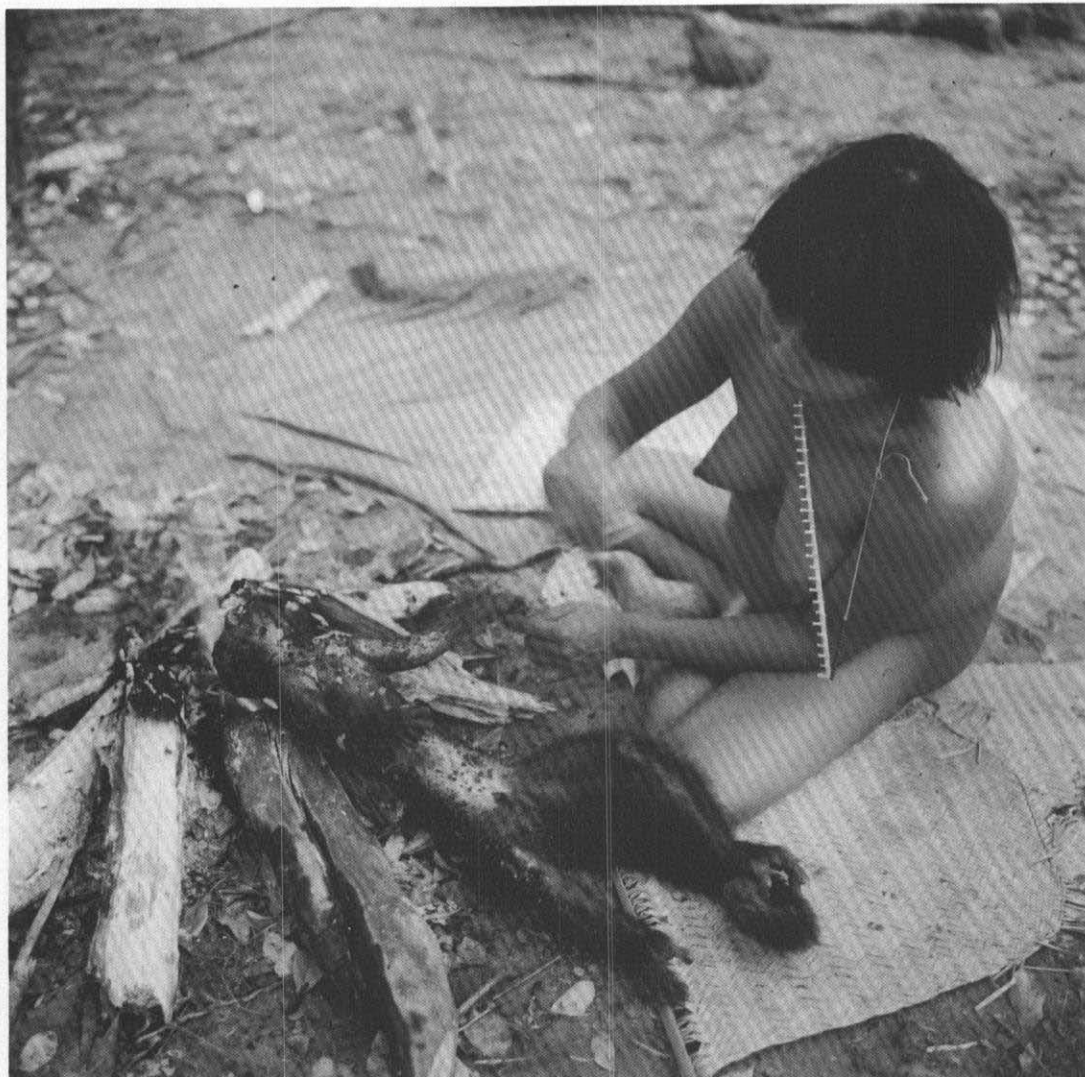


FIG. 34. Woman preparing a monkey carcass for roasting by singeing off its fur over fire.

from the intestinal tract. After finishing this operation, a man always washed his hands with fresh water or, as a last resort, with his own urine.

All meat was roasted. This was done in the open. The only exceptions were paca and jaguar which had to be roasted and eaten inside the *tapuy* to avoid illness or death. The meat was suspended directly over the hot coals from a flexible sapling. Depending on the animal's size, it was roasted whole or in chunks. The

mouth was always bound shut to protect the teeth from the fire. The teeth were later used as cutting tools and ornaments. An animal's intestines were skewered on a stick and held over the fire to roast. However, if a suitable fire-resistant container, such as an armadillo's shell, was available, the entrails and chunks of meat were carefully packed into the shell and the whole mass hung over the fire like the carcass itself. Even small animals, such as mice, caught by children in miniature dead-fall traps,

were usually roasted in the same way. Such tiny animals, however, were not skinned or

cleaned, but eaten whole. Likewise, baby birds were thrown alive onto the coals and eaten



FIG. 35. Two rattlesnakes coiled and roasting close to the fire. The fat dripping from them is caught in a jerivá palm spathe container.

whole after their feathers had burned off. Hummingbirds were pierced with a thin stick and singed and roasted on the hot coals.

Several species of reptiles were common food for the Héta. The meat of the tortoise (*Geochelone* sp.) was highly valued, and its collarbone was hung on necklaces as a pendant. Iguana (*Iguana iguana*), other lizards, and rattlesnakes (*Crotalus durissus terrificus*) were also common in the Héta diet. Rattlesnakes were killed by clubbing them with a long stick. The snake's skin was first singed on the fire for easier removal, and then the snake was coiled and roasted like other meat, suspended from a hoop between two smoldering logs. As the snake roasted, the Héta collected its fat in a jervá palm spathe container (fig. 35). They dipped small feathers into the fat and sucked it off. They brushed the roasting snake with feathers dipped into the fat. When the snake was fully cooked it was cut into sections with a sharp bamboo knife. Its head and tail were cut in small pieces and buried close to a body of water.

FISHING

At the time the Héta were contacted, fish were not a very important part of their daily diet. It is likely that they practiced more fishing when they lived closer to the Ivaí River. Fish-hooks were unknown to the Héta, they probably attached the bait directly to the line, or perhaps used the bow and arrow.

HOUSEHOLD EQUIPMENT

The Héta store of household items was not large. Many of the artifacts were easily made, and there was no need to carry them along when moving to a new encampment. Food preparation was relatively simple and only a few cooking utensils were necessary. Since most of the food was roasted over a fire, the only utensils needed were saplings and straight sticks serving as skewers on which intestines and other delicacies, such as liver, could be roasted.

The preparation of some foods, such as nuts, fruits, and dried tapir or deer meat, re-

DIETARY RESTRICTIONS

The Héta had only a few dietary restrictions. They did not eat frogs or toads or land snails. Although several kinds of insects were valued as food, some were not. Crickets, cicadas, grasshoppers, ants, and ant eggs were avoided. The Héta excluded two vultures from their diet. The turkey vulture (*Cathartes aura*) could not be killed for any reason. The king vulture (*Sarcophaga papa*) was killed for ceremonial use, and for its long feathers which were used in fletching arrows. But the bird's flesh could not be eaten.

A small species of bat was not eaten, although several other species of large fruit bats were roasted for food. When questioned on this the Héta first explained that they did not eat this particular bat because "it was too small." However, since they did eat much smaller animals than this bat, such as hummingbirds, the reason for the restriction could not be size. As became evident later, they believed that killing and eating this bat caused dizziness and seizures. A pregnant woman could not even look at the bat or she would die.

Some dietary restrictions were observed under certain conditions. No meat was eaten during the lip piercing ceremony; the main food consumed during that time was palm nuts. Restrictions were apparently imposed on the parents and other relatives of a newborn child, but we have no further information on this subject.

quired pounding in a mortar. Each encampment had one or two large, communal mortars (*aguá*) which were made from two split and hollowed-out halves of jervá palm logs bound together with vines (see fig. 23). The mortar was sunk vertically into the ground up to a third or half of its total height of 120 cm. (4 ft.). Its inside diameter was about 35 cm. (14 in.). A flat stone placed inside the mortar served as its bottom. A large paddle-shaped club, *áira haimbé*, was generally used as the pestle. Two women worked together at the

mortar, the club being too heavy for one woman to do the pounding by herself.

The Héta had another, smaller type of mortar (*aguakán*). It was cut into the side of a log and was about 25–30 cm. (10–12 in.) in diameter and 120 cm. (4 ft.) long. This small mortar was used for pounding *erva mate* leaves for the *kukuai* drink (see fig. 24).

Dried gourds served as general purpose storage containers and also as drinking vessels for the several kinds of beverages the Héta made from fruits and nuts. They selected dried gourds for making the vessels because the inner pulp had already started to shrink from the outer rind, facilitating the removal of the pulp from the gourd's walls. The gourd was cut in half with a *paca* incisor or with a stone chip and the pulp was scraped out with the mandible of a monkey. The inner surfaces of the gourd bowls were polished by rubbing them with *embaúba* (*Cecropia*) leaves and oiling them with the fat of beetle larvae. Because of the gourds' light weight and the labor required in making them into containers, any cracks in them were generally repaired by lacing together tightly the edges of the gourd through small holes drilled with a *paca* tooth. The gourd utensils were carried along when moving camp.

Héta men were generally responsible for plaiting the small, round basketry sieves which were used for straining the pulp when making beverages, mostly from the mashes of various palm nuts. These sieves were made of split bamboo strips plaited in a simple checker pattern which at first formed a square, up to 30 cm. by 30 cm. (1 ft. by 1 ft.). The loose ends of this structure were then carefully tucked flush and bound to a semi-flexible vine hoop which formed the rim of the finished sieve.

Besides the many crude carrying baskets fashioned by both sexes for the temporary transporting of game and forest produce, Héta women wove large carrying baskets of *jerivá* palm leaves. These somewhat boat-shaped baskets, which also had lids, were carried on the back with a bark or braided palm leaf tumpline across the forehead (fig. 36). All of a family's possessions including gourd bowls, sleeping mats, personal ornaments, and many other

lightweight objects were carried in such baskets. The one heavy item included among the possessions carried in this basket was the wooden headrest, *aúra pera*.

Héta women carried their babies in slings which were woven of *jerivá* palm leaves and were about 20 cm. (8 in.) wide. They could be worn diagonally across the body suspended from one shoulder so that the baby sat astride the mother's hip, or as a tumpline hanging down the back with the baby riding in the sling with its legs straddling the mother's back.

The sleeping and sitting mats were twilled by women from *jerivá* palm fronds. They varied in size from roughly 30 cm. by 30 cm. (1 ft. by 1 ft.) up to 1 m. by 50 cm. (3 ft. by 1½ ft.). The smaller mats fitted conveniently into the large carrying baskets and were taken along on hunting or gathering trips or when moving camp. The Héta never sat on bare ground, but always on a mat. A Héta without a mat in the forest would cut down a large, fresh leaf to sit on.

The Héta used a headrest called *aúra pera* when they slept. It was made of half a log, and was about 90 cm. (3 ft.) long; a few of them were somewhat shorter. Its surface was cut and smoothed with stone chips. The headrest served another purpose besides that of a pillow. It was used to call rain during a drought (fig. 38). The Héta tapped the headrest against a tree in the same way they tapped their paddle-shaped clubs (*aúra haimbé*) when signaling to their hunting partners. The *aúra pera* was valued because of its role in calling for rain and it was one of the few items that a Héta family must always possess and carry along on its migrations.

