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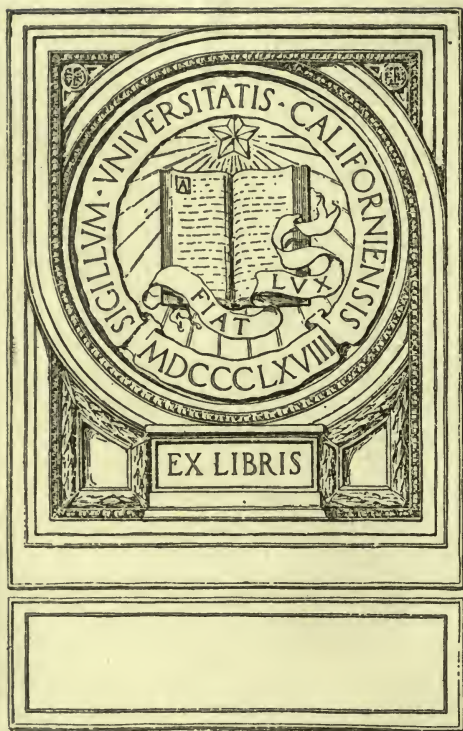
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THE CHANGES IN THE MATERIAL CUL-  
TURE OF TWO INDIAN TRIBES  
UNDER THE INFLUENCE OF  
NEW SURROUNDINGS



*by*

*Erland Nordenskiöld*

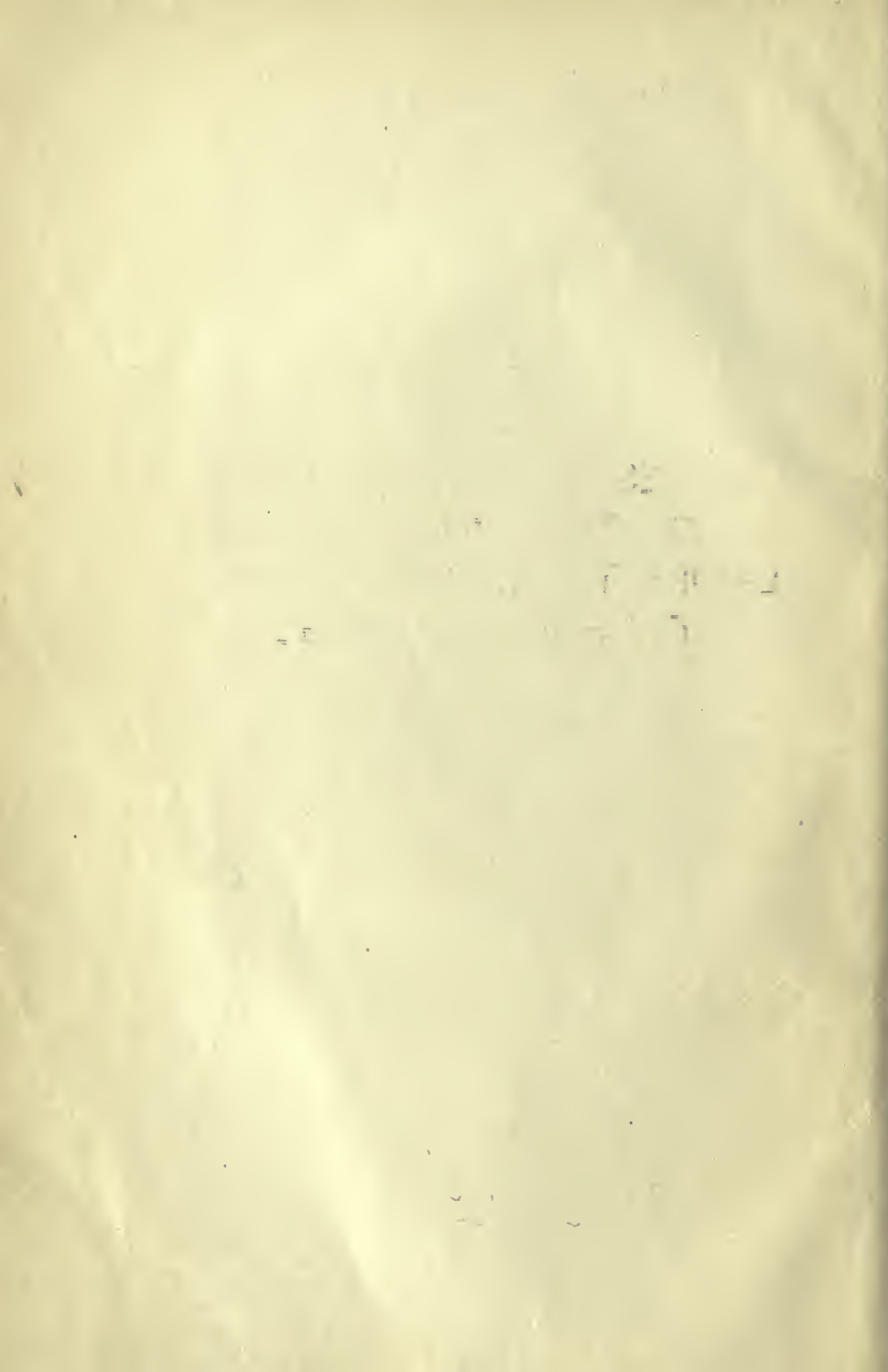








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TURE OF TWO INDIAN TRIBES  
UNDER THE INFLUENCE OF  
NEW SURROUNDINGS



by

Erland Nordenskiöld

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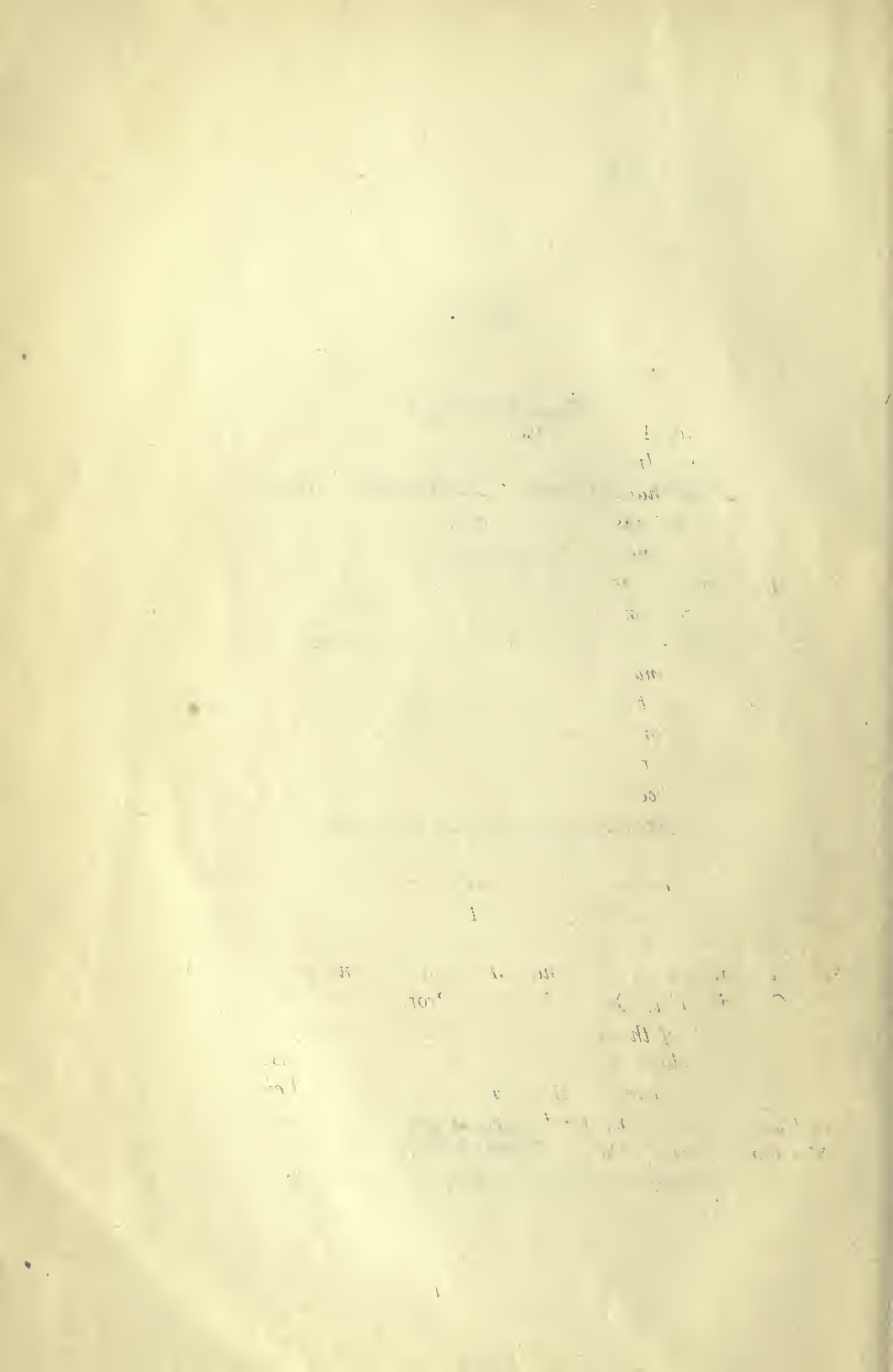
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*Stockholm,*

*with the author's gratitude and esteem.*

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## PREFACE.

*As I mentioned in the preface to the First Part of this work, the expenses of publication have been defrayed by Consul-General Axel A:son Johnson, Esq., of Stockholm, to whom I have taken the liberty of dedicating this, the second part of my book, as a small token of my appreciation of the interest and kindness he has shown towards my South American researches. I also mentioned in the earlier preface that Consul-General Johnson has in every way tried to further Swedish researches in S. America, above all by granting free passages to all the Swedish explorers visiting that continent on board his comfortable and stately ships.*

*This work is based on collections made by me in S. America, as well as on the study of material in museums and of books (See Part I). I would remind my readers that these researches have been carried out with the support of Swedish patrons of research-work, notably Arvid Hernmarck, Esq., and Mrs. Ina Smitt.*

*I have to thank several of my friends and colleagues for valuable communications, which I have made use of in one way or another in the present work. These are: Mr. Kaj Birket-Smith of the National Museum, Copenhagen (M. C.), Dr. G. Friederici, Dr. R. Karsten, Prof. Dr. Th. Koch-Grünberg, Director of the Ethnological Museum, Stuttgart, Dr. F. Krause, Ethnological Museum, Leipsic, Dr. J. P. B. de Josselin de Jong, Royal Ethnographical Museum, Leiden, Licentiate Sven Lovén, Prof. Dr. Max Schmidt, Ethnological Museum, Berlin, (M. f. V. B.) and Dr. Max Uhle. Every possible courtesy has been shown me by the Riksmuseum,*

## VIII

*Stockholm, through Prof. C. V. Hartman, Dr. G. Lindblom, and last but not least by its skilled attendant A. Törnblom. The objects described here which belong to the Riksmuseum in Stockholm, are marked R. M. with the number of their inventory, those belonging to the Museum at Gothenburg are marked G. M.*

*In the last named museum there are, inter alia, collections made by Lieutenant O. Liljewalch and Mr. Otto Thulin. The latter has supplied me with a number of valuable oral particulars which are reproduced in the following.*

*I am also greatly indebted to Dr. Lars Wählin, Head Librarian of the Stadsbibliotek at Gothenburg, for procuring rare books for me to consult and for translations of Latin quotations. As the works of Italian authors occasionally caused me some trouble, since I cannot read Italian fluently, Consul-General E. Correa was good enough to help me when in difficulties.*

*The illustrations to this volume are chiefly due to Mr. A. Hjelm and Miss A. Danielsson. Some of the stereotype-plates were kindly lent me by Mr. K. O. Bonnier, the publisher of my popular works. Most of the illustrations, however, were made by the Opla Company of this town from pictures not previously published.*

*The translation into English of my Swedish manuscript was carried out by two translators and revised by Dr. G. E. Fuhrken.*

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## Introduction.

In Part I of this work I sought by a new method to analyse the material culture of two Indian tribes the Chiriguano and Ashluslay. In the introduction to the aforesaid work I explained the method employed. In Part 2 I have sought by the same method to make an ethno-geographical analysis of the civilization of two other Indian tribes. These are the Chiriguano and Chané, who dwell in the southernmost part of Bolivia and northernmost Argentina. The Chiriguano are Guarani Indians, while the Chané are Guaranized Arawaks<sup>1</sup>). They thus belong to two of the most important tribal groups in all America. Their civilisation is already well known, thanks to the missionaries who have worked and still work among them. Their works are referred to in the bibliography. The most important are those by CORRADO and NINO. DEL CAMPANA wrote a monograph on the Chiriguano based on information supplied by missionaries. We also find mention of the Chiriguano in many older works. The information they give us of their manners and customs is unfortunately scanty. It is, indeed, only in LIZÁRRAGA, CHOMÉ, VIEDMA, LOZANO and one or two of the LITTERAE ANNUEA that we find any useful matter.

SERRANO, Y SANZ wrote an excellent work on the post-Columbian history of the Chiriguano. OUTES has written about their pottery. LEHMANN-NITSCHKE has dealt with their physical anthropology. Works on their languages have been published by several missionaries. I visited these

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<sup>1</sup>) Vide NORDENSKIÖLD (8).

Indians in the years 1908, 1909 and 1913, and spent in all 4 to 5 months studying them. In my book »Indianlif» I gave a popular account of them as I got to know them during the Hernmarck expedition in 1908 and 1909. In my last book of travel »Forskningar och äventyr i Sydamerika» there is some information about the Chiriguano. I have brought home to Sweden from the Chiriguano and Chané about 1500 articles which are now in the Riksmuseum at Stockholm and in the Gothenburg Museum. In the Geographical Review I wrote a short article on the migrations of the Chiriguano Indians.

A close study of the Chiriguano and Chané civilization by the ethno-geographical method affords points of especial interest, since their mode of life is rather well known, and we are able to trace their history back to the beginning of the 16th century. I have also collected archaeological material from their region. At first I was minded to give an account of this, too, in the present work. I decided, however, that it would be better here only to mention individual finds by the way, and to leave the archaeological material for another publication in which I shall be able also to publish certain archaeological finds made in other parts of Bolivia. This for purely practical reasons.

I will here endeavour to make clear how the Guarani-speaking Chiriguano's and the Guaranized Chanés' civilization are composed, what culture-elements they have got from the Whites and from the Mountain civilization in the west, what each brought to the common stock and what they possibly obtained from other quarters.

In this analysis of Chiriguano and Chané manners and customs, I do not intend properly to examine the question as to whence these Indians came to their present abodes. Broadly speaking we know that already. Respecting the Chiriguano migrations there are historical documents extant which evidently show that it was not until the beginning of the 16th century that these Indians conquered



the tracts they now occupy.<sup>1) 2)</sup> They drove out or subjugated the original population, which consisted chiefly of Chané Indians. They made slaves of a great number of them and ravished <sup>a</sup> great number of women.

The Chané are, as was mentioned, Arawaks and all indications point to their having come from the north or north-east, where they have large numbers of kinsfolk. It will be found that the present investigation confirms this. A matter of particular interest in this connection is to notice how two peoples belonging to the most important groups of tribes in all America made adaptations in their mode of life when they had emigrated to places with strange natural conditions. Again, it is worthy of note how their civilization was transformed under the influence of the Bronze-age civilization in the west and afterwards under the influence of the Whites. Further we shall see what they have, under their new conditions, been able to preserve of their original civilization. We shall gain insight into the way in which the civilization of two Indian tribes was transformed under the influence of other peoples and new natural conditions.

As in Part I I deal chiefly with the »material» side of these Indians' life. Or rather, everything in their life which

<sup>1)</sup> NORDENSKIÖLD (13).

<sup>2)</sup> MEANS, basing his opinion on GARCILASSO and MONTESINOS, has assumed that the Chiriguano invaded the Inca Realm earlier than the beginning of the 16th century. But even if his assumption is correct, these inroads led to no domiciliation there. This is evident from the accounts of the invasion in the 16th century, when the Chiriguano supplanted what was everywhere an original stock. Nor do we know whether by Chiriguano the Incas did not mean barbaric tribes of the Chaco in general, and not any particular tribe. In these parts Chiriguano probably corresponded to the signification that Chunchos had in the district of Cuzco, where it meant all sorts of barbaric Indian tribes east of the Andes. The Chiriguano that GARCILASSO DE LA VEGA AND MONTESINOS speak of need by no means have been Guarani Indians. I have already pointed out (NORDENSKIÖLD 13) that GARCILASSO'S description of the Chiriguano is absolutely irresponsible.

can be kept in a museum or for which one may find — given favourable circumstances — archeological comparative material. Besides weapons, ornaments etc there is thus included also burial customs, tattooing, dancing-masks, etc.

The reader will find that I have endeavoured to make this part more graphic than Part I. From the maps of bibliography it will be seen regarding what regions I have had access to literature; it can also, in some measure, be seen whether the blanks on the maps are due to those particular tribes never having been closely studied.

The maps of distributions in this work are fewer in number than in Part I. This is because we find the Chiriguano and Chané, or one of these tribes, on twenty-nine maps in Part I. Part I is largely preparatory to Part II. Parts I and 2 together contain 45 maps showing the distribution of culture-elements occurring among the Chané and (or) Chiriguano.

All who are interested in the ethnography of S. America will, I venture to think, find the maps worth close study and will see that from them various deductions can be made not only respecting the Chiriguano and Chané Indians but also as to the ethnography of S. America in general. In some measure I have, indeed, endeavoured to do this myself.

The land of the Chiriguano and Chané the Indians stretches from near St<sup>a</sup> Cruz de la Sierra to near Rio Bermejo. Southwards of St<sup>a</sup> Cruz the territory inhabited by the Chiriguano is continuous. The Chané, on the other hand, live in several different quarters, some at the river Itiyuro in the Argentine, some at Caipipendi near the Rio Pilcomayo, some at the Lower Rio Parapiti, and others near Itau south of the Rio Pilcomayo. The neighbours of the Chiriguano and Chané are the Mataco-Vejos, Mestizos, and Whites to the south, the Mataco Toba, Tapiete, (Yanaygua) and Tsirakua to the east to the north Mestizos and Whites, and to the west Quichua, Mestizos, and Whites.

Some Choroti live near Yacuiba. In nearly all of the Chiriguano territory there are Mestizos and Whites. There are also several large missionary stations in their territory. Some few Chiriguano live in the village of St<sup>a</sup> Rosa to the north of St<sup>a</sup> Cruz de la Sierra. Some Chiriguano who sought refuge in central Chaco after their last rebellion, live there still. They are the only tribe of Chiriguano-Indians who are quite independent of the Whites.

The country which is inhabited by the Chiriguano and partly by the Chané is a border land between the Andine mountains and the great plain of the Chaco. It is in the valleys between the outermost mountain ridges towards the Chaco and on the plain to the east of them that the Chiriguano and the Chané live. The land of the Chiriguano and Chané-Indians is not a real country of primeval forests. There are some great forests, but on the whole it is sparsely wooded, in places even very poorly wooded. The supply of water is the governing condition for settlement in the land of these Indians. It may be said that wherever there is access to water there the country is inhabited, at any rate as regards the region south of the Rio Grande, one of the great rivers that run through their territory. There need not be a great supply of water for the Indians to find the country inhabitable. All that is necessary is sufficient drinking-water for man and beast, as at Itatique and in the Caipipendi valley near Rio Parapiti.

The biggest rivers running through the territory of the Chiriguano and the Chané are the Rio Grande, the Rio Parapiti and above all the Rio Pilcomayo. The Rio Grande may now almost be considered the boundary river of these tribes towards the north, and is of but little importance to them. The Rio Parapiti is a strange river. While well supplied with water in the mountains it is almost shrinks to nothing in the plains during they dry season. During the rains it is very full of water and may be dangerous to ford. Fish are plentyful only in the Rio Pilcomayo, and we

shall see that the methods of fishing differ somewhat in the different rivers. At the Rio Pilcomayo the Indians must always have found a good supply of food. As many Chiriguano live by very insignificant streams they never have the opportunity of fishing. The Chané all live in places where they are able to procure fish during some part of the year at least.

Big game is scarce in the land of the Chiriguano and Chané. Nor are these Indians keen huntsmen. One seldom sees game that has been killed by them in their huts. The great flocks of fat pigeons that settle in their fields are for the most part left unmolested.

As we shall see in the following the Chiriguano and Chané live mostly by tilling the ground. Owing to the comparative dryness of their land maize is cultivated more than anything else. It is the ease with which this plant can be grown here, that makes the land of the Chiriguano and Chané a good land to dwell in.

The fruit of the carob-tree (algarrobo) is the most important wild fruit. Probably no careful study has ever been made of the climatic conditions of the Chiriguano and Chané country. It is situated in the tropics, north of the tropic of Capricorn and the traveller there of course suffers more from heat than cold. In May and June especially, however, when there is a strong south wind, it is agreeable to have a well built house, warm clothes and a snug bed. The rains begin in December and leave off in April or May. It sometimes happens that there is little or no rain and then the crops are a failure. They are often destroyed by grasshoppers.



Fig. 1. Maize-barn.  
Chiriguano.

## I.

### Dwellings.

Like all other Indians I visited south of Sta Cruz de la Sierra in Bolivia, the Chiriguano and Chané live in villages. Some of these villages are rather large and inhabited by several hundred people. Frequently a number of villages are situated quite close to each other. As a rule, the huts stand around an open space which is sometimes planted with trees to give shelter. These »squares» serve as meeting-places and playgrounds.

The huts are square. They are built of reeds or wooden laths, and thatched with grass. They are very often plastered with earth.

There are no huts here of the original Indian shape. The real Chiriguano (Chané?) huts were very large; as many as a hundred people lived in the same house, the whole

village consisting of only a few big huts.<sup>1)</sup> These plainly correspond to the great family-houses known to us from Brazil, but which in Bolivia I have only seen among the Chacobo, a Pano tribe on the Lago Rojo-Aguado. CHOMÉ<sup>2)</sup> gives no exact information about the huts. He says they stood in a circle around an open place. In the middle of the square there was a special hut for strangers. According to NINO<sup>3)</sup> the Chiriguano formerly had round houses. He gives a rather lengthy description of these, but does not tell us the source of his information. NINO describes at length how the Chiriguano now build their houses.

As early as the time of VIEDMA<sup>4)</sup> — end of the 18th century — they seem to have forsaken their original type of house and built themselves smaller huts. Since the dwelling-houses here retain no traces of their original shape, it is useless to make comparisons with other Indian huts. There is hardly anything in Indian culture which so quickly changes under the influence of the Whites as the houses. The acquisition of iron tools makes it possible to put up quickly properly built houses. An Indian tribe need consequently not have been long in contact with the Whites before they alter the style of their huts. This is not the case, to be sure, with all the tribes, for many, such as those in the interior of the Chaco, tenaciously preserve the primitive type of hut which, though small and inconvenient, affords greater protection from cold than the roomier dwellings of the Whites.

It would be of interest to find out in what measure

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1) *Annuaire de la Compagnie de Jesús — Tucuman y Perú — 1596.*

»El mayor de los pueblos es de cinco casas; lo común es de tres; mas son muy largas, de más de 150 pasos, á dos aguas, con estantes en el medio sobre que se arma la cumblera, y de estante á estante vive una parentela.» LIZÁRRAGA P. 552.

2) P. 313. »Pendant ce temps-là, je n'avais pas d'autre logement que le toit de paille qui étoit au milieu de la place.»

3) P. 174.

4) P. 181. »Sus casas son unos pequeños ranchos hechos de caña.»

the earth-plastering of huts is here an original Indian idea. I have attempted to indicate on a map the distribution of huts with earth-plastered walls, but I refrain from publishing it because, in the majority of cases, I cannot ascertain whether the Indians learned from the Whites to plaster their huts. Huts with earth-plastered walls are found among the Indians around Roraima, in Guiana<sup>1)</sup> and among the Ijca<sup>2)</sup> in Columbia. The Indians at Mojos<sup>3)</sup> used to have such huts, and OUTES<sup>4)</sup> mentions them from the Caingú etc. Earth-plastered mestizo huts are also common in the Mizque valley in Bolivia.

The Chané on the Rio Itiyuro, but not those on the Rio Parapiti, and the Chiriguano have maize-barns on piles.<sup>5)</sup> Occasionally the barn and dwelling-house are combined in such wise that the people live on the ground-floor and store their maize on the floor above. During my travels I have only seen barns on piles among the Mataco-Guisnay (one only), Mataco Vejos, and the Chacobo (one only). Some Quichua huts between the Rio Chapáre and Cochabamba are built on piles. I scarcely think these are original, however.

JOHANNES LEHMANN has written a treatise on pile-buildings all over the world. He mentions there their occurrence among several tribes in northern S. America, which are shown on the map below. The village on piles from La Plata mentioned by LEHMANN after HEIERLI is, of course, not Indian; nor are the barns from the Argentine

1) THULIN.

2) BOLINDER (4), P. 35.

3) MARBAN P. 133; CASTILLO, P. 318.

4) OUTES Y BRUCH (5) P. 93.

5) Already LIZÁRRAGA (P. 609) speaks of the maize-barns of the Chiriguano: «No dormían en el buhio, sino fuera, las espaldas seguras con unas piruas de maíz juncto al buhio (pirua es un cercado como de dos varas de hueco, redondo de cañas, donde se encierra el maíz).»

Pampas in which the corn is stored to protect it from hares.

The above-mentioned village and barns I have, therefore, left out of my map. PATER SCHMIDT<sup>1)</sup> mentions pile-buildings from other tribes too.

FRIEDERICI<sup>2)</sup> has also collected numerous statements referring to the occurrence of pile-dwellings in S. America from the works of older writers.

The table I and map I which follow show the distribution of pile-buildings in S. America according to LEHMANN, FRIEDERICI and PATER SCHMIDT, together with some additions and corrections.

On the accompanying map I have merely indicated those which seem certainly to be of Indian origin. Those mentioned at the end of the 15th century, as well as those from the 16th are so undoubtedly. I am convinced that the pile-buildings of the Chané and Chiriguano are genuinely Indian, as nowhere in this region do the Whites possess such barns. Their geographical distribution leads us to presume their genuinely Indian origin, as also that they are a culture-element which came to these Indians from the swamps of Mojos, and that they here are an Arawak culture-element too. The use of pile-buildings on hard ground is quite comprehensible to me, as they offer great advantages, whether used for barns or dwelling-houses. The idea must have come, however, from some marshy tract or from a sea-coast where the inhabitants were dependent on ebb and flood tides. In the cases where a people employ pile-buildings on hard ground which is not liable to floods, it is due, as a rule, to conservative ideas—the mode of building to which they were accustomed in their former dwelling-places has become indispensable.

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<sup>1)</sup> P. 1064.

<sup>2)</sup> (5) P. 98.





The notion that the pile-buildings employed as barns are here of different origin from those used as dwelling-houses, is unlikely. There is nothing in the geographical distribution to support this idea.

Outside their barns the Chiriguano and Chané have ladders consisting of logs in which steps have been hewn.

*Table i.*

*Pile buildings. Map. I.*

4. Chiriguano.
5. Chané.
6. Mataco-Vejos. Have evidently copied the Chané barns.
18. Quichua.
25. Mojo, MARBAN P. 132. Cooking-shed. *No!*
39. Gojiro, PATER SCHMIDT P. 1064. (after ERNST); Parauhano, JAHN.
47. Indians Roraima: Wapisiana, Arecuna, Macusi, Patamona. PATER SCHMIDT P. 1064; THULIN.
62. Chacobo.
68. Omagua. »Hicieron los indios dentro de sus mismas casas unos tablados de madera, que ellos llaman Iuzas y encima de ellos estuvimos tres meses, que fueron los de Abril, Mayo y Junio con más de seis palmos de agua debajo.  
Entraban y salían las canoas dentro de las casas, y de noche quedaban de bajo de los tablados.» LAUREANO DE LA CRUZ P. 88; [MARONI] Vol. XXX, P. 197.
01. Indians on the west coast of Columbia. PIZARRO P. 204; CIEZA DE LEON (I) P. 95; OVIEDO T. 3. P. 8; ANDAGOYA P. 76; ROBLEDO P. 277.
- 3 F. Barbacóa, RIVET (4) AND VERNEAU P. 39.
- 4 F. Indians on and near Lake Maracaibo. NAVARRETE T. III, P. 8; »A quatro dias llegaron à un pueblo de güerigue-

ris, que esta armado sobre madera en el agua en unas ciénegas del mismo rio». OVIEDO T. 2, P. 293. (See also P. 294 and P. 300); TOLOSA P. 229.

- 5 F. Indians at the mouth of the Amazon. »A cabo de seis dias de navegacion tomaron una isla en un puerto y ensenada que el rio hacia en ella, y como tres tiros de arcabuz, por este puerto y ensenada arriba, dieron con unas casas fuertes, armadas sobre gruesos y recios estantes que tenian hincados en el proprio cabo desta ensenada de rio o estero que alli se hacia . . . . . sobre estos estantes o pilares estaban unas salas de tablas de palmas bravas . . .» ORTIGUERA P. 372.
- 6 F. Indians near Para. »lesquels demeuroient dans les IOURAS qui sont des maisons faictes à la forme des Ponts aux Changes et de saint Michel de Paris, assises sur le haut de gros arbres plantees en l'eau.» ÈVREUX P. 28. The civilised Indians in the same region still live in pile-buildings. KOCH-GRÜNBERG (2) T. I, P. 3; LANGE, Several illustrations.
- 7 p. Oyampi, PATER SCHMIDT P. 1064. (after COUDREAU); Palicours, FAUQUE P. 359.
- 8 X. Warrau, PATER SCHMIDT P. 1064; RALEGH P. 50; LEVEL P. 60.
- 9 C. Mataco-Guisnay. (I saw one single barn on piles among these Indians).
- 1 R. Indians, Darien. OVIEDO T. 2, P. 455.
- 2 R. Caquetios, FEDERMANN P. 191.
- <sup>Not on the map</sup> Galibi, French Guiana. LOMBARD P. 298.
- » Indians Cayambe, Ecuador. FRIEDERICI (5). P. 99 (After MONTESINO and others.)

Pile buildings are among the culture-elements where it is sometimes difficult to decide whether they are Indian or not. In the rubber forests of Bolivia, Peru and Brazil, at favourable spots, are many barracks built on piles. THE-

RESE OF BAVARIA<sup>1</sup>) depicts numerous pile-buildings from the town of Guayaquil and its surroundings. On the lower Amazon the Indians and Mestizoes in general live in pile-buildings.<sup>2</sup>)

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## II.

### Beds and other fittings of the huts.

The Chiriguano and Chané make use of platform beds as well as hammocks. The bedsteads are made of thick sticks, the underlay being covered with cane or long sticks. The most civilized Chiriguano also have bedsteads in which the underlay is made of plaited thongs — this having been learned from the Whites. I had always held that the platform bed was a culture-element which the Indians have obtained from the Whites. KARL V. D. STEINEN<sup>3</sup>) seems also to be of this opinion. This is not, however, correct, for the platform bed is a genuine Indian culture-element, which is worth closer study. Platform beds are mentioned as early as 1549 by PALOMINO<sup>4</sup>) from Chuquimayo in N. Peru among quite unvisited Indians, and there is not the least reason to suppose that the platform bed

---

1) (2)

2) »Nos logares alagados de beira rio, como certas porções do Amazonas entre o Pará e Gurupá e em todo o litoral do archipelago de Marajó, ao menos na parte a O e SO d'esse archipelago, erguem as casas sobre paliçadas á maneira das cidades lacustres dos tempos prehistoricos . . . . .» VERISSIMO P. 370.

3) (5) P. 75.

4) P. XLIX »Duermen en barbacoas sobre unos petates de caña.»

is a culture-element so coveted as in a few years to have spread from the Whites in Peru to the interior of the country. When the distribution of the platform bed is closely studied, it will be found that it is evidently a very old culture-element which remains in places where the hammock has not penetrated or has been found unpractical. In the land of the Chiriguano and Chané Indians it is often too cold to sleep in hammocks. A platform bed is therefore preferred by them, especially when they have clothes to put under and over them. Hammocks are few and are mostly used to recline upon during the day. I have endeavoured on the map to show the geographical distribution of the platform bed. The summary does not, however, pretend to be complete. Its aim is mainly to draw attention to a culture-element which has often been overlooked, and which gives me the impression of being older than the hammock by which it has been relegated to certain tracts, particularly on the eastern slopes of the Andes, where it is rather cold to sleep in hammocks, and rather uncomfortable to sleep on the ground, as is the custom up on the high fells or farther to the south.