Jerivá palm spathes were made into containers by tying them together with string. Feathers, small tools, and ornaments were stored in these tube-shaped cases. A few items, such as fire drills and bird skin ear pendants, were wrapped in ocelot skin for protection.

Besides the split bamboo climbing rings called *peia*, the Héta also used crude pole ladders for climbing high trees. The ladder was made by cutting several small trees and using their branches as rungs. The climber would

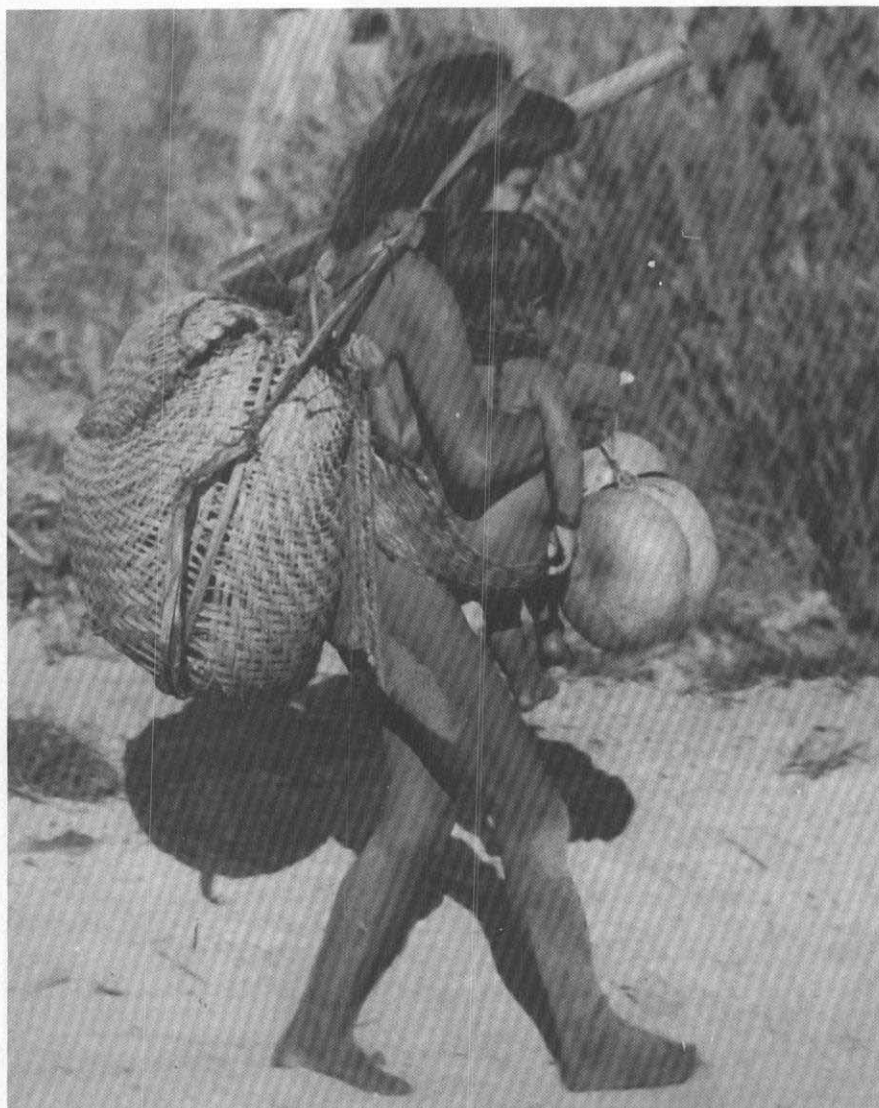


FIG. 36. Héta woman carrying her baby in a sling, and her family's possessions in a large carrying basket. The steel ax is a recent acquisition.

work his way upward by tying each small tree vertically to the large tree, one above the other, and stepping on the branches. The simplest kind of ladder was a vine which the Héta attached close to a bird's nest in a tree, so that they could watch the bird fledglings and catch them when they had grown larger.

The Héta started a new fire with a fire drill.

However, they generally kept smouldering logs in front of their *tapuys* and carried hot embers along on their hunting trips to start a fire. To ensure a supply of dry firewood in the rainy season, they gathered piles of wood in the dry season and covered them with bark and palm fronds to keep them dry.



FIG. 37. Woman with her child in a baby sling made of jervá palm leaves.



FIG. 38. Calling for rain by tapping the wooden headrest *aúra pera* against a tree.

TOOLS AND WEAPONS

The Héta made their tools and weapons of stone, bone, and wood. They were simple artifacts, made with a stone-age technology. Some of the manufacturing processes were difficult and time-consuming. One of the most fascinating processes, and one almost never seen by a western observer, was the manufacture of a stone ax, which was demonstrated to Kozák by Eirakán (see Kozák, 1972).

First Eirakán carefully selected several stones from a nearby stream bed. He examined the stones closely to make sure they had no

cracks or flaws that might cause them to fracture when first used. A suitable stone also had to be of proper shape: an elongated ovoid with parallel sides and evenly curved ends. A stone of this shape reduced considerably the amount of labor required to work it into its final form.

Once Eirakán had selected a suitable stone he sat on the ground and put the stone between the soles of his feet. He started pecking the stone very gently with a slightly harder hammerstone, which was round and fitted comfortably into the palm of the hand. Very slowly he

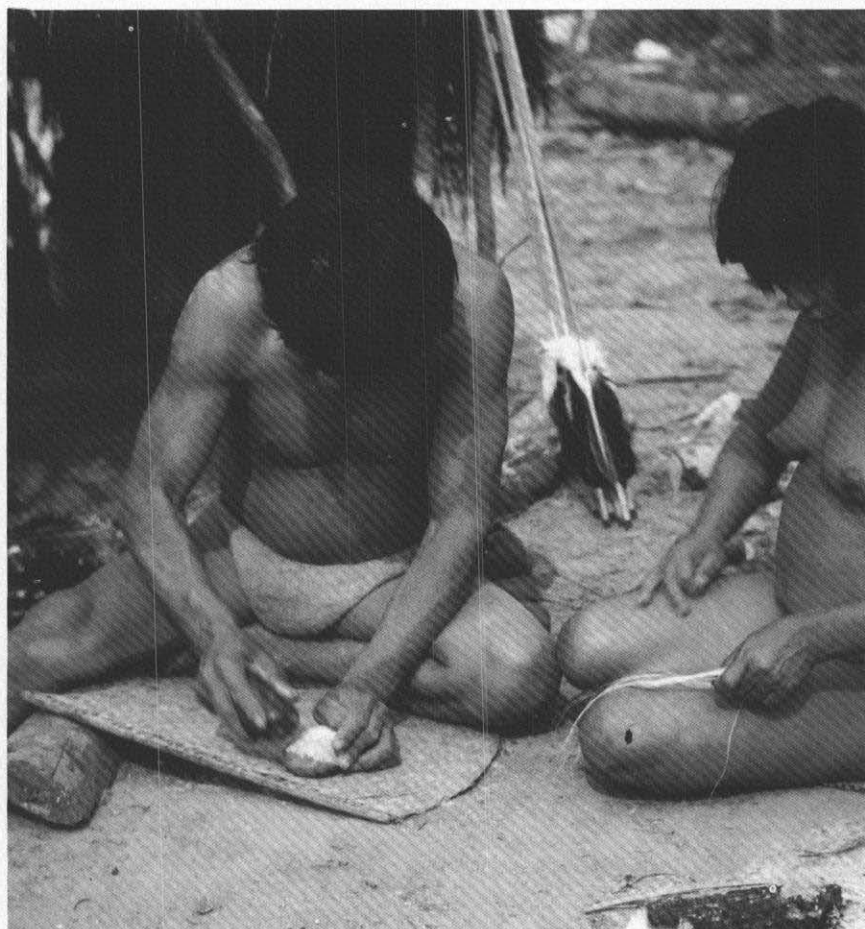


FIG. 39. Eirakán pecking at a stone ax blade with another stone. Several arrows are leaning against the *tapuy* wall.

knocked small fragments off the oval stone until its hard, water-polished cortex was completely removed. White stone dust soon covered Eirakán's hands and feet. He examined the stone frequently to make sure that its surface was evenly worked on all sides. The stone had to be worked carefully with sharp, yet gentle blows to avoid cracking it and thus rendering it useless as an ax head.

When the stone was finally reduced to the desired shape and size, about 15 cm. (6 in.) in length, the most tiring work began. For grinding and polishing, Eirakán used white clay with fine sand and water mixed in a *jerivá* palm spathe bowl. He wetted the ax head in this and began grinding it on a sandstone cobble, first

on one side then on the other (fig. 40). He dipped the ax head repeatedly in the bowl and rubbed its edge on the whetstone with a great deal of hand pressure until the ax head had a sharp edge and smooth sides. During the grinding the stone was also polished, the clay acting as a polishing agent. Only the cutting edge of the ax head was polished; the butt end was left rough so that it would hold more firmly in the wooden handle.

The handle for the ax was made of a section of a tree trunk about 1 m. (3 1/3 ft.) long and 10 cm. (4 in.) in diameter. Eirakán peeled the bark off the end that had the more knots; the finished ax blade was to be inserted in this end. Wood with knots is harder and thus more re-



FIG. 40. Grinding and polishing the stone ax blade.

sistant to splitting when the ax is used. Eirakán used a sharp chisel made of the leg bone of a tapir to cut a groove around the tree trunk where he wished to mark the junction between the ax and the handle. Next, holding the handle firmly between his feet, he used a bone chisel and a hammerstone to gouge an oval hole in the knotty end of the wood to hold the ax blade (fig. 41). Using the tapir bone chisel as a wedge he pried long splits off the handle to the groove marking the junction between the han-

dle and the ax head. After reducing the handle in size, he cut its butt end to a wedge shape with a stone chip and smoothed the surface with a stone scraper. Finally, he fitted the ax blade into its hole and lodged it firmly by tamping on the opposite side a few times. The green wood helped to hold the stone blade firmly in place without any adhesive or lashings.