*Table 2.*

*The platform bed (Catre). Map. 2.*

4. Chiriguano.
5. Chané. Fig. 2.
18. Quichua, Riobamba, RIVET (2) P. 60.
21. Cainguá, AMBROSETTI (7) P. 697.
22. Yuracáre.
23. Churápa.
24. Chimane.
29. Caingang, AMBROSETTI (1) P. 325. Is considered to be post - Columbian.
34. Jivaro, RIVET (1) P. 40.
35. Chimila, BOLINDER (4) P. 52.
36. Ijca, » (4) P. 48. Only the medicinemen.



Fig. 2. Chanéwoman with a child sitting on a «catre».  
Rio Itiyuro.

Phot. E. N—d.



Map. 2. The distribution of the platform bed (Catre)

61. The Apaporis Indians, WHIFFEN P. 47.  
 71. Sipibo, STEINEN (5) P. 75.  
 94. Chiquitos, *Litterae Societatis Jesu* 1594—1595. P. 754; BURGOS P. 343. The men have hammocks, the women platform beds. This implies that fixed bedstead here are more original than hammocks.  
 95. Chibcha, OVIEDO T. 2. P. 407.  
 IV. Guaná (Arawaks), AZARA (I) T. 2, P. 89.  
 3 H. Indians on the coast of Ecuador, BENZONI P. 245.  
 4 H. Camacans, MARTIUS (I) P. 345.  
 6 V. Guaná, COMINGES P. 178.  
 7 V. Indians of Chuquimayo, PALOMINO P. XLIX. He made his journey in 1549.  
 8 M. Indians (Chamas), Sierra de Merida. SALAS P. 262.  
 9 P. Xevero, CHANTRE y HERRERA P. 143. Mainas, SAA-BEDRA P. CXLIV. »duermen en barbacoas ó cañizos con toldos.»

In the regions I visited it was only the Siriono, Huanyam and Huari who had hammocks of palm-fibre or bast. The other tribes who employ this form of bed have hammocks of cotton. The Chané hammocks are of cotton or caraguata<sup>1)</sup><sup>2)</sup>. The Chiriguano have hammocks of cotton, occasionally of wool. IM THURN and K. v. D. STEINEN had already pointed out that, while cotton hammocks appear to be a Carib culture-element, the palm-fibre hammock is of Arawak origin. PATER SCHMIDT then thoroughly investigated the distribution of hammocks of various materials, confirming the theories of IM THURN and K. v. D. STEINEN and shewing, moreover, that the Guarani peoples, as a rule, have cotton hammocks.

1) In net-technique.

2) *Annua de la Compañia de Jesus*. P. CIV The author speaks of two kind of hammocks from these Indians. Probably one of them were of Caraguata. I am not quiet sure if he speaks of the Chané or the Chiriguano or of both »hincan muy grandes palos y de ellos cuelgan sus hamacas, que son unas mantas grandes ó tejidos de algodón ó hechas de red.»



RUTH HAEBLER, a pupil of MAX SCHMIDT, has endeavoured to shew that this is not correct. After examining a number of hammocks in German museums, she arrived at the conclusion that, in the majority of these, both palm-fibre and cotton had been used — palmfibre for the warp and cotton for the woof — and that the notion that the Arawaks have hammocks of palm-fibre only, while Caribs have only cotton hammocks, is wrong. For the rest, hammocks of mixed materials are also mentioned by PATER SCHMIDT, who thus devoted attention to this matter when he was investigating hammocks. ROTH, too, mentions from Guiana hammocks of bast with a woof of cotton. The fact really is that all the hammocks described as having a bast warp and cotton woof are from the Upper Xingú or from Guiana tracts, where there dwell Arawaks, Caribs and Tupi. If we study the appended map and table, which are based on very extensive material, we shall find that, within an immense region about the Amazon, the Indians use hammocks of palm-fibre exclusively, and that in the rest of S. America it is more especially the least civilized, tribes, e. g. Siriono, Huari, Waika and others, who use bast or palm-fibre hammocks exclusively. On the coast of Brazil, the more civilized Tupi had cotton hammocks, while the less civilized tribes used palm-fibre. I would consequently account for the distribution of hammocks of different materials in the following way: — Originally the Indians in the whole of tropical S. America had hammocks of palm-fibre or bast exclusively. When the art of cultivating cotton spread from the west, many tribes began to use cotton hammocks or, in some districts, hammocks of palm-fibre with a cotton woof. Where cotton-growing remained unknown, or was inconsiderable, as among the Arawaks of N W Brazil, hammocks made entirely of palm-fibre were still used.

Which tribes spread the knowledge of cotton growing? Certainly not the Arawaks, who within large tracts

do not even spin. It must, above all, have been the Tupi - Guarani. They are known for their manufacture of cotton hammocks. The Omagua who dwell (have dwelt?) in a tract where they and the Cocama are the only Tupi Indians, use hammocks both of palm-fibre and of cotton. All the neighbouring tribes have nothing but palm-fibre hammocks. Some Tupi at the Upper Xingú use palm-fibre hammocks with a woof of cotton. RUTH HAEBLER mentions two hammocks of bast from the Caingúa. Otherwise, the Tupi tribes use cotton hammocks, as has been pointed out by PATER SCHMIDT. The Caribs, too, have undoubtedly contributed to the spread of cotton-growing and the use of cotton hammocks, for it is very evident that in Guiana especially, they have used, and still use, cotton in their hammocks far more than the Arawaks. The distribution of cotton hammocks in S. America cannot be properly understood except in connection with the general history of the cultivation of cotton. It is highly probable that it was from the western area of civilization in S. America that the knowledge of cotton-growing spread over a considerable part of the continent. It is very likely that, in post-Columbian times, the practice of growing cotton has spread to a good many tribes who formerly were ignorant of it. We must remember that cotton has been grown at such mission-stations as in Mojos on a very large scale.

It must also be remembered that the history of the cultivation of cotton is of especial interest, because the cotton bush is one of the few cultivated plants that in pre-Columbian time were common to both the Old and New World. Consequently, it would be very interesting if we could prove that cotton was first used in S. America within the old culture areas, and there only after the Indians had reached a comparatively high state of civilization.

It is not quite right to say that the hammock was not used within the culture-area of the west. It was used — not as a bed, but as a litter for persons of rank. This is

corroborated by the accounts of PEDRO PIZARRO and XERES, who were eyewitnesses of the conquest of the Inca empire. In the high mountain country it is natural that hammocks should not be used as beds. In such parts they would be too cold. It is harder to make out why hammocks were not used in the coastal regions of Peru.

Evidently the hammock in S. America is so old a culture-element that it is impossible to decide whence it came to the Chané and Chiriguano. The latter certainly, and most likely the former too, used hammocks when they settled in their present territory. The technique employed in most Chané and all Chiriguano hammocks is the same as, with small variations, is mostly used wherever hammocks occur.

It is possible that some tribes about the river Amazon preferred palm-fibre hammocks to cotton ones, because the former are cooler. Possibly, too, in these regions of moist heat, hammocks of palm-fibre are less liable to rot and to be attacked by insects than those of cotton.

I here append a map (3) showing the distribution of hammocks of different material after PATER SCHMIDT, with certain additions, as will be seen from table 3.

The seat so characteristic of the Indians in great parts of S. America is a rather uncommon piece of furniture in the huts of the Chiriguano and Chané (Fig. 3). Its distribution in S. America has been investigated by PATER SCHMIDT<sup>1)</sup> and SAVILLE<sup>2)</sup> wherefore I beg to refer to their works. In my own sphere of work I saw seats among the Quichua mestizoes at Calilegua, among the Mojo, Huari, Baure and Huan-yam. The seat as a culture-element has its southern boundary here. It occurred, though rarely, among the Incas, where seats seem to have been the special privilege of the chiefs<sup>3)</sup>. Most likely it is a culture-element which the Chané

1) P. 1088.

2) V. 2, P. 103.

3) COBO Vol. 4, P. 172.

received from their kinsfolk at Mojos, or they may even have brought it with them when they migrated to their present abode. Nowadays the Chiriguano and Chané commonly use chairs of the type they have learned from the whites. They are made by themselves in the missions.

I have a rush mat from the Chané. Both the Chiriguano and the Chané have skin mats. I have already spoken of such mats in Part I of this work. The skin mat is naturally a southern culture-element.

The Chiriguano and Chané keep their belongings either hung from the ceiling or else on the floor. Clothes and other fragile things are often kept in large earthen vessels — a method of keeping one's belongings which I have not seen anywhere else. COBO<sup>1</sup>) says that the Incas kept their clothes in a similar way.

It is very common among the Chiriguano and Chané to fix wooden hooks in the roof of their huts on which to hang their belongings (fig. 4). Elsewhere I have only seen these hooks among the Churápa. In the Gothenburg Museum there is a collection by LILJEWALCH and THULIN of hooks made by Indian tribes on the Roraima. The only mention of them that I am aware of in literature on the subject is from the Araucanians.<sup>2</sup>) Small articles of this kind are, of course, easily overlooked, wherefore it is not at present possible to draw a map of their distribution. This is to be regretted, as the distribution of such small objects would offer points of great interest. It seems to me not unlikely that the wooden hook is an Andine culture-element. Within my sphere of work the hook does not occur among other Indians than those mentioned here.

Small articles are kept by the Chiriguano and Chané in cloth and leather bags, wooden boxes, baskets, armadillo scales, the scrotum of bulls, and in calabashes with or without lids.

<sup>1</sup>) COBO Vol. 4, P. 171.

<sup>2</sup>) LATCHAM (1) P. 338.



Map 3. Distribution of the hammock.

*Hammock used as a bed.*

- = of cotton, □ = of palmfibres or bast, □ = warp of cotton, woof of bast,  
 □ = warp of palmfibres, woof of cotton, □ = either of cotton, palmfibres or bast.  
 ▲ = *Hammock used as a litter.*

### Table 3.

*The distribution of the hammock.  
Map. 3.*

Number on the map.	Names of the tribes		Cotton	Warp of cotton. Woof of bast	Warp of palmfibres Woof of cotton	Palmfibres or bast		
4	Chiriguano	Southern Bolivia	+	—	—	—?	Tupi	Also of Wool. R. M. E. 1056.
5	Chané	»	R. M. P. 126	—	—	+	Arawak	PATER SCHMIDT P. 1069.
8	Lengua	El Gran Chaco	—	—	—	+	Arawak	RUTH HAEBLER P. 14.
11	Chamacoco	»	—	—	—	+	Tupi	»
20	Paressi	Misiones	+ <sup>1)</sup>	—	—	+	Arawak	R. M. Tj. 72.
21	Caingúa	Bolivia	G. M. Tj. 78	—	—	+	Carib	Private Collection.
23	Churápa	»	+	—	—	—	Arawak	RUTH HAEBLER P. 14.
25	Mojo	Matto Grosso	+	—	—	—	Tupi	»
28	Bakairi	»	+	—	—	—	»	»
»	Kustenuau	»	+	—	—	—	Arawak	»
»	Auetö	»	—	—	—	—	»	»
»	Kamayura	»	—	—	—	—	»	»
»	Mehinákú	»	—	—	—	—	»	»
»	Trumai	»	—	—	—	—	»	»
31	Ojana, Trio	Guiana	+	—	—	+	Carib	GOEJE (1) P. 21.
35	Chimila	Colombia	G. M. 16.3.30	—	—	—	»	BOLINDER (4) P. 51.
36	Ijca and Kögaba	»	—	—	—	G. M. 16.3.783	»	»
38	Tupinambá, Tupini-kin, Carios	Coast of Brazil	+	—	—	G. M. 15.3.58	Tupi	PIGAFFETTA P. 8; STADEN T. 2, P. 8; d'ABBEUILLE P. 203; PATER SCHMIDT P. 1064
39	Goijiro	Colombia	—	—	—	—	Arawak	PATER SCHMIDT P. 1070.
40	Guarayú (Guarayos)	Bolivia	G. M. G. 100	—	—	+	Tupi	»
41	Guarayú (Pauserna)	Matto Grosso	G. M. 15.1.844	—	—	—	»	»
42	Caripuna	Rio Maifeira	—	—	—	+	»	»
43	Huanayam	Rio Guaporé	—	G. M. 15.1.601	—	G. M. 15.1.601	»	PATER SCHMIDT P. 1068.
47			—					

48	Hianacoto	N. W. Brazil	—	—	+	+	Carib	»
	Siusi	»	—	—	+	+	Arawak	»
	Uaupé	»	—	—	+	+	Arawak	»
	Baré	»	—	—	+	+	Arawak	»
	Kobéna	»	—	—	+	+	Arawak	»
51	Siriono	Bolivia	—	—	+	+	Carib	»
55	True Carib	Guiana	+	—	—	—	Carib	»
						G.M.S. 3-4		
56	Mundrucú	Río Tapajos	+	—	—	—	Tupi	»
60	Apiacá	»	+	—	—	—	»	»
61	Uítoto, Boro, Kara- honej) etc.	Río Putumayo and Río Yapurá	+	—	—	—	»	»
62	Chacobo	Bolivia	—	—	+	+	»	»
63	Yamíaca	Peru	R.M.Ch. 180	—	—	—	»	»
			R. M. 05-16.	—	—	—	»	»
			450	—	—	—	»	»
64	Huari	Matto Grosso	—	—	—	—	Arawak	»
65	Baure	Bolivia	+	—	+	+	Tupi	»
68	Omagua	Upper Amazonas	+	—	+	+	Arawak	»
69	Ipurina	Río Purus	—	—	+	+	Arawak	»
						G.M. 15-1-416		
75	Angaité	El Gran Chaco	—	—	+	+	Tupi	»
77	Tapirapé	Near Río Araguaya	—	—	+	+	Carib	»
79	Yekuaná	Río Merevari	—	—	+	+	Tupi	»
90	Acipoya, Curmahé	Between R. Xingú and Río Tapajos	+	—	—	—	Carib	»
94	Chiquitos	Bolivia	+	—	—	—	Tupi	»
97	Puri	Near Coast of Brazil	+	—	+	+	»	»
99	Cumanagoto	Coast of Venezuela	+	—	+	+	Carib	»
4A	Tauaré	Upper Río Purus	+	—	—	—	Arawak	»
7A	Achagua	Venezuela	—	—	+	+	Arawak	»

1) »Algunos pocos tienen pequeñas y estrechas hamacas de algodón que tejen, las que usan mas bien de asientos ó cuas para las criaturas que de camas.» AMBROSETTI (7) P. 697.

2) »Very small hammocks are made of one piece of bark tied at the ends with a rope. FARABEE, P. 29.

3) »Tous les Hamacs . . . qui se font depuis la Riviere des Amazones jusques à Orenoc sont de cotton.» See also H. TEN KATE, P. 106.

4) Carib.

Table 3.

The distribution of the hammock  
Map 3.

Number on the map.	Names of the tribes.	Cotton	Warp of cotton. Wool of bast.	Warp of palmfibres Wool of cotton.	Palmfi-bres or bast.		
1B	Ticuna	—	—	—	+		PATER SCHMIDT P. 1068.
7C	Itinama	+	—	—	—		PATER SCHMIDT; My own observations.
6E	Indians of	+	—	—	—		OVIEDO T. 2, P. 354.
1H	Wayanasses						KNIVET P. 1228.
2H	Indians	—	—	—	+		(TEXEIRA) P. 445.
6H	Pacaguara	—	—	—	+		ARMENTIA (2) P. 125.
7H	Indians	—	—	—	—		AGUADO (1) T. 1, P. 212.
8H	»	+	—	—	—		SIMON (1) P. 583.
4L	Caxinaná	+	—	—	—		RUTH HAEBLER P. 14, CA-PISTRANO DE ABREU P. 35.
6M	Toromona	+	—	—	—		RUTH HAEBLER. P. 14.
7M	Guashiguas	+	—	—	—		AGUADO (2) T. 1. P. 242.
9M	Schirianá	—	—	+	—		KOCH-GRÜNBERG (4) T. 1. P. 172.
1N	Waika	—	—	—	+		KOCH-GRÜNBERG (4) P. 201.
2N	Pauschiána	—	—	—	+	Arawak?	KOCH-GRÜNBERG (4) T. 1. P. 14.
3N	Uainuma	—	—	—	+	Carib	PATER SCHMIDT P. 1069.
4N	Yauaperi	—	—	—	+	Carib	PATER SCHMIDT P. 1069.
5N	Indians	—	—	—	+		O. COUDREAU P. 89.
6N	Indians	—	—	—	+		SIMON (2) T. 4. P. 26.
5P	Xarayes	+	—	—	—		NÚÑEZ CABEZA DE VACA T. 1. P. 300.
7P	Oyampi	+	—	—	—	Tupi	CREVAUX. P. 213;
1S	Mura	—	—	—	—		DREYER. SCHEFFER. D. 1068.



V3	Caripou	Yapoco, Guiana	—	—	+	BECHAMEL P. 172. <sup>1)</sup>
V8	Peba	Upper Amazonas	—	—	+	MOCQUET P. 81.
IV	Guaná (Arawaks)	Rio Paraguay	—	—	+	PATER SCHMIDT P. 1068. P. 1069.
6V	Guaná	El Gran Chaco	+	—	—	COMINGES P. 236.
XI	Yamamadi	Rio Purus	—	—	+	RUTH HAEBLER P. 14. Also of bark. PATER SCHMIDT P. 1070.
X4	Payaguá	Rio Paraguay	—	—	+	PATER SCHMIDT P. 1069.
8X	Warrau	Delta of Orrinoco	—	—	+	PLASSARD P. 591.
X	Yuruna	Rio Xingú	+	—	—	PATER SCHMIDT P. 1069.
47	Porokoto	Upper Xingú	+	—	—	" "
28	Asurinikim	Peru	+	—	—	" "
18	Incas	Peru	?	—	—	PIZARRO P. 379 <sup>3)</sup> XEREZ P. 89. <sup>4)</sup>
100	Arebato	Rio Caura	+	—	—	PATER SCHMIDT P. 1069.
101	Camacan-Mongoya	Coast of Brazil	+	—	—	" "
Not on the map	Cháma <sup>2)</sup>	Bolivia	—	—	—	" "
"	Uásmiri	Bolivia	—	—	—	" "
102	Guayupe	Llanos de Venezuela	—	—	+	PATER SCHMIDT P. 1069. AGUADO (I) T. I. P. 791.
103	Indians, Ancerna	Columbia	+	—	—	CIEZA DE LEON (I) P. 64. To carry the chiefs.
Not on the map	Yaro (Chana)	Rio Uruguay	—	—	—	SEPP P. 51.
8N	Zaparo	Ecuador	—	—	+	CASTRUCCI P. 34. KARSTEN.

1) Les Aroüagues les Araotes, et la pluspart des autres Nations, qui sont vers la riviere d'Orenoque font leurs lits de fil de Pite. See also H. TEN KATZ P. 106.

2) Among these Indians I found only one small hammock that they have got from some other tribe. The Cháma sleep on the floor with blankets of bark-cloth.

3) PEDRO PIZARRO says speaking of the principal woman: 'Traíanlas en hombros, unas en andas, otras en hamacas. Hamacas son unas mantas atadas en unas cañas muy gruesas de grosor de un brazo y mas, por muy buen arte puestas, y allí iban echadas las señoras con cobertores encima.'

4) 'Trátanle muchos indios sobre los hombros en alto y tras desta venían otras dos literas y dos hamacas.'

5) Also many other tribes in Mainas had hammocks of palmfibres. CHANTRE Y HERRERA P. 67.

I have not seen wooden boxes anywhere else, and scarcely think they are genuinely Indian. I shall return to the subject of baskets.

Except among the Chiriguano and the Chané, I have only seen the scales of the armadillo used as boxes among the Mataco, and there only as a curiosity. They are, however, known from the Guyaqui<sup>1)</sup>, from the Indians of Roraima<sup>2)</sup> and from Indians in N. W. Brazil<sup>3)</sup>. The sewn baskets of armadillo scales which are sold in the curiosity-shops of Buenos Aires probably hail from Paraguay, and it is not impossible that here, too, we have to do with an original Indian idea.

The fat of various animals which is used for healing is usually kept by the Chiriguano and Chané in shells, especially those of the *Borus oblongus*.

I shall return to the subject of calabashes.

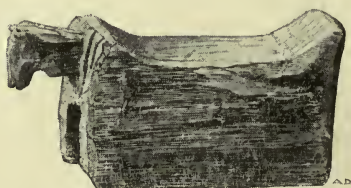


Fig. 3. Seat of wood from the Chiriguano. G. M. 15. 1. 178.  $\frac{1}{6}$



Fig. 4. Wooden hook. Chiriguano. R. M. E. 600.  $\frac{1}{6}$

1) KUNIKE fig. 15.

2) G. M.

3) KOCH-GRÜNBERG (2).

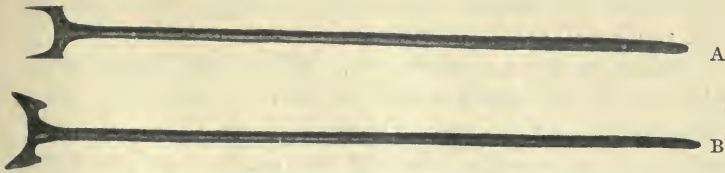


Fig. 5. Wooden handles to spades. Chiriguano.  
 $\frac{1}{15}$ . A = Private collection. B = R. M. E. 680.

### III.

## Tillage and tillage implements.

Vegetable food is of great importance to the majority of Indians. This is most specially so with the Chiriguano and Chané. To the former, as well as to those of the latter tribe who dwell on the Rio Itiyuro, maize is of extraordinary importance. The Chiriguano and Chané belong to WISSLER'S »maize-area» or »area of intensive agriculture». WISSLER divides S. America into three great food areas: area of intensive agriculture, manioc area, and guanaco area. Another division would be more correct, viz. —

- 1) Area of intensive agriculture.
- 2) Area of manioc and fishing.
- 3) Area of wild seeds and fishing. El Gran Chaco.
- 4) Guanaco area.

There will, of course, be in addition a number of small areas with special conditions of life, as in the extreme south of S. America.

The Chiriguano grow 11 kinds of maize<sup>1)</sup>, 11 varieties of beans<sup>1)</sup>, 12 kinds of calabashes<sup>1)</sup>, of which 5 are edible, sweet potatoes, mandioca, sugar-cane, mani, urucu, tobacco,

<sup>1)</sup> According to NINO Pp. 241 . . . .

water-melons, melons, figs, tuna<sup>1)</sup>, oranges, cotton, millet, and reeds for arrow-shafts.

Bananas are not cultivated. Among the Chané at the Rio Parapiti the sweet-potato is the most important cultivated plant. Of the plants mentioned, the sugar-cane, the melon, the watermelon, the fig, the orange and the millet are not American. All those cultivated plants which have been introduced by Europeans are of slight importance to the Indians. I have never seen mandioca cultivated, but I have heard that it is to be met with in the fields of these Indians. As a staple food of the people it is of no importance here.

Iron spades bought from the Whites are the tools employed nowadays. Very occasionally one still sees wooden spades. In Part I I have published a map of the geographical distribution of the spade.

The spade in S. America is evidently a western element of culture, i. e. the idea of fitting on a more or less broad blade to the lower part of the digging-stick is plainly derived from the western area of civilization.

Whence the Chiriguano got the idea of the shapely handles I do not know. They are too shapely for the art to have been derived from the Whites. They have obviously a long evolution behind them, and it is very probable that they had their origin in the Mountain area of civilization.

Hoes with iron blades occur. The Indians have got them from the Whites. I have not seen any primitive hoes, although we are here on the border of the area of distribution of the genuine American hoe<sup>2)</sup>.

The Chiriguano and Chané use a small implement for removing the corn from the corn-cobs which I have described in Part I. P. 32.

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1) OPUNTIA.

2) It is incorrect to affirm, as WISSLER does, (P. 27) that the hoe was unknown in S. America. Incas had hoes and they are found still among the Quichua.

## IV.

## Hunting Equipment.

The Chiriguano and the Chané are not keen huntsmen. They are rarely seen out hunting. Their hunting-weapons are the bow and arrow, the pellet-bow, clubs, slings, and snares, all of their own manufacture. The Chiriguano have bird-nets too, and formerly they had the bola as well. The Chiriguano and the Chané have no weapons exclusively used in warfare. Formerly they had lances<sup>1)</sup>.

The bow and arrow are going quite out of use among these Indians except for fishing and as a weapon for boys. The degenerate type of bow now seen among the Chané and Chiriguano is certainly not original. According to LIZARRAGA<sup>2)</sup> the Chiriguano used to have bows of a man's height. It is of great interest to learn from LIZARRAGA that the Chiriguano used to protect their left wrist with a small piece of wood to prevent the skin being grazed by the bow-string. Something similar occurs among the Ashluslay (see Part I. P. 42).

Their arrows are very like those used by the Choroti and Ashluslay. The arrow shafts are of the same kind of reed<sup>3)</sup>. At the Rio Parapiti this plant, which grows abundantly beside the Rio Pilcomayo is cultivated by the Indians. On the Rio Parapiti there is a place called Ouivarenda, which means »where there is chuchio.» This plant, the *Gynerium* sp. whose seed-stalks so many Indian tribes use

<sup>1)</sup> CHOMÉ P. 331.

<sup>2)</sup> P. 328. »Andan desnudos y quando mucho qual ó qual tiene una camiseta hasta el ombligo; . . . son grandes flecheros; sus armas son arco y flecha; el arco tan grande como el mismo que lo tira, y porque la cuerda no lastime la mano izquierda, en la muñeca encajan un trocillo de madera y allí da la cuerda».

<sup>3)</sup> *Arundo donax*.

for arrow shafts has been completely destroyed by cattle along the Rio Parapiti. Formerly the Chané made the shafts for their arrows of »chuchio».

The arrow points are made of hard wood and sometimes of iron. Arrows with several tips are used for fishing and sometimes also for shooting birds. Arrow-tips made of cactus spikes are used by some Chiriguano for fishing. Some characteristic types of arrows are depicted here (fig. 6). Some arrows are feathered to guide the flight. The feathers are fixed in the way that MEYER calls »Peruvian cemented feathering». The feathers are quite small as on Chaco arrows generally. Arrows with thickened heads (bird arrows) are very common. Some of them have the shape we see depicted here (fig. 6 E). This type does not occur among any of the other tribes I got to know during my travels, but they are common among several peoples living in the east, e. g. the Caingúa, Guató, and Bororó, and in the northern part of S. America, among the Trio, Guahibo and others. They have most likely been introduced here by the Chiriguano. It is not probable that they have come from the Arawaks for, as a rule, they do not use blunt bird-arrows. In Part I I have published a map (No. 3) showing the distribution of the bird-arrow in S. America. Later on I will deal with arrows particularly used for fishing. The Chiriguano and Chané sometimes use a special kind of bast to bind round the arrow where the point is inserted in the shaft. The same kind of bast is not met with among the Choroti and Ashluslay or among the other Chaco tribes I have got to know. It occurs, however, among the Caingúa.

In part I I have already published a map showing the distribution of the sling in S. America. I have nothing to add to this which cannot be seen in the subjoined drawings (fig. 7).

The pellet-bow is rather common among the Chiriguano and also among the Chané. It is chiefly used by boys and youths. I wish here to make a few additions to what I have said about the pellet-bow in Part I.

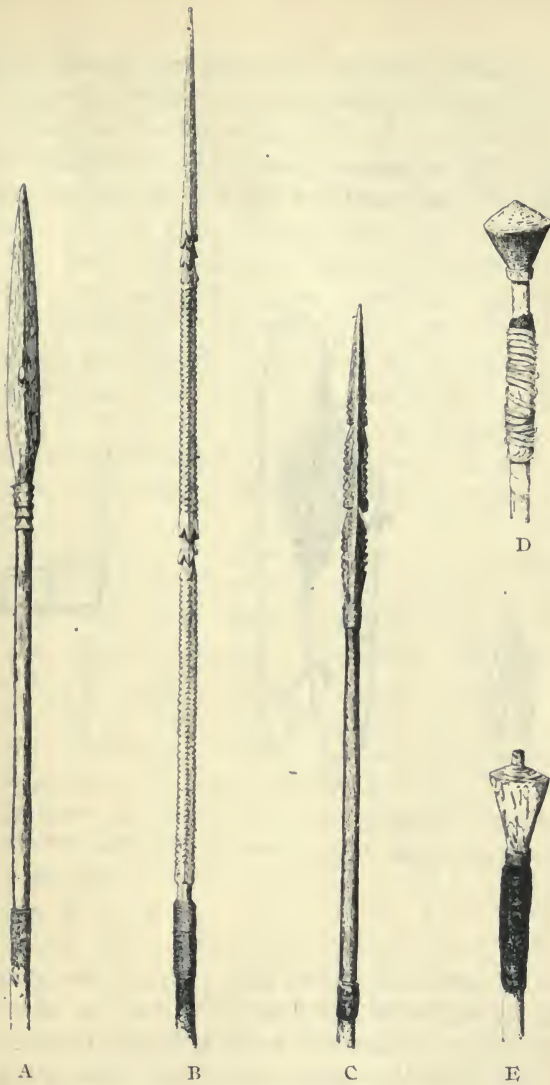


FIG. 6. Types of arrows from the Chiriguano and Chané. Shafts of reed, points of wood.  $\frac{1}{4}$ .

A = Chané, Rio Itiyuro. R. M. H. 61. B = Chiriguano. R. M. E. 655.

C = Chané, Rio Itiyuro. R. M. H. 36. D = Chiriguano. R. M. E. 620.

E = Chiriguano. R. M. E. 622.

In a weighty article E. VON ROSEN (3) has criticised my opinion that the pellet-bow was possibly brought from India to S. America by Portuguese sailors in post-Columbian times. He is quite correct in the statement that the thick part in the middle of the bow is not for strength-

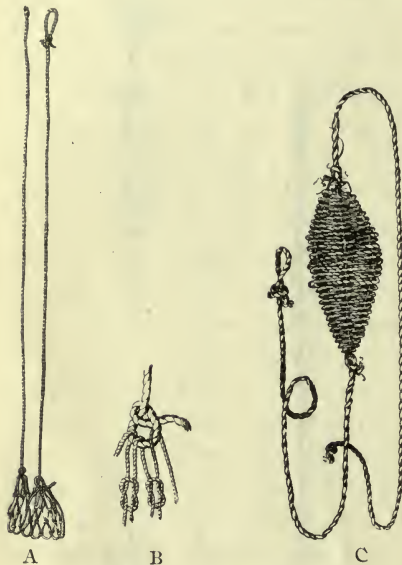


Fig. 7. Slings.

A = Chané, Rio Parapiti.  $\frac{1}{12}$ . R. M.

P. 293.

B = Detail of A.  $\frac{1}{3}$ .

C = Chiriguano.  $\frac{1}{5}$ . R. M. E. 168.

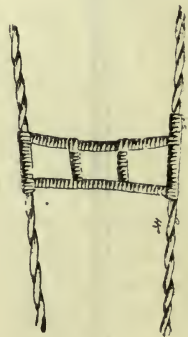


Fig. 8. Detail of pellet-bow. Rest for the pellet.

Chiriguano.

R. M. E. 591  $\frac{1}{2}$ .

ening but is merely for better grip. This holds concerning both the Asiatic pellet-bows and some of the American. This contrivance is practical but not indispensable. It is certainly not little toy-bows alone that have not got it. It is quite wanting on the pellet-bows of the Choroti, Ashluslay, Tapiete, Mataco and Yuracáre. Presuming that the pellet-bow in S. America is of Asiatic origin, it is evident that the Indians who first learnt the use of the pellet-bow



from the Portuguese have kept its Asiatic shape, while the tribes that received it later have made pellet-bows more like their usual bows.

VON ROSEN puts forward the supposition that the S. American pellet-bow may be an imitation of the European crossbow. This is supported by the fact that the pellet-rests on some S. American pellet-bows (fig. 8) and the pellet-rests on some European crossbows are very similar. This similarity is extremely noteworthy. Still, I deem it unlikely that Indians should have hit on the use of pellet-bows because they had seen Portuguese crossbows — especially as I am not aware that the Portuguese in S. America used bullets for their crossbows. In any case the pellet-bow in S. America would be a post-Columbian culture-element.

It is quite true that some Indians, e. g. the Choroti and Ashluslay have their own words for pellet-bow. But it is a common thing for some Indian tribes to have coined words to denote objects introduced by Europeans. On the other hand, it never happens that the Indians that still speak their own language lack native words for objects which are plainly pre-Columbian with them. It is therefore of primary importance for the settlement of the question as to whether the pellet-bow was introduced in post-Columbian times to note the fact that several tribes lack native words for the pellet-bow, calling it »bodoque». <sup>1)</sup>

The Chané call it »boroque». I am not acquainted with any Chiriguano name for it. A circumstance that speaks in favour of the pellet-bow being a post-Columbian culture-element is the fact that these bows are unknown in Peru, in Central America, and in Mexico, that is to say, in the cultural zones proper. There are not many of the elaborate culture-elements in S. America that have been unknown to

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<sup>1)</sup> From the Portuguese.

the most civilized tribes and only known to the tribes east of the Andes. This applies especially to those cultural elements that are of little or no importance in the struggle for existence. The pellet-bow is the only weapon of any importance which, as far as is known, was unknown in all the seats of higher civilization in America. If the pellet-bow is an original American invention, it must have been invented by a comparatively uncivilized tribe.

The pellet-bow is nowhere in S. America of any great importance as a hunting weapon. The heavy hand of necessity has never spurred the Indians into making an invention of this kind.

FRIEDERICI has pointed out to me in a letter that in MARTYR »De orbe novo» there is a statement about bows from the coast of Venezuela used by boys for shooting with pellets of clay or wax. This is plainly the same statement as GOMARA'S that I quoted in Part I. MARTYR'S statement is in the Eighth Decade, where he complains, that his memory was beginning to fail him. I believe there must be some misapprehension on MARTYR'S part, and that the pellets in question were arrows with thickened heads of wax or wood. MARTYR cannot refer to pellets thrown by hand, as he plainly speaks of bows. It is not likely that wax pellets were used for clay pellet-bows, but, on the other hand, it is not at all unusual that arrows used in play should have thickened wax heads. Arrows of this kind have been brought from the Ijca in Colombia by BOLINDER. The pellet-bow is mentioned neither by missionaries nor by any modern authors as occurring in Venezuela or any other part of northern S. America. It is extremely unlikely that this desirable toy weapon should have existed there at the beginning of the 15th century and then entirely vanished. Such an isolated occurrence would be most peculiar and unusual.

The clubs (fig.9) that I have seen among the Chiriguano and Chané have not always clearly defined heads like those

of the Choroti and Ashluslay. As far as I know they are only used for hunting peccary. These animals are brought to bay by dogs and killed with clubs. I do not venture to say where this most primitive kind of club originated.



Fig. 9.



Fig. 11.

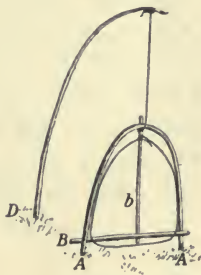


Fig. 12.



Fig. 10.

- Fig. 9. Club of hard wood. Chiriguano. R. M. E. 580.  $\frac{1}{8}$ .  
 » 10. Parrot-snare. Chané, Rio Parapiti. R. M. P.  $\frac{1}{11}$ .  
 » 11. Parrot-snare made of a piece of twine and a feather. The specimen depicted is from the Tapiete. R. M. L. 267.  $\frac{1}{2}$ .  
 » 12. Snare. Chané, Rio Itiyuro.

At least three kinds of bird snares are used. One is a snare fixed onto a long rod (fig. 10).

It is used in the following way: A tame parrot is tied to a thick bush in which the hunter is concealed. When the wild parrots, which have been decoyed by the confined parrot, settle in the bush, they are snared by the Indian hidden there. I have seen similar rod-snares among the Chané and the Tapiete. According to GUMILLA<sup>1)</sup> snares of this kind were used for quail-hunting on the Llanos de Casanàre, in Chìre and Tocaria, at Neyva and Vaguè and at the Rio Tercero between Buenos Aires and Tucumau.

According to GUMILLA, HERRERA<sup>2)</sup> speaks of these snares being used in hunting parrots in Cuba. According to MARTIUS<sup>3)</sup> Indian boys in Brazil used these snares. Unfortunately he does not mention in what tribe or tribes he saw them. De PAULA SOUZA<sup>4)</sup> speaks of the same kind of snare from the Caingang, VASCONCELLOS<sup>5)</sup> from Indians on the Brazilian coast, and AMBROSETTI from the Cainguá<sup>6)</sup>.

Another bird snare found among the Chané is the one depicted here (fig. 12). Snares constructed on the same or a similar principle I have seen among the Choroti. KOCH-GRÜNBERG<sup>7)</sup> depicts similar snares, in use among the Indians by the Rio Caiarý in northwestern Brazil, and AMBROSETTI from the Cainguá<sup>8)</sup>. It is certain that similar snares are found among many other Indians, though they have not been studied particularly. As I have already mentioned in the first part of this book I will in time describe what I have collected in the way of snares and traps during

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1) T. 2, P. 299.

2) Decada I, lib. 9, cap. 4.

3) (1) P. 669.

4) P. 744.

5) P. LXXVIII.

6) (7) P. 728.

7) (2) Vol. I, p. 227.

8) (7) P. 730.



Map. 4. The distribution of the hunting net.

my travels. Though rather an extensive collection, it is quite insufficient for comparative researches.

The bird-nets used for hunting, occasionally found among (4) the Chiriguano, are of great interest (fig. 13 and map 4). I have not seen hunting nets elsewhere. Bird-nets are mentioned by several writers from the Alakaluf. These Indians and the Chonos were also acquainted with seal-nets. The statements in literature about these nets are to be found in COOPER's<sup>1)</sup> excellent work. CREVAUX speaks of hunting nets from (4S) the Miraña<sup>2)</sup>. UHLE<sup>3)</sup> mentions finds of the kind in Atacama. JOYCE<sup>4)</sup> speaks of nets that were used for hunting deer and birds on the coast of Peru. He depicts a very interesting earthenware vessel found at Trujillo representing a deer-hunt in which the huntsmen used the throwing stick and the hunting net. COBO<sup>5)</sup> speaks of bird-nets from the Inca. PALOMINO<sup>6)</sup> mentions nets used for deer-hunting from Chuquimayo in northern Peru. Hunting-nets are also mentioned by ORTIGUERA<sup>7)</sup> and by the author of *Jornada de Omagua y Dorado*<sup>8)</sup> from the Aruaquinos on the Amazon. From what OVIEDO Y VALDES<sup>9)</sup> says, the Indians also used hunting nets on the Rio Orinoco. GOMARA<sup>10)</sup> mentions nets from Cumaná in which ant-eaters were caught.

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1) P. 190.

2) After DENIKER (2) P. 640. «Quoique vivant sur les bords de rivières poissonneuses, ils ne pêchent point et se bornent à chasser comme les anciens Quichua à l'aide de filets tendus entre les arbres, dans lesquels ils poussent, à force de cris et de gestes, les bêtes effarouchées.»

3) (5) P. 109.

4) (1) P. 124.

5) T. 4, P. 225.

6) P. XLVIII.

7) P. 370.

8) P. 448.

9) T. 2, P. 221. «Toman codornices y conexas y tórtolas en mucha cantidad con lazos y redes: assi tambien zorras y raposos, como muchos puercos salvajes de los que llaman *vaquiras*.»

10) P. 206.

SUAREZ DE CEPEDA<sup>1)</sup> in his most interesting treatise on the Colima-Indians in Columbia, tells us that they tried to catch comets, which they imagined to be birds, with nets which they placed in their fields. This seems to prove that these Indians knew the use of bird nets. CASTELLANOS<sup>2)</sup> states that the Indians in the valley of the Patia (in southern Columbia) tried to catch the Spaniards' horses with nets. Most all of these authors who speak of the hunting net belong to the sixteenth century. This should give those who are doing work like mine some food for reflection. It proves how perfectly indispensable this old literature is as a means of learning the ethnology of the S. American Indians. *How imperfect a map of this kind would have been without the old literature!* One may ask why hunting nets are so scarce now. This is apparently owing to the fact that in most places where hunting nets have been in use the Indians have lost their original civilization. The above authors not having given us a detailed description of the nets, we do not know if they resemble those used by the Chiriguano. We are not even always told what was caught in these hunting nets.

The deer-nets used on the Peruvian coast were of course considerably larger than the nets used here. Their shape also was quite different. The Chiriguano nets are clap-nets and are used in the following way. The net is spread on the ground at a spot where there are plenty of pigeons. The pigeons are decoyed with maize to settle between the two halves of the net. A string runs from the net to a fowler

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<sup>1)</sup> P. 517. »Los rrayos que se estienden y esparcen de la cola ó cabeça de la cometa dizen que son plumas y pelos del paxaro que yendo bolando las vá despidiendo para fin de las cosas que viene á acabar: y para mitigar y rregalar la yra de la furia atajando por algun buen medio . . . . y en sus labranças arman unas rredes de hilo muy de proposito estas dizen que son para enrredar y caçar en ellas la pobre cometa.»

<sup>2)</sup> P. 457.

hidden behind a bush or the like. With a pull of the string the man makes the net fall upon the maize-eating pigeons.

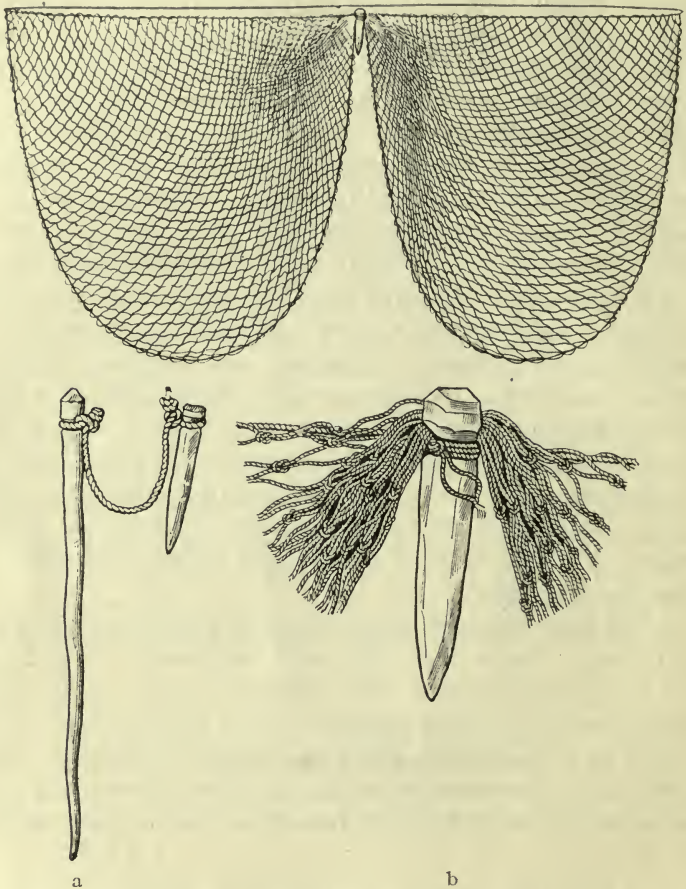


Fig. 13. Bird-net. Chiriguano. Caipipendi. R. M. E. 606.  
Breadth = 385 cm.

a = Sticks fixed at sides of bird net.  $\frac{1}{12}$ . b = Middle part of bird net.  $\frac{1}{4}$ .

Deer nets were stretched between poles, as is plainly seen in the picture on the vessel reproduced by JOYCE. The nets mentioned by GOMARA from Cumaná as well as those



used by the Colima Indians to catch the »Comet-bird« were obviously also fixed nets.

We cannot prove that the different kinds of hunting-nets are of the same origin. Judging by the general distribution of the hunting-net in S. America, it is, however, likely that the Chiriguano learnt their use from the western culture zone. As has already been mentioned, COBO says that bird-nets occurred among the Inca.

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## V.

## Fishing tackle.

Three methods of fishing are known to the Chiriguano and Chané with, moreover, a northerly distribution. These methods are the use of the fish-spear or fishgig, the use of many pointed arrows, and fishing with poison.

I have not seen the fishspear among the Chiriguano. ERIC VON ROSEN<sup>1)</sup>, however, depicts one from this tribe which is preserved in the Riksmuseum in Stockholm. Something like it from these Indians is mentioned by ACOSTA<sup>2)</sup>.

The Guarayú<sup>3)</sup> spear eels with two single-pointed spears of «chonta». According to EDER<sup>4)</sup> the Mojo used fish-spears with three points. They did their spearing by torchlight and fixed the torches in the prow of their canoes. According to FREIREISS<sup>5)</sup> the Coroados had double-pointed fish-spears. KOCH-GRÜNBERG<sup>6)</sup> mentions triple-pointed fish-gigs from the Huhúteni and other Indians in northwestern Brazil. The Indians in the northwest of Brazil also fish by torchlight. The Indians at Lago Titicaca<sup>7)</sup> use triple-point-

1) (1) Pl. XIV.

2) T. I, P. 236 «Otro género de pesca ví, á que me llevó el Virey Don Francisco de Toledo; verdad es, que no era en mar, sino en un rio, que llaman el Rio Grande, en la Provincia de los Charcas, donde unos Chiriguano se zabullian debajo del agua, y nadando con admirable presteza seguían los peces, y con unas fiscas, ó harpones que llevaban en la mano derecha, nadando solo con la izquierda herían el pescado, y así atrevesado lo sacaban arriba, que cierto parecían ellos ser mas peces, que hombres de la tierra.»

3) NORDENSKIÖLD (9) P. 177.

4) P. 301.

5) P. 271.

6) (2) T. 2, P. 34, Fig. 9. See also WHIFFEN P. 113.

7) NEVEU-LEMAIRE P. 75.

ed poles *that are used both as fish spears and to punt their rafts along.*

It is not unlikely at all that it is the multi-pointed pole which has suggested the fish spear. These poles are multi-pointed in order that they may be used in swamps, to punt their canoes along. It was natural that the Indians should try with these poles to have a thrust at any fish they might see. Then, if they migrated to a district where many-pointed poles were no longer needed, these poles lived on as fishspears.

As I have already mentioned the Chiriguano shoot fish with a bow and arrow. For this purpose they sometimes, though not always, use many-pointed arrows. I have seen two different types which are depicted here (fig. 15). One has two wooden points, the other which was used at Rio Parapiti for shooting small fish, has many points of cactus spikes. Two or three-pointed arrows used for shooting fish are spread in South America chiefly in the water region of the Amazon, as indicated on map 5 and table 4.

I have not visited any Chané who live where they are able to use this method of fishing. Among the arrows in my collection there are no multipointed ones that came from them.

As seen from map 5 and table 4, the many-pointed fish-arrow seems to be a cultural element that came to the Chiriguano from the north part of S. America, most likely from Mojos. I have seen the harpoon arrow neither among the Chiriguano nor the Chané.

*Table 4.*

*The following tribes use multi-pointed fishing-arrows. Map 5.*

- 4. Chiriguano, Fig. 15. Two or many points.
- 31. Trio, GOEJE (1) Pl. V. Fig. 9. Three-pointed.
- 33. Campa, THERESE V. BAYERN (2) Vol. 2, Pl. 1,7  
Four-pointed.

41. Pauserna, Two-pointed.  
 43. Huanyam, Three-pointed.  
 47 a. Patamona, THULIN G. M. Three-pointed.  
 48. Indians Northwestern Brazil, KOCH-GRÜNBERG (2) T. 2. P. 230. Two-pointed.  
 Not on the map Schakaja—Rio Orinoco. RATZEL Vol. I. Pl. 24. Three-pointed.  
 55. Indians, coast of Guiana. STEDMAN T. 2, P. 109; BARRERE P. 169; QUANDT. Fig. 6. Three to five pointed.  
 63. Yamiaca, Four-pointed. For bird-shooting. Probably also used for fishing.  
 64. Huari, Two or three-pointed. Nambicuara, ROQUETTE-PINTO (2) P. 184. Two, three and four-pointed.  
 70. Piro, Upper Rio Purus. KOCH-GRÜNBERG, Communicated by letter.  
 V3. Caripou, MOCQUET Fig. CC. Three-pointed.  
 6X. Tambopata-Guarayo. Three-pointed.  
 2M. Wapisiana. FARABEE Fig. 13. Three-pointed.

I have not seen these Indians fish with poison. At the Upper Rio Pilcomayo, however, I heard in 1913 that the Chiriguano know how to poison the water with a certain kind of bark as a means of catching fish. A great number of plants are used by S. American Indians for this purpose, particularly in the basin of the Amazon.<sup>1)</sup> On the map and table, I have endeavoured in some measure to elucidate the distribution of this fishing-method. Curiously enough KARL V. D. STEINEN did not see this method of fishing among the Indians tribes at the upper Rio Xingú.<sup>2)</sup> I have neither seen it myself nor heard of it among the Indians in El Gran Chaco. Nor does MAX SCHMIDT mention fishing with poison from the Guató.

<sup>1)</sup> See further KOCH-GRÜNBERG (2) T. 2.

<sup>2)</sup> (3) P. 235.



Map. 5. The distribution of the multi-pointed fishing arrow.

## Table 5.

*Fishing with poison. Map 6.*

- 4. Chiriguano.
- 10. Araucanians, MOLINA P. 188; GUEVARA (1) P. 90.
- 13. Karajá, KRAUSE P. 250.
- 15. Kayapó, KRAUSE P. 386.
- 18. Quichua, COBO T. 4. P. 227.
- 21. Caingúa, AMBROSETTI (7) P. 728.
- 23. Churápa.
- 24. Chimáne.
- 25. Mojo, EDER P. 303—304.
- 30. Guyaqui, AMBROSETTI (7) P. 728.
- 31. Roukouyennes, CREVAUX. P. 287, 289.
- 33. Campa, GRANDIDIER P. 142.
- 34. Jivaro, RIVET (1) P. 57.
- 37. Motilon, BOLINDER (2) P. 36.
- 38. Tupi, VASCONCELLOS P. LXXVIII.
- 40. Guarayú, In the missions.
- 45. Botocud-Indians, WIED P. 31.
- 47. Patamona, THULIN; Wapisiana, FARABEE P. 59.
- 48. Indians northwestern Brazil, KOCH-GRÜNBERG (2) T. 2. P. 48. with literature.
- 49. Araona, ARMENTIA (2) P. 141.
- 51. Siriono, HERZOG P. 79.
- 55. Indians Coast of Guiana, BIET P. 358; STEDMAN T. 2. P. 119.
- 58. Cavina, Tumupasa, cultivate plants for their poison.
- 61. Indians Rio Yapurá and Rio Iça, WHIFFEN P. 113.
- 62. Chacobo.
- 74. Tamanaco, GILIJ. P. 325.
- 77. Tapirapé, KRAUSE P. 407.
- 79. Guinau and Yekuaná, Phot. KOCH-GRÜNBERG.
- 90. Chipaya and Curuahé, SNETHLAGE P. 77.
- 94. Chiquitos, FERNANDEZ P. 46.
- 99. Cumanagoto, CAULIN, P. 90.

- 6 P. Aguaruna, QUINTANILLA P. 79; HABICH P. 172.  
 IX. Colorado, RIVET (3) P. 57.  
 IC. Paez, URICOECHEA (2) P. 77.  
 7 F. Half civilized Indians, Lower Tapajos, BATES P. 200.  
 4 L. Caxinauá, ABREU P. 36.  
 7 S. Arawaks, IM THURN P. 234.  
 8 S. Indians Orinoco, GUMILLA T. I, P. 322.  
 9 S. Maynas, CHANTRE Y HERRERA P. 106; SAABEDRA P. CXLVII.  
 1 T. Leco, WEDDEL P. 448.  
 2 T. Indians at Schapaja, near Moyobamba, HERNDON P. 165.  
 3 T. Acoqua, Oyapoc, Guiana, FAUQUE P. 318.  
 4 T. Indians Rio Ucayali, CASTELNAU Vol. 4. P. 446—447.  
 X 7. Indians Rio Amazonas, ACUÑA P. 71.  
 I Indians Paraguay, DOBRIZHOFFER T. I, P. 344.  
 104. » Rio Casanare, RIVERO P. 8<sup>1</sup>).  
 105. » Rio Negro, RIBEIRO DE SAMPAYO. P. 21<sup>1</sup>).

The Chiriguano and the Chané fish with dip-nets both in the Rio Parapiti and in the Rio Pilcomayo. Those used in the Rio Parapiti are small and the meshes fine, as only small fish occur there. They seem to be dwarfed specimens of the big nets used in the Rio Pilcomayo. I know too little about the distribution of different types of nets in S. America to try to show their geographical distribution. Dip-nets like those used by the Chiriguano and Chané I have only seen among the Choroti, Ashluslay, Mataco, Toba and Tapiete.

On the Upper Rio Pilcomayo the Chiriguano build great dams of stone in which they catch fish when the fish are making their way up the river. Such damming contrivances are also mentioned by CORNEJO<sup>2</sup>) from the Chiriguano

1) After FRIEDERICI. Communicated by letters.

2). P. 66.

who dwelt on the Upper Rio Bermejo beyond Centa. The Figure 14 shows us the construction of one of these dams. NINO<sup>1)</sup> speaks of a large kind of trap, the »pari», used by the Chiriguano. I have not come across any of them in my travels. The Caingang<sup>2)</sup> call big traps »pari», as do also the Apiacá<sup>3)</sup>.

I have seen the Chané at Rio Itiyuro fishing with calabashes and also employing the method of making dams.<sup>4)</sup> Fishing with calabashes proceeds as follows: A number of leafy boughs are stuck into the bottom of the stream to form a shadow and in front of each one of them a calabash containing sour ground maize offal from the chicha brewing is placed. The fish enter the calabash, which is emptied now and then by the women. I have not seen this method of fishing in any other place.

The Chiriguano and Chané also fish with hooks which they now get from the Whites. They use neither floats nor sinkers.

Among present-day Indians I have seen an original fishhook from the Tambopata-Guarayo. That the fishhook in S. America is of pre-Columbian origin is known by the numerous finds of fish-hooks on the coast of Peru and Chili made by UHLE and others. Among the Chiriguano the fish-hook is certainly also a pre-Columbian cultural element. This is apparent from the fact that they, as well as the Tupi Indians on the coast of Brazil, call the fish-hook »Pinda», which word is plainly identical with the Quichua or Incan name for fish-hook, »Pinta». From this it appears that the Chiriguano and Chané probably learned the use of fish-hooks from the western region of civilization.

It is also known that the first Conquistadores brought fish-hooks for barter, so it is most likely that many Indian

1) P. 251.

2) AMBROSETTI (I) P. 338.

3) FLORENCE P. 276.

4) See NORDENSKIÖLD (8 a) P. 171.





Map. 6. The distribution of fishing with poison.

tribes have learnt this method of fishing from the whites. As mentioned above, I consider the fish-hook I found among the 'Tambopata - Guarayo<sup>1)</sup> to be of original Indian type. Something similar is also mentioned by FIGUEROA from the Mainas<sup>2)</sup>. Fish-hooks of bone occur among the Indians at the Rio Napo. The Uitoto use hooks of wood or palm-spikes.<sup>3)</sup> In rivers where the palometas (*Serrosalmo*) occurs, fishing with hooks of an inferior material is almost impossible, as these voracious fish bite through a hook with their sharp teeth as easily as they would a line.

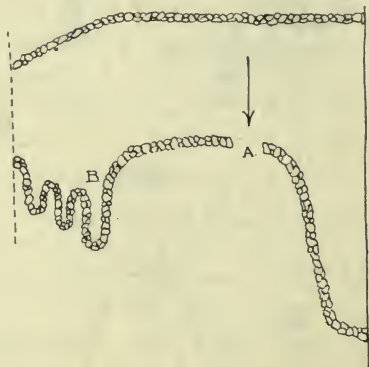


Fig. 14. Dam of stone from the Upper Rio, Pilcomayo.

A = Entrance. B = Pocket where the fish are caught.

The Chiriguano on the Rio Pilcomayo use a wooden needle with a line to pull up fish that they have caught. Such needles are also known from the Choroti, Ashluslay, Toba, Mataco and Lengua.

<sup>1)</sup> (2) Fig. 35.

<sup>2)</sup> P. 208.

<sup>3)</sup> WHIFFEN P. 112. (See also WALLACE P. 351.)

In the following table I have endeavoured to show the distribution of different methods of fishing that I have seen among the Indian tribes visited by me.

Table 6.

*Methods of Fishing.*

	Bow and arrows	Fish spear	Dip-net	Basket Cayu- baba-type <sup>1)</sup>	Poison	Hook of own make	Net	»Pari» <sup>2)</sup>	Damming of rivers <sup>3)</sup>	Harpoon arrows	Many pointed arrows
Ashluslay .....	+	-	+	+	-	-	-	-	+	-	-
Aymara .....	-	-	-	-	-	-	+	-	-	-	-
Atsahvaca .....	+	-	-	-	-	-	-	-	-	-	-
Cavina .....	-	-	-	-	+	-	-	-	-	-	-
Cayubaba .....	+	-	-	+	-	-	-	-	-	-	-
Chacobo .....	+	-	-	-	+	-	-	-	-	-	-
Cháma .....	+	-	-	-	-	-	-	-	-	-	-
Chané .....	-	-	+	-	-	-	-	-	+	-	-
Chimáne .....	+	-	-	-	+	-	-	-	-	-	-
Chiriguano .....	+	+	+	-	+	-	+	+	-	-	+
Choroti .....	+	-	+	-	-	-	-	+	-	-	-
Churapá .....	+	-	-	-	+	-	-	-	-	-	-
Guarayú (Mission) ....	+	+	+	-	+	-	-	-	-	-	-
» Pauserna .....	+	-	-	-	-	-	-	-	-	-	+
Huanyam .....	+	-	-	-	-	-	-	+	+	-	+
Huari .....	+	-	-	-	-	-	-	-	-	-	+
Mataco .....	+	-	+	-	-	-	-	-	+	-	-
Siriono .....	-	-	-	-	+	-	-	-	-	-	-
Tambopata-Guarayo ..	+	-	-	-	-	+	-	-	-	-	+
Tapiete .....	+	-	+	-	-	-	-	-	+	-	-
Toba .....	+	-	+	-	-	-	-	-	+	-	-
Yamiaca .....	+	-	-	-	-	-	+	-	-	+	+
Yuracaré .....	+	-	+	-	-	-	-	-	-	+	-

The Chiriguano and Chané, with the exception of those who live at the Rio Pilcomayo, give the impression of being fishermen without any water to fish in. When there are

1) See Part I. P. 59.

2) Of different kinds.

plenty of fish in the Pilcomayo, there is a great trade in dried fish in that part of the country. The Indians tramp long distances in order to fish or get fish by barter.<sup>1)</sup> In places where the fish are so small that they rarely exceed the length of a finger, as in Rio Itiyuro, the fishing, done by women and children, still forms no small part of the diet of the people<sup>2)</sup>. It is not surprising that the Chiriguano and Chané are eager fishermen, for no doubt both tribes come from well-watered tracts of the country where fish is abundant.

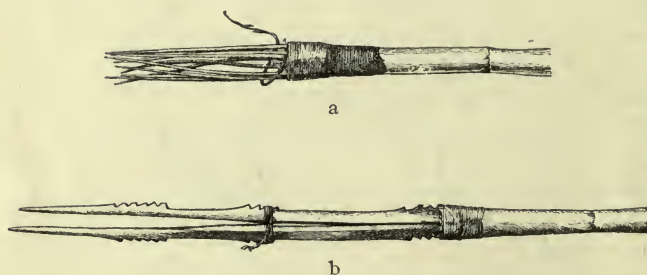


Fig. 15. Points of arrows for fishing. Chiriguano.

a = R. M. E. 618.  $\frac{1}{4}$ ; b = R. M. E. 627.  $\frac{1}{4}$

<sup>1)</sup> Padre BERNARDINO DE NIÑO says, P. 251: «Del pescado es muy deseoso, mas no todas las tribus lo tienen cerca, éstas, cuando saben que en las orillas de los grandes ríos hay en abundancia, caminan hasta ciento cincuenta kilómetros para hacer el cambalache: llevan maíz ó harina y la cambian por pescado.»

<sup>2)</sup> This is where they got their very clean habits and their eagerness to bath every day.

## VI.

## Domestic Animals.

Apart from the dog, the Chiriguano and Chané keep only European domestic animals. There is now no genuinely Indian breed of dogs here. Cattle-breeding is of some importance in certain parts, especially in the Caipipendi valley. Milking the cows is not understood. Some of these Indians keep large numbers of sheep and the women spin the wool and weave woollen stuffs. It is not known if they had wool in the pre-Columbian period, as it has not been ascertained whether these Indians kept llamas or not. Poultry are of great importance to the Chiriguano and Chané. The Indians in South-America were exceedingly quick to learn the art of poultry-keeping, thus, when CABOT touched the south coast of Brazil in 1526, he got plenty of hens from the Indians by barter.<sup>1)</sup> The Chiriguano and Chané have but few horses. They are not nearly such good equestrians as, for instance the Toba.

I have in my collection a riding whip stock made by the Chané. DEL CAMPANA depicts a very primitive saddle from the Chiriguano. I have seen similar saddles among the Toba Indians.

When these Indians acquired the European domestic animals, the chase must have lost in importance for them. They obtained their meat in another way. The possession of cattle compelled them to enclose their tilled ground, or to have it far removed from the pastures.

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<sup>1)</sup> MEDINA (2) T. I, P. 438.

## VII.

**Tools.**

With the exception of bone awls the Chiriguano Indians of to-day have no genuinely Indian tools. Bone awls which I have already dealt with in part I very rarely occur among the Chiriguano. I omitted to mention this in the German edition of Part I.

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## VIII.

**Fire-making.**

Once only have I seen a Chiriguano Indian making fire by wood friction. He had forgotten his matches. Flint-and-steel are also seldom seen among these Indians now-a-days. In my collection there is a cotton-plaiting, in a wooden pocket from the Chiriguano. The Indians use such for tinder when striking fire with flint and steel. The idea of this was of course obtained from the Whites.

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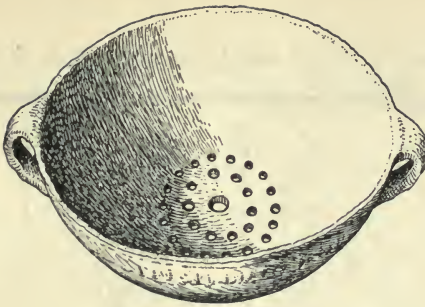


Fig. 16 a. Upper part of the steaming apparatus, The specimen given here is from the Mataco-Vejos, who learnt to use it from the Chané.

R. M. M. 1022.

## IX.

### Utensils used in preparing and consuming food.

The Chiriguano and the Chané have large wooden mortars with long wooden pestles. Hand-mills of stone or any other material are never used. The geographical distribution of the mortar has already been dealt with in the first volume (map 10). Evidently the wooden mortar has come to the Chiriguano and Chané from the east. It is a northern and eastern element of S. American culture. Among the Chiriguano one sometimes sees mortars hollowed out in stumps of trees. It is obvious that the Whites did not introduce the mortar here from the fact that it was mentioned by such <sup>an</sup> early author as SCHMIDEL, from the Syberis in North Chaco.

Both the Chiriguano and the Chané sift and strain through a round basket, the «urupé» (fig. 52). The following table shows us how sifting and straining is done by the tribes I have visited. Some tribes use four-sided sieves and strainers.

Table 7.

	A net-bag	Yuracáre type <sup>2)</sup>	Square Sieve	Urupé	Through coarse cloth
Ashluslay	—	—	—	—	—
Atsahuaca	?	?	?	—	—
Aymara	—	—	—	—	+
Cavina	?	?	—	—	—
Chacobo	—	—	—	—	—
Cháma	?	?	—	—	—
Chané	+	—	—	—	—
Chimáne	—	—	+	+	—
Chiriguano	—	—	—	+	—
Choroti	+	—	—	—	—
Guarayú (mission)	—	—	—	+	—
» Pauserna	—	—	—	?	—
Huanyam	—	—	+	—	—
Huari	—	—	—	+ <sup>1)</sup>	—
Mataco	+	—	—	—	—
Quichua	—	—	—	—	+
Tambopata-Guarayo	?	?	—	—	—
Tapiete	+	—	•	—	—
Toba	+	—	—	—	—
Yamiaca	?	?	—	—	—
Yuracáre	—	+	—	—	—
Itonama	—	—	—	—	—
Baure	—	—	—	—	—

From the literature I know of the urupé from the Paressi<sup>3)</sup>, the Indians of the upper Rio Xingú<sup>4)</sup>, the In-

1) Not obtained.