The time required to manufacture a stone blade by a Héta man is estimated at between

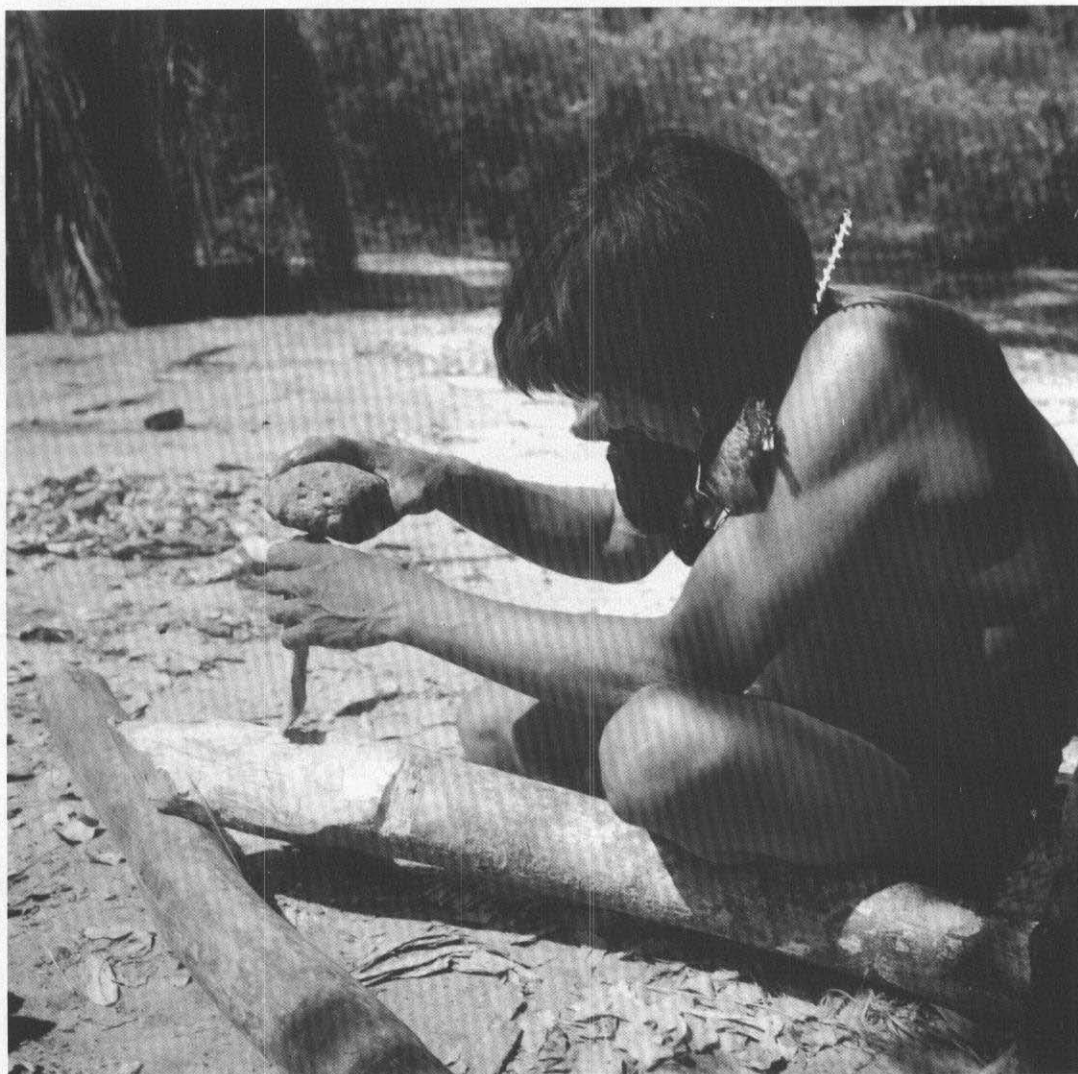


FIG. 41. Making an ax handle. Bone chisel and hammerstone are used to gouge a hole for the ax blade.



FIG. 42. Man felling a tree with a stone ax.

three and five days, with half a day or less for the hafting.¹ Any time the blade came loose, it was easily secured in place by again tamping the opposite side of the handle.

The Héta used their stone axes, called *itá-nepraká*, for many different purposes. The

¹It took Eirakán seven months to finish this stone ax because of illness, other necessary activities, and Kozák's absence of six months.

main task was felling trees and almost any tree could be felled with these axes. Four men with well-sharpened axes could fell a tree with a diameter of 135 cm. (4½ ft.) in one day. The stone ax was also used to crack nuts, chip bones, and for grinding and hammering in general. The sharpened end of the handle served as a combination chisel and crowbar when splitting and gouging woody materials, such as the rotting centers of trees, that the Héta searched

for insect larvae or beehives. Post holes for shelters were made by pounding an ax handle into the ground with a large stone. It was used as a digging stick and to excavate pit traps (fig. 43), and, if used as a club, the ax could be a dangerous weapon.

A man would suspend the ax down his back with a bark cord and thus have his hands free to climb a tree (see fig. 21). He could then use the ax to cut down a honeycomb or palm nuts.

The Héta had many small tools made of animal teeth or bone, which often required very little modification. The leg bone of a tapir was chipped and sharpened on a piece of sandstone to make a chisel for wood-working. Rodent mandibles, with the incisors in place, especially those of a paca, were used as carving tools. Canines of various animals, including the tiny ones of rats, were employed as drill points. Sharp polished bones served as awls and as

picks to remove thorns and insects from the skin.

The most commonly used of the Héta weapons was the bow and arrow. Bow staves were about 1.8–2 m. (6–6½ ft.) long. They were made from the hard inner wood of the ipê tree (*Tecoma* sp.), called *araraúte* wood by the Héta. After a tree was cut down its outer layers were split off with wooden wedges. When the stave was judged to be of suitable size it was shaped and planed to the desired dimensions with stone scrapers. The usual diameter at the middle of the stave was 3 cm. (1¼ in.) and at its end 8 mm. (5/16 in.). This work required scrapers of several sizes and kinds. The stave was then sanded by rubbing it with the leaves of the embaúba tree (*Cecropia* sp.). In order to make the springy ipê wood easier to work with, the stave was placed on the bottom of a stream for a few days to soak. After this it was heated



FIG. 43. Two men using stone ax handles to dig a pit trap. Sharp sticks in the foreground are ready to be set into the trap.

in hot embers and curved by gradually bending it with the foot while one end of the stave rested on the ground and the other on a log. When the stave had the desired curvature, it was rubbed with a mixture of ipê bark, ashes, and water. The action of this mixture not only cooled the stave but also sealed its surface, protecting it from weathering. The mixture

gave the Héta bows their characteristic rust-brown color. The ends of the stave were not notched or shouldered but were left plain.

Men manufactured the bow staves, whereas women made the bow strings. They were made from the inner fibers of caraguatá (*Bromelia* sp.) leaves, a wild relative of the pineapple. The women carefully tore open the long spiny



FIG. 44. Man sharpening a stone ax blade worn down by much use.

leaves, taking great care not to hurt themselves on the sharp thorns. The fibrous inner part of the leaves was soaked for three or four days until the pasty pulp surrounding the fibers was

well softened and could be removed by simply scraping it off with the fingernails. The women then spun the silky fibers into string by rolling them on the thigh with the palm of the hand.



FIG. 45. Man shooting a long arrow with a unilaterally barbed point.

These thin strings were woven into a heavier, multi-ply string which was looped and attached to each end of the stave.

A man normally kept his bow loosely strung. Then, to prepare it for shooting, he bent the stave toward him by pressing his foot against the middle of it, at the same time pulling the upper part of the string down tightly around the tip of the bow and making it fast there with a secure loop.

The bow was used for other purposes besides shooting arrows. The long stave served as a hook for pulling down fruits in the forest, which the hunter often ate on the spot. While crossing a swiftly running stream the stave was used as a staff or as a life line to pull companions out of the water. If no other weapon was available, the bow could be used as a lance or a club.

Several kinds of arrows were made from bamboo shafts. Since bamboo was seldom naturally straight, it had to be straightened by heating and bending. Before heating the shaft, each node in the bamboo was drilled through to

allow the moisture inside to escape and thus prevent its turning to steam and splitting the shaft.

The Héta used wooden arrowheads, carved from the hard alecrim (*Holocalyx* sp.) wood that they called *araúte*. The wood was first softened by soaking it in a stream, then carved with a paca incisor still attached to the mandible, and then barbed. The arrowheads were usually unilaterally barbed along most of their length; bilaterally barbed ones were made occasionally. They were hardened by inserting them briefly amongst glowing embers, and then cooled.

Arrowpoints used in hunting larger game, such as deer, peccaries and monkeys, were very long, up to 110–120 cm. (4 ft.), and barbed. Arrowheads for smaller game were considerably shorter, about one-third the length of the arrow. The heads of bird arrows were made of soft wood and had a blunt bulbous end.

A man made the total length of his arrows the same as the height he reached with his hand

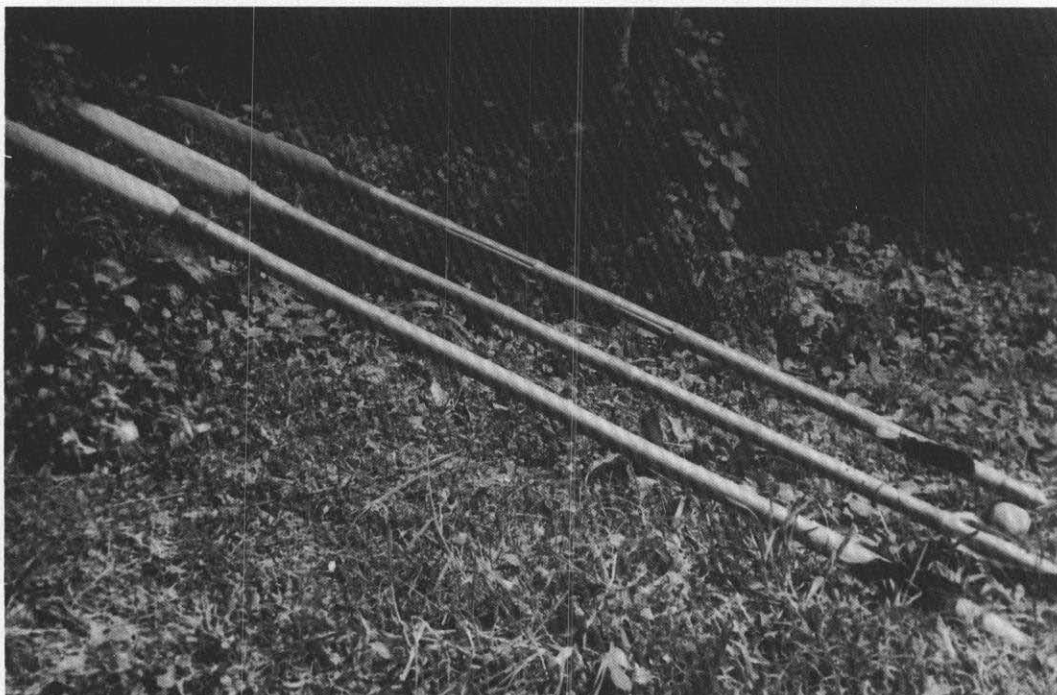


FIG. 46. Three bamboo spears (*wíta hatimai*) with feathering.

stretched upward, a little over 2 m. (7 ft.).

The arrow shafts were fletched with the wing or tail feathers of fairly large birds, such as vultures or hawks. Two feathers were bound

slightly arched, one on each side of the shaft, with caraguatá fiber thread. The nock ends of the arrows were notched.

Another, but far less common weapon for



FIG. 47. Paddle-shaped *aúra haimbé* club.

hunting large mammals, especially jaguars, was a long lance or spear, called *wúa hatimai*. It was made in much the same way as the arrows. Its total length came to 2.5 m. (8 ft.), with bamboo shaft and a lanceolate point carved of *araúte* wood about 45 cm. (1½ ft.) long. Like the arrowhead, the wooden point was fire-hardened and rubbed with a mixture of ipê bark, ashes, and water. The lance was fletched with feathers of a black vulture (*Coragyps atratus*) and notched in the blunt end, which helped to anchor it firmly in the ground. The lance could be either thrown or thrust (fig. 46).¹

The Héta made a roughly paddle-shaped club (*aúra haimbé*) from alecrim (*araúte*) wood.² The club was about 120–140 cm. (4–4¾ ft.) in length and had a broad, flat head about 60–65 cm. (2–2 ft. 2 in.) long, 22–23 cm. (9 in.) wide, and 2 cm. (¾ in.) thick in the middle. The stout, round handle was about 50 cm. (1½ ft.) long. The *aúra haimbé* was not a common weapon because of the difficulty of finding a sufficiently large log of *araúte* wood, one that would have a hard, thick, and wide enough center to be carved into a club. The club was first roughly shaped with a stone ax and finished with scrapers of several sizes. One edge of the club was sharpened and then hardened among hot coals. Its surface was rubbed

with a mixture of ipê bark, ashes, and water to harden it. The Héta also used another kind of club, called *aúra pindépa*, which was simply a wooden stick about 1 m. (3 ft.) long.