2) See NORDENSKIÖLD (9) Fig. 32.

3) MAX SCHMIDT (4) P. 209.

4) MAX SCHMIDT (3) P. 350.



dians of the Roraima district,<sup>1)</sup> the Indians of northwestern Brazil,<sup>2)</sup> the Maquiritare<sup>3)</sup> and the Uitoto.<sup>4)</sup>



Fig. 16 b. Steaming apparatus. Chané, Rio Itiyuro.

The Urupé is obviously a northern cultural element. It is certainly not from the western culture zone. GARCILASSO<sup>5)</sup> says that the Inca sifted through cloth, or rather

<sup>1)</sup> G. M.

<sup>2)</sup> KOCH-GRÜNBERG (2) Vol. 2, P. 217.

<sup>3)</sup> R. M.

<sup>4)</sup> WHIFFEN Pl. XXII.

<sup>5)</sup> GARCILASSO Libro VIII. Chap. IX.

that they fanned the flour. They had no proper sieves. As we have seen from the table, the Chaco tribes have no basket-sieves, but use bag-nets instead.

Mandioca-graters do not occur among the Chiriguano and the Chané.

Of course the Chiriguano and the Chané cook their food in earthen ware. Maize-beer »Chicha«, their chief food, is boiled in large vessels. It is only with great difficulty that these can be moved from one place to another<sup>1)</sup>. Some of the Chiriguano occasionally allow the maize-beer to ferment in hollow stumps of the bottle-tree.

The steam cooking-pot shown here (fig. 16) is of very great interest. It is used by the Chané and Chiriguano in cooking a certain dish of maize, the »huintimimmo«.<sup>2)</sup>

I have seen this contrivance being used as shown by the illustration, but I have, unfortunately, not tasted the maize-dish that was cooked in it.

In literature dealing with other parts of S. America I have only found this steam cooking pot mentioned by ULLRICH<sup>3)</sup> from the Rio Grande do Sul (Munizip Pelotas).

He there found pieces of »Siebtöpfen« and says that they were used on the top of a cooking-pot. ULLRICH<sup>3)</sup> tells us that these steam-cooking-pots were used by the

<sup>1)</sup> When fragments of very large and heavy earthenware vessels are found in archæological excavations one may, as a rule, presume that they originate from a permanently settled tribe. It may be assumed with perfect certainty that these very large vessels were made at the spot where they are found. Small earthen pots may, however, have been bartered from some other tribe. This is naturally of a certain interest if we wish to distinguish between native and imported pottery found in archæological excavations. — Some of the Chiriguano at the Rio Parapiti make only the big common clay vessels themselves and get the small, painted pots by barter from other Chiriguano Indians.

<sup>2)</sup> CORRADO when speaking of different dishes of maize says that »el huintimimmo, especie de torta muy tierna hecha con harina de maiz humedecida y blandamente dispuesta en una tortera agujereada y cocida con baho del agua caliente.« P. 42.

<sup>3)</sup> P. 500.

small Indian tribes in the woods north of the Rio Camaquam at the end of the decade 1870—80. The perforated top bowl contained maize, the pot under it boiling water.

I cannot at present tell whence the Chiriguano and the Chané got this cultural element. Besides among these Indians, I have also seen steam-cooking-pots of the same kind among the Mataco-Vejos, who live close to the Chané at the Rio Itiyuro.

The Chiriguano and the Chané have special bowls for roasting maize (fig. 16). I have only seen bowls of the same shape among the Mataco-Vejos. The roasting of maize is commonly practised among the majority of Indians who grow this plant, which is of such great importance to many tribes.

The Chiriguano and the Chané do not know of the babracot. They only use the wooden spit. It is often cleft, as is also the case among the Choroti and the Ashluslay. As the kinsmen of the Chané in Northern Bolivia and the kinsmen of the Chiriguano on the coast of Brazil use the babracot, the question arises: »Why is it not used here?» I suppose this is because the hunting is of no great importance, the fishing not very good, and the fish caught small or, at least, rarely of any size.

Pit-ovens are unknown here. When chicha is being made, great pot-spades are used. They are either wooden (fig. 17 A) or made of the hafted shoulderblade of some large mammal. I suppose all Indians who cook their food use something to stir it with. Usually, however, only a plain stick is used. Pot spades of the kind shown here are in use among the Mataco-Vejos, who live near the Chané on the Rio Itiyuro and the Guató<sup>1)</sup> on the upper Rio Paraguay. It is not unlikely at all that the latter have had them from the Chané, for we know from accounts of very early discoverers, that some of the Chané settled on the upper

<sup>1)</sup> MAX SCHMIDT (3), P. 205.

Rio Paraguay after Garcias marauding expedition, not far from the tract where the Guató now live.

A potspade of the same type from the Yulämaua along the Rio Querarý is shown in an illustration by KOCH-GRÜNBERG.<sup>1)</sup> I have not seen the shoulderblade potspade in any other tribe.

Similar spades, said to have been used for agricultural purposes, are mentioned by ST. CRICQ<sup>2)</sup> from the Conibo.

Nowadays the Chiriguano and Chané for the most part eat their food with metal spoons which they have got from the Whites. They have, however, wooden spoons as well. They generally eat from earthenware bowls of their own make. They seldom have wooden bowls. I have already treated of the distribution of the wooden bowl and the wooden spoon. (Part I map 12 and 13.) They are features of western civilization. Calabash bowls are universally used by the Chiriguano and Chané as drinking vessels, particularly for chicha.

Silver bowls — »Cagua» — are occasionally seen at the Chiriguano festivals. These bowls, which are shaped like cloven calabashes, are often furnished with small ears and are made by mestizo smiths to suit the Indian taste.

There is in my collection a calabash bowl that has been turned into a ladle by means of a handle. It is from the Chané at the Rio Itiyuro. I have also procured some bowls made of the fruit of the calabash tree from the Chiriguano. The Indians get them from Sta Cruz de la Sierra, for, as far as I know, the calabash-tree is not cultivated within their own area.

Fire-fans of plaited palm leaves are used, though they are rather uncommon. These fire-fans belong to the cultural elements which have come to the Chiriguano and the Chané from the north and east. Later on, when writing about the Indians in northeastern Bolivia, who have sev-

<sup>1)</sup> T. 2. P. 209.

<sup>2)</sup> P. 287

eral different kinds of palm leaf fans, I will deal with them in detail.

At present I can refer to what Pater Schmidt<sup>1)</sup> has written about the geographical distribution of fire fans of plaited palm leaves in S. America.

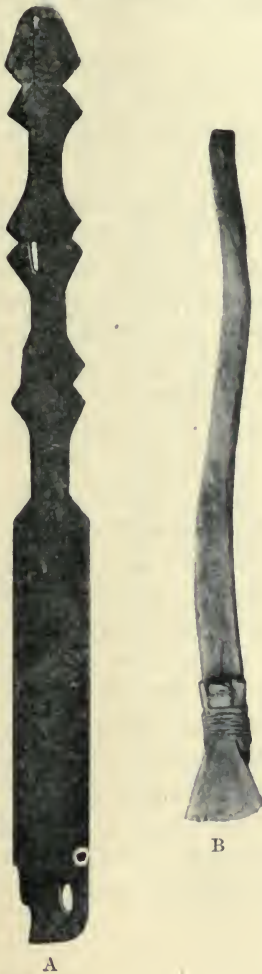



Fig. 17. Potspades.  
Chiriguano.

A from Tihüipa.  $\frac{1}{8}$ . R.M.

E. 505. 

B from Caipipendi.  $\frac{1}{8}$ . R.

M E. 596.

<sup>1)</sup> P. 1082.

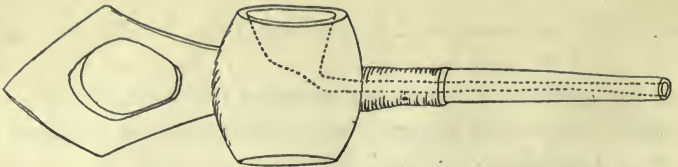


Fig. 18. Tobacco-pipe. Chiriguano. Caipipendi.  $\frac{1}{2}$ . R. M. E. 312.

## X.

### Narcotics.

The Chiriguano and Chané are not great smokers like the Choroti and Ashluslay. They are most addicted to the cigarette, and seldom smoke a pipe. Only a few of the former who live on the territory adjoining the Quichua chew coca, which, so far as I know, they do not cultivate themselves. It is a well known fact that the habit of chewing coca is a western culture-element.

I have given an account in Part I of the geographical distribution of the tobacco-pipe (map 14).

The type of pipe depicted here, on which the bowl is fixed near the middle of the stem and which, by the by, is very convenient to handle, seems to me to have a south-westerly distribution in S. America.<sup>1)</sup> During my archaeological excavations at Caipipendi I found similar pipes of burnt clay. The front stem of these latter pipes has no hole for the finger. This hole is a little refinement which I have seen nowhere except among the Chiriguano. Quite simple pipes are also found among the Chiriguano, consisting of a bowl with a straight stem behind and no front stem. From the Chané I have one single pipe. This is evidently quite modern. In drawing Map 14 in Part I. I have not taken this pipe into account, as its origin is somewhat uncertain.

<sup>1)</sup> NORDENSKIÖLD (3 b) P. 295, See also UHLE (10) P. 48. (a pipe from Taltal).

## XI.

## Dress.

The Chiriguano and the Chané men of the present day wear European clothes which they buy at the stores, get at the missions, or, more often still, when working at the sugar factories in northern Argentine. The native garments, the loin-cloth (*chiripa*) (fig. 19) and the ponchoshirt are still occasionally seen. The loin-cloth is a rectangular piece of cloth which is passed between the legs and kept in place back and front by being tucked into the belt. The geographical distribution of the loin-cloth in S. America it is almost useless to endeavour to show on the map, as in many places it would not be possible to say if it was native Indian or not. Among the tribes visited by me, with the exception of the Chiriguano and the Chané, I have only seen it among the Tapiete. I have a piece of cloth from the Tsirakua that may have been a *chiripa*. I found a doll in a mound in Mojos which most likely represents a man with a *chiripa*. That it is a very old cultural element is obvious from the fact that the curious mummies found by UHLE<sup>1</sup>) at Arica and belonging to the oldest culture periods there, wore the *chiripa*. In the museum at Gothenburg<sup>2</sup>) we have a mummy of the kind, found by SKOTTSBERG at Arica, which wears a *chiripa*. This *chiripa* is not woven, but is netted.

The Poncho-shirt which I dealt with in detail in the first part of this book is undoubtedly a cultural element which has come to the Chiriguano and the Chané from the civilized zone in the west. (See map 16 in Part I.)

<sup>1</sup>) (6)

<sup>2</sup>) G. M.

On very rare occasions one sees clothes of tanned skin worn by the men. As far back as CHOMÉ<sup>3)</sup> these skin clothes



Fig. 19. Chanéboy in «chiripa». Rio Parapiti.

were mentioned. I have obtained a costume of the kind consisting of a coat, breeches, and a hat. They are

<sup>3)</sup> P. 330.



of European cut and have most certainly come from the Whites. According to NINO<sup>1)</sup> they were also sometimes made by the Indians themselves. I do not think this is the case with the costume I have collected.



Fig. 20. Chanéwomau in Tipoy. Rio Parapiti.

The »tipoy» is the typical dress of the Chiriguano and Chané women. It is a sack of cotton or wool open at both ends and woven without seam. The tipoy for every day wear is of normal length. (Fig. 21) On festive oc-

<sup>1)</sup> P. 189.



Fig. 21. Chanéwoman in Tipoy that is also used as a bearing-band.

Rio Parapiti.

casions they use a very long tipoy of cotton that has to be worn double.

In Part I I have mentioned the tipoy, which is always a woman's garment, from the above mentioned tribes,

and from the Ashluslay, Guarayú-Pauserna, Siriono, Guarayú (mission) Gorocotoques, Mojo, Carios-Tupinambá, Quichua, Paressi-Kabiši, Chiquitos, Guarani in Paraguay, Xarayes, Guayaná and Payaguá, Occasionally they occur among the Mataco as well. BARBOSA RODRIGUES mentions the tipoy from the Tembé. Judging by LANGE's photographs the Ararandeuara girls seem to wear small tipoys in ordinary hammock technique.

Those from the Quichua do not, however, correspond to others whose style we know, for the former used to be open on one side and only seem to have been sewn up under the influence of European ideas of modesty. Consequently I was rash in concluding that the tipoy was an original feature of western civilization, as I did in the first part of this book. Most likely it is of quite a different origin.

When the Chiriguano and Chané women used the tipoy as a garment, they did not, as we shall see below, get the idea from the mountains or from the Whites. It is, however, certain that the Whites and at an earlier date the Mountain-culture Indians may have influenced them to make the tipoy longer and more «seemly». Contact with other people wearing clothes has made it fashionable to be clothed.

My attempts to investigate the distribution of the tipoy in northern S. America has caused me a lot of trouble. Descriptions of Indian apparel by early authors are, unfortunately, not as detailed as might be desired. OVIEDO mentions a woman's dress «saya» from the region of Lake Maracaibo, woven without seam «sin costura», which may have been a tipoy.

In a narrative of PEDRO TEXEIRA's journey up the Amazon<sup>1)</sup> we read that almost every tribe goes naked, the men completely, the women above the waist, covering the rest

<sup>1)</sup> T. XIII, P. 437.

of the body with a garment resembling a »pampanilla». This may mean the tipoy, but also something else<sup>1</sup>).

As MAX SCHMIDT<sup>2</sup>) has pointed out, the Paressi make their tipoys and their bearing-bands (to carry the children) in exactly the same way. The bearing-bands used by these Indians are identical with the tipoys in both shape and material. They differ from the latter only in being somewhat longer in proportion to their width. STADEN<sup>3</sup>) speaks of the »typpoy» as a garment. In an anonymous early description, also from the coast of Brazil, printed in PURCHAS<sup>4</sup>), the bearing-band is called »tupiya». The same word is thus used by the Guarani-speaking Indians on the coast of Brazil both for the bearing-band and the female dress. In some parts the same article has, indeed, been used both as a bearing-band for children and a woman's garment. According to BARBOSA RODRIGUES<sup>5</sup>) it would seem to be so among the Tembé Indians. The bearing-band does not occur among the Chiriguano and Chané; they carry the child cradled in the tipoy.

I do not consider it too bold to assume that the tipoy and the bearing-band have the same origin, and that the one has suggested the other. In all likelihood, the bearing-

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1) It is obvious from the following quotation from OVIEDO (T. 2, P. 271), where he tells of the female apparel of the Buboires living near Lake Maracaibo that the »Pampanilla» also might mean a small piece of cloth covering the genitals. »y las mugeres una pampanilla ó pedaço de algodón texido tan ancho como un palmo colgando delante de sus vergüenças».

2) (4) P. 218.

3) T. 2, P. 3. »/derselbigen wilden weiber machen dinger von baumwollen garn/ wie ein Sack vnden unnd oben offen/ die ziehen sie an/ und heysssen auff ire sprache Typpoy».

4) P. 1391.

5) (2) P. 42. »As mulheres . . . . usam uma facha larga de algodão tecido branca ou tinta de urucu, passada a tiracollo sobre o hombro direito, que pendendo sobre o corpo, encobre-lhes a parte vergonhosa e serve para nella trazerem constantemente filhos. Dão a esta facha o nome de *tupóy*»

band, which has a much wider distribution, is the original. For some reason it was occasionally worn as a shirt and, finally, in some places, this became the custom. Out of the short skirt resembling the bearing-band has probably developed the long tipoy now worn by the Chiriguano and

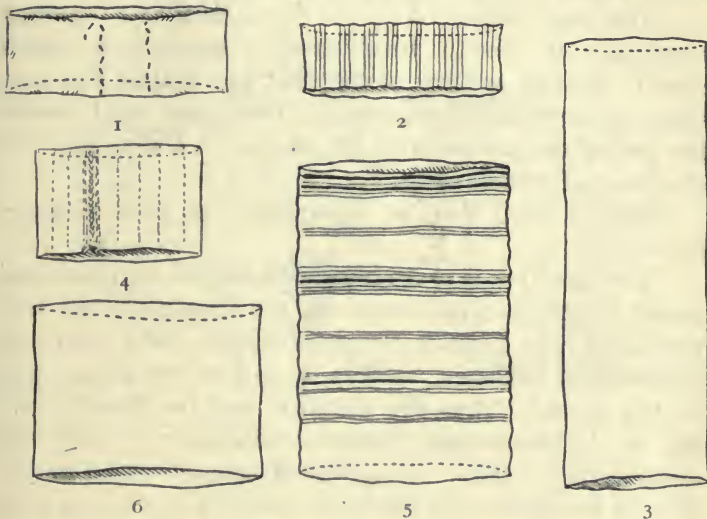


Fig. 22. Bearing-bands and «tipoys.»

- 1) G. M. 15. I. 559. Bearing-band of bark-cloth. Huanyam.
- 2) R. M. G. 97. Bearing-band made of cotton in hammock-technique. Guarayú (mission).
- 3) G. M. 13. I. 554. «Tipoy» woven of cotton without seam. Chiriguano.
- 4) G. M. 12. I. 64. Bearing-band of cotton, plaited. Patamona, British Guiana.
- 5) R. M. P. 130. «Tipoy» woven of cotton without seam. Chané.
- 6) G. M. 15. I. 849. » » » » » Guarayú.

Chané. The shape is still the same as that of the bearing-band; only the proportion between length and breadth has been changed (fig. 22). The bearing-bands used by S. American Indians are either made of bark-cloth, plaited in the ordinary hammock-technique, or made in some other

way. The tipoyas are, as a rule, woven. Tipoyas manufactured in hammock-technique I know of only from the Siriono and the Ararandeuára (Tembé). These latter are also used as bearing-bands. Probably this is also the case among the uncivilized Siriono. Tipoyas in this technique are probably earlier in origin than the woven ones.

The word »tipoy» has also been used with another meaning, viz., for a band used to support an injured arm.<sup>1)</sup> A band or sling of the kind has exactly the same shape as an Indian bearing-band. Only once can I remember having seen an Indian with his arm in a sling like this. He was a Pauserna man.

»Tipoya» can also be interpreted »a kind of hammock».<sup>2)</sup>

The question is if the hammock has not also been suggested by the bearing-band. In the first place we must remember that Indians also in different parts where the hammock is unknown, are careful not to put their babies on the ground. Thus, the Yuraçare and the Chimáne, who have no hammocks, use cradles of bark-cloth in which they suspend their babies. When the Mosekene woman goes to work in the fields with her baby, she puts it into a bearing-bag which she hangs up in a tree. COMINGES<sup>3)</sup> mentions that he saw among the Guaná Indians, who seldom use hammocks, a child which the mother had placed in a bag slung like a hammock. So it does not seem so very unreasonable to suppose that Indian women tried to use the bearing-band in the same way when the child had to be

1) 2) I here give BRAZ DA COSTA RUBIN's definition of the word TIPOIA »Do guarani tupoi, vestido de mulher. Tira larga tecida com palha de miritizeiro; grande camisa sem mangas feita do entrecasco de certas arvores de enlaçada e estopenta fibra; o lenço o tiracolo para descansar o braço; serpentina de rede carregada por dous homens.»

3) »En uno de éstos una mujer joven que parecía una criatura, pero que, acabando de dar el pecho á un niño completamente desnudo, y colocándole en una bolsa de red, que á manera de hamaca pendía de las *tacuaras* del techo.» P. 192.



Map. 7. The distribution of the Tipoy.

put down and they feared the snakes. The Guarayú have bearing-bands which are made in the very same technique as most hammocks. Such bearing-bands were also used by the Carios<sup>1)</sup> in Southern Brazil.

Table 8.

*The distribution of the tipoy. Map. 7.*

2. Ashluslay, G. M. Woven without seam. Wool.
4. Chiriguano, R. M. E. 8. Woven without seam. Wool or Cotton.
5. Chané, R. M. P. 130. Woven without seam. Wool or Cotton.
6. Mataco, R. M. M. 166. Woven without seam. Wool.
20. Paressi, MAX SCHMIDT (4) P. 217. Woven without seam. Cotton.
25. Mojo, CASTILLO P. 324.
38. Carios, STADEN.
40. Guarayú (Guarayos).
41. Guarayú (Pauserna), G. M. Woven without seam, cotton
45. Gorocotoque, SCHMIDEL (1) P. 264.
51. Siriono. Made in hammock technique.
94. Chiquito, BURGOS P. 341.
98. Ararandeuára. (Tembé). I have gathered from LANGE's photographs that Ararandeuára-girls wear quite short Tipoy in ordinary hammock technique; BARBOSA-RODRIGUES (2) P. 42.
- I. Guarani, Paraguay. AZARA (2) P, 416.
- 5 P. Xarayes, NÚÑEZ CABEZA DE VACA. T. I, P. 300.
- X 4. Payaguá, AZARA (2) P. 360.
- I F. Indians near Lake Maracaibo. OVIEDO Vol. 2, P. 285. »Tomaron unas indias vestidas unas sayas textidas sin costura, que les tomaba desde la cabeza hasta los pies, e unos capillos como de frayles».

<sup>1)</sup> STADEN (2) Fig. P. 153.



Both men and women among the Chiriguano and Chané have sandals which, however, they seldom wear. In Part I of this work I have given an account of the geographical distribution of sandals in S. America. Obviously sandals are a cultural element which the Chiriguano and Chané have got from the area of civilization in the west.

A pair of sandals with fastenings differing from the usual kind are depicted here. A sandal with very similar binding but of another shape is described and depicted by ERIC VON ROSEN<sup>1)</sup> in his recent, splendid work.

The Chiriguano and Chané wear girdles which as a rule are woven, though they are sometimes made of leather. As I pointed out in Part I, the woven girdle belongs to the western cultural elements and the leather belts to the southern. The leather girdles worn by the Chiriguano and Chané are provided with pockets and sometimes ornamented with coins, and are consequently imitations of the gorgeous cincture worn by the Argentine gauchos. NINO<sup>2)</sup> is of the same opinion, and he points out that they are called »bosa» (from the Spanish word »bolsa»<sup>3)</sup> owing to their being provided with a pocket.

As already mentioned in Part I the woven »head-band» or frontlet also belongs to the dress of the Chiriguano and Chané-men. The frontlet is certainly a western culture-element.

Chiriguano and Chané shirts and ceremonial tipoyis are of native make and are often dyed blue with indigo. The frontlets are blue or red. Chiriguano and Chané women wear a kind of hair-band with tassels which they most likely learned to make in the missions.

<sup>1)</sup> (4) Fig. 84, P. 127.

<sup>2)</sup> P. 191.

<sup>3)</sup> »Bolsa» is »bosa» in the Chiriguano languages as these Indians do not pronounce l.

The Chané men at the Rio Parapiti occasionally wear straw hats plaited by themselves. They most certainly borrowed the idea from the Whites.



Fig. 23. Sandals of leather. Chiriguano. R. M. E. 65.



Fig. 24. Old Chiriguano Indian with a big »Tembeta. Tihüipa, Bolivia.

## XII.

### Articles connected with the deformation of the body. »Tembeta».

All Chiriguano and Chané men of the older generation and, in a few of the Chiriguano villages, the younger men and boys also wear a so-called *tembeta* or lip-button in the under-lip. The custom of boring the lips is wide-spread in S. America. DALL, DENIS, NETTO, UHLE and VERNEAU-RIVET have drawn up summary tables to which I beg to refer, at the same time making some additions based on notes I have made from the literature on the subject to which I have had access.

The *tembeta* of the Chiriguano and Chané Indians is made, as a rule, of tin and in shape reminds one of a cap with a peak at both the front and back. (fig. 25)

The back is somewhat concave enabling it to rest conveniently on the chin-bone. The front is round and flat and does not project beyond the lip. The metal is hollowed at the front and filled with wax, in which are fastened green or blue stones or glass beads of the same colours. In a grave at Caipipendi I found a tembeta of wood of the shape here described, in which a round piece of green glazed earthenware is inserted. For every-day use both the Chiriguano and Chané sometimes have lip-buttons of wood which are shaped like flat wooden cylinders. The Chané usually have smaller lip-buttons than the Chiriguano. CHOMÉ<sup>1)</sup> mentions lip-buttons of resin among the latter Indians from the 18th century.

I make no attempt here to show on the map the distribution of lip-boring in S. America.<sup>2)</sup> As was mentioned, it is very considerable. The idea of inserting stones or beads fastened with wax in the tembeta is almost confined to the Chiriguano and Chané.

It might almost be suspected that they got this idea from the Whites, who now have an extensive manufacture of metal tembetas in order to sell to the Indians. This is not the case, however, for SCHMIDEL writes of the Kar-khokhies (Gorocotoques)<sup>3)</sup> who dwelt in N. W. Chaco: — »Pero sus mujeres tienen un canutillo asegurado à los labios en el que meten ellas una piedra verde ó gris». Of what material this »canutillo» was, we are not informed. In Chili<sup>4)</sup> a tembeta of stone has been found with a cavity in which possibly another stone or the like had been set.

The metal tembeta is here probably, though not neces-

<sup>1)</sup> P 331.

<sup>2)</sup> (This) because few of the old writers have given any detailed description of lip-buttons.

<sup>3)</sup> (1) P 264. (2) P. 94. »Ihre weiber aber habenn ein kleins rörlein gemacht in denn lepzen, darein sie ein grienen oder grabenn christallen stein stechemn.»

<sup>4)</sup> MEDINA (1) Fig. 77. From Freirina.

sarily, post-Columbian. CASTILLO<sup>1)</sup> mentions silver tembetas from Mojos as early as the 17th century, and in Ecuador a tembeta of gold has been found.<sup>2)</sup> CHOMÉ<sup>3)</sup> writes of the Chiriguano: »Les hommes se percent la lèvre inferieure, ils y attachent un petit cylindre d'étain, ou d'argent ou de resine transparente.» It is not impossible that the Indians of this part, viz. the Chané, had lip-buttons of silver in pre-Columbian times.

The highly specialized type of tembeta which I have here likened to a cap with both front and back peak, is not now found in use in S. America elsewhere than among the Indians here dealt with and some few Tapiete who learned its use from the Chiriguano.

Similar tembetas of stone have been found at the Rio Negro in Patagonia<sup>4)</sup>, in San Juan<sup>5)</sup> in Argentine, in central Chili<sup>6)</sup>, at Tiahuanaco<sup>7)</sup>; at Parana-Mini<sup>8)</sup>, Minas Geraes<sup>9)</sup> and Pernambuco<sup>10)</sup>. Here may also be included a tembeta of gold described by RIVET and VERNEAU from Chordeleg in Ecuador. This type of tembeta is also found in Mexico and in western N. America. This lip-button is best characterized by saying that, when inserted in the lip, it looks like a round disc.

The type of lip-button most closely resembling those described here, have a more or less spike shape when seen from the side. While the Chiriguano tembeta projects either not at all or very slightly beyond the lip, in the spike-shaped

1) P. 326.

2) RIVET (4) and VERNEAU Pl. XXIV, Fig. 10.

3) P. 331.

4) LEHMANN-NITSCHKE (4).

5) DEBENEDETTI (4) P. 58.

6) MEDINA (1); UHLE (9) P. 8.

7) UHLE (1) Vol. I, Pl. 19, Fig. 23 and 24.

8) DEBENEDETTI (4) P. 57.

9) NETTO Pl. 8.

10) „ „

tembeta one sees a point projecting slantwise more or less beyond the lip in a downward direction. The cross-piece which prevents the lip-button from slipping out does not broaden into a flat disc approximately following the shape of the chin. Length, shape and material may vary considerably.

The oldest type of lip ornament probably consisted of feathers, etc., fixed in a hole in the underlip. To keep this hole extended, it was ordinarily filled by a wooden plug or the like. This consisted, like the everyday tembeta of the Chiriguano and Chané, of a plain wooden cylinder. This shape was subsequently changed and more ornamental material substituted for the wood. Some tribes merely made the wooden plug bigger and bigger, e. g. the Suyá<sup>1)</sup>, Boto-kuds<sup>2)</sup> and Lengua.<sup>3)</sup> As a rule it was, no doubt, not very hard to make the wooden plug stay in the hole. *When it was exchanged for more ornamental material such as resin, and, above all, stone, it became necessary to give the tembeta such a shape as would prevent it slipping through the hole.* The Chiriguano Indian wooden tembeta is merely cylindrical; the heavy metal tembeta is cap-shaped.

The Huari tembetas of wood are likewise cylindrical. The upper part of the smoother tembeta of resin is made thicker, so that it cannot slip through the hole.

The Chiriguano and Chané evidently have a very specialized form of tembeta which would appear to be fairly late. Its distribution over the continent of America does not, however, support this view. The type is found in Mexico and N. America as well as in S. America. The question arises whether we may not, in this case, imagine a parallel evolution. Wherever the attempt has been made to make tembetas of heavier material than wood, *it has been found necessary to make them more or less T-shaped.* It is in

<sup>1)</sup> KARL VON DEN STEINEN (2).

<sup>2)</sup> WIED.

<sup>3)</sup> AZARA (2) P. 391.

fact, the only possible shape. It was quite natural that both in N. and S. America the tendency was to shape the tembeta in such wise that it should lie conveniently on the chin-bone.

The most highly specialized type of tembeta is found along the Rio Araguaya among the Karajá and Kayapó.<sup>1)</sup> There are in those parts a number of different types of lip-button, and it is natural to ask whether such a variation of tembeta types was not formerly common in other parts. In other districts where the Indians still wear tembetas there is no similar variation in type. One sees only two or three different types. Nor it is likely that type-variations of stone tembetas have been much greater than is indicated by the material hitherto collected. The distribution of stone tembetas, on the other hand, may have considerably exceeded what we know at present.

KRAUSE<sup>1)</sup> has pointed out how different kinds of tembetas are worn at different ages among the Karajá. The Chiriguano when merely boys wear the wooden plug. LERY<sup>2)</sup> says that the Tupinambá boys had bone tembetas of conical shape. When they were full-grown (attained puberty?) they received tembetas of stone which, in part at least, had a shape similar to that of the Chiriguano and Chané tembetas. Very likely the narrower, spike-shaped tembetas which DEBENEDETTI<sup>3)</sup> described from San Juan were for boys' wear, while those which resembled the Chiriguano and Chané tembetas were for grown-ups.

A writer as early as VAAS DE CAMINHA<sup>4)</sup> mentions various kinds of tembetas among the Indians whom CABRAL met with when he came to the coast of Brazil.

It is evident that the spike-shaped tembetas belong to an older era of civilization than those of capshape. The

<sup>1)</sup> KRAUSE P. 220.

<sup>2)</sup> P. 191.

<sup>3)</sup> (4) P. 58.

<sup>4)</sup> P. 180 a, 180 b, 180 d, 180 i, 180 l.

former have in S. America a much wider distribution than the latter. When both types existed together, as was the case among the Tupinambá, the boys had to be content with spike-shaped variety, while the men had the cap-shaped. For the latter kind a specially valuable material was employed, viz. a rare kind of green stone.

In all likelihood it was from the Andine area of civilization that the cap-shaped tembeta spread to Patagonia to the Chané, Chiriguano and Tupinambá. This must have happened before the time of the Incas. At the time of the conquest the Incas had no tembetas. The discovery of tembetas of this type at Tiahuanaco supports the notion that we have here to do with a culture-element which spread south and east during the Tiahuanaco period.

Should an attempt be made to draw a diagram showing the evolution of tembeta-types, I imagine it would be pretty much as follows (fig. 27).

Out of the small cylindrical wooden plug which still occurs everywhere for the purpose of keeping the lip-button hole open, and to extend the same, three types have been specialized:

- (1) The exaggeratedly large, flat, round wooden disc;
- (2) The more or less spike-shaped lip-button;
- (3) The flat cap-shaped tembeta.

Of these (1) is most likely the oldest, (2) next and (3) the most recent.

If the cap-shaped tembeta in this part of America comes from the Andine area of civilization, the Chiriguano have probably taken it westwards again. The Chané generally have quite small tembetas, this being the reason why they are scornfully called by the Chiriguano «uña-reta» (women). It is probable that they learned the use of this ornament from the Chiriguano. Of the Chaco tribes visited by me it is only the guaranized Tapiete who have tembetas.

The Chiriguano and Chané men never pierce their ears.



Formerly the chiefs wore ear-rings with pendants of green stones. Among these Indians the only women with pierced ears are a few of the younger ones who have learned from the Whites the custom of wearing ear-rings. These ornaments are also obtained from the Whites. Oddly enough, the barbarous custom of piercing the ear is thus here an idea obtained by the Indians from the Whites. Neither men nor women pierce the nasal septum.

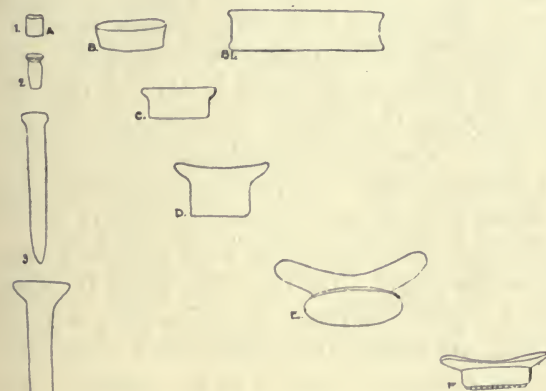


Fig. 25. The evolution of tembeta-types in S. America.  $\frac{1}{3}$ .

- 1A Tembeta of wood, Huari, Matto Grosso. G. M. 15. I. 334.  
 2 » » resin, » » » » 16. I. 290.  
 3 » » stone, San Juan, Argentina, DEBENEDETTI, (4)  
 Fig. 11.  
 4 » » » Huanyam, Rio Guaporé.  
 5 » » » Karajá, NETTO, Pl. 8, Fig. 6.  
 B » » wood, Chiriguano, R. M. E. 469.  
 C » » stone, Patagonia, LEHMANN-NITSCHKE (4), P. 286.  
 D » » » Pernambuco, NETTO, Pl. 8, Fig. 4  
 E » » » Freirina, Chile, MEDINA (1), Fig. 16.  
 F » » metal, hollowed at the front and filled with wax  
 in which are fastened glass beads. Chiri-  
 guano. G. M. 13. I. 549.  
 B1 » » wood, Suyá, Rio Xingú, UHLE (9) Fig. 34.

## XIII.

## Toilet-Articles, Tattooing etc.

The Chiriguano and the Chané are careful of their personal appearance. They are cleanly people, much cleaner than their neighbours. If these tribes had emigrated from the cold Bolivian mountains into their present territory, part of which is very poorly watered, they certainly would not bathe once, or even several times a day, as they do, but would be as dirty as the Quichua and the Aymara, who are, incredibly filthy. Their Chaco neighbours, too, the Mataco are also extremely dirty. In the parts I have explored it is only in Mojos that we find Indians as cleanly as the Chiriguano and Chané, these being the Mojo and the Baure, kindred tribes of the Chané. On the other hand the Guarani Indians in North Bolivia, the Guarayú, are less clean, even if they are among the »clean ones». The Guarani in Paraguay are, however, said to be very cleanly. The cleanliness of the Chiriguano and the Chané is a positive proof that they migrated to the territory now inhabited by them from warmer and well-watered parts, where bathing was pleasant and easily accessible. The Chiriguano and the Chané have not learnt to bathe from the Mestizos or the Whites, whose habits are anything but clean in these parts. Cleanliness is certainly not a virtue suddenly acquired by any people, but may indeed be regarded as a race-peculiarity. A map of S. American cleanliness would most certainly enlighten us on several points of interest with regard to the origin of the tribes. Now, when I read that the Mundrucú are very dirty I am sceptical of their being Guarani-Indians, and consider it much more likely that they are naturalized Guarani of a different origin. I shall not venture to give a map of S. American cleanliness

here. In order to do so, it would be necessary for me to have seen much more of S. American Indians than is the case. I will, however, here try to give the tribes I know a *certificate of cleanliness*. I mark the dirtiest, the Aymara, with 0 and Mojo, the cleanest, with 5. At the same time I will give them a certificate of orderliness, i. e. point out to what extent they keep their huts tidy and their belongings clean and neat. These 'certificates' are also of considerable interest as a means of understanding the cultural development and relations of the tribes.

I consider that a distinction should be made between the Chané who live on the Rio Itiyuro and those living on the Rio Parapiti. The former are poorer and characteristically enough less cleanly than the latter. It is of a certain interest to see that skill in arts does not always go hand in hand with tidiness and cleanliness.

The more or less high standard of Indian art, at least among present-day tribes in E. Bolivia, is dependent on whether they have been influenced to a greater or less degree by pre-Columbian civilization in western S. America.

		Cleanness of body	Cleanness in and round the abode	Care of house- hold, belongings, weapons, orna- ments, clothes	Skill in art.
Ashluslay .....	El Gran Chaco near Rio Pilcomayo .....	2	0	1	3
Atsahuaca .....	Peru, tropical for- ests .....	3	3	3	1
Aymara .....	Andean Plateau, cold climate .....	0	0	0	5
Baure .....	Plains and tropical forests, Mojos, Bolivia .....	5	5	4	—
Cavina.....	Plains and tropical forests, near Rio Beni, Bolivia .....	3	3	3	2
Chacobo .....	Plains and tropical forests, Mojos, Bolivia .....	4	5	5	1
Cháma.....	Tropical forests, Rio Madidi, Bolivia	2	3	3	1
Chané (Itiyuro).....		5	4	3	4
» (Parapiti) ...		4	4	3	3
Chimáne .....	Tropical forests. Bolivia .....	3	2	2	1
Chiriguano .....		5	4	3	4
Choroti .....	El Gran Chaco, near Rio Pilcomayo ...	2	0	1	2
Guarayú (mission)...	Tropical forests, Bolivia .....	3	3	3	—
{Guarayú	Tropical forests,				
{Pauserna	Brazil .....	3	3	3	1
Huanyam .....	»	4	4	4	1
Huari .....	»	3	4	3	1
Mataco .....	El Gran Chaco .....	1	0	1	3
Mojo .....	Tropical forests and plains, Bolivia ...	5	5	4	—
Quichua .....	Andean Plateau.....	1	1	1	5
Tambopata-	Tropical forests,				
Guarayo .....	Peru .....	3	3	3	1
Tapiete .....	El Gran Chaco .....	2	1	2	1
Toba .....	»	2	1	1	1
Yamiaca .....	Tropical forests, Peru .....	3	3	3	1
Yuracáre.....	Tropical forests. Bolivia .....	3	3	3	3

There are still many of the old Chiriguano, who wear long hair. Young men and youths with long hair are only

seen in the villages about the upper Rio Pilcomayo. When the hair is long it is not worn hanging down the back, as is the custom with other Indians wearing long hair. It is wound round the head, »put up», and kept in place with a frontlet. I have not seen any other Indians do their hair in this way. The women also have long hair, usually parted down the middle and braided. Braiding may have been introduced in post-Columbian times, though this is uncertain, as it was also common in the culture-area of the west.

The Chiriguano and Chané use combs, but no brushes. In Part I I have already dealt with different kinds of combs met with in the districts through which I have travelled. The Chiriguano only have plain wooden combs which are sometimes rather prettily carved. This type of comb is probably derived from the mountain civilization, as I have already pointed out in Part I.

The Chané have »stick-combs», »Stäbchenkämme» and now and again, though rarely, plain wooden ones too. These constructed combs are, as a rule, one-sided, in contradistinction to the doublesided ones of the Choroti and the Ashluslay. Thus we see that the Chané type of comb is unlike the one found in old tombs in the Puna de Jujuy, and which now occurs among the Quichua and the Aymara, the Choroti and the Ashluslay. Chiriguano and Chané combs are used exclusively for cleaning the hair and are never worn as ornaments.

The use of the pincer or tweezer as a toilet article certainly came to the Chiriguano and Chané from the civilized zone in the west. They are of metal and are used for removing hair from the body. Nowadays pincers are usually made of the metal from some old tin can, but sometimes of silver. These pincers of silver also serve as breast ornaments for the men, and are called »boivéra». They have to a great extent lost their original use, and are now simply used as ornaments. They have even sometimes been hammered together so that they can no longer be used as pin-

Fig. 26.  $\frac{1}{2}$ .

- |    |                            |                    |             |          |                               |
|----|----------------------------|--------------------|-------------|----------|-------------------------------|
| 1) | Implement of tin           | for removing hair. | Chiriguano. | R. M. E. | 396.                          |
| 2) | »                          | » silver »         | »           | »        | also used as breast ornament. |
|    |                            |                    | Chiriguano. | R. M. E. | 378.                          |
| 3) | Breast ornament of silver. |                    | »           | »        | 374.                          |
| 4) | »                          | »                  | »           | »        | 370.                          |

cers. They have become bigger and bigger. (fig. 26) These silver trinkets are not made any more by the Indians themselves, and it is likely that the majority of, or all the silver ornaments now found among the Indians have been made by white silversmiths.<sup>1)</sup> The shape is always Indian, but

<sup>1)</sup> NINO is also of the opinion that the «boivéra» is not of Indian make. P. 196.

the ornamental design not always so (fig. 26). It is difficult to decide whether the idea of the pincer as a mere breast ornament is due only to the influence of non-Indian smiths or not. Most likely the pincer was turned into mere ornament by the makers, who presumably used it as an article of barter and then increased its size in order to make it more and more coveted by the Indians. At last the makers themselves may even have been quite ignorant of its original use. Consequently we cannot be wrong in considering the «boivéra» an original Indian element of culture which has been transformed under the influence of

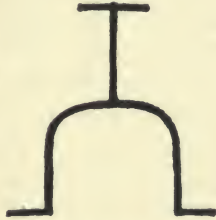


Fig. 27. Figure tattooed on the arm of a old Chiriguano Indian, Caipipendi. 1/1.

the Whites. There is no doubt that the pincer is a cultural element derived from the old culture zone in the west. They are, as we know, quite common in collections from that part. The Chiriguano also sometimes use a piece of split reed for removing hair.

Tattooing occurs here, but is very rarely seen. I have only seen two Chiriguano women and one old Chiriguano man with tattooing on their arms. The old man had the figure depicted here (fig. 27) tattooed on his arm. If I understood him rightly, it used in old times to be quite common for the Chiriguano-men to be tattooed in the same way. I have seen no tattooed Chané men or Chané women. I have already given an account of the distribution of tattooing in S. America in the first part of this book.

Painting the face with «urucu» is rather general here. The custom of painting the face prevails or has prevailed among most tribes in S. America and the red colour of Bixa Orellana (Urucu) is greatly appreciated where it can be had.

The «Genipa» is not used. It is possible that the genipa will not grow as far south as the Chiriguano and the Chané land.





## XIV.

## Stained Teeth.

It was already related by VIEDMA<sup>1)</sup> that the Chiriguano stain their teeth. I have seen Chiriguano women in the Caipipendi valley stain their teeth a blackish blue with the leaves of a plant called «tajú». LASCH has made a study of the custom of staining the teeth among S. American Indians. He speaks of this custom from Cumaná, quoting GOMARA, according to which author the women stained their teeth at the death of their husbands.<sup>2)</sup> He further mentions that this custom prevails among the Miraña,<sup>3)</sup> the Piro,<sup>4)</sup> the Goajiro<sup>5)</sup> and the Arawaks<sup>6)</sup> in Guiana. To this I can, as shown by the map and table below, make several additions.

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1) P. 181.

2) I have looked through all available editions of GOMARA in order to find this statement, but in vain. What I have been able to find about stained teeth in GOMARA P. 205—206 I give here.

«Préciance de tener muy negros los dientes, y llaman mujer a que los tiene blancos, como en Curiaua . . . . Hacén negros los dientes con zumo ó polvo de hojas de árbol, que llaman ahí los cuales . . . . a los quince años, cuando comienzan á levantar la cresta toman estas yerbas en la boca, y traenlas hasta ennegrecer los dientes como el carbon; dura despues la negrura toda la vida.»

3) From MARTIUS.

4) » RAIMONDI.

5) » WAITZ.

6) » MARTIUS (1). He writes. T. 1, P. 691, «Schwärzung der Zähne, die GOMARA, Cap. 73, von den alten Cumanesen angeibt soll hier auch vorgekommen sein.» This statement seems so vague, that I have not indicated it on the map. As far as I know it is not confirmed by other authors writing on the same Indians.

## Table 9.

*The distribution of stained teeth. Map 8.*

4. Chiriguano, VIEDMA P. 181. Men and woman.
- 4L. Caxinaua, CAPISTRANO DE ABREU P. 459.
- 5L. Indians north of Peru, POEPPIG Vol. 2, P. 253. Men.
34. Jivaro, HERMESSEN P. 440, Men.
36. Ijca, BOLINDER (4) P: 114. Men.
39. Gojiro, WAITZ Vol. 3, P. 373.
46. Conibo, RAIMONDI P. 667. See also CASTELNAU Vol. 4, P. 568.
61. WHIFFEN P. 88. »Among the Orahone, and also among some of the Iça and Yapurá Indians, the women cover their teeth and their finger-nails with a black pigment. The paint is never allowed to work off entirely, fresh designs being superimposed before the original has quite disappeared.»
70. Piro, RAIMONDI P. 667. The Piro is also called »Chontaquiro». Chonta = black wood, quiro = tooth.
71. Sipibo, Setebo, RAIMONDI P. 667; SMYTH and LOWE P. 211 write about the Indians in Sarayacu: »but their custom of staining their teeth dark blue, with a plant they call mucumucu, produces a very disgusting effect on their countenance.» The Indians in Sarayacu were Panos, Setebos, Conibos, Shipebos and Sencis.
99. CUMANOGOTO, GOMARA P. 405; BENZONI P. 4, 9. »They make a certain mixture to preserve the teeth, with oyster shells of the sort that produce pearls, burning them with the leaves of the *laxi*, and then adding a little water, so that the mixture looks like the whitest lime; and this they spread over the teeth, which become black as charcoal».
- LAS CASAS V. 63, P. 436. »Vieron ellos tambien, y yo despues que acostumbran los hombres traer en la boca cierta hierba todo el dia mascando, la que, teniendo los dientes blanquissimos comunmente, se



Map. 8. The distribution of stained teeth.

Intentional staining of the teeth. ○ = Teeth stained black by chewing coca and lime.

les ponen una costra en ellos más negra que la más negra azabaja que puede ser;» Las Casas speaks of the expedition of PER ALONSO NIÑO Y CHRISTÓBAL GUERRA 1499.

MARTYR P. 368. »Between the ages of ten to twelve years when puberty declares itself, they chew, all day long, leaves of trees, as thick as a nut, taking no other food nor drink. With this substance they blacken their teeth till they are the colour of a dead coal. They contemptuously call the Spaniards women and children, because the latter like to have white teeth; or likewise wild animals, because they let their hair and beards grow. Their teeth last a lifetime and they are ignorant of the aches which sometimes oblige us to have our molars removed. Their teeth never decay.» (The Eighth Decade)

RUIZ BLANCO P. 58, medicine-men. »dos calabacillas en una traen una yerba tostada que llaman a yo, que mascan y es buena para la dentadura, y en otra una calecilla con que ponen los dientes negros.»

SIMON (I) P. 316.

I c. Paez, MANUEL RODRIGUEZ P. 25. »Mascan continuamente, aquella su yerba diabolica, la *coca*, de que tienen negros como una pez los dientes» . . . . .

6 P. Aguaruno, MURO P. 199.

4 S. Miraña, MARTIUS (I) Vol. I, P. 536. Men

9 S. Maynas, CHANTRE Y HERRERA P. 63. »Firme la dentadura y por todo igual, cuando no la dañan con el mascar continuo hierbas de zumo negro; es sumamente blanca y la conservan hasta la vejez. Tienen, algunas naciones, por adorno y por moda tenir los dientes y labios de color negro, y á este fin, mascan hierbas y tallos cuyo zumo mezclado con ceniza que meten en la boca, hace, con el beneficio de la saliva, un negro que dura por muchos dias. Mas, no contentos con una tintura, dan á lo menos cada dos dias este barniz

á dientes y labios para conservarlos así más lustrosos. Causa grima el ver cómo refriegan los labios con lo más áspero de la hoja del maíz para quitar el tinte antiguo hasta desollarlos, y echar sangre para que de esta manera asiente mejor el nuevo, y brille más por fresco y reciente.»

IX. Colorado, RIVET (3) P. 188.

(70.) Manobamba (Yanaximes), BALBOA Chap. 8;

SARMIENTO P. 96. »Conquistó TOPA INGA y sus capitanes desta vez cuatro grandes naciones. La primera fué la de los indios llamados Opataries y la otra llamado Manosuyo y la tercera se dice de los Manaries o Yanaximes que quiere decir los de las bocas negras.» Yana = black, simi = mouth. Near Cuzco, not marked on the map. Possibly identical with Piro (70).

BOLINDER, who has observed that the Ijca's teeth are stained black by their chewing coca and lime,<sup>1)</sup> has advanced the opinion that the staining of teeth among the Cumanogoto may not have been purposely done, but caused by the lime that was chewed with coca. I believe that BOLINDER may be right in this supposition. As early a writer as RUIZ BLANCO<sup>2)</sup>, who lived in many years in Cumaná, considered that the lime chewed with coca was the cause of blackened teeth.

In N. Peru<sup>3)</sup>, where lime is chewed with coca, the Indians have black teeth. In the rest of Peru, where coca is chewed with the ashes of quinua-haulm and other plants, the Indians' teeth do not get black from coca chewing. This corroborates the assumption of BOLINDER that the teeth of the Cumanogoto were blackened by the lime they chew-

<sup>1)</sup> (4) F. 122.

<sup>2)</sup> P. 52.

<sup>3)</sup> »Without doubt the lime destroys the teeth and consequently the Peruvian «coqueros» have disgustingly black and carious rows of teeth.» POEPPIG Vol. 2, P. 253.

ed with coca. The teeth of the Paez were also blackened by coca-chewing. Most likely this holds good of the Goajiro too. We ought, therefore, to distinguish between two regions, viz., one where the Indians get black teeth by chewing coca-leaves with lime, and another where they purposely stain their teeth blue or black. The latter must be renewed after a time. the former, which is the result of coca-chewing with lime, lasts for life.

It is difficult to explain the geographical distribution of the custom of staining the teeth. Perhaps the unintentional staining of the teeth is the original one, and has given rise to the intentional staining. One might suppose that the Indians who saw the »nice«, black teeth of the coca-chewers wanted to appropriate the fashion, though they were not coca-chewers themselves, and consequently they stained their teeth dark.

That coca-chewers in Cumaná considered it elegant to have black teeth is obvious from what MARTYR says: »They contemptuously call the Spaniards »women and children« because the latter like to have white teeth.» »Women« is not exactly a title of honour among Indians.

One might imagine that staining the teeth was once fashionable within the civilized area of the Andes and that the custom has lived on in the border land after it dropped out of fashion in the place from which it originated. Staining the teeth is not a Guarani custom, so it must have been only when the Chiriguano Indians reached their present place of abode that they learnt the custom.

It may also be assumed that the coca used to be chewed with lime all over the old civilized western area. If this is so, we ought to be able to prove it archaeologically, but, as far as I know, none of the skulls found in Peru or Bolivia have had teeth blackened and destroyed by using lime with the coca.

It is, however, a striking fact that intentional blackening of the teeth does not occur far from the Andine region

of civilization. This, at any rate, appears from the quotations here given; nor is it likely that blackening of the teeth in early post-Columbian times had a much greater distribution than is here indicated. I venture to affirm this, since blackening of the teeth is one of those practices which would strike all travellers even from the time of the Conquest. Respecting such practices as have interested older writers we ought to be able to make very exact maps of their post-Columbian geographical distribution.

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## XV.

## Ornaments and Knick-knacks.

Nowadays the Chiriguano and the Chané have but few personal adornments. This is perhaps to a certain extent owing to their long intercourse with Whites. Feather-ornaments, pierced teeth, and such things are not seen. I have already described the «boivéra». The embellishments on these silver ornaments, especially the Swastika are, I think, not genuine Indian. In South America I know of the Swastika on pottery from the Mizque valley<sup>1)</sup>, from Tiahuanaco<sup>2)</sup> and from Ica<sup>3)</sup> and Cajamarca<sup>4)</sup> in Peru. An ornament which most certainly originates from the civilized mountain region is the «topu» or breast-pin, which is peculiar to this region. An embellished one of silver is shown here (fig. 29 a). It was most likely made by a Mestiz smith. Necklaces worn by Chiriguano and Chané women are most often of glass beads, but one now and then sees ornaments of pieces of shells, turquoise and, other green and blue stones, black seeds and coral. The stones are said originally to have been found in the ground, especially in the Tarijá valley.

A very rare ornament is the head-dress depicted here (fig. 28). It was formerly worn by Chiriguano women on festive occasions. Even if it is now made of a material which the Indians have had from the Whites, it is quite

<sup>1)</sup> NORDENSKIÖLD (11) Fig. 37.

<sup>2)</sup> POSNANSKY Fig. 39.

<sup>3)</sup> MAX SCHMIDT (7) Fig. 34.

<sup>4)</sup> M. C. A. 176.





Fig. 28. Head-dress for women. Made of stuff, tufts of yarn and tin.  
Chiriguano, Caipipendi, R. M. E. 32.

possible that the original idea was Indian and in that case came from the civilized mountain region. The frontlet was there a mark of distinction<sup>1</sup>).

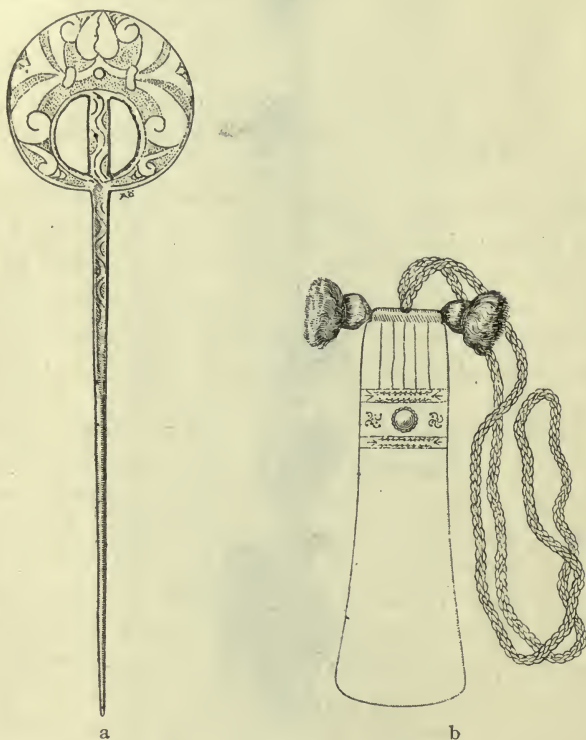


Fig. 29. a. Silver pin used for fastening the «Tipoy». The shape Indian, embellishment Spanish. Chiriguano, Rio Parapiti. In Mr HERN-MARCK'S private collection.  $\frac{1}{3}$ .  
 b. Breast-plate of silver «Boivéra». Chiriguano, Caipipendi. In my private collection.  $\frac{1}{3}$ .

<sup>1</sup>) «Algunas cuñas usan en esta circunstancia ceñir la cabeza con una especie de corona de color rojo, por detras de la cual penden varios cordones que rematan en una borla. Este adorno, de que usan solo algunas y exclusivamente en el a r e t e, no deja de darles cierta gracia.»  
 CORRADO P. 44.

## XVI.

## Carrying-implements.

In Part I have already mentioned that the Chiriguano and Chané use carrying-nets, and never baskets, when carrying burdens on long journeys, when bringing home the produce of their fields, or when bearing water long distances. The method is for the band of the carrying-net to be fastened around the forehead, the burden resting on the back. If the water is near the village, they often bear the pitcher on their shoulders and, now and then, at the mission-stations, on their heads. In contradistinction to the negroes, however, the Indians are never seen carrying burdens on their heads while on journeys.

In Part I there is a map (25) showing the geographical distribution of the carrying-net. As has been proved by the excavations of UHLE<sup>1</sup>) at Arica, the carrying net must be a very old culture element in S. America.

Calabashes are sometimes put inside a net (fig. 30) in order that they may be carried more easily. A calabash in a net is, of course, easily hung up on a hook in the roof of the hut.

Earthen vessels are sometimes hung up in the same way. These have then more or less the shape of calabashes. BOMAN<sup>2</sup>) depicts an earthen vessel hung up in this way from Calama.

In my collection of earthen vessels there is one from the Chiriguano, and another from the Chané, which are intended to be carried by a string running round the vessel

<sup>1</sup>) (10) P. 12.

<sup>2</sup>) Pl. XXVIII, Fig. 180.

through the ears. These are reminiscent of the type of vessel employed by the Choroti and Ashluslay for carrying, and which I have traced to the Incan »aryballes». I did not mention these vessels in Part I, as they are not typical vessels of the Chiriguano and Chané. Among the numerous pitchers used for carrying I have only seen these two specimens. I know nothing of their origin, why they were made, or if they were merely acquired from one of the tribes who always use such vessels for bearing water. The latter is, however, unlikely.



Fig. 30. Calabash in a net with an empty corn-cob as stopper.

R. M. E. 522.  $\frac{1}{7}$

## Table 10.

*Calabashes put inside a net.*

- Chiriguano, R. M. E. 522.  
 Chané, R. M. P. 48.  
 Mataco, R. M. M. T. 114; R. M. M. 1101.  
 Mbayá, BOGGIANI (2) P. 112, Fig. 50.  
 Karajá, KRAUSE Pl. 56. 4 b. c.  
 Caingúá, OUTES (5) and BRUCH P. 96.  
 Indians upper Rio Xingú, STEINEN (3) P. 141.  
 Guayaqui, KUNIKE Fig. 6.  
 Ijca, BOLINDER (4).  
 Gojiro, THERESE VON BAYERN (2) Vol. 1, Pl. 1.  
 Indians Roraima, G. M. 12. 1. 476 (Basket-net.)  
 Indians Popayan, UHLE (1) Vol. 2, Pl. 4, 1.
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## XVII.

## Rafts.

As far as I have seen, the Chiriguano now never use canoes or rafts. PEDRO DE SEGURA,<sup>1)</sup> however, mentions rafts from these Indians at the end of the sixteenth century. Nowhere else in the literature have I found any confirmation of their being used by these Indians, so I refrain from giving an account of the distribution of different kinds of rafts among the South-American Indians, and refer my readers to FRIEDERICI'S<sup>2)</sup> excellent work on Indian canoes and rafts. I have found rafts in common use among the Chimáne and other tribes in North Bolivia.

The Chiriguano and Chané do not build bridges. The former, at least, are known as exceedingly clever waders.

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1) Carta de PEDRO DE SEGURA. «Corregidor de Tomina, al Virey del Peru, con relacion de la guerra de los Chiriguanaes» SERRANO Y SANZ P. 524.

2) (5).

## XVIII.

## Games.

I have found a greater number of games among the Chiriguano and Chané than are known to any other tribes in S. America. In the first part of this book I pointed out that games of chance were known only in the west of S. America and that the »tsúka» or the »chunquanti» game is one that has come to the Indians in Chaco from the civilized area in the west. I also mentioned having found it among the Chiriguano and Chané. It is not necessary to repeat the description of the game here, as it occurs in Part I of this work.

The Chiriguano and Chané have another dice game called »chukareta» which is played with a heap of sticks. These sticks are convex on one side and flat or concave on the other. It is played in the following manner.

First you place a stick (máma) so that it points towards the person who is to throw. We assume it has been placed with the convex side up. If two or more sticks fall crossed with the convex side up and without being touched above by any stick with the flat or concave side up, they go to the throwers. If the máma had been placed with the flat or concave side up, only the sticks with the flat or concave side up would have counted. The players throw alternately and each of them places the máma as he pleases. The one wins who gets most sticks. When only four sticks are

1) With the exception of the chunquanti-game I here repeat the description of Chiriguano and Chané games so as to group them in one place, though I have given them before. There are already several descriptions, but as they are only in Swedish they are regarded by many explorers as non-existent.

left, no máma is put out and the players decide if the convex or flat (concave) side is to count.

Other games of chance that are common here have most likely been borrowed from the Whites. »Tabla», the well known national game of the Gauchos, is played, the astragalus of a cow being thrown, and it depends on which side of the bone turns up whether you win or lose.

The European game of dice goes by the name of »daro», here from the Spanish »dado». The Chiriguano and Chané have dice of their own make. They are made of bone or burnt clay. In Tihüipa I wrote down the rules of this

☐	☐	= -2
☒	☒	= 5
☐	☐	= -2
▣	▣	= 6
☒	☒	= 3
☒	☒	= -4
☒	▣	= 1
☐	☐	= -3

Fig. 31. Rules for the game of »daro». Chiriguano. Tihüipa.

game shown in Fig. 31. All other combinations are = 0. The first to get ten marks, has won. The marks are made on the ground. It is plain that these dice are an imitation of European dice. Those at the top of the illustration correspond to our one, the next to our five; then comes two, then six, then three and next four. They seem to have made their own rules for this game or else they are a re-hash of those of the Whites. There is no doubt that card playing has come from the Whites. The cards they use are bought in stores.

Of the games of skill occurring here I have in the first part of this book described in detail a bat and ball game (map 28) and a game with maize leaf balls (map 29).



The bat and ball game «táca» (a kind of hockey), is played by the Chiriguano boys. I have not seen this game among the Chané. We also saw in Part I that the game is played by many tribes in the Chaco and by the Araucanians. Besides playing with long, bent sticks the Chiriguano also play with a kind of racket. The balls are always of wood. I have not seen rackets elsewhere. In part I we saw that the game with maize leaf balls is especially met with in the northeastern part of S. America.

We find a most interesting ball game among the Chané which is not known by the Choroti and Ashluslay. It is played with india-rubber balls (Map 9). All the way from the Chané in El Gran Chaco to the West Indies and Mexico the game is characterized by the players not being allowed to touch the ball with their hands but having to catch and butt it with their heads, shoulders, hips or feet. In the Journal of the Royal Danish Geographical Society I have given an account of the distribution in South America of games with india-rubber balls. I here repeat in part what I wrote there, as the Danish language is not likely to be known any better than the Swedish. I can also add something to what I wrote there.

As the conformity of the rules of the game all the way from Mexico to the Chané is of the greatest anthropogeographical interest, I reproduce many of them here word for word as given by several authors. The game is mentioned from the Chané in *Litterae Annuae* of 1605. The author of this description says of these Indians that they played at ball using their heads instead of bats, and that they were quite as clever as the Spaniards were with their hands and bats.<sup>1)</sup>

This game «tóki» is still played by the Chané at Rio Parapiti, where I have seen boys playing at ball with their

<sup>1)</sup> Page 409. «Indos videlicet huius Prouinciae, pilae ludo capitibus tabellarum loco, tanta dexteritate exerceri, quanta Hispani, manibus, atque tabellis.»

heads. The game is mentioned in one of the Chané-Indian tales, published in my book »Indianlif». From this tale we see how difficult it used to be for the Chané to get india-rubber for their balls. It had to be fetched from the north, as there are no rubber-yielding trees at Rio Parapiti.

»Aguaratunpa» (the Fox<sup>1</sup>)-demon) had captured »Ururutti», the white Condor, who offers everything imaginable to get back his liberty.

»I will fill a house with bowls of silver »Cagua» and give it you, if you will release me,» says the white Condor.

»I have all the silver I want», Aguaratunpa answers, »and I capture you in order to kill you. But if you can get me the white india-rubber ball »toki» to play with, I will release you», says Aguaratunpa.

Ururutti now flies and fetches the white india-rubber ball. Then Aguaratunpa and the others play the game, catching and butting the ball with their heads. The white Condor, however, catches the ball and flies off with it and so Aguaratunpa sends another bird »Tavatan» to fetch the black india-rubber ball.<sup>2</sup>)

The game is mentioned from the Itatines east of Sta. Cruz de la Sierra in *Litterae Annuae* of 1589. The ball was made of the resin from a certain kind of tree and yet it was so light that it bounced at the slightest touch more easily than any leather ball. They did not, however, strike this ball with their hands or feet, but with their heads and, if need were, with their elbows, giving and taking it with the utmost skill. The winner was awarded a great prize.<sup>3</sup>)

<sup>1</sup>) NORDENSKIÖLD. (8) P. 244.

<sup>2</sup>) The two india-rubber balls from the Cavina-Indians in the Gothenburg museum are of a greyish-yellow; the one from the Huari-Indians is a blackish-brown.

<sup>3</sup>) Page 434. »Pila est e cuiusdam resina arboris compacta, levis tamen, et quae minimo pulsu magis resiliat, quam folliculus quicumque: eam porro non manu impellunt, aut pede, fed capite, et, si forte, cubito, mirandantium accipientiumque dexteritate: et est magnum victori praemium.»