The *aúra haimbé* was used in defense against enemies but also to kill off large game animals that had been caught in traps or wounded by arrows. It sometimes functioned as a pestle for pounding dry tapir meat or jerivá palm nuts. This club also played a part in communication. When the flat side of the blade was beaten against a tree trunk it produced a clear sound that could be heard at quite a distance. Thus it served as a signaling device between members of a hunting party (fig. 47).

The Héta used to engage in mock club fights. The sharp-edged and heavy *aúra haimbé* club sometimes proved to be too dangerous in these fights. An eye witness told Kozák of a man being killed in such a sporting duel.

The Héta worked patiently, thoroughly, and with great care in producing their weapons, utensils, and ornaments. They checked their work frequently during the manufacturing process. They also took good care of the finished products, storing them in special containers or racks. The weapons were stored on racks in shady spots to protect them from the heat of the sun.

CLOTHING AND PERSONAL ADORNMENT

The forest of the Serra dos Dourados was humid and in the winter often chilly, yet the Héta wore a minimum of clothing and no covering during the night. The women and children were completely naked and the men only wore one or more small aprons (*hamiá*). A Héta man properly dressed in the traditional manner wore four aprons, one on top of the other.

¹Only one specimen of this lance is known to exist in an ethnological collection. Haikumbawái and Eirakán made it for Kozák in 1960 and it is now part of his personal collection.

²Kozák first learned about the existence of the two Héta weapons, the lance and the club, from Eirakán in 1960. Several specimens, now in Kozák's personal collection, were made for him so that he could record the manufacturing process on film.

The aprons were woven of soft caraguatá (*Bromelia* sp.) fiber by men, or sometimes by women, on very simple two-bar looms. First a large quantity of bromelia leaves were collected to extract the fiber. They were left in a pond to soak and soften, and, when removed a couple of days later, the soft and rotting pulp could be easily squeezed from the fibers. The long fibers were then washed in a creek and hung to dry. The dry fibers were spun into a two-ply cord-like yarn by rolling on the thigh. The yarn was rolled into balls and it was ready to use.

The loom was constructed by driving two stakes, about 10 cm. (4 in.) in diameter, into the ground about 2.5 m. (8 ft.) apart. A crossbeam was lashed horizontally to these uprights anywhere from about 60 cm. to 90 cm. (2–3 ft.) from the ground, depending on the

loom maker's preference. A second crossbeam was then somewhat loosely lashed in a similar fashion about 20–25 cm. (8 to 10 in.) below the first. The warp of caraguatá fiber was now continuously wrapped encircling both these horizontal bars until the warp covered the desired length of each bar. The lower bar was weighted at each end with stones in order to maintain tension on the warp threads.

The weaving itself was a very slow and time-consuming process. Two people, men or women, could weave simultaneously at the same loom, one on each side. The weavers sat on the ground while working. They used no needles but flat, wooden weaving swords which they manipulated by hand over and under alternate warp strands to open each shed. The weft,

which was tied to an eyeless bamboo splint, could then be passed through. Each weft element was packed down tightly, and the whole process repeated over again for successive sheds. The warp was woven to a point about 5 cm. (2 in.) from where the process had begun. The unwoven warps were then tied together in groups of two or three by a cord which produced a knotted hem. The cylindrical product was now cut and laid open along this hem with a sharp bamboo splint. The cloth was then cut farther into several, usually four, pieces which were all similarly knotted to form individual aprons. (See Appendix and accompanying photographs.)

The most striking bodily ornament of the Héta was the labret or lip plug worn by all

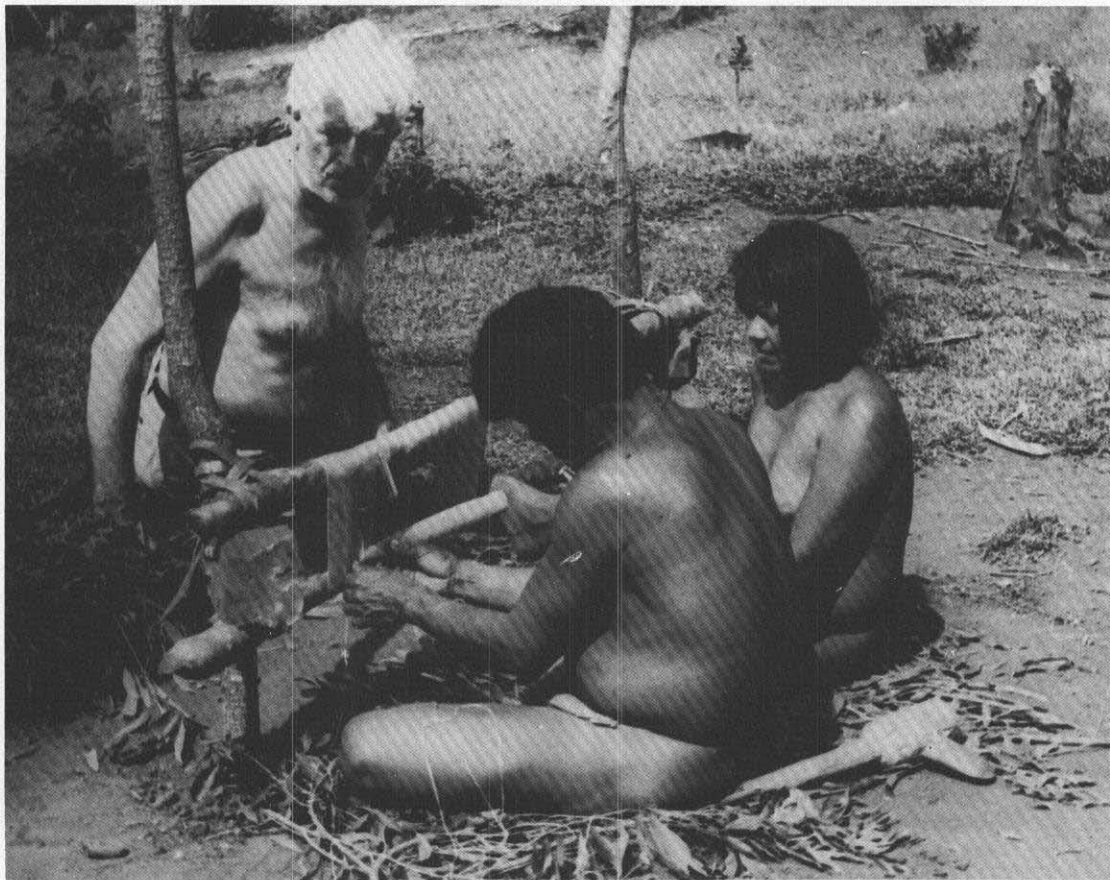


FIG. 48. Eirakán weaving; with him are his wife Alúa, and Kozák.

males from the age of about 7 to 9 years and on. The labret was made of translucent resin. It passed through a fairly small hole in the lower lip and was fixed into a wooden crosspiece placed between the lower gum and inside surface of the lower lip. The length of the crossbar caused the lower lip to be distended laterally giving the lower part of the mouth a rectangular shape.

The lip pin or labret (*hametá*) was made

from jatobá (*Hymenaea courbaril*) resin. After impurities were removed by heating and then scraping the block of resin, a piece was broken off the block and held in the cleft of a stick over hot coals. Any remaining impurities were picked out of the softened resin, which was translucent and yellowish in color. It was then molded with the hands into the desired bullet-shape which is typical of Héta labrets. While working on the resin the man occasionally



FIG. 49. Man with resin labret.

licked his fingers to keep them from being burnt. The pin was allowed to cool before the grinding and polishing started.

The labret was then ground against a whetstone and finally polished by rubbing it with embaúba leaves. Once in a while it was rubbed against the artisan's face to utilize the natural oils of the skin as a polishing agent to attain a high luster. The finished labret was about 8 cm. (3 in.) long.¹

The crossbar, which was about 1 cm. ($\frac{3}{8}$ in.) in diameter and worn inside the mouth, was cut off from a piece of soft wood with a sharpened paca incisor. A small round indentation was carved in the middle of the crossbar in which the blunt end of the resin pin fitted. The fit was checked frequently during the work. When the fit was judged good, the crosspiece was cut at both ends to the proper size to fit in the mouth. Finally, it was scraped and polished with embaúba leaves. The manufacture of the entire labret took a Héta man a few hours.

The labret was normally not removed during eating or drinking, although a man might allow the two ends of the inner crossbar to protrude slightly from the edges of his mouth to relax his lower lip (see fig. 7). While walking in the forest a man generally did not wear the lip ornament, but carried it in a pouch.

Both men and women wore legbands (*sidua pi*), armbands (*simbei pi*), and wristlets (*simbei manguá*), which were made of caraguatá cord or bark strips wrapped around the leg or arm several times. Legbands were most common, armbands were worn but rarely. Men usually wore a wristlet on one wrist as a guard against the snap of the bowstring. Children occasionally wore caraguatá string anklets or wristlets.

Most Héta women and men wore necklaces made of a semi-flexible rod, 35 cm. (14 in.) long, and decorated with animal teeth. The necklaces, called *sipál*, were made by men. The teeth on the *sipál* were usually tayra (*Tayra barbara*) incisors, but coati (*Nasua nasua*) and monkey incisors were also acceptable. The first step in making a *sipál* necklace was to soak the skull in water in a stream or

pond overnight to loosen the teeth from the bone. A hole was then drilled transversely through the root part of each individual incisor with a very small hand drill tipped with a paca tooth point and rotated back and forth between the palms of the hands (fig. 51). The teeth were then strung on a palm fiber string, about 2.5 cm. (1 in.) apart. Thin palm leaf splints were wound into a long bundle with caraguatá fiber at the same time as the string with the teeth was tied to the wrapped splints. A neck cord was attached to the finished rod and small black *oöl* seeds were strung on part of the neck cord. Since up to 34 teeth were needed to finish one *sipál*, tayra and coati skulls were saved and stored for months until a sufficient number of teeth were at hand. Quite a length of palm fiber string also had to be spun and made ready for use before the actual making of the *sipál* necklace could begin.

Children often wore long strands of the black *oöl* seeds wound many times around their necks. The strands were attached round the child's neck by his or her father while the mother held the child. The women collected the seeds and prepared the caraguatá string for the necklace. The seeds were perforated with a sharp rat canine drill when the seeds were still soft. They were then strung on a palm leaf midrib to dry before they were finally strung on the caraguatá string. Small animal bones and bird skulls were fastened on these children's necklaces.

From adolescence on, the Héta wore feather ear pendants made from the fully plumed skins of several birds: sparrowhawks, macaws, parrots, and toucans (fig. 52). The birds were carefully skinned with a bamboo knife, and the skin was stretched over a gourd to allow it to dry without shrinking. The ornament was hung with bromelia fiber through a hole made in the ear lobe and a hole made in the bird skin.