Map. 9. The distribution of games with india-rubber balls.

- = players not being allowed to touch the ball with their hands, but having to catch and butt it with their heads, shoulders, hips or feet. ○ = rules of the game unknown.
- 1 = Chiriguano; 5 = Chané; 20 = Paressi-Kabisi; 23 = Churápa; 25 = Mojo; 28 = Auetö;
- 30 = Itatines (Guarayú); 47 = Indians, British Guiana; 58 = Cavina; 64 = Huari; 8S = Otomaco; 94 = Chiquitos; 3M = Indians, Haiti; 4M = Indians, Yucatan; 9S Maynas.

I have not seen the Chiriguano play this game. I have, however, heard that they used to play it and called the game »bondi». The ball, which was of solid india-rubber, might not be touched with the hands but had to be caught and struck with the head. It might not touch the ground.

Both earlier and later authors mention games with india-rubber balls among the Chiquito Indians in south Bolivia.<sup>1)</sup> These Indians hit the ball with their heads. At Rio Guaporé I saw rubber-workers, who spoke Chiquito, playing this game. They were very clever at striking the ball with their heads. Even low balls that only just cleared the ground, were caught in the same way, the players throwing themselves on their faces. They danced while playing. This game is also known to the Churúpa, a Chiquito-Indian tribe, near Sta. Cruz de la Sierra, who called it »taurosh».<sup>2)</sup> EDER speaks of games with india-rubber balls in Mojos.<sup>3)</sup> The ball was kicked or caught and butted with the head. The balls that were used were either solid and heavy or light and hollow.

I saw the small tribe of Huari Indians<sup>4)</sup> near the Upper Rio Guaporé playing with hollow india-rubber balls. There also the balls had to be caught and butted with the head.

When ROOSEVELT on his celebrated journey through Matto Grosso came to the Paressi Indians, he was astonished to see them play »football with their heads», a mode

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1) FERNANDEZ. »Juntanse muchos en la plaza con buen orden, echan al ayre una pelota, y luego, no con los manos, sino con la cabeza, la rebaten con maravillosa destreza, arrojandose aún en tierra para cogerla». D'ORBIGNY (2) *Partie Historique*, Tome 2. P. 394—395; NORDENSKIÖLD (8) P. 180.

2) NORDENSKIÖLD (9) P. 28.

3) P. 341.

4) NORDENSKIÖLD (11) P. 387. A ball that I brought home from these Indians is about 6 cm. in diameter. The rubber is unusually thick, about 6—7 mm. It is blackish brown.

of playing that he thought was as yet undescribed.<sup>1)</sup> They used a light, hollow rubber ball of their own make. It was round, and about 8 inches in diameter.

Before ROOSEVELT<sup>2)</sup> MAX SCHMIDT<sup>3)</sup> speaks about this game in Matto Grosse among the Paressi-Kabiši. There they played with india-rubber balls made of the milky juice from the mangave. The ball might not be touched with the hands during the game, but had to be caught and butted with the forehead, even if it was on the ground. To make this possible a mound of sand might be made under the ball. The balls are 9—11 cm. in diameter. MAX SCHMIDT gives us a splendid photograph of some Paressi-Kabiši lads amusing themselves with this strange ball-game.

KARL VON DEN STEINEN mentions india-rubber balls among the Auetö-Indians at Rio Xingú,<sup>4)</sup> but without

<sup>1)</sup> ROOSEVELT, P. 185—86. »The game is not only native to them, but I have never heard or read of its being played by any other tribe or people.»

<sup>2)</sup> Page 185. »The players are divided into two sides, and stationed much as in Association football, and the ball is placed on the ground to be put in play as in football. Then a player runs forward, throws himself flat on the ground, and butts the ball towards the opposite side. This first butt, when the ball is on the ground never lifts it much and it rolls and bounds towards the opponents. One or two of the latter run toward it — one throws himself flat on his face and butts the ball back. Usually this butt lifts it, and it flies back in a curve well up in the air; and an opposite player, rushing toward it, catches it on his head with such a swing of his brawny neck, and such precision and address that the ball bounds back through the air as a football soars after a drop-kick. If the ball flies off to one side or the other it is brought back, and again put in play. Often it will be sent to and from a dozen times, from head to head, until finally it rises with such a sweep that it passes far over the heads of the opposite players and descends behind them. Then shrill rolling cries of good-humoured triumph arise from the victors; and the game instantly begins again with fresh zest.»

<sup>3)</sup> SCHMIDT, MAX (4) P. 181—83.

<sup>4)</sup> STEINEN, (3) P. 329.

giving the rules of the game. I saw the Cavina-Indians at Rio Beni use india-rubber balls. They were hollow and the rubber was thin and there was shot inside them so that they could be used as rattles. I only saw them thrown with the hands. Indian boys in the Mainas mission<sup>1)</sup> at Rio Marañon also had india-rubber balls of their own making. BARRERE mentions balls of the kind from Amazonas without saying how they were used.<sup>2)</sup> IM THURN<sup>3)</sup> speaks of these balls in British Guiana.

GUMILLA<sup>4)</sup> tells us that the Otomaco-Indians at the Orinoco river played with balls made of a kind of juice that they called »caucho» and which bounced to a man's height at the slightest touch. The ball might only be caught and hit with the right shoulder. If it touched any other part of the body the player lost one point. In this way the balls were butted from shoulder to shoulder up to 10 or 12 times without touching the ground. It struck GUMILLA as stranger still that when the ball was rolling on the ground they could put it in play again by throwing themselves on their faces and pressing their bodies to the ground.<sup>5)</sup>

1) [MARONI] (Junió 1889) P. 329.

2) BARRERE, P. 139.

3) P. 326.

4) GUMILLA. T. I, P. 190—191. »Lo singular es, assi la pelota, como el modo de jugarla: la pelota es grande, como una bola de jugar el Mayo, formado de una resina, que llaman CAUCHO, que à leve impulse rebota tan alto, como la estatura de un hombre: el saque, y rechazo ha de ser con solo el hombro derecho, y si toca la pelota en qualquiera otra parte del cuerpo pierde una raya: causa maravilla vèr ir, y venir rechazar y rebol-ver la pelota diez, doce y mas veces, sin dexarla tocar en el suelo. Es otra cosa de mayor admiracion, al venir una pelota arrastrando, vèr arro-jarse aquel Indio contra ella con todo el cuerpo: al modo con que suelen arrojarse al agua para nadar, del mismo modo dàn con todo el cuerpo contra el suelo, y con el hombro levantan por essos ayres otra vez la pe-lota.

5) See GILIJ T. 2, P. 269—272. GILIJ describes the game in detail. He says that the Otomacos had a place set apart for ball-games.

OVIEDO<sup>1)</sup> gives a detailed description of the game. He tells how there were special play-grounds in the Haiti villages where they played at ball. During the game

1) OVIEDO. T. 1, Lib. 6, Chap. 2, P. 165.

«E las pelotas son de unos rayces de árboles é de hiervas é çumos é mezcla de cosas, que toda junta esta mixtura paresçe algo çerapez negra. Juntas estas y otras materias, cuéçenlo todo é haçen una pasta; é redondéanla e haçen la pelota, tamaña como una de las de viento en España, é mayores é menores: la qual mixtura haçe una tez negra, é no se pega á las manos; é despues que está enxuta tórnanse algo esponjosa, no por que tenga agugero ni vacuo alguno, como la esponja, pero alijeresçesse, y es como fofa y algo pesada.

Éstas pelotas saltan mucho mas que las de viento sin comparaçion, porque de solo soltalla de la mano en tierra, suben mucho mas para arriba, é dan un salto é otro é otro y muchos, disminuyendo en el saltar por si mismas, como lo haçen las pelotas de viento é muy mejor. Mas como son maçizas, son algo pessadas; é si les diessen con la mano abierta ó con el puño çerrado, en pocos golpes abririan la mano ó la desconçertarian. Y á esta causa le dan con el hombro y con el cobdo y con la cabeça, y con la cadera lo mas continuo ó con la rodilla; y con tanta presteza y soltura, que es mucho de ver su agilidad, porque aunque vaya la pelota quassi á par del suelo, se arrojan de tal manera desde tres ó quatro pasos apartados, tendidos en el ayre, y le dan con la cadera para la rechaçar. Y de qualquier bote ó manera que la pelota vaya en el ayre (é no rastrando), es bien tocada; porque ellos no tienen por mala ninguna pelota (ó mal jugada), porque haya dado dos, ni tres, ni muchos saltos, con tanto que al herir, le den en el ayre. No haçen chaças, sino pónense tantos á un cabo como á otro, partido el terreno ó compás del juego, y los de acullá la sueltan ó sirven una vez, echándola en el ayre, esperando que le toque primero qualquiera de los contrarios; y en dándole aquel, luego subçede el que antes puede de los unos ó de los otros, y no çessan con toda la diligencia possible á ellos, para herir la pelota. Y la contençion es que los deste cabo la hagan passar del otro puesto adelante de los contrarios, ó aquellos la passen de los límites ó puesto destes otros; y no çessan hasta que la pelota va rastrando, que ya por no aver seydo el jugador á tiempo, ó no haçe bote, ó está tan lexos que no la alcança, é ella se muere ó se para de por si. Y este vençimiento se cuenta por una raya, é tornan á servir para otra los que fueron servidos en la passada, é á tantas rayas, quantas primero se açordaron en la postura, vá el presçio que entre las partes se conçierta».

HERRERAS description is not so detailed. Dec. 1, Libro 3, Chap. 4.

the chiefs sat on beautifully carved seats or so called »duhu«. OVIEDO's description makes it quite clear that they used india-rubber balls. Trees yielding india-rubber, however, seem to be unknown in Haiti, so perhaps the Indians got them while trading with the tribes on the South American Continent.

OVIEDO says how well these balls bounced. If one is but dropped on the ground it bounces higher than a ball of feathers would, and it keeps on bouncing again and again. They played in the same way in Haiti as they did at the Orinoco, not throwing the balls with their hands but catching and striking them with their shoulders, elbows, heads, hips or knees. The balls were solid.

I have shown on map 9 the distribution of rubber balls in South-America. In most places it is, as we have seen, played in such wise that the balls are not allowed to be touched with the hands, but have to be caught and struck with some other part of the body. Judging by the distribution of the game I should not consider it unlikely that it has been spread in South America by the Arawaks. The Indians in Haiti were Arawaks, as also the Paressi-Kabiši and Chané. The Otomaco had Arawakan civilization. It is interesting to learn from the Chané tale that the balls were brought from a distance. It is possible that the same thing was done in Haiti.

As early a writer as GUMILLA states that a ball-game like the one he describes from the Otomaco-Indians, was played in Mexico. Thus he quotes P. ROXAS (*Historia Cinaloá*, lib. 8, cap. fol. 475.) who mentions similar games among the Acaxees-Indians in Sierra de Topia.<sup>1)</sup> There is

<sup>1)</sup> T. I, P. 191. The publisher of EDER's work also had his attention drawn to the similarity between the ball-games in Mexico and in Mojos. (P. 344).

»Eundem frequentabant olim veteres Mexicani, et Clavigero teste hodie dum exercent Taumarenses. Insulæ S. Dominici incolae se se hoc eodem ludo jam olim oblectarunt, testante Oviedo, at pilam rerum va-



a striking similarity between »tlaxtli«, the Mexican ball game, and the one which is played in the West Indies and South America when you take into consideration the different standard of civilization of these peoples. You cannot expect to get the same elaborate rules of a game from a tribe of low culture as from one of a much higher standard. The balls used for tlaxtli were of india-rubber. In Mexico too they played in such wise that the ball was not touched with the hand but with the hip.<sup>1)</sup> The same game was also played by the Maya.<sup>2)</sup>

One sometimes sees Chané and Chiriguano women playing a game like nine-pins which is called »itarapóa« by the former and »tocoróre« by the latter. They played it as follows at Tihüipa. Two rows of maize grains were laid out, two grains on each other like miniature nine-pins at a distance of 4 or 5 feet. Two persons took turns in playing, trying to knock down each others maize nine-pins with a stone ball. The one who first knocked down all the other players nine-pins won the game.

At Rio Parapiti the players had three nine-pins each. There was a distance of one fathom between the ninepins of the two players. Every nine-pin consisted of an empty maize cob and the distance between them was the span of a hand. (the greater<sup>3)</sup>). They used a ball of burnt clay, hollow, with small rattling marbles inside.

I saw a quoits-game »parama« played by the Chiriguano at Caipipendi. It is a game for two. A button or something of the kind is put on a stone as a target and the play-

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riarum permistione confecerunt. Quis divinet, undenam hæc tanta nationum, tot per regionis sparsarum, in re non maximi utique momenti, conspiratio.»

<sup>1)</sup> JOYCE (2), P. 166. »The players wore special gauntlets but the most esteemed variety of the game was that in which they were not allowed the use of their hands at all, but struck the ball with their hips.»

<sup>2)</sup> JOYCE (2) P. 301.

<sup>3)</sup> The maximum distance between the thumb and little finger.

ers throw round pieces of potsherd or flat round stones at it. The button has to be knocked down and the one who has got nearest to it wins a point. The game goes on till one of the players has five or more points according to agreement.

»Sóuki» is another game that I have seen Chané boys play at Rio Parapiti. It is played by two boys with maize-cob arrow-darts (fig. 35). First one boy throws his dart into the ground and then the other, who tries to get as near it as possible. If he gets within the span of a hand (the greater) or nearer still to his opponent's arrow he wins a point, and a mark is made on the ground. He is the winner, who first has six marks while the other player has none. In reckoning the points only those count which one player has above the other.

»Huirahuahua» is a game that is only played by small Chané boys at Rio Parapiti. It is played by two boys with a stick apiece. (Fig. 34). One of them throws his stick so that the point strikes the ground and rebounds as far as possible. Then the other boy throws. The one who has thrown farthest gets a point. He wins who first has eight points while the other has none, that is to say, he must have eight points more than the other boy.

»Sipépe» is a game for boys which I have seen played by the Chiriguano in Yumbia at Rio Pilcomayo. The boys form two sides 1, 2, 3, 4 and 5, 6, 7, 8. No. 4, let us say, begins by throwing a discus made of a flat cactus from which the spikes have been removed. The discus is hurled with great speed. The opposing team tries to hit it with their arrows. If this happens No. 4 has to walk out and have a shot at the discus which has been placed in a furrow with its edges facing the shooter. If he hits it he may return with his arrow. If he misses he forfeits his arrow and No. 3 succeeds him. No. 2 comes in if No. 3 misses, and No. 1 in the same way. Should he miss too, then 5, 6 etc. shoot till one of them hits the mark. The arrows

that have not hit the mark are out of the game. If one hits the discus thrown by No. 4, it has to be thrown by No. 5 and then is the turn of 4, 3 etc. to try and hit it. The player who loses all his arrows is out of the game. The last one who has any arrows left has won, or rather his side. The arrows used for this game are decorated in order that each player may know his own.

Thus we find two games of chance<sup>1)</sup> and eight games of skill among the Chané and Chiriguano. Nothing like this number of games is known from any other Indians in South America. The following table shows us their distribution within the territory that I have explored.

Table 11.

	*Chanquanti*	*Chucareta*	Ball games with bats	Games with rubber balls	Games with maize-leaf balls	Quoits-games	Games with marbles	*Sipépe*	*Sóukf*	*Huirahuahua*	Sum total
Ashluslay .....	+	—	—	—	—	—	—	—	—	—	2
Atsahuaca .....	—	—	—	—	—	—	—	—	—	—	0
Aymara .....	—	—	—	—	—	—	—	—	—	—	1
Cavina .....	—	—	—	+	—	—	—	—	—	—	1
Chacobo .....	—	—	—	—	—	—	—	—	—	—	0
Cháma .....	—	—	—	—	—	—	—	—	—	—	0
Chané .....	+	+	—	+	+	—	+	—	—	+	6
Chimáne .....	—	—	—	—	—	—	—	—	—	—	1
Chiriguano .....	+	+	+	+	+	+	+	+	—	—	8
Choroti .....	+	—	+	—	+	—	—	—	—	—	3
Churápa .....	—	—	—	—	+	—	+	—	—	—	3
Guarayú (mission)....	—	—	—	— <sup>1)</sup>	—	—	—	—	—	—	1
Guarayú Pauserna ..	—	—	—	—	—	—	—	—	—	—	0
Huanyam .....	—	—	—	—	—	—	—	—	—	—	0
Huari .....	—	—	—	—	—	—	—	—	—	—	1
Itonama .....	—	—	—	—	—	—	—	—	—	—	0
Mataco .....	+	—	—	—	—	—	—	—	—	—	2
Quichua .....	+ <sup>2)</sup>	—	—	—	—	+	—	—	—	—	2
Toba .....	+	—	+	—	—	—	—	—	—	—	2
Tambopata-Guarayo ..	—	—	—	—	—	—	—	—	—	—	0
Tapiete .....	+	—	—	—	—	—	—	—	—	—	2
Yamiaca .....	—	—	—	—	—	—	—	—	—	—	0
Yuracáre .....	—	—	—	—	—	—	—	—	—	—	0

<sup>1)</sup> In the sixteenth century.

<sup>2)</sup> See NORDENSKIÖLD (16)

In no other tribe among whom I have travelled have I found any quite original game unknown to the Chiriguano or Chané. Very few are known from other parts of South America.

I have already said that games of chance must have come to the Chiriguano and Chané from the civilized area of the west. Games with maize-leaf balls and india-rubber balls are northern culture-elements. Bat and ball games are southern culture-elements. Quoits-games most likely hail from the civilized parts of the west. I found discs that may have been used for such games at Caipipendi and also in the old settlements in the San Francisco valley in the province of Jujuy in Argentine. Quoits-games are common among the Quichua. — I cannot tell where the Indians here dealt with learned to play with marbles, or to play »sipépe» and »huirahuahua» — I have found nothing about such games in the literature. The game of »sókiki» may possibly be a northern culture element. Hand-darts like those used by the Chané are mentioned by KOCH-GRÜNBERG from southern Guiana. In BOLINDER'S collection in the Gothenburg museum there is a hand-dart of the kind from the Chimila in Columbia.

The reason why we find such a number of games among the Chiriguano and Chané is that the latter tribe is an Arawak tribe and that they have been strongly influenced by western civilization. They know not only the Arawak games, but several games that were of importance in the civilized parts of the west.



Fig. 32. Stick for »the huirahuahua»-game. Chané, Rio Parapiti.  
R. M.  $\frac{1}{3}$ .



Fig. 33. Hand-dart of an empty maize-cob, a stick and feathers.  
Chané, Rio Parapiti. R. M.  $\frac{1}{3}$ .

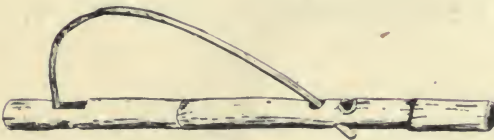


Fig. 34. »Rifle, Chané, Rio Parapiti. R. M. E. 160.  $\frac{1}{6}$

## XIX.

## Playthings.

I will now pass on to speak of the playthings of the Chiriguano and Chané children, leaving out such as are merely imitations of things used by the elders. They include dolls, buzz-discs, hoops and whips, humming-tops, »bullroarers», and »rifles».

I have collected dolls from the following tribes: — Chiriguano, (clay), Chané (wax, cloth, clay), Choroti (unburnt clay, bone), Toba (ditto), Tapiete (unburnt clay,) Mataco (unburnt clay,) Yuracaré (wax), Chimáne (wood), Guarayú-Mission (wood or cloth).

Except among the Chiriguano<sup>1)</sup> and Chané<sup>2)</sup> I have only seen the humming-top among the Quichua<sup>3)</sup> and the Chimáne<sup>4)</sup>. KOCH-GRÜNBERG<sup>5)</sup> mentions it from N. W. Brazil and from the Roraima-Indians<sup>6)</sup> and Krause<sup>7)</sup> from the Karajá. At present I deem it impossible to say whether we have here a genuinely Indian culture-element or not.

The same is true of the buzz-disc. Its distribution may be seen from the table 12 which I only publish in order to arouse interest in these apparently insignificant objects. It is necessarily very incomplete.

It is doubtful whether the »rifle» (Fig. 34) is genuinely Indian.

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1) R. M. E. 358.

2) R. M. P. 64.

3) R. M. 05. 16. 259.

4) G. M. 15. I. 937.

5) (2) Vol. 1, P. 121.

6) (3) P. 78.

7) Fig. 175, P. 311.

Excepting the Chané I only know of hoops from the Huari. What I have seen of »bull-roarers» I have already mentioned in Part I. S. American Indian play-things are altogether too little known for us to draw anthropogeographical conclusions concerning their distribution.

*Table 12.*

*Distribution of the buzz-disc.*

- Chiriguano, R. M. E. 463.  
 Chané, R. M. P. 180.  
 Karajá, KRAUSE P. 311, Fig. 176.  
 Yuracáre, R. M. Y. 65.  
 Indians Roraima, Macusi, Wapisiana etc. KOCH-GRÜNBERG (3) P. 80.  
 Cavina, G. M. 15. I. 1453.  
 Itonama, G. M. 15. I. 1266.

## XX.

**Musical instruments.**

The Chiriguano and Chané have the following musical instruments: drums, flutes, whistles, and trumpets. Among the latter tribe I have also seen the panpipe and the musical bow. The panpipe may possibly occur among the Chiriguano too.

I have already, in Part I, dealt with the drum, the whistles, and the musical bow. The two former, I concluded, were Peruvian, the latter a post-Columbian culture-element.

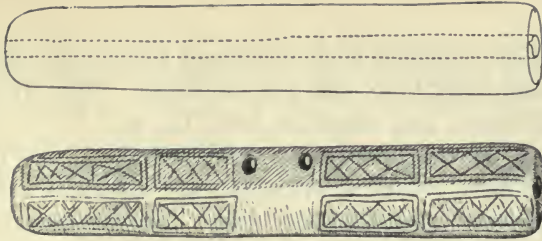
When studying Indian musical instruments we must bear in mind that, in post-Columbian times, they have learnt a good deal from Whites and negroes.

At the mission stations the Indians are always instructed by the missionaries in music. At the Bolivian mission-stations it is not unusual to come across Indians who very well understand musical notation, though unable to read or write. At the Chiriguano mission stations there are full-blown musical bands.

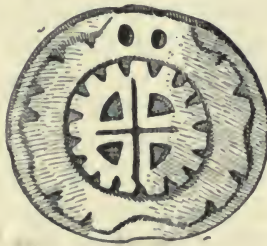
A large drum is called by the Chiriguano »angúahuasi», a ordinary drum »angúa» or »angúarai». Like the Guarani Indians in Paraguay the Chiriguano call a mortar »angúa». The Mataco sometimes make drums by stretching a skin over a wooden mortar. So too, if we are to be guided by the name, the Chiriguano drums must originally have appeared.

The long wooden-whistle (fig. 35 A) is very common among the Chiriguano and Chané, and often of great size; the round wooden whistle is more rare. Both are often elaborately carved.





A.



B.

Fig. 35. Wooden whistles.

A. Chiriguano, G. M. 13. I. 545.  $\frac{1}{4}$ . B. Chiriguano, In private collection.  $\frac{2}{3}$ .

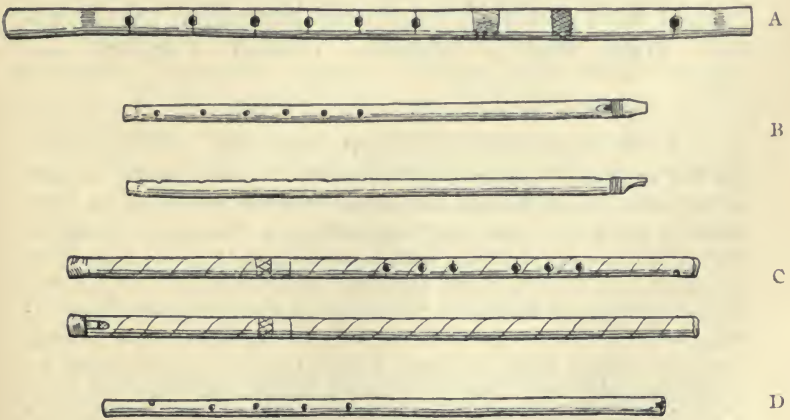


Fig. 36. A. Side-blown flute of reed. Chané, Rio Parapiti. R. M. P. 32.  $\frac{1}{4}$ .  
 B. End-blown flute of reed. Chiriguano. R. M. E. 159.  $\frac{1}{4}$ .  
 C. » » » » » » » E. 589.  $\frac{1}{8}$ .  
 D. » » » » wood, Chané, Rio Parapiti. R. M. P. 37.  $\frac{1}{6}$ .

Flutes of several kinds are found among the Chiriguano and Chané, and they are here depicted. They are always made of reeds and never of bone (fig. 36).

Some of the Chiriguano and Chané flutes are not genuinely Indian. This is evidently the case with side-blown flutes with six carefully fitted holes. The like are not found among outlying tribes, nor, what is very important, have they been found in old excavations on the coast of Peru. No such flute is found among the 26 flutes depicted by MEAD from the coast of Peru. Nor are flutes of this kind found among the Choroti and Ashluslay. All the old Peruvian flutes are blown from the end, and the holes seem to be placed very arbitrarily. I have in my collections side-blown flutes from the Yuracaré, Chimáne, Itonama, Cavina, and Tapiete as well as from the Chiriguano and Chané. They are also found among the Caingúa. Everywhere they have six holes.<sup>1)</sup> They are never found among absolutely outlying tribes. Endblown flutes are undoubtedly pre-Columbian. All the flutes from the Peruvian coast described by MEAD are end-blown flutes. Three of them are made of reed, one of a calabash, the others of bone. Various kinds of end-blown flutes are very widely distributed in S. America. I have such flutes from the Chiriguano, Chané, Mataco, Toba, Tapiete, Ashluslay, Choroti, Yuracaré, and Huari.

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<sup>1)</sup> A flute of this kind is called by the Chané «kéna». Speaking of the Quichua musical instruments COBO says (IV. P. 228) «Quena — quena es una caña sola como flauta para cantos endechas.» The Cavina call a dance at which they play with flutes and drums «kena-kena». (NORDENSKIÖLD (II) P. 460.) CHERVIN, when mentioning the Quichua musical instruments, says that they, and especially the mestizoes, have their small flutes which they call «quena»... (P. 178). I presume that the Chané took over from the mestizoes not only the side-blown flute but also its name «quena» which the latter in their turn had obtained from the Quichua language. How the Quichua came to apply the word «quena» to a musical instrument which was originally unknown to them, I do not know.

As I said in Part I the flutes in different parts of S. America are too little known for me to venture to express any opinion as to the source whence the Chiriguano and Chané got the end-blown flute.

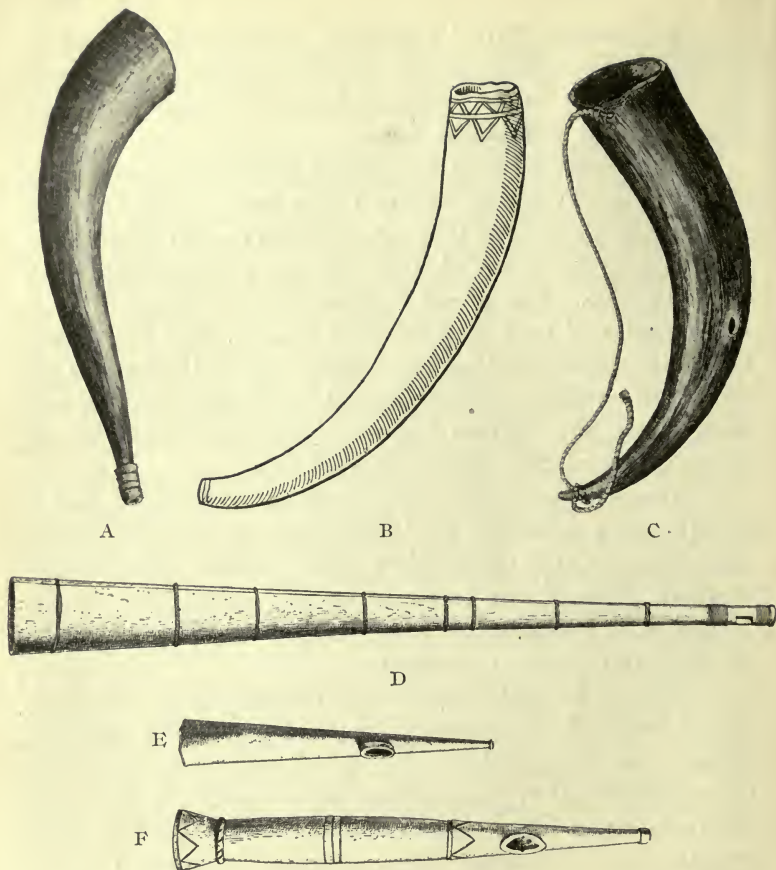
Both the Chiriguano and Chané possess trumpets made of cowhorn. From the former I also have an old trumpet made from a calabash (Fig. 37 B) which I acquired at Caipipendi. I do not know whether this was ever provided with a mouthpiece. The Chané Indians have on their cowhorns mouthpieces of reed with lips (See Fig. 50. Part I). I have not seen these mouthpieces among the Chiriguano; they blow the cowhorns from the end without a mouthpiece. Most likely the Indians learned from the Whites to use mouthpieces of the aforementioned type.

Trumpets are very wide-spread in S. America, and it is interesting to notice the distribution of trumpets blown from the side and those blown from the end. The pre-Columbian date of the latter is certain, while that of the former is very doubtful. Map 10 indicates the distribution of these two types of trumpet.

Thus we see that side-blown trumpets occur especially in the basin of the Amazon,<sup>1)</sup> in the region where negro influence has been and is very great, and I do not think it impossible that the Indians have learnt to use such trumpets from the negroes. When negro slaves were brought to S. America, they naturally introduced many African ideas. Runaway slaves frequently sought refuge among the Indians. In Matto Grosso, for instance, it is probable that negroes had been in touch with Indians who had not yet seen Whites. From them the Indians would be able to learn a good deal.

When making a trumpet of an antelope horn or the tusk of an elephant, it is quite natural to make a hole in the

<sup>1)</sup> From civilized Indians at Tupiza in Bolivia CHERVIN mentions side-blown trumpets which, it is quite certain, were introduced by the Whites at a late date.



- Fig. 37. A. End-blown trumpet made of cowhorn. Chiriguano. R. M. E. 97.  $\frac{1}{5}$ .
- B. End-blown-trumpet made from a calabash. Chiriguano. R. M. E. 511.  $\frac{1}{6}$
- C. Side-blown trumpet made of cowhorn. British Guiana. Collection of LILJEWALCH—THULIN. G. M. 12. I. 50.  $\frac{1}{6}$ .
- D. Side-blown trumpet made of wood. Parentintin(?), Brazil. R. M.
- E. Side-blown trumpet made of tin-plate. Bush-negroes. Surinam. Collection of BARON KLINCKOWSTRÖM. R. M. K. 204.  $\frac{1}{8}$ .
- F. Side-blown trumpet made of wood. Bushnegroes. Surinam. Collection of KLINCKOWSTRÖM. R. M. K. 69.  $\frac{1}{8}$ .



side of the horn or tusk, as the point is not hollow; the same holds good, though to a less extent, of a cowhorn. It is therefore to be expected that the side-blown trumpet should be found in Africa and, further, that the negroes, on coming to America, should still make such trumpets, although of other materials. It is only in accord with the laws of conservatism.<sup>1)</sup> The Bush negroes of Surinam still have side-blown trumpets (Fig. 37 E, F) which, though of wood and tin-plate, are plainly copies of the trumpets used by their forefathers in Africa.

In pre-Columbian times there were in S. America no suitable horns for making trumpets. Trumpets were made of other materials, the most primitive being probably large seashells. To make a trumpet of a large shell one only needs to knock off the point. It becomes an end-blown trumpet. The pre-Columbian date of end-blown trumpets is proved by numerous finds on the coast of Peru *where, on the other hand, a side-blown trumpet has never been found.*<sup>2)</sup>

Thus there are no archaeological proofs that the side-blown trumpet in S. America is pre-Columbian. A fact which is against the idea that sideblown trumpets were brought to S. America by negroes is their considerable distribution and above all that a trumpet-like musical

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<sup>1)</sup> PROFESSOR VON LUSCHAN (P. 191.) says about the side-blown trumpets from Benin. »Dem Beispiele VON HORNBOSTEL und SACHS folgend, bezeichne ich als Querhörner solche hornförmige Blasinstrumente, die nicht an der Spitze angeblasen werden, sondern an einem seitlich angebrachten Loch. Dabei wird man zur Erklärung einer solchen uns zunächst fremdartig erscheinenden Einrichtung wohl daran denken dürfen, dass die ältesten Blasinstrumente aus Tierhörner hergestellt wurden, und dass es ganz ungleich einfacher war, etwa ein Antilopen- oder Ziegenhorn von der Seite her anzuschneiden als von der Spitze an abzutragen oder anzubohren. An der so gewonnenen Form hat man dann wohl festgehalten auch wenn man die Blashörner aus Elfenbein oder Holz oder gar aus Metall herstellte.»

<sup>2)</sup> In the literature to which I have access none such are mentioned.

instrument was found at the upper Rio Xingú which was evidently blown from the side.<sup>1)</sup> We must remember, however, that a period of 400 years has elapsed since the first negroes arrived here. As early as ORELLANA'S time the Indians had learnt from the Whites or the negroes to make stringed musical instruments.

Another fact against the African origin of the side-blown trumpet is, perhaps, the occurrence of considerably divergent types among different tribes. This may be because the Indians had a great variety of end-blown trumpets first and afterwards made side-blown trumpets on their pattern. Granting the introduction of side-blown trumpets by negroes in S. America, their wide distribution is very likely due to their having been a coveted culture-element, and a culture-element independent of the external circumstances under which the tribes live.

The non-occurrence of the side-blown trumpet within the western area of civilization speaks for its post-Columbian origin in America. As far as I know, it was also unknown within the Central American and Mexican areas of civilization. Side-blown trumpets are not mentioned from N. America.<sup>2)</sup> It is highly improbable that a culture-element of this kind—independent as it is of natural condi-

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<sup>1)</sup> We may, perhaps, find an explanation of this in the following quotation from KARL V. D. STEINEN:

»Zu unserer Ueberraschung fanden wir auch eine eiserne Meisselspitze und bei einem Kinde ein Schnürchen blaue Perlen vor. Wir konnten nicht gewiss feststellen, auf welchen Wege sie hierher gelangt waren; ich deutete ihre Beschreibung und Antonio's unklare Angaben so, dass sie von einem Stamm des untern Paranatinga, den der Grossvater auf einem Streifzuge besucht hatte, mitgebracht worden seien.« (2) P. 173.

<sup>2)</sup> It is of great theoretical interest that N. American Indians did not use the horns of the bison for trumpets, though they were very suitable. They had end-blown trumpets of large shells and of wood. »We learn from historical sources that some varieties of shell, including the conch, were employed by the natives of the E., S., and S. W. for trumpets. . . *Handbook* Part 2, P. 540.

tions — should have occurred within the Amazon basin, and not within the areas of civilization in the west and north-west, if it really were pre-Columbian.

By means of far-reaching trade connections it is certain that European and, possibly, African ideas were spread far and wide at the beginning of the Conquest period. *Within a large part of America the continuity between the tribes was at that time, still undisturbed.* When the Whites had completed the conquest of all the great highways — the navigable rivers — trade among the Indians ceased or was at least diminished. The wide extent of inter-Indian trade already appears from the fact that the Indians of the upper Amazon in the seventeenth century obtained axes and knives of iron from Guiana<sup>1</sup>). This proves that Indian trade was carried on over immense distances. Thanks to this trade, there were also spread, of course, many purely Indian ideas. Where large tracts are occupied by Indians, trade is still very lively, as in Guiana, along the upper Orinoco and in the Chaco. Only a short time ago Indians appear to have carried on a trade in weapons between Guiana and Rio Negro.<sup>2</sup>)

In what I have now said I do not consider that I have proved finally that the side-blown trumpet in S America is an African culture-element. I have however demonstrated that is highly possible, and that the question deserves attention.

The information I give below, which is based on the literature on the subject and on Museum specimens to which I have had access, indicates my knowledge of the occurrence of trumpets in S. America. Thus it verifies Map 10. The end-blown trumpet may have been obtained by the Chiriguano and Chané from the western area of civilization. In this case the original trumpets must have been of some

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1) MANUEL RODRIGUEZ Lib. 2, Cap. XI, P. 131.

2) KOCH-GRÜNBERG (7).





other material than the cowhorns introduced by the Whites, e. g. of calabashes, like the old trumpet from Caipipendi. Mouthpieces with lips were presumably, as I said, introduced by the Whites. COMINGES<sup>1)</sup> relates the following little episode which is significant as showing how the Indians learn the use of musical instruments from the Whites. »*À su vista se me ocurrió la idea de fabricarles un clarinete, lo que hice en pocos minutos con una caña tacuara, del que se arrancaron notas muy agudas parecidos á las que produce la dulzaina; lo que alegró tanto á la concurrencia que hasta los viejos me metían cañas por los ojos bara que les hiciese gaitas, en cuya operación me pasé el resto de la tarde y parte de la noche.*»

The panpipe is very rare here. It consists of four reeds which I have not seen bound together. In the following table and in the accompanying map 11 I have endeavoured, on the basis of the investigations of PATER SCHMIDT, some other writers, and of myself, to indicate the distribution of the panpipe in S. America. The map does not enlighten us as to whether the Chané got the panpipe from the area of civilization in the west, or if it came to them from Indians in N. E. Bolivia. The latter seems the likeliest supposition, as it only occurs within the northern part of the Chané country. It is not a culture-element from Guarani Indians. It is interesting to notice that the panpipe has by no means so great a distribution at it might have. In the Chaco there is abundance of material for panpipes, but they are unknown there. In the wealth of old literature dealing with the Indians on the coast of Brazil, I have found no hints of the panpipe. Oddly enough the panpipe is also unknown among the Indians of the Roraima region. Nor is the panpipe known to the Caingúa Indians. Very possibly the distribution of the panpipe has been considerably extended in post-Columbian times. The well-known investi-

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<sup>1)</sup> P. 227

gation of VON HORNBORSTEL points to the panpipe being an Andine culture-element — at least in N. W. Brazil.

*Table 13. Map. 10.*

*End-blown trumpet.<sup>1)</sup>*

1. Choroti.
2. Ashluslay.
3. Tapiete.
4. Chiriguano, R. M. E. 511, E. 573. (without mouth-piece).
5. Chané, R. M. P. 106. (with mouthpiece).
6. Mataco.
7. Toba.
8. Lengua, HAWTREY P. 293.
10. Araucanians, GUEVARA (1) P. 170.
12. Mbayá, SÁNCHEZ-LABRADOR Vol. 2, P. 4.
13. Karajá, KRAUSE P. 316.
16. Guató, MAX SCHMIDT (3) P. 309.
18. Quichua. »Quepa es una suerte de trompetilla que hazen de un calabazo largo.» »Tocan asimismo caracoles.» COBO, T. 4, P. 229.
19. Aymara.
30. Guayaqui, KUNIKE Fig. 8.
34. Jivaro, RIVET (1) P. 53.
36. Ijca, BOLINDER (4) P. 269. Köggaba, BRETTE P. 452.
38. Tupinambá, LÉRY Plate P. 240.
43. Huanyam, G. M. 15. I. 590.
48. Indians Northwestern-Brazil. KOCH-GRÜNBERG (2) P. Vol. 1, Fig. 116 and 196.
55. Caribs, Surinam, ENCYCLOPÆDIE P. 495. Letter from JOSSELIN DE JONG. (Museum Leiden, Serie 1817 nrs. 193 and 194.)
69. Ipurina, EHRENREICH (2) P. 71; STEERE P. 378.

<sup>1)</sup> I have assumed all the shell trumpets to be end-blown. Side-blown shell trumpets are, as far I know, unknown from S. America.

95. Chibcha, RESTREPO P. 106.  
 99. Cumanagoto, GOMARA P. 207.  
 A. Indians on the coast of Peru, MEAD (1).  
 IC. Paez, PITTIER DE FABREGA P. 324.  
 D. Puna de Jujuy and Quebrada del Toro, ERIC VON ROSEN (4) P. 154 and P. 205.  
 F. San Juan, DEBENEDETTI (4) P. 235.  
 X. Yuruna, M. f. V. B. (V. B. 1725).  
 I F. Indians, Sierra Mene. OVIEDO T. 2, P. 282.  
 V 7. Saliva, GUMILLA T. I, P. 217.

*Side-blown trumpets.*

13. Karajá, KRAUSE P. 316.  
 14. Bororó, KARL VON DEN STEINEN (3) P. 496.  
 20. Paressi, MAX SCHMIDT (4).  
 28. Kamayurá. M. f. V. B. (V. B. 2940.)  
 41. Pauserna, G. M. 15. I. 847.  
 47. Indians Roraima, G. M. 12. I. 50.  
 48. Indians Northwestern—Brazil, KOCH-GRÜNBERG (2) Fig. 140.  
 50. Šavajé, KRAUSE P. 365.  
 64. Huari.  
 85. Juri, RATZEL Vol. I, P. 464.  
 98. Tembé, BARBOSA RODRIGUEZ (2) P. 43.  
 P. Island of Aruba, Ethnographical Museum in Leiden. Serie 472, Nr. 9. Kindly communicated by Dr. JOSSE-LIN DE JONG.  
 X. Yuruna, M. f. V. B. (V. B. 1726, V. B. 1728 b, B. 1727).  
 I P. Negroes, Surinam, R. M. Collection of Baron AXEL KLINKOWSTRÖM.  
 3 P. Mauhé, RATZEL Vol. I, Plate P. 497.  
 5 H. Parentintin(?), Rio Tapajos. (Fig. 37 D) It is probably correct to assume that these trumpets are from the Rio Tapajos region. It is very doubtful if they are from the Parentintin, as they form part of an old collection (Dr. CASTRO's) which seems to be rather carelessly labelled.  
 5 X. Canella, KISSENBERTH (1) P. 51.

*Trumpets of which little is known.*

25. Mojo, CASTILLO P. 341. The horns for the trumpets the Indians brought from Sta Cruz de la Sierra. EDER P. 334. »primum cucurbitis oblongis aut rotundis constat; illas more tubarum, has inserta fistula inflant».
29. Caingang, BLEYER P. 835; D'ESCRAGNOLLE TAUNAY P. 578.
38. Tupi, Coast of Brazil. SOARES DE SOUZA P. 300. (Tupinambá), P. 312 (Tupinaê), P. 314. (Amoipira); LERY P. 234; »blasen in bosaunen von kurbissen gemacht.» STADEN.
40. Itatines, LITTERAE ANNUAE 1594—1595 P. 751.
56. Mundrucú, TOCANTINS P. 134.
91. Indians Rio Amazonas, CARVAJAL P. 64.

*Table 14.**The pan-pipe. Map. II.*

4. ? Chiriguano.
5. Chané, R. M. P. 174.
11. Chamacoco, PATER SCHMIDT P. 1060.
13. Karajá, EHRENREICH (2) P. 24.
18. Quichua, COBO Vol. 4, P. 229.  
Museum Copenhagen (H 1057), Quito.
19. Aymara.
20. Paressi, MAX SCHMIDT (4) P. 240.
22. Yuracáre, NORDENSKIÖLD (9) Fig. 57.
23. Churápa, R. M. Tj. 33.
24. Chimáne, G. M. 15. I. 1001.
25. Mojo, EDER P. 332, Fig. 8.
28. Indians upper Rio Xingú, K. V. D. STEINEN (3) P. 327.
31. Ojana, Trio, GOEJE (1) Pl. VII, 13.
33. Campa, ORDINAIRE P. 281.
36. Ijca, Köggaba, BOLINDER (4) P. 263.
37. Motilon, » » P. 270.
40. Guarayú (Guarayos), R. M. G. 47.

41. Pauserna, G. M. 15. I. 848.  
 43. Huanyam, G. M. 15. I. 595.  
 48. Indians Northwestern Brazil, KOCH-GRÜNBERG (2).  
 PATER SCHMIDT P. 1060.  
 54. Gualibo, R. M. H. M. K. II. 7.  
 55. Caribs, French Guiana, BARRERE P. 131.  
 58. Cavina, G. M. 15. I. 1464.  
 61. Indians Rio Yapurá, WHIFFEN P. 210, Pl. XLIX  
 62. Chacobo, R. M. Ch. 75.  
 67. Suyá, K. v. D. STEINEN (3) P. 327.  
 68. Omagua. PATER SCHMIDT P. 1060.  
 74. Tamanaco, GILIJ Vol. 2, P. 275.  
 85. Juri, RATZEL Vol. I, P. 464.  
 A. Found on the coast of Peru. MEAD (1).  
 7C. Itonama, G. M. 15. I. 1270.  
 3D. Cocama, PATER SCHMIDT P. 1060.  
 E. Diaguita, AMBROSETTI (6) Segunda parte, P. 489.  
 Earthen vessel representing a figure with a pan-flute.  
 in the hands found at Amaicha, Valle Calchaqui, Pro-  
 vincia de Tucuman. AMBROSETTI (2) T. 19, P. 221.  
 2 F. Indians Susques, BOMAN P. 464. Imported from Bo-  
 livia.  
 9H. Indians at Sarayacu, SMYTH AND LOWE P. 214.  
 8P. Paumari, STEERE P. 387.  
 V5. Maquiritare. PATER SCHMIDT P. 1060.  
 V8. Peba. » « »  
 V9. From Timana, REGEL. Pl. 24, Fig. 19.  
 X. Yuruna, K. v. D. STEINEN (2) P. 259.  
 X3. Piaroa, R. M. H. M. K. I. 72.  
 9X. Passe, PATER SCHMIDT P. 1060.  
 an Found at Serena, Chile. MEDINA (1) Fig. 79.  
 pp Found at Iruya, Argentine. ERIC VON ROSEN (4)  
 P. 381.



Map 12. The distribution of masks.

● = dancing masks. ■ = burial masks and other masks.

## XXI.

## Dancing Masks.

A Chané Indian on the Rio Itiyuro told me that mask dances were introduced among the Indians by the Whites. PADRE BERNARDINO DE NINO was also told by the Chiriguano that the celebration of the carnival came to them from the Whites, and he plainly considers that we here have to do with a custom which is not of Indian origin. This is certainly wrong. The fixed date of the festival came to the Indians from the Whites, but the manner of celebration is manifestly derived from an old Indian custom which corresponds to similar masquerades described from Brazil by KOCH-GRÜNBERG. This appears from NINO'S own account of the celebration of the carnival.

The ceremony is at least partly a feast of fruitfulness<sup>1)</sup> The mask dancers throw the husks of beans and the offal from chicha-brewing at the other dancers in order to secure a good harvest. Just as in northwestern Brazil, some at least of the Chiriguano-dancers appear disguised as animals which they imitate. NINO says that towards the end of the festival the old people weep because they call to mind the dead who cannot share in the pleasure. The ceremony is ended by the participators going out of the village and throwing their masks into the river or some other water-course and there washing their faces and hands. Sometimes they burn the masks, as is done in northwestern Brazil.

BATIRAYU, a most reliable old Chané Indian, assured me that when he was a boy he had seen masks on the Rio

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<sup>1)</sup> P. 208.



Parapiti different from those now in use. He was of the opinion that masks were used before the Whites came to their country. On these occasions fruit-shell anklet-rattles were worn and also dance ornaments of parrot feathers. Obviously it is quite certain that masquerades are an original Indian custom here as well as in other parts of S. America, and have been celebrated at a time of year when the Whites have a festival of a somewhat similar character, externally at least. In the same way the Quichua kept their old feasts on the festival day of the Church of Rome.<sup>1)</sup> This is most certainly still the case among both the Aymara and the Quichua, whose masquerades on the great Roman Catholic festival days are anything but Christian in character, and would certainly form material for extremely interesting studies on the primitive religious conceptions of these Indians.

Judging by what an authority like BATRAYU says, it is doubtful if the type of mask now used, viz. faces of wood or calabash, is Indian. It must, however, be remembered that BATRAYU only speaks of what occurs among the Chané on the lower Rio Parapiti. Wooden masks, representing a human face, are however not unknown to other Indians. SENECHAL DE LA GRANGE found a mask of this kind in a grave in the desert of Atacama.<sup>2)</sup> Masks of wood and stone have been found in the Diaguita territory.<sup>3)</sup> The Ijca have wooden masks<sup>4)</sup> as also the Araucanians.<sup>5)</sup> The Indians on the Rio Xingú have wooden masks which, however, are rather different from those that occur among the Chiriguano and the Chané. The latter are more like those of the Araucanians and the Ijca. (Fig. 59).

Generally speaking, dance-masks are very widely dis-

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<sup>1)</sup> BANDELIER after ARRIAGA P. 158.

<sup>2)</sup> BOMAN F. 746.

<sup>3)</sup> OUTES (5) Y BRUCH P. 57.

<sup>4)</sup> BOLINDER (4) P. 258.

<sup>5)</sup> GUEVARA (1) Fig. 5.

tributed in S. America. They are only used on particular occasions, and then as a rule destroyed. It is therefore likely that such masks still exist among various tribes where they have been overlooked. Dance-masks are also mentioned in old narratives by ACOSTA and COBO. It is likely, too, that some of the «*ídolos*» mentioned by other old authors were dance-masks.<sup>1)</sup>

In the western culture zone many masked mummies have been found. During the Inca period it was still the custom to put masks over the faces of the dead. SARMIENTO speaks of mummies of Inca rulers wearing masks.<sup>2)</sup> The custom of masking the dead is not known east of the Andes.

UHLE<sup>3)</sup> found at Pisagua in northern Chile masks of Vicuña skin, that he believes were used by the Indian when hunting Vicuñas. At San Rosario in Llusa-Valley (Dept. Arica) he found a rock-drawing showing masked hunters shooting at 4 or 5 fleeing Vicuñas. Masks of the facial parts of human skulls have been found at S. Mateo on the Oroya railway in Peru. These are now preserved in the ethnographical museum at Rome.<sup>4)</sup>

There is yet a fourth kind of mask. It is the one used by the Aymara and the Quichua on the heights of the Andes as a protection during a snowstorm. They are knitted of wool.

As far as I know, masks did not occur among the Tupi Indians on the Brazilian coast. Consequently I deem it probable that the Chiriguano only learnt the use of the

<sup>1)</sup> e. g. CARVAJAL P. 44. «Y en esta casa se hallaron dos ídolos tejidos de pluma» (Palma, según el otro manuscrito.) «de diversa manera, que ponían espanto, y eran de estatura de gigante y tenían en los brazos metidos en los molledos unas ruedas á manera de arandelas, y lo mismo tenían en las pantorillas junto á las rodillas: tenían las orejas horadadas y muy grandes, á manera de los indios del Cuzco, y mayores.»

<sup>2)</sup> P. 68.

<sup>3)</sup> Communicated by letter.

<sup>4)</sup> GIGLIOLI.

dance masks from the Chané. Where the latter learnt their use it is at present impossible to say.

The map 12 and table 15 show us the distribution of the mask in S. America.

The places at which burial masks have been found are indicated in the map by squares. In making out this list I have followed PATER SCHMIDT, to whose statements I am able to make a few additions. The fact of the Ona and Yahgan Indians having masks seems to prove that their use is very ancient in S. America. At a ceremony of exorcism among the Mataco I saw some men with pieces of cloth hanging over their faces. I take this to be the most primitive kind of mask.

*Table 15 showing the Distribution in S. America. (map 12) of dancing masks and other masks.*

3. Tapiete, R. M. L. 216.
4. Chiriguano, R. M. E. 601.
5. Chané.
8. Lengua, GRUBB Plate P. 180.
10. Araucanians, GUEVARA (1) Fig. 5; PATER SCHMIDT P. 1057.
11. Chamacoco, PATER SCHMIDT P. 1060.
13. Karajá, KRAUSE P. 331.
18. Quichua, ACOSTA T. 2, P. 225; SARMIENTO DE GAMBOA P. 68 (Burial masks); COBO V. 4, P. 102. «Y cada atambor tocaban cuatro indios principales vestidos de muy particular librea con camisetas coloradas hasta los pies con rapacejos blancos y colorados; encima se ponían unas pieles de leones desollados enteros y las cabezas vacías en las cuales les tenían puestas unas patenas, zarcillos en las orejas, y en lugar de sus dientes naturales, otros del mismo tamaño y forma.»
19. Aymara. Mestizos, Bolivia. Quite common during the carnival.

- Not on the map Paressi (?). According to MAX SCHMIDT the Paressi most likely do not use the dancing mask. (4) P. 198.
23. Churápa, R. M. Tj. 76.
25. Mojo, EDER P. 337.
27. Ona, COOPER P. 156.
28. Indians Rio Xingú, KARL V. D. STEINEN (3)
36. Ijca, BOLINDER (4) P. 258.
48. Many tribes in North-western Brazil, KOCH-GRÜNBERG (2).
50. Šavajé, KRAUSE P. 367.
- 56.? Mundrucú, UHLE (1) Vol. 2, Taf. 26.
65. Baure, R. M. C—B. 5.
85. Juri, MARTIUS (2) T. 3, P. 1227.
86. Yahua, CASTELNAU, Vol. 5, P. 21.
94. Chiquito, HERZOG P. 21.
95. Chibcha, RESTREPO P. 68.
- A. Peruvian coast, Ancon and other places. (Burial masks). BAESSLER P. 141.
- C. Puna de Atacama, BOMAN P. 746.
- E. Mask of stone, found at Catamarca, OUTES (5) y BRUCH P. 57, Fig. 31.
- I B. Ticuna, PATER SCHMIDT P. 1060.
- I E. Cayubaba, R. M. F. 4.
- 9 L. Baniva, ARVELO (Communicated by Dr. Koch-Grünberg).
- I M. Indians Darien, OVIEDO Vol. 2, P. 414; MARTYR Vol. 1, P. 219. Second Decade. Burial masks of gold.
- 3 M. Chamas, Cuicas, Timotes etc. Sierra de Merida, SALAS P. 52.
- 9 X. Passé, PATER SCHMIDT P. 1060.
- V 8. Peba, POEPPIG P. 164.
- X 5. Yaghan, COOPER P. 156.
- bg. Pisagua, UHLE (6) P. 16. Burial masks.
- bh. Ecuador, Golden mask. JOYCE. Pl. IV.
- bi. Quimbaya, Golden mask. JOYCE. Pl. IV.
- Not on the map San Mateo at the Oroya-railway, masks of the facial part of human skulls.
- » Chanchamayo, PATER SCHMIDT P. 1060.



Fig. 38. Vessel for serving maize-beer from the Chané. Rio Parapiti.  
R. M. P. 313.  $\frac{1}{6}$ .

## XXII.

### Pottery.

The earthenware vessels of the Chiriguano and Chané are made in the usual way by building up layers of strips of clay<sup>1</sup>). Stones, mussel-shells and empty corn-cobs are used for smoothing the vessels. The last mentioned leave characteristic marks. It looks as if some comb-shaped instrument had been employed. These marks diminish the smoothness of the vessel, so that it slips out of the hand less easily. Corn-cobs are therefore more especially used in the making of cooking-pots and large utensils. Judging by the pottery which I collected on my journeys, the practice of using corn-cobs in this way would seem to be derived from the mountain civilization. I have seen vessels marked in this way found at Ojo de Agua in the most northern part of Argentina, where they revealed the fact that the Indians that used these vessels had maize. On the other hand, they are lacking on the pottery which I found in my excavations at Caipipendi and in the whole of N. E. Bolivia. They are also lacking in Misiones in Argentina.

<sup>1</sup>) See Part I.

The Chiriguano, as well as the Chané at Rio Itiyuro, have elaborate pottery of richly varied shapes and often beautifully ornamented. The Chané at Rio Parapiti have plainer pottery. The development of the ceramic art in the various tribes I got to know has differed greatly. The Cháma and the Tambopata-Guarayo who are pretty certainly identical with them, are the only Indians I visited who have no earthenware vessels. The pottery of some tribes is a work of art, while others only make the most necessary household utensils. This is not necessarily connected with the tribe's state of civilization generally. Thus in several respects the Yuracaré stand as high as the Chiriguano but the former have very poor pottery; the latter highly developed pottery. If such peoples were studied archaeologically, the former would yield hardly any remains while the latter would yield many beautiful specimens. Wrong conclusions might then be easily drawn as to the stage of civilization of the two tribes.

Below will be found indicated how many different types of earthen vessels are found among the tribes I visited. It will be seen that the Chiriguano and Chané (Rio Itiyuro) have by far the largest number of shapes of earthen vessels.<sup>1)</sup> This is simply due to their having experienced such

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<sup>1)</sup> On entering a Chiriguano or a Chané hut, one sees a lot of earthen vessels of which the majority are unpainted. All the vessels of various shape and ornamentation which I have collected are from several hundred Chiriguano and Chané huts. It is a selection out of many thousand vessels which I have made and it shows how pottery varies within the tribes. In most Indian huts there will be found but a small number of different types. Unless we bear in mind that the collection is a selection, it leaves the impression that the pottery of these Indians is of much more varied shape than is really the case. What I remark here of my collection of pottery holds good of nearly all collections in ethnographical museums. When we see a cupboard full of various articles from an Indian tribe, we must not think that all these things are used by every family in the tribe. It is properly a collection of all the different objects used by a large number of individuals.

strong influence from the area of civilization in the west and above all the south-west.

<i>Over fifty types.</i>	<i>Over ten types. but under fifty.</i>	<i>Over two types. but under ten.</i>
Chiriguano.	Chané. (Rio Parapiti)	Chacobo.
Chané. (Rio Itiyuro)	Choroti.	Chimáne.
	Ashluslay.	Yuracáre.
	Toba.	Churápa.
	Mataco.	Pauserna.
	Tapiete.	Guarayos.
		Huari.
		Huanyam.
		Cavina.

I am unable here to give an account of all the different shapes of earthen vessels found among the Chiriguano and Chané. Some of them have been depicted by OUTES but there are many more. Those depicted here should, however, give some idea of the variations in these Indians' pottery. Some types are local and thus characteristic of certain villages; others are certainly individual. Thus I have seen different women in the same village turn out very different vessels. Some women are noted for making specially fine earthenware. They are celebrated for their pottery far outside their own village.

The Chiriguano and Chané use earthen vessels for boiling and roasting their food, as receptacles for food and other things, for carrying water, for the serving of food, for the burial of the dead and to whirl the spindle on when spinning. (Only the Chané on the Rio Parapiti.)

We see that a large number of the earthen vessels here are provided with ears or handles. In Part I of this work I claim to have proved that the ear is a culture-element derived from the Andine area of civilization.

Occasionally one finds Chiriguano and Chané vessels provided with holes under the edge in the same manner as is usual in calabashes. Strings are then passed through these holes by which to hang the vessels up. This invention was here probably earlier than the ear. Thus, during my excavations at Caipipendi, I found a vessel with these string-holes, while handles and ears were lacking on the pottery found there. The distribution of such string-holes I have endeavoured to indicate on the map, and in the table below.

Such string-holes were known within the old western area of civilization, though they were not in general use. In S. E. S. America they seem to have been the precursors of real handles. Thus MAYNTZHUSEN<sup>1)</sup> writes with regard to the shape of the vessels, from the Upper Parana that they are usually without handles. In place of these there is often a boring through the rim of the vessel, or two outside plugs on opposite sides of it. These plugs were sometimes pierced to allow of a string being introduced. An enlargement of this hole in the plug, large enough for a finger to go through, appears to have developed into the ring-shaped handle which occurs quite sporadically.

The Indians probably got the idea of providing their earthen vessels with string holes from their custom of making string-holes in calabashes. This invention is here evidently older than the real handles or ears. This holds good, pretty certainly, not only for the Chiriguano district, but for large parts of S. E. S. America. It would be interesting to examine the collections of the great museums and then draw a map showing the distribution of earthenware with string-holes. The map published here is probably very incomplete. Its main purpose is to create interest in the distribution of this invention.

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<sup>1)</sup> P. 466.





Map 13. The distribution of vessels with string-holes.

## Table 16,

*Vessel with string-holes. Map. 13.*

2. Ashluslay, R. M. A. 1587.  
 4. Chiriguano, R. M. E. 987.  
 12. Caduvei, BOGGIANI (2) P. 41. Fig. 13.  
 M. Mojos, R. M. T. 577.  
 A. Coast of Peru. Ica. In private collection.  
 N. Upper Rio Parana, MAYNTZHUSEN P. 466.  
 O. Delta de Parana, TORRES (2) P. 87.  
 Ä. Caipipendi, R. M. K. 93.  
 a. i. Manizales, UHLÉ (1) Vol. 1, Pl. 2, Fig. 10.  
 a. j. Los raudales Rio Orinoco, MARCANO Pl. XXIX.  
 a. k. Saipina, G. M. 15. 2. 7. Fuerte Samaipata, R. M.  
 a. m. Taltal, Chile, EVANS (1) P. 22.  
 c. Marajo, NETTO P. 354, 355.  
 e. Sara, NORDENSKIÖLD (10) Fig. 30.  
 p. San Blas, OUTES (4) P. 264.

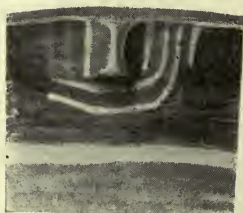


Fig. 39. Human face painted on the border of a vessel from the Chané.  
 Rio Parapiti. R. M.

Among the many types of earthen vessel used by the Chiriguano and Chané here are several which are highly reminiscent of types we are acquainted with from the Mountain civilization, e. g. double pitchers. (Fig. 41,8) They do not occur in N. E. Bolivia. DEBENEDETTI<sup>1)</sup> has pointed out the similarity between the pottery which he

<sup>1)</sup> (2).

found at Tilcara and that of the Chiriguano. I here reproduce from the work of DEBENEDETTI some types of earthenware to which we find answering types among the Chiriguano. (See fig. 48). It must be borne in mind that the Chiriguano country at Cuyambuyo approaches the Humahuaca valley.<sup>1)</sup> The Humahuaca and Chiriguano were allied in the first encounters with the Spaniards.<sup>2)</sup>

In Part I I have already pointed out the similarity between Choroti and Ashluslay water-pitchers and the Incan «aryballes».

The question arises whether or not all water-pitchers with a narrow neck which can be grasped by the hand are derived from the Mountain civilization. They are not found, as far as I have been able to find, in all N. E. Bolivia, nor in the whole of eastern S. America except by Indians that have been very much influenced by the Whites. The Chiriguano word for water-pitcher is «iru», which is strongly reminiscent of the Quichua name «yuru» for the same kind of earthen vessel.

Pitchers with a bulging neck (fig. 42,1) are common among the Chiriguano and the Chané at Rio Itiyuro. I am acquainted with them from my archaeological excavations at Caipipendi. They are mentioned by AMBROSETTI<sup>3)</sup> from Tucuman. The type occurs, moreover, within the western area of civilization whence it surely must have come.<sup>4)</sup>

Handles shaped like animals or human faces do not occur on the pottery of the Chiriguano and Chané.

The Chiriguano and Chané do not make feet to their vessels as is common on the earthenware from the Mounds in Mojos.

<sup>1)</sup> CORNEJO P. 66.

<sup>2)</sup> LOZANO S. 120 «Eran los Homaguacas gente por extremo feroz . . . . . y mataron à los Sacerdotes, que los doctrinaban, y à muchos Españoles que cayeron en sus manos, infestando con robos, y muertes los caminos publicos, y conferandose con los Chiriguanás» . . . .

<sup>3)</sup> (8).

<sup>4)</sup> REISS und STÜBEL, T. 3, Pl. 96, Fig. 17; G. M.

Only a few vessels are provided with spouts which here seem to be an idea obtained by the Indians from the Whites.

Bowls with holes in the bottom which are used for steaming have already been mentioned in the foregoing. This applies also to bowls for the roasting of maize.

The Chané on the Rio Parapiti have small plates which they sometimes use in spinning. I have not seen the like elsewhere. Occasionally one sees, among the most civilized Chiriguano and Chané, fire-pans for holding hot water. (Fig. 43,21). They must have obtained the idea from the Whites.

The Chiriguano and Chané understand the art of painting earthenware before burning.<sup>1)</sup> I have already, in Part I, endeavoured to show the geographical distribution of this invention. Whether it was known to the Chané and Chiriguano before they settled in this tract cannot be decided. The pottery I found in the archaeological excavations at Caipipendi is unpainted.