Héta men wore headbands which were woven from jervivá palm leaves or sometimes jaguar skin strips, or just monkey tails wound around the head. The headband kept the hair off the face, but the main reason for wearing them was to cure and prevent headaches by creating pressure on the head. The palm leaf headbands were formerly decorated on cere-

¹According to Haikumbawái the lip plug had been longer and thicker in earlier days.



FIG. 50. Making a *sipál* necklace. Animal teeth are being removed from the skulls. Next to the teeth are two drills with paca tooth points. Stone ax blade has been separated from handle for use in sharpening the drill points.

monial occasions with three long macaw tail feathers which were inserted vertically into the weave of the headband above the forehead.

Women and girls adorned themselves on festive occasions with small tufts of red and yellow feathers which were attached to their

hair and bodies with beeswax. Women also wore headbands made of the bright red wild pineapple leaves.

The Héta had in former times practiced body painting, but it was no longer done when they were encountered. Formerly both men and women painted their faces and bodies with red sap for ceremonies. Black pigment from the charcoal of burnt jerivá palm nuts was applied sparingly and only on the faces of children, sometimes men. Designs in black generally consisted of three thin lines below the chin, one horizontal line running across each cheek

starting from the corner of the mouth, and one large dot right below each eye. The nose and cheeks of a boy who was to undergo the lip piercing ceremony were painted with black lines in the form of an inverted Y.

The Héta also wore a bunch of rattling animal hoofs hanging down the neck. Bundles of small animal bones were worn as charms. Several of these were found in some of the abandoned campsites. Other parts of small animals such as toucan beaks, bird's heads, legs and claws, were carried along or worn as ornaments or charms.



FIG. 51. Drilling a hole in an animal tooth for the *sipál* necklace. The tooth lies on a block of wood which is steadied by foot.

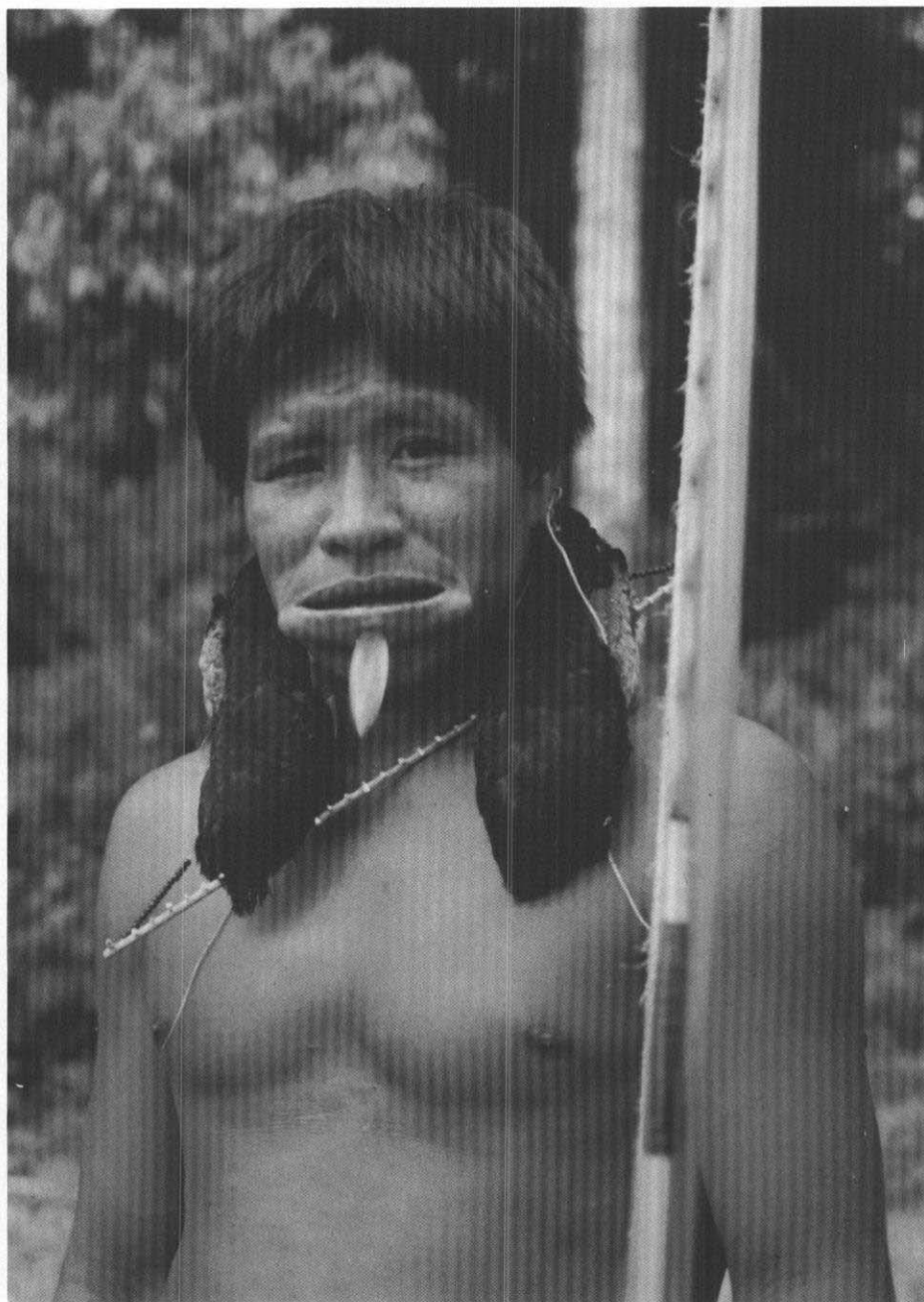


FIG. 52. Man wearing a lip plug, *sipál* necklace, and bird skin ear pendants with the feathers intact. He is holding his bow and a long, barbed arrow.

LIFE CYCLE

BIRTH

Héta women gave birth to their infants outside the encampment area, out of doors. No special shelter was constructed for this purpose. Another woman assisted the mother-to-be. If no other women were present at the time of the delivery, the baby's father could attend the birth. The woman giving birth knelt or squatted, supporting herself against a small tree trunk, while bearing down and pushing during her labor. After the baby was born and its umbilical cord had been cut, green sap was squeezed in quantity from a wild asparagus plant and poured from a palm sheath container over the baby's and the mother's skin to help the baby grow tall and be healthy. The after-birth was taken into the forest and hung in a tree. No effort was made to conceal it or protect it from animals. The newborn child was washed in a brook or spring, and the mother returned to her chores.

The child was already named before its birth. The Héta did not generally use the personal name when addressing or referring to an individual. However, there was no rule forbidding anyone from uttering a person's name.

A few days after a baby's birth its earlobes were pierced with a very thin, dry splinter of *jervá* palm frond midrib. No special ceremony was performed at that time. Small midrib splints were left in the earlobes until the newly pierced holes had healed. After the healing of the earlobes, the splints were replaced with small pendants of a bird's breast plumage which were still attached to the bird's skin. The pendants were hung from each earlobe with very thin threads of *caraguatá* fiber.

LIP PIERCING

Between the ages of seven and 10 a Héta boy underwent an initiation ceremony, that gave a child (*tshikuen*) the status of a youth (*kuen*). During the lip piercing ceremony a hole was made in the boy's lower lip and he com-

menced wearing a labret. This ceremony, called *akuto membé*, provided an occasion for feasting and drinking. The immediate family or other close relatives of the boy must sponsor the event by providing sufficient quantities of food and drink for the many guests invited to the celebration. Some Héta men never had their lips pierced because their parents or relatives were dead, or did not provide the necessary food and drink. Some Héta claimed that a proper lip piercing ceremony could only be conducted in a large village with one or two ceremonial houses (*apoenges*).

The initiate's family prepared a fermented, lightly alcoholic drink from wild fruit, *guavirova* and *jaboticaba*, from nuts of various kinds, or from honey, depending on the season. The fruits were crushed in long troughs, called *tanuango*, made for this occasion from *jacaratiá* logs about 150 cm. (5 ft.) long and up to 120 cm. (4 ft.) in diameter. Warm water was added and the mixture was left in the troughs for a few days to ferment. The sponsors collected large quantities of palm nuts to feed the guests. No meat was consumed during the festivities. In preparation for the lip piercing ceremony the initiate and his parents moved into a large ceremonial house (*apoenge*) a few days before the event. The boy was to live in the loft of the *apoenge* in semi-seclusion until his lip had healed completely; he could leave the hut only to perform his bodily functions.

On the morning of the ceremony, men congregated in the village and started the celebration by singing songs in honor of various spirits, especially those associated with birds. A short time later, immediately prior to the lip piercing itself, the initiate's mother painted his face with a black design: one broad line running vertically from the forehead down the nose, a similar line diagonally on each cheek and joining the first line. Meanwhile, the boy's father stood by, singing ritualistic songs. The boy was seated on a log or two horizontal poles or bows attached to the wall by the entrance of

the *apoenge* (see fig. 53). He was told not to move and to keep his feet straight in front of him. His *oöl* seed necklace was removed. A male relative of the initiate then took a fire-hardened grill of jatobá wood, which had been treated with a solution of ipê bark and ashes, and quickly pushed the drill through the boy's lower lip. The mother kept talking to him, exhorting him to be brave and not to show

weakness by crying. To help stop the flow of blood, the wound was washed in hot water and the hole plugged with a small wad of beeswax.

Afterward the hosts and guests joined together in singing, dancing, and drinking. Women particularly liked to dance. They moved in straight lines, carrying on their shoulders light poles which they held out to their dance partners to keep each other from falling

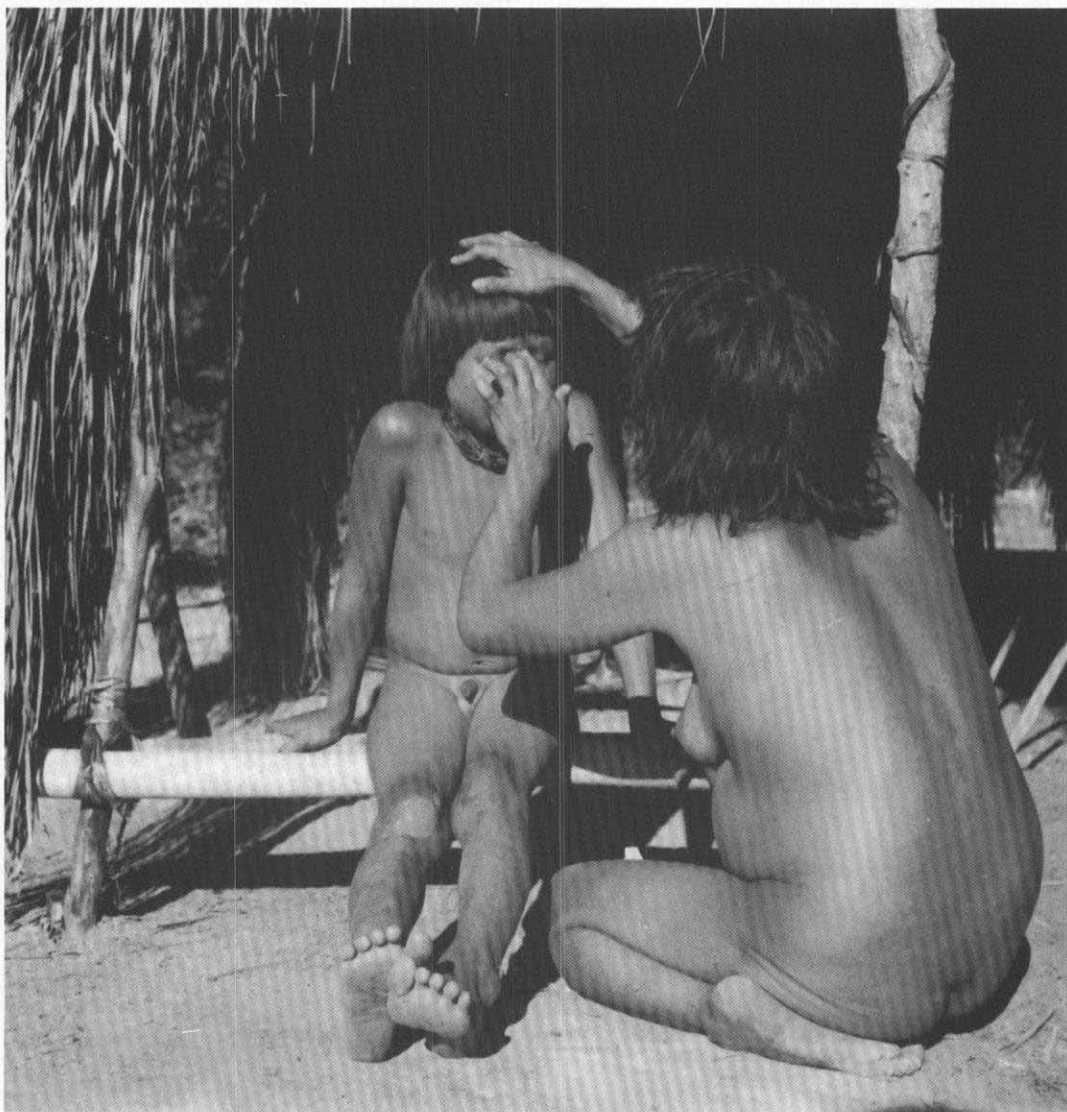


FIG. 53. Woman with a boy who has not yet undergone the lip piercing ceremony; he is still wearing his *oöl* seed necklace. He is sitting on two logs attached to the *tapuy* supports.

from exhaustion and, in the case of the men, from inebriation, since men drank heavily during these dances. The women, who were not expected to drink during the celebration, chastised or reportedly even beat the men to sober them up after these feasts. Children were not allowed to drink at all. The festivities lasted as long as there was food and drink.

As soon as the bleeding from the initiate's lip had stopped, a small T-shaped piece of ocelot bone was slipped into the hole and kept there until the wound was completely healed. During healing, the lip was washed daily with hot water that had been boiled in a container of green *jerivá* spathe. The youth stayed secluded in the loft of the *apoenge* until his lip had healed. He could then start wearing the adult man's two-piece lip plug of resin and wood. Following his lip piercing ceremony a boy ceased to wear his long seed necklace.¹

MARRIAGE

Marriage was arranged by the parents of the boy and girl. The initial proposal came from the girl's parents. If the boy and his parents agreed, the couple set up their household, generally without any wedding celebration. However, Tshekuenwaio reported having attended a wedding feast when he was a small child.² According to him the wedding was celebrated with dancing and drinking. Large quantities of fermented fruit drink were prepared. Many of the guests and hosts had dressed in jaguar skins and painted their faces with red and black paint.

None of the older informants made any mention of wedding celebrations.

The Héta believed in the existence of evil spirits called *möu*. All living beings, human and animal, possessed a soul also called *möu*. The souls of deceased humans and of animals killed by hunters were considered evil and

¹It is not known at what age the Héta girls stopped wearing their seed necklaces.

²Kozák has painted in oils a scene from the Héta wedding celebration based on Tshekuenwaio's report. The painting (160.5 cm. × 120.5 cm.) is in Kozák's possession.

FUNERAL

At the time the Héta were contacted they had no elaborate funerary rituals. Only those who died of natural causes within the encampment were buried at all. Those who died outside the immediate vicinity of the encampment, of whatever causes, or those who were killed in a fight or were murdered were left unburied in the forest. To bury them would have endangered the survival of the entire village the Héta believed. The whole group mourned the death of one of its members with lamentations. The survivors feared the soul, *möu*, of the deceased and arranged for the burial immediately. Members of the deceased's immediate family took no part in the burial.

The body of the deceased was tied with vines, with the legs and arms folded, so that a man could carry it on his back. The corpse was carried a good distance from the encampment where a grave 60 cm. (2 ft.) deep was dug. The bottom of the grave was covered with leaves, twigs, and grass. After the dead person was buried and the grave filled to form a mound, a fire was lit on top of it to help keep animals from disturbing the remains. The grave site was not visited after the burial.

Occasionally a man's bow and arrows were buried with him in the grave, but more often they were given to his brother or son. No personal belongings were buried with a woman. The hut of the deceased was abandoned, or sometimes burned.

If more than one person died in a relatively short time in the same group, the dead were each bound tightly with vines to prevent further deaths in the camp, hastily buried in a shallow grave, and left.

SPIRITUAL BELIEFS

potentially harmful to the living, as spirits of the dead. The Héta feared these spirits greatly. The *möu* lived in the forest and returned to haunt the living at the time of a death, either of a human or an animal killed in hunting. They followed people who were walking in the forest. The *möu* were invisible, but the Héta believed that their presence could be detected because of their bad odor.

The Héta made small representations of the



FIG. 54. *Möu* beeswax figures of a man and two animals.

möu in black beeswax, primarily to illustrate these frightening spirits to the children. A *möu* was usually depicted as a squatting frog with a capybara-like head, between 5 and 20 cm. (2–8 in.) in height. The eyes were made of two small red flower petals pressed into the soft wax, and large nostrils were indicated by two deep lines pressed into the wax with a fingernail or a small stick.¹ Some *möu* were sculpted in human form, both male and female. In these figures the sexual organs were distinct, even exaggerated; some male figures had erect penises. Small *möu* figures without sexual organs

¹There are two beeswax figures in the Héta collection of the University of Paraná and eight in Kozák's personal collection. The eyes in all of these figures are made of red paper because the original flower petals soon dried and turned black, and finally fell off.

represented *möu* children or animals. Some *möu* figures had arms that curved around in front of the body, others, armless ones, had only thin legs which were shown flexed in a squatting position.

The Héta custom of hanging up animal trophy skulls seems to be connected with their belief in the *möu* spirits. The animal skulls were hung on specific trees within the encampment or on the roof and wall framework outside their huts. The jaws of the skulls were always bound tightly shut with a vine, probably to prevent the animal's *möu* from escaping the skull and harming the hunter or his family.²

The Héta felt great fear and respect for the harpy eagle (*Harpia harpyja*) a large and pow-

²Exhibited skulls were also evidence of success in hunting.

erful bird which used to be common in the forest. They claimed that the eagles occasionally caught Héta infants for food.

The Héta apparently had no concept of life after death. When questioned on the subject of an afterlife they merely replied: "Once a person dies, he is dead and we do not know where he goes."

RITUALS

The Héta observed a ritual after hunting and killing a *pimpiai* bird, the king vulture (*Sarcoramphus papa*). The dead bird was hung on a simple pole frame in the forest with its wings spread. The family of the hunter who had killed the vulture sat in front of the bird (fig. 55). The vulture was then taken down and its feathers were plucked to be used in fletching arrows. The meat of the vulture was never eaten, and its carcass was rehung on the framework. The family returned to the encampment, where they built a large fire and sang the vul-

ture's song. Occasionally the song was sung in front of the vulture in the forest and no fire was built. The performance of this ritual was considered essential, lest the hunter, his family, and maybe the other members of the band fall ill and die.¹

The Héta sang songs in honor of various other birds, too. All these songs were performed at night with the exception of the vulture's song which was sung in the daytime. Each song was long, and sung, according to the Héta, "the way the birds sing them."

A few Héta songs related to cosmology, but next to nothing is known about this subject.²

The Héta used jaguar skins and in particular

¹Kozák first learned about this ritual when he found, by chance, the remains of a vulture hanging in the forest. The ritual as it is described above was later re-enacted by Eirakán and his family so that Kozák could record it on film.

²Kozák has tape recordings of Eirakán singing some of these songs, one of them called "the song of the star."

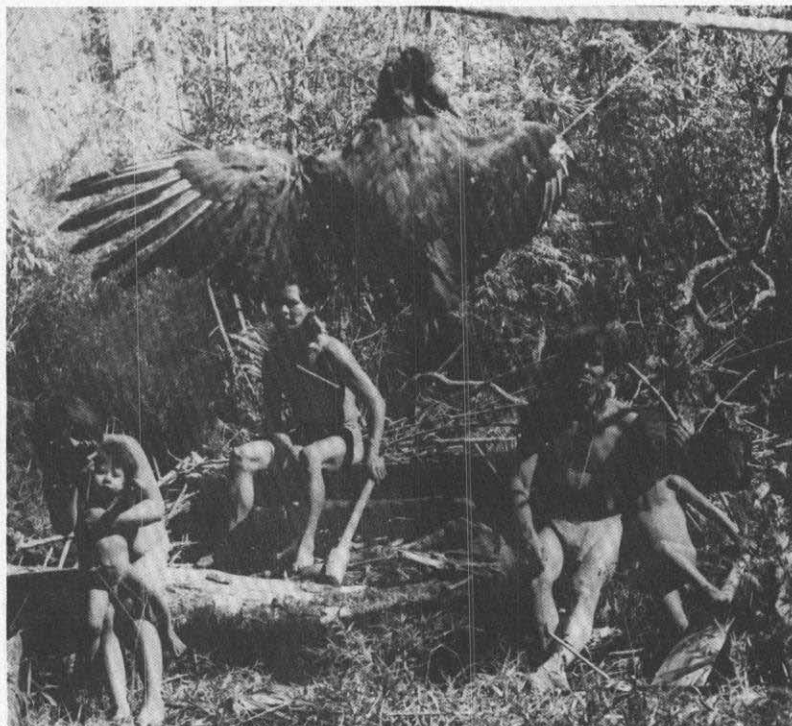


FIG. 55. Héta family in the forest performing the ritual for a killed king vulture.



FIG. 56. Jaguar skin is passed over a patient in a curing ritual. Curer is wearing a cylindrical jaguar skin hat.

cylindrical jaguar skin hats in a rite at the harvest of the guavirova fruit.¹ Several men

¹A jaguar skin hat was originally made for Kozák's collection in 1964 by Eirakán. It was 50 cm. (20 inches) high. In 1969 Haikumbawái cut it in half, making two hats from it. In his opinion Eirakán had made the hat too high.

wearing these hats stood underneath the guavirova tree while boys climbed up and shook down the ripe fruit. The Héta brought the fruit to the encampment and sang songs associated with the harvesting of the guavirova. They formerly built a special hut for use during

the ritual, but we do not know what the precise function of the hut was.

In the dry season and during a time of drought a Héta man might call for rain to help produce the *jerivá* palm nuts. He tapped the *aúra pera* wooden headrest against a tree, and shouted his prayer for rain up to the sky. The Héta term for calling rain was *aúra pera mutére*.

CURING AND MEDICINE

The Héta recognized no shamans or other curing specialists. Any Héta, woman or man, could attempt to effect a cure. Curing methods involved primarily the use of parts of particular animals, and of applying pressure to the afflicted area of the body. The Héta used very few medicinal salves or potions.

The jaguar was the most important of the animals connected with the Héta curing prac-

tices. A jaguar skin was an essential part of several cures. During such a cure a patient sat or knelt on a jaguar skin while the curer fanned another skin over him (fig. 56). The curer positioned himself alternately on all four sides of the patient. There was no chanting or praying during this ritual. In another form of this cure the patient lay on the bare ground with his head on a wooden headrest and a jaguar skin was passed repeatedly over his body.

A patient's belly was rubbed with the paws of a jaguar to cure a stomach ache, and to treat skin diseases the Héta burned pieces of a jaguar's skin and smeared the ashes on the face or body of the patient. Sometimes the ashes of burned jaguar skin were mixed in the *kukuai* drink and used as a cooling lotion on a patient's skin.

Certain birds were believed to have curative powers. Two live hawks, which had been cap-



FIG. 57. Woman holding two captive hawks.

tured when young, were repeatedly passed over the body of a person suffering from fever. The hawks were held by the feet and the beating of their wings created a cooling air current over the patient's body. Women often cared for the captive hawks but both men and women could use them in curing (fig. 57). No more than two hawks were kept in each encampment. In an attempt to cure several kinds of unidentified ailments a curer stroked the patient's body with parts of various dead birds, which were first warmed over a fire. A still-warm, roasted bird was passed over the body of a person suffering from stomach ache. After the treatment, the patient ate the bird. In some cures the wing of a harpy eagle (*Harpia harpyja*) or a whole

woodpecker was passed over a patient's body. Relief of a toothache was sought by rubbing the area with a foot of a jacú bird or the claws of a pygmy owl. Eye ailments were treated by passing the dried head of a *pimpiai*, king vulture, over the eyes. The eyes were then bathed with a *kukuai* solution.

Several Héta cures involved applying pressure to the affected area. Pressure was created with bands or vines or by pressing with the feet. The latter method was used in treating headaches. A person suffering from a headache lay down on the ground and asked someone else, even a child, to press his or her foot against the side of the aching head (fig. 58). This method of curing was called *apana*



FIG. 58. Child holding her foot against a man's head to cure his headache.

ñagara, "stepping (on) head" cure. Backaches were relieved in a similar manner. The patient lay down on the ground on his or her stomach while an attendant stepped on the affected area of the back. Pains in other parts of the body, but specifically in the chest and head, were relieved by binding the affected part of the body tightly with vines or bands. Headbands of animal skins, especially of monkey tails and of woven palm leaf, were worn partly as a cure for headaches.

As a general remedy for sickness, an ailing person would rub his or her body with the spiny flowers of wild nettles until the skin bled. To achieve the same result the Héta sometimes scratched their skins with a paca incisor or jaguar claws. Children were treated by swatting the afflicted area with the nettles.

One of the few internal medicines the Héta used was a mixture of steamed palmito and honey which was swallowed to soothe the throat. The most common external remedy for almost any kind of ailment was the *kukuai*, a solution of *erva mate* leaves and water, used as a lotion in massaging injured or aching muscles and as a cooling agent on boils, bruises, and fever. As external treatment for pain the Héta applied a salve of *erva mate* leaves on the painful spot. Wounds were sometimes rubbed with charcoal from burned *jerivá* palm nuts mixed with saliva to help in the healing process, or the fatty inside of a *Rhyncophorus palmarum* larva was squeezed on the wound. The Héta rubbed their bodies with the bitter, juicy fruit of wild laranja-da-terra trees,¹ which was believed to act as a mosquito repellent.

Snake bites were frequent among the Héta, yet they seldom resulted in death. The first step in the treatment of a snake bite was the tying of two or even three tourniquets on the bitten limb, usually a leg. The leg was next bathed with *kukuai* liquid and the patient fanned with a jaguar skin. Drops of palmito juice were poured on the leg, but not in the wound. Finally the leg was smeared with ashes of burned jaguar skin mixed with *kukuai*, and, while the tourniquets were loosened, the patient was

again fanned with a jaguar skin or a live hawk. Another cure for snake bite prescribed drinking a large quantity of *kukuai* which was then vomited. Burned jaguar skin was rubbed on the bite marks. The same procedure was repeated the following day, and finally the leg was massaged all over with a heated palmito core. There is no mention of tourniquets in this cure. The snake that bit a Héta was almost always caught and killed, but never eaten. Its head was cut off and buried near a brook, and the rest of the body discarded.

A few objects in Héta material culture were believed to embody a form of supernatural power and were therefore treated with special care and reverence. One of these objects was the wooden headrest *aúra pera*.

PETS AND TOYS

The Héta had no domesticated animals, not even dogs. They captured the young of certain animals, such as hawks, which were kept for use in curing. Small animals were given to children to play with. Men and older boys caught the pet animals for the children who treated them well. Pets were never killed for food. Children's pets embraced a wide range of creatures, including bats, mice, fledgling birds, hummingbirds, butterflies, cicadas and *aúra maguei* beetles. Parents and older children sometimes hung these beetles, live, from small branches to amuse very young children.

An essential part of a Héta boy's growing up was playing, and thus practicing, with miniature bows and arrows. For arrows the boys frequently used darts made from reeds sharpened at one end and feathered at the opposite end like real arrows. Large butterflies were often their targets.

Héta men made small beeswax figurines for their children to play with. These small sculptures exhibited the finest artistic skills of the Héta. Most of them represented animals well known to Héta children, such as snakes, birds, tapirs, deer, jaguars, and peccaries (fig. 59). Some were representations of the evil spirits, *möu*, and were made to illustrate these spirit beings to the children as part of Héta religion. The figurines were made of the hard pliable

¹These trees probably originated in Europe and are now growing wild in parts of Brazil.

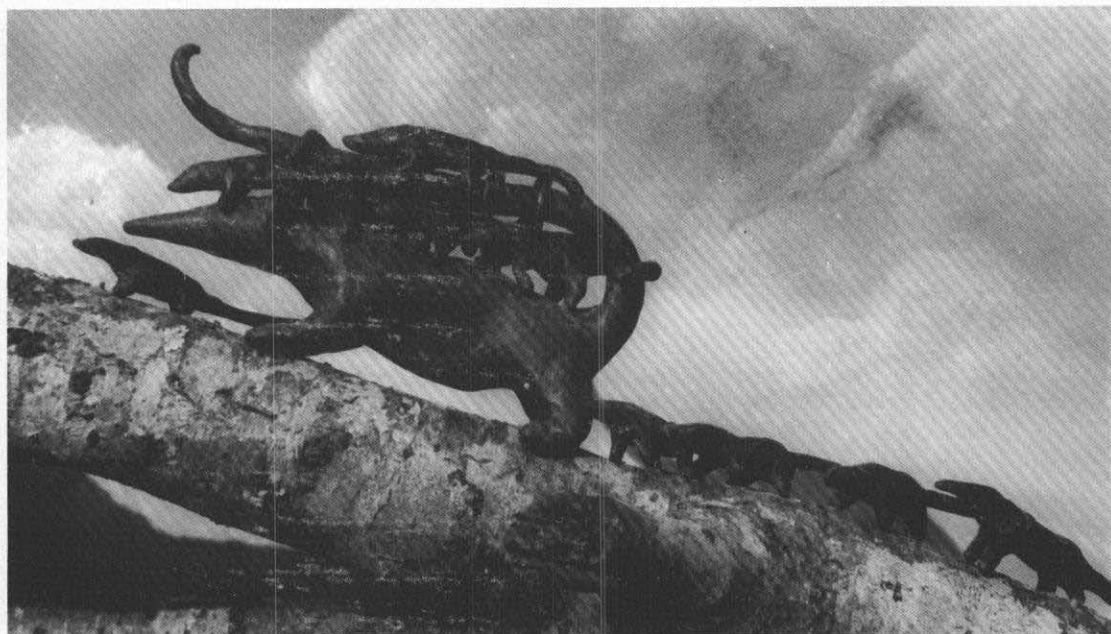


FIG. 59. *Möu* beeswax figures representing an opossum and her young.

black wax of a certain bee. Other beeswax could be used at times. No tools were used in making the figurines. Dirt and all foreign particles were first removed from the ball of beeswax. The wax was then formed by hand into the shape of an animal or *möu*. Perspiration and natural oils from the artist's hands gave a high luster to the finished surface of the figure. As final touches the artist might add a few bits of white ash, small wooden splints, or make lines or tiny indentations on the surface with his fingernails.¹

SOUND-PRODUCING OR SIGNALING INSTRUMENTS

The Héta used three sound-producing instruments to signal to each other. The reason for

¹After 1956 the Héta had totally given up making these figurines. In an attempt to reverse this trend and to acquire specimens for his ethnographic collection, Kozák encouraged the making of these figures. He saved beeswax and tried to make the figurines himself. The Héta usually responded by taking the wax from him and shaping it the way they considered to be correct. Kozák acquired about 150 specimens for his collection made by Eirakán, Hatshuakán, Ñango, and Tiguá, the small daughter of Eirakán.

signaling was to inform other members of the band of the successful killing of game, and to call them to come and share the meat. Different sounds were associated with different large animals.

The most common of these instruments consisted of three small, separate sections of bamboo held together by hand at the lower lip and played like panpipes (fig. 60). A series of hollow, hooting sounds were produced. The larger opening of the shell of a land snail was blown into as a calling device. A rarer instrument was a short bamboo flute or whistle with one small hole (1 cm. or $\frac{3}{8}$ in. in diameter) in the center.² It was about 8 cm. (3 in.) long, 2–3 cm. (1 in.) in diameter. It was held horizontally and the sound was controlled at both open ends of the flute with fingers. This flute or whistle, called *tawaniá*, was blown to lure a hawk within shooting distance. None of these devices was played as a musical instrument except occasionally the snail shell. The Héta's only musical expression was chanting, sometimes accompanied by whistling or playing on the snail shell.

²The use of all three instruments was demonstrated to Kozák by several Héta men.

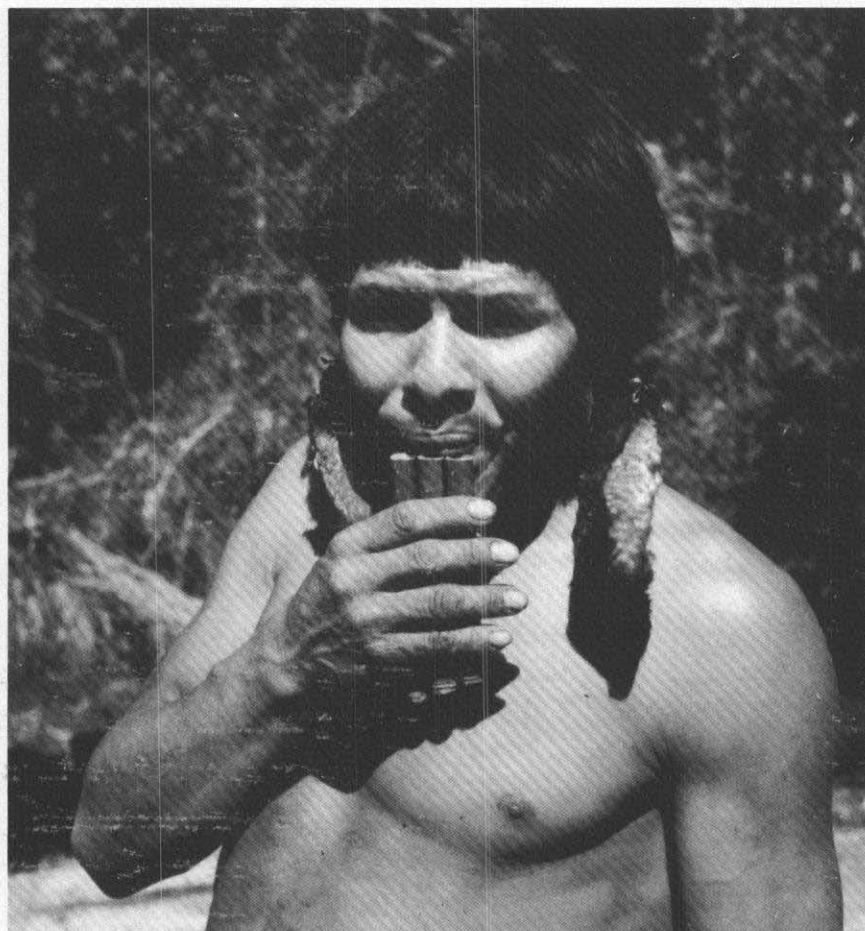


FIG. 60. Man blowing on three separate sections of bamboo, a panpipe-like instrument.

The Héta also signaled to each other by tapping their paddle-shaped clubs (*aúra*

haimbé) against a tree trunk to produce a distinct sound that carried a long distance.

APPENDIX: HÉTA WEAVING

JUNIUS B. BIRD

Mr. Vladimír Kozák perhaps does not realize the full importance of what he has done by recording the weaving practiced by the Héta Indians. In persuading them to make the necessary yarn, to set up a loom, to weave for him, in taking superb photographs of the process, he has made a unique contribution to our knowledge of fabric production in the Americas.

What he has recorded represents a survival of the simplest, most primitive system of weav-

ing which might be devised. It is a system noteworthy for the complete lack of any mechanical means whatsoever of separating the warp into alternate sheds. As far as I know, this is the only example of a loom in the Americas intended for the creation of a woven product, which is not provided with at least some means of separating the warp yarn into opposing sets and controlling or moving those sets to create the sheds necessary for weft in-



FIG. 61. This photograph shows a seated woman crimping or bending one of the long leaves under a round stick held firmly on top of the leaf by her left knee and right foot. This crumples the leaf structure so it can be split lengthwise and subdivided into strips. Mr. Kozák stated that this is done after the leaves have been soaked a few days in pond water. Technically, this step is known as *retting*, during which the pulpy material of the leaf softens and begins to rot, and this is necessary for the separation of such plant fibers.

sertion. The common, widespread system in America for separating the alternate warp and to control their movements is to use a shed rod to hold one set of warp above the other and to have the lower set controlled by a cord or yarn lacing. This lacing is commonly attached to or encircles a stick or rod to form a heddle. Such heddles and shed rods can and normally do move all the warp involved. There are, or were, variations, generally associated with special products, where only string heddles were used. In most, if not all, cases the heddle-shed rod system or its variants did not separate the sheds sufficiently to permit passage of a bobbin

carrying the weft yarn. To accomplish this a swordlike tool, wider than thick was inserted in each successive shed, then turned on edge to increase the shed opening. After the bobbin was passed through, the same tool was used to beat or press the weft firmly in place next to the preceding pick of weft and to compact the fabric.

In the case of the Héta weaving, Mr. Kozák's pictures show a similar tool, oval or lens-shaped in cross section, about 37 cm. long, squared at one end, roughly parallel-sided for part of its length, then tapered to a thin point. This tool was used by the Héta weaver

to pick up the alternate warps, then was turned on edge to open the shed. After insertion of the weft it was used as a beater to compact the weft. The separation of successive sections of the warp into sheds was accomplished only with this tool. Only a few warp were separated at a time, and the weft was inserted section by section. Judging from the pictures, only 12 or 14 warp, or less, were picked up at a time. The weft apparently was not wound on a bobbin or even as a ball of any size. If not wound, it must have been used in relatively short lengths to be joined either with knots or overlapped within the fabric.

Such work must have been slow and laborious, with progress limited by the time nec-

essary to pick up the warp one by one. One wishes that the rate of progress had been timed, but when one is an observer it is difficult to foresee and record all that ultimately may prove of interest.

What excites me about this particular weaving method is that it may be a survival from ancient times before heddle controls were devised. Certainly it constitutes proof that a South American group could and did weave without such aids.

Years ago after analyzing a large collection of textile fragments from a late preceramic site on the Peruvian Coast, we found the dominant technique to be twining. Nearly 71 percent of all products were so made. What are tech-



FIG. 62. Starting the warping. The weaver at left is assisted by his wife who is passing the reel of yarn under the lower loom bar while he presses the yarn at the upper bar to maintain tension until the turn is completed.



FIG. 63. A pause during the warping process. The loom uprights were left long in order to support a sunshade.



FIG. 64. First insertion of the weft which is started some distance in from the right selvage, then carried to that selvage before being carried to the left. Note that only about eight warp are lifted by the pickup-beater tool.

nically single-element constructions, knotted netting and looping, formed about 25 percent, whereas woven products are less than 5 percent of the total. These figures apply to products produced between 2500 BC or earlier and 1200 BC, according to radiocarbon measurements.

At the time we assumed that the reason for the low frequency of weaving was that these people had no knowledge of heddle controls for the warp. Seeming confirmation came from the subsequent textile record in the same region; for after the introduction there of ceramics, other cultural elements and new plants, the record changed abruptly. Woven textiles dominated and twining became a rarity and ultimately survived only in basketry and matting. This suggests that with the new cultural movement came the knowledge of heddle controls making weaving a more rapid system of

fabric construction than any of the alternatives.

While no looms or recognizable loom parts were found with the preceramic fabrics, there is good evidence that the warping system was the one where the warp yarn is passed back and forth about the loom bars, turning at each passage about a locking cord stretched parallel with the bars. If the bars were secured to stakes driven into the ground, the appearance would have been very similar to the Héta loom. The basic difference was that after all weft was inserted, the cord about which the warp turned was pulled out and one had, without cutting, a square or rectangular product with warp-end selvages of successive small loops. This system was used for all the preceramic textiles, both twined and woven, with but one exception: a small pouch woven as a complete cylinder, dating from about 2000 BC. In that case, unlike



FIG. 65. With one passage of weft completed from right to left, the return pick is completed to about the middle of the warp; the pickup tool holds at least twelve warp ready to be raised for the weft passage. It can be seen that the warp have not been exactly separated into a regular one by one order by the first pick of weft, nor by the second in some places. One would have to examine the completed fabric to find out whether these irregularities continue or if once the work progresses they may be eliminated.

the Héta products, the insertion of weft was complete about the entire circumference of the warp, and must have been accomplished by using a needle for the insertion of the last rows or picks of the weft yarn. This was a common practice at the time and was used in the creation of both the twined and woven products. It is not surprising, then, to find that it was done to produce a complete cylindrical special product.

In the case of the weaving recorded by Mr. Kozák, no attempt was made to completely fill the warp. This was not necessary for there was no intention or need to use the fabric in the

form of a cylinder. They could profitably have used the ancient warping system referred to, which would have given the non-ravelling, long-wearing, warp-end selvages. Their solution to the problem was, as described by Mr. Kozák, the grouping and binding together of the warp in sets of three or more, secured by a length of yarn tied in successive knots from one side selvage to the other. These must lie close against the first and last picks of weft. After the completion of the tying the warp was cut.

This method of preventing unravelling may have been widespread wherever continuous,

spiraled warping was used in the Americas. However, the only examples I have seen are archaeological, again from our excavation in the Chicama Valley, Peru. There it occurs on cotton fabrics of rather fine yarns, the oldest examples associated with ceramics of the Cupisnique Phase of the Chavín Period. While there have not been enough radiocarbon measurements of this material on the Peruvian Coast, an age of perhaps 3000 years is suggested.

At the time the ancient examples of this edge finish were studied, it was concluded that it indicated the use of a continuous, spiraled warping system. The Héta record provides substantiation of this conclusion.

Recapitulating in summary: The finished

Héta fabric is a 1 by 1 plain weave created on a spiraled, continuous warp with weft turning back directly into the fabric at each side selvage. This must be considered a continuous weft construction even though the length of each successive section of weft may not be long. Weaving was started at or near the right selvage with nothing to prevent the weft from slipping down the warp. Some weavers in both the Americas and in South East Asia will insert a paired twined weft row to sustain the first passage of the interwoven weft. It is a very ancient practice, but was not employed by the Héta.

When making the first warp separation, the Héta weaver was not too careful about lifting alternate warp one by one, so some pairing or



FIG. 66. The weaving, here half or more completed, was done by the husband entirely from one side of the loom. He has just passed the weft through the raised section of the warp and is applying tension to it.



FIG. 67. Picture taken at or near completion of weaving. Irregularity in the width of unwoven warp results from the uneven loom bars and the weaving process itself.

grouping occurred. These appear to have been subdivided as far as possible as work progressed.

In working from right to left, the picking up of the warp always began directly ahead of the weft. In working from left to right in the succeeding row, the right-handed weaver inserted the warp pick-up tool some centimeters beyond the point to which the weft had been carried. Each time the first warp to be lifted had to be one of those lying in back of the preceding pick of weft. With the rather coarse yarn he was using, this was easy. If fine yarns had been used, it would have been much more difficult to do the weaving. While it would not be impossible to work with fine yarns, it seems reasonable to assume that the Héta-type weaving probably was characterized by the use of relatively coarse yarns.

While Mr. Kozák does not mention how the tension of the warp was adjusted as weaving progressed, his photographs provide some information. On all such frame looms, or where loom bars are secured in fixed positions, the insertion and beating in of the weft always shortens the overall warp length. Unless some adjustment is made, the increasing tension can make it impossible to continue weaving. Other weavers using frame looms will slack off the bindings on the lower bar, then resecure them. In doing this, enough tension must be retained

or re-established to keep the cylindrical warp from slipping as subsequent weft is beaten in place. The maintenance of proper tension is always a problem when the warp encircles the bars and may explain why massive heavy bars are often found on South American frame looms.

In the Héta loom, strips of fresh bark were used to bind the bars to the vertical poles. Such material loses flexibility as it dries and hardens, so untying is difficult. From the photographs it appears that release of tension could be achieved by slipping the bindings upward. Re-establishing tension was not as easy, so the weaver wedged a piece of wood between the bars at his right and a similar piece plus a rock in the space at his left.

Mr. Kozák's work with the Héta illustrates the importance of recording all fabric production practices wherever they may occur. In these times of change, particularly drastic for previously isolated cultural groups, it is already too late in many cases. Where some skills and knowledge of this craft do remain, it is important that good records be made, even if they should appear to be repetitive or if they duplicate what has been recorded elsewhere. There is always the possibility of regional or individual differences in details of construction or procedures.



FIG. 68. Eirakán, the weaver, holding the finished *hamiá* fabric before the unwoven warp was cut. It will be made into a loincloth such as he is wearing.

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