The Chané at Rio Itiyuro sometimes paint the edge of earthen vessels after burning with resin of palo santo. This is never seen among the Chiriguano and the Chané at Rio Parapiti. As such painting is common among several tribes in the Chaco, it is possible that the Chané at Rio Itiyuro got the idea from there. The Chiriguano and the Chané at Rio Itiyuro often varnish the painted vessels after burning with a kind of gum called by the Chiriguano — »taragüirisi».

The Chiriguano and Chané also ornament their earthenware by finger-impressions. This method of ornamentation has an eastern extension in S. America. A map showing its distribution is published in Part I.

The ornamentation painted on earthenware is seen in the illustrations. The Chané at Rio Parapiti usually have very plain ornamentation.

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<sup>1)</sup> For this purpose brushes of Aguti hair are used. (See also WIENER P. 82).

Maps of the geographical distribution of various kinds of ornamentation can scarcely be drawn up at present with the exception of a few very characteristic specimens, e. g. the spiral. This is found on earthen vessels from the Chané on the Rio Itiyuro, and from the Chiriguano, but not from the Chané on the Rio Parapiti.

The colours used by the Chiriguano and the Chané on the Rio Itiyuro are black, red, brown and white. The white is caolin, the red, brown and black are obtained by pulverizing schists of these colours. The Chiriguano sometimes mix Urucu with oil. Vessels are probably painted with this mixture only after burning.

Pottery is undoubtedly the chief art practised by the Chiriguano and Chané. We may, indeed, assert that it is the only one that is still of very great importance to these Indians. It is an interesting fact that, though these tribes have been in close contact with missionaries and other Whites for nearly 400 years, and though their country has been flooded with European goods, their pottery has been influenced very little by foreign culture. It is still genuine Indian. This holds good not only of its shape, but to an equally great extent of its ornamentation. It shows how conservative the Indian is towards anything that cannot make easier for him the struggle for life. A cultivated plant can spread in a few years over a large part of a continent, whereas one will not take the trouble to adopt a foreign ornamentation or foreign types of household furniture. This does not imply that the pottery of the Chiriguano and Chané now has the appearance that it had 400 years ago. It has changed, as the Indians themselves told me, but the change has chiefly consisted in ringing the changes on old Indian patterns. How and how much it has changed, can only be proved archæologically. Unfortunately, I do not possess the archæological material. What I found in the country of these Indians probably goes very much further back in time than 400 years, and has very little in common with

the ceramics of the tribes here dealt with. The ceramic art we find among the Chiriguano and Chané is, as we saw, strongly influenced by the culture-zone in the west. There is a great similarity, as I said, to the pottery that has been found in the Humahuaca Valley. It is especially the finely painted pottery which, in shape and ornamentation, recalls the pottery of the culture-zone in the west. The simple cooking-pots ornamented with finger-impressions more closely resemble what is found in the old Guarani territory in Misiones. The main difference is that the pots used by the Chiriguano and Chané are provided with ears (handles), which as a rule are lacking in the pottery from Misiones. The ear, as I mentioned, is a western culture-element. I think the explanation may be, that when the Chiriguano conquered the districts they now occupy, their own women generally or always made earthenware with finger-impressed ornamentation. As we know, the immigrant Chiriguanos carried off masses of women, presumably from Chané for the most part, but probably also from other tribes. The women abducted from the parts bordering on the old kingdom of the Incas were no doubt skilful potters, and afterwards taught their art to their daughters. It is this that now continues in the finer pottery, especially in the vessels used at great drinking-bouts.

It is very evident, as we see, that the Chiriguano and Chané pottery has been strongly under the influence of the culture-area in the west. It would be of great interest to show how far it has also been influenced by the Arawak pottery at Mojos. This cannot, however, be conclusively proved. Not even among the Chané at Rio Parapiti can any such influence be traced. This is probably because it is so long since the Chané migrated to their present district.

It may be asked how it is that the Chané at Rio Parapiti have pottery which is plainly less influenced by the mountain civilization than that of the Chiriguano and the

Chané at Rio Itiyuro. This may be owing to their poverty.<sup>1)</sup> Maize-beer does not flow so abundantly there as it does among the Chiriguano and the Chané at Rio Itiyuro. The finely painted vessels are intended for festivals, and it is especially on those occasions that one sees double pitchers and other types reminiscent of mountain-culture pottery. The Chané at Rio Parapiti dwell rather remotely, at a considerable distance from the culture-area in the west. Their calabashes, too, are more plainly ornamented than those of the Chiriguano and the other Chané. This may be due partly to poverty and partly to their isolated habitation.

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<sup>1)</sup> I regret that I did not study the question of the supply in different places of good clay suitable, for earthenware. Where the clay has to be brought from afar, it is unlikely that the pottery will be highly developed.

Fig. 40.

1.	R. M. E.	843.	Tihüipa.	Pot.
2.	»	»	»	»
3.	»	»	»	»
4.	»	»	»	»
5.	»	»	»	Vessel for serving maize-beer.
6.	»	»	»	» » » » »
7.	»	»	»	»
7.	»	»	»	S. Rosa. Bowl in which to keep salt, etc.
8.	»	»	»	» » » » » » »
8.	»	»	»	838. Tihüipa.
9.	»	»	»	961. Boycovo. Pitcher.
10.	»	»	»	928. Itatique. Vessel for serving maize-beer
11.	»	»	»	877. S. Rosa. Bowl to eat out of.
12.	»	»	»	855. Tihüipa. Vessel for keeping seed in.
13.	»	»	»	814. » » serving maize-beer.
14.	»	»	»	801. » » » » »
15.	»	»	»	872. S. Rosa. Bowl to eat out of.
16.	»	»	»	858. » » Vessel for maize-beer.
17.	»	»	»	840. Tihüipa. Pot.
18.	»	»	»	1026. Yacuiba. Vessel for maize-beer.
19.	»	»	»	802. Tihüipa. Pitcher to carry water in.
20.	»	»	»	942. Itatique. Vessel for serving maize-beer.
21.	»	»	»	926. » » » » »
22.	»	»	»	1024. Yacuiba. » » » » »
23.	»	»	»	1022. » » » » »
24.	»	»	»	869. S. Rosa. Pot.
25.	»	»	»	857. Tihüipa. Bowl used for steam-cooking.
26.	In private collection.		»	Mug.
27.	R. M. E.	1032.	Ivu.	Vessel for maize-beer.
28.	»	»	»	1035. Bowl to eat out of.
29.	»	»	»	968. Pitcher.
30.	»	»	»	832. Tihüipa. »
31.	»	»	»	878. S. Rosa. Bowl to eat out of.
32.	»	»	»	827. Tihüipa. Pitcher.





Fig. 40. Vessels of different shapes from the Chiriguano. Only variations in shape are depicted. Ornamentation not depicted.  $\frac{1}{8}$ .

## Fig. 41.

1.	R. M. E.	786.	Caipipendi.	Vessel for keeping seed in.
2.	»	»	»	Pitcher made for a festival.
3.	»	»	»	Waterpitcher.
4.	»	»	»	Pitcher for serving maize beer
5.	»	»	»	»    »    »    »    »
6.	»	»	»	»    »    »    »    »
7.	»	»	»	Vessel for keeping seed in.
8.	»	»	»	
9.	In private			} Vessels for festivals.
	collection		»	
10.	R. M. E.	783.		
11.	»	»	»	
12.	»	»	»	
13.	»	»	»	
14.	In private			
	collection		»	
15.	R. M. E.	770.		Bowl to eat out of.
16.	»	»	»	Pitcher.
17.	»	»	»	»
18.	»	»	»	Vessel for serving maize-beer
19.	»	»	»	»    »    maize-beer.
20.	»	»	»	Pitcher.
21.	»	»	»	»
22.	»	»	»	Bowl to eat out of.
23.	»	»	»	Vessel for keeping seed in.
24.	»	»	»	Bowl to eat out of.
25.	In private			} Vessel for serving maize-beer
	collection		»	
26.	R. M. E.	794.	Tihüipa.	»    »    maize-beer.
27.	»	»	»	»    »    »    »
28.	In private			
	collection.		Caipipendi.	Small bowl to eat out of.
29.	R. M. E.	788.	»	Pitcher.
30.	»	»	»	»
31.	»	»	»	Vessel for serving maize-beer.
32.	In private			
	collection.		»	»    »    »    »    »

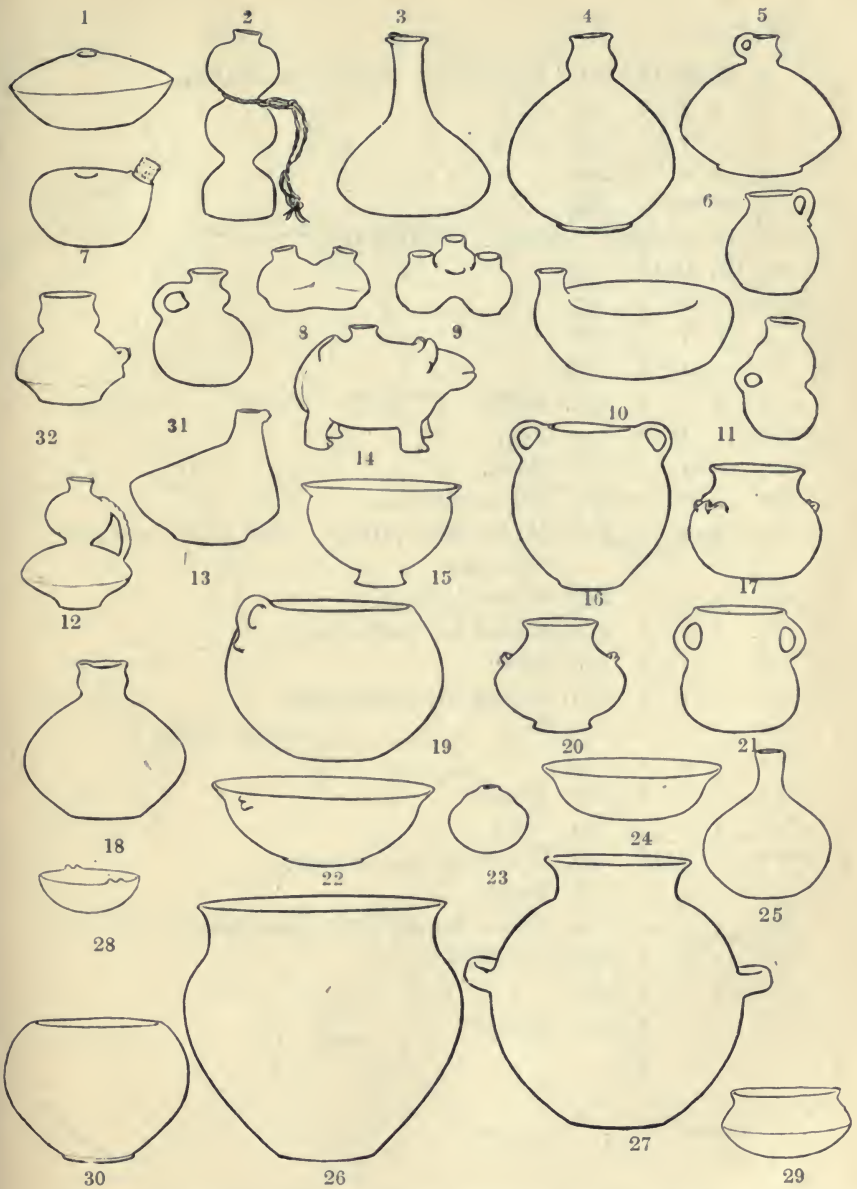


Fig. 41. Vessels of different shapes from the Chiriguano. Only variations in shape are depicted. Ornamentation not depicted.  $\frac{1}{8}$ .

Fig. 42.

- |     |                                     |      |   |
|-----|-------------------------------------|------|---|
| 1.  | R. M. H.                            | 106. | Pitcher for serving maize-beer.                 |
| 2.  | » » »                               | 99.  | » » » » »                                       |
| 3.  | » » »                               | 102. | » » » » »                                       |
| 4.  | » » »                               | 100. | » » » » »                                       |
| 5.  | » » »                               | 96.  | » » » » »                                       |
| 6.  | In private Collection. Cooking-pot. |      |   |
| 7.  | R. M.H.                             | 81.  | »   |
| 8.  | » » »                               | 83.  | »   |
| 9.  | » » »                               | 88.  | »   |
| 10. | » » »                               | 82.  | »   |
| 11. | » » »                               | 151. | Bowl.   |
| 12. | » » »                               | 93.  | Pot.  |
| 13. | » » »                               | 148. | Bowl.   |
| 14. | » » »                               | 89.  | Water-pitcher.                                  |
| 15. | » » »                               | 156. | Maize-beer pitcher, also used as water pitcher. |
| 16. | » » »                               | 157. | Water-pitcher.                                  |
| 17. | » » »                               | 155. | Vessel for maize-beer.                          |
| 18. | » » »                               | 116. | Bowl.   |
| 19. | » » »                               | 111. | Vessel for maize-beer.                          |
| 20. | » » »                               | 90.  | Pot.  |
| 21. | » » »                               | 112. | »   |
| 22. | » » »                               | 113. | Mug.  |
| 23. | » » »                               | 124. | »   |
| 24. | » » »                               | 67.  | Vessel for maize-beer.                          |
| 25. | » » »                               | 123. | Bowl.   |
| 26. | » » »                               | 104. | Vessel for serving maize-beer.                  |
| 27. | » » »                               | 73.  | » » » » »                                       |
| 28. | » » »                               | 98.  | » » » » »                                       |
| 29. | » » »                               | 121. | Bowl.   |

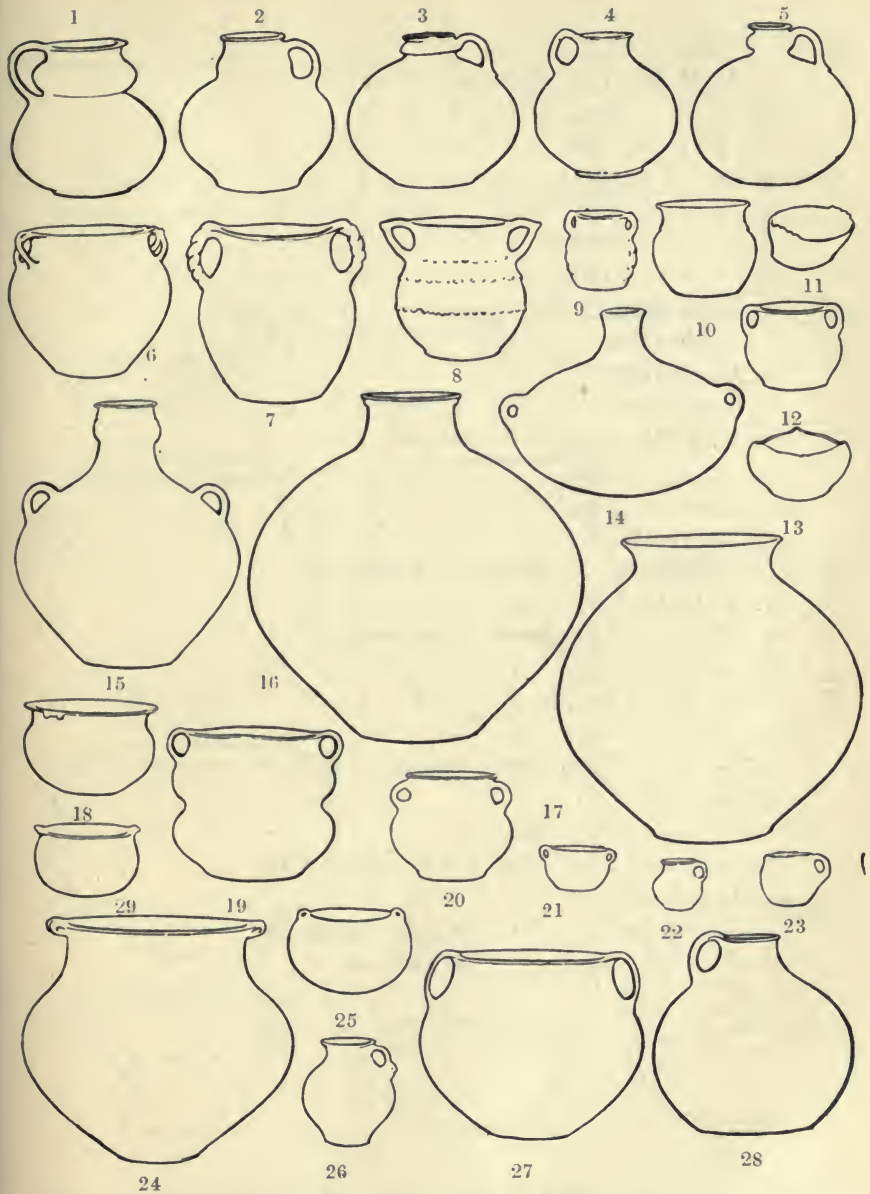


Fig. 42. Types of earthenware vessels of the Chané, Rio Itiyuro, showing the varying shape of the pottery of this tribe. Only variations in shape are depicted. Ornamentation not depicted.

Fig. 43.

- |     |                           |      |                         |
|-----|---------------------------|------|-------------------------|
| 1.  | R. M. H.                  | 125. | Bowl to eat out of.     |
| 2.  | » » »                     | 134. | » » » » »               |
| 3.  | » » »                     | 126. | » » » » »               |
| 4.  | » » »                     | 128. | » » » » »               |
| 5.  | » » »                     | 138. | » » » » »               |
| 6.  | » » »                     | 153. | » » » » »               |
| 7.  | » » »                     | 136. | » » » » »               |
| 8.  | In private<br>collection. |      | » » » » »               |
| 9.  | In private<br>collection  |      | » » » » »               |
| 10. | R. M. H.                  | 170. | » » » » »               |
| 11. | » » »                     | 154. | » » » » »               |
| 12. | » » »                     | 144. | » » » » »               |
| 13. | In private<br>collection. |      | Vessel for maize-beer.  |
| 14. | R. M. H.                  | 75.  | » » » » .               |
| 15. | » » »                     | 132. | Bowl to eat out of.     |
| 16. | » » »                     | 133. | » » » » »               |
| 17. | » » »                     | 130. | » » » » »               |
| 18. | » » »                     | 147. | » » » » »               |
| 19. | » » »                     | 72.  | Vessel for maize-beer.  |
| 20. | » » »                     | 71.  | » » » » »               |
| 21. | » » »                     | 87.  | Brazier.                |
| 22. | » » »                     | 168. | Bowl for steam-cooking. |
| 23. | In private<br>collection. |      | » to roast maize in.    |
| 24. | R. M. H.                  | 147. | » to eat out of.        |



Fig. 43. Vessels of different shapes from the Chané, Rio Itiyuro, Argentine. Only variations in shape are depicted. Ornamentation not depicted.  $\frac{1}{8}$ .

## Fig. 44.

1. R. M. P. 339. Vessel for maize-beer.
2. » » » 342. Pot.
3. » » » 341. »
4. » » » 325. Vessel for serving water or maize-beer.
5. » » » 307. Vessel for maize-beer.
6. » » » 312. » » » »
7. » » » 332. Small pitcher.
8. » » » 304. Bowl to eat out of.
9. » » » 296. » » » » »
10. » » » 315. Vessel for maize-beer.
11. In private  
collection. » » » »
12. R. M. P. 300. Bowl to eat out of.
13. » » » 338. Pitcher.
14. » » » 329. Pot.
15. » » » 335. Pitcher.
16. » » » 303. Bowl to eat out of.
17. » » » 294. » » » » »
18. In private  
collection. Vessel for serving maize-beer.
19. R. M. P. 322. Mug.
20. » » » 324. »
21. » » » 323. »
22. » » » 326. Bowl.
23. » » » 320. Shallow bowl on which to wind the spindle
24. » » » 321. » » » » » » » »
25. » » » 310. Vessel for maize-beer.
26. » » » 328. Bowl in which to keep salt etc.
27. » » » 330. Pot.
28. » » » 327. Bowl.
29. » » » 334. Pitcher.



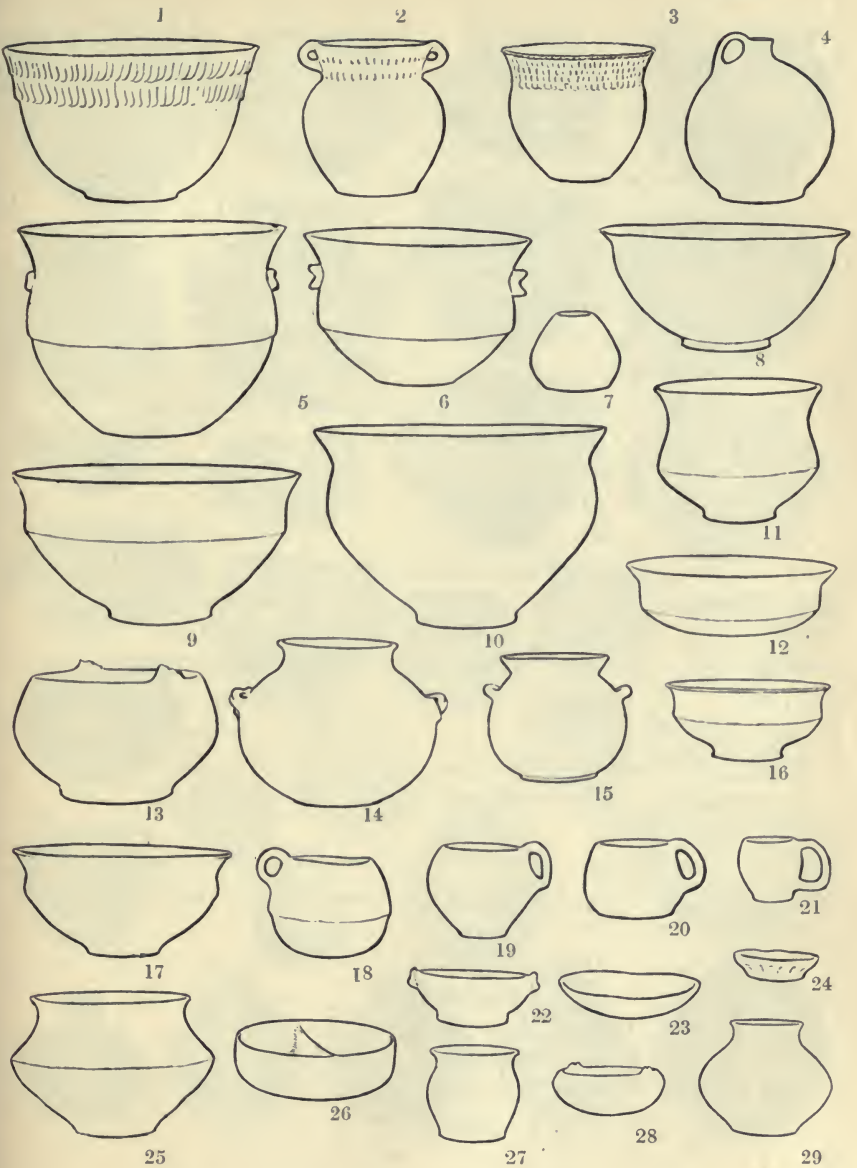


Fig 44. Vessels of different shapes from the Chané. Rio Parapiti. Only variations in shape are depicted. Ornamentation not depicted.  $\frac{1}{8}$ .

Fig. 45.

1.	$\frac{1}{8}$	R. M. E.	945.	Yatavéri.	Vessel for maize-beer.	
2.	»	»	»	1003. Itapenbia.	» » » »	
3.	»	»	»	976. Esperanza.	» » » »	
4.	»	»	»	912. Itatique.	» » » »	
5.	»	»	»	914. »	» » » »	
6.	»	»	»	975. Tihüipa.(?)	» » » »	
7.	$\frac{1}{12}$	»	»	1025. Yacuiba.	» » » »	
8.	$\frac{1}{8}$	»	»	860. S. Rosa.	» » » »	
9.	»	In private collection.		Itatique.	Bowl to eat out of.	
10.	$\frac{1}{12}$	R. M. E.	1032.	Ivu.	Vessel for maize-beer.	
11.	$\frac{1}{8}$	»	»	»	926. Itatique.	» » » »
12.	$\frac{1}{12}$	»	»	»	1001. Itapenbia.	» » » »
13.	$\frac{1}{8}$	»	»	»	921. Itatique.	» » » »
14.	»	»	»	»	862. S. Rosa.	» » » »
15.	»	»	»	»	737. Caipipendi.	» » » »
16.	»	»	»	»	739. »	Mug for drinking maize-beer.
17.	»	»	»	»	770. »	Bowl to eat out of.
18.	»	»	»	»	831. Tihüipa.	Vessel for maize-beer.
19.	»	»	»	»	987.	For keeping knickknacks in.
20.	»	»	»	»	787.	Vessel for maize-beer.
21.	»	»	»	»	916. Itatique.	Mug for drinking maize-beer.
22.	»	»	»	»	872. S. Rosa.	Bowl to eat out of.
23.	»	In private collection.			Vessel for maize-beer .	
24.	»	R. M. E.	728.	Caipipendi.	Vessel for serving maize-beer.	
25.	»	»	»	»	811. Tihüipa.	» » » » »
26.	»	»	»	»	696. Caipipendi.	» » » » »
27.	»	»	»	»	727. Caipipendi.	» » » » »
28.	»	»	»	»	964. Caipipendi.	» » » » »
29.	»	»	»	»	929. Itatique.	» » » » »
30.	»	»	»	»	919. Itatique.	» » » » »
31.	»	»	»	»	1009. Itapenbia.	» » » » »



Fig. 45. Vessels from Chiriguano.

## Fig. 46.

1.	$\frac{1}{8}$	R. M. H.	68.	Campo y Duran.	Vessel for maize-beer				
2.	$\frac{1}{12}$	» »	E. 1047.	Itapenbia.	» » » »				
3.	» »	» »	E. 1049.	Caipendi.	» » » »				
4.	$\frac{1}{8}$	In private collection.		Campo y Duran.	» » » »				
5.	$\frac{1}{12}$	R. M. H.	76.	Aquairenda.	» » » »				
6.	$\frac{1}{8}$	» »	H. III.	Piquirenda.	» » » »				
7.	» »	» »	E. 859.	S. Rosa.	» » » »				
8.	$\frac{1}{12}$	In private collection.		Campo y Duran.	» » » »				
9.	»	R. M. H.	155.	»	» » » »				
10.		In private collection.							Water-pitcher.
11.	»	R. M. P.	329.						Pot.
12.	» »	» »	H. 89.	Piquirenda.					Water-pitcher.
13.	» »	» »	P. 337.						Vessel for maize-beer
14.	» »	» »	P. 313.						» » » »



Fig. 46. Vessel from the Chiriguano and Chané.

E = Chiriguano. H = Chané, Rio Itiyuro. P = Chané, Rio Parapiñá.



Fig. 47. Vessels from the Chiriguano and Chané.

H = Chané, Rio Itiyuro. E = Chiriguano.

- |    |                |                        |                      |  |
|----|----------------|------------------------|----------------------|--|
| 1. | $\frac{3}{16}$ | In private collection. | Chané, Rio Parapiti. | Vessel for maize-beer.                                       |
| 2. | $\frac{1}{8}$  | » » » »                | Campo y Duran.       | » » » »  |
| 3. | $\frac{1}{12}$ | R. M. H. 106.          | Campo y Duran.       | » » » »  |
| 4. |                | In private collection. |                      | » » » »  |
| 5. |                | » » » »                |                      | Bowl to eat out of.  |
| 6. |                | R. M. H. 123.          | Campo y Duran.       | Bowl.  |
| 7. | $\frac{1}{8}$  | » » E. 814.            | Tihüipa.             | Vessel for maize-beer.                                       |
| 8. |                | » » E. 942.            | Itatique.            | » » » »  |
| 9. |                | » » E. 960.            | S. Antonio.          | Vessel in which to carry maize-beer or water on expeditions. |



Fig. 48. Vessels from Tilcara (1, 2, 3, 4), and Juella (5), Quebrada de Humahuaca. After DEBENEDETTI.

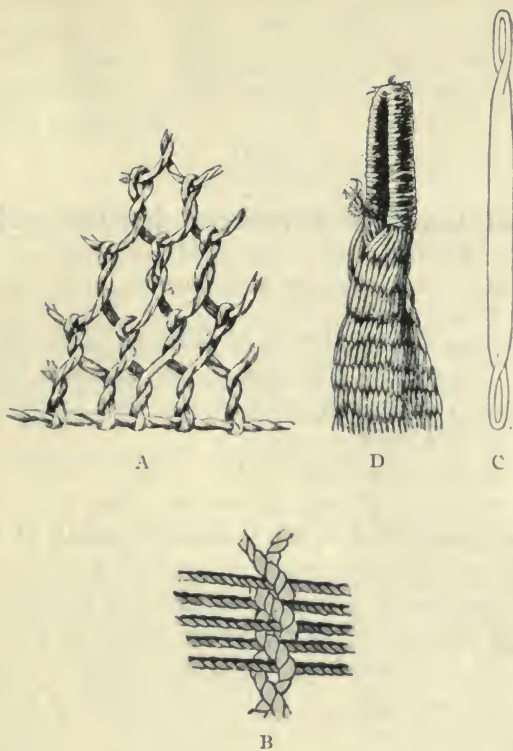


Fig. 49 A. Technique in a carrying-net. Chiriguano. R. M. E. 51.  $\frac{1}{3}$   
 B. Technique in the hammocks Chiriguano. R. M. E. 1056.  $\frac{1}{2}$ .  
 C. Frontlet to a carrying-net. Chané. Rio Parapiti. R. M. P.  
 127.  
 D. Technique in C.

## XXIII.

## Various kinds of handicraft besides pottery.

*Knitting-technique.*

Respecting the occurrence of different kinds of knitting technique among the Chiriguano and Chané I have little to add beyond what was mentioned in the English edition of Part I of this work.

The hammock-netting is the usual technique which gives the so-called barred hammocks (See Part I) which are widely distributed in all S. America north of El Gran Chaco. They are found almost universally where hammocks occur. Occasionally one sees among the Chiriguano and Chané bags knitted in the technique which in Part I I denoted by No 5. These bags are never made by themselves, but are obtained from the Mataco, Tapiete, or some other Chaco tribe. During my archaeological excavations at Igüembe I found a piece of pottery with impressions of knitting evidently done in this technique.

The carrying-nets and most dip-nets of the Chiriguano and Chané are made with reef-knots. The Chiriguano have also dip-nets knitted with sheet-knots. For carrying-nets and dip-nets they Chiriguano and Chané generally use caraguatá bast. »Yuchan» is seldom used<sup>1)</sup>

*Spinning.*

Regarding the spinning of the Chiriguano and Chané there is little to add beyond what I mentioned in Part I.

---

<sup>1)</sup> *Chorisia insignis*.



Their spindles are of the Bakairi type with a knob. (See Part. I map 35). The spindle discs are sometimes of stone. The Chané at Rio Parapiti sometimes use when spinning a small earthen plate made for the purpose, on which the spindle is whirled.

*The preparing of leather.*

The Choroti and Ashluslay have no knowledge of tanning, where as the Chiriguano, Chané, Toba and Tapiete have. They use the bark of Piptadenia and other trees.

These Indians have, in all likelihood, learnt the art of tanning from the Whites who, in these tracts, are more skilled in leatherwork than in any other trade. Tanning seems to be unknown to all Indians in S. America who are either untouched or but slightly influenced by White civilization.

*The carving and ornamentation of calabashes.*

The Chiriguano Indians, as well as the Chané make very great use of calabashes. They are used as receptacles for water and maize-beer; as boxes, humming-tops, bowls and, above all, as drinking-vessels. At festivals maize-beer is handed round in elaborately ornamented calabashes.

Sometimes the calabashes are provided with lids. These are so made that lid and box are of the same fruit. Now and then star-shaped lids occurs. Lids with a shutting arrangement of the type shown in Fig. 50 A are characteristic of these Indians.

I published in Part I a map showing the distribution of calabashes with lids. From this map we see that these are probably a culture-element which the Indians east of the Andes received from the western area of civilization.

I scarcely think, at any rate, that the star-shaped lids can be cut out so as to fit tight on the box, save with a metal tool. It could hardly be done with a stone or bone implement.

The Chiriguano and Chané calabashes are ornamented with engraved, burnt-in and painted figures. The distribution of engraved ornamentation cannot, at present be ascertained. As I maintained in Part I, pyrograving seems to be a culture-element of western origin. The art of painting calabashes with urucu mixed with oil is unknown to the Choroti and Ashluslay, as also to the other Indians whom I got to know personally, with the exception of the Pauserna.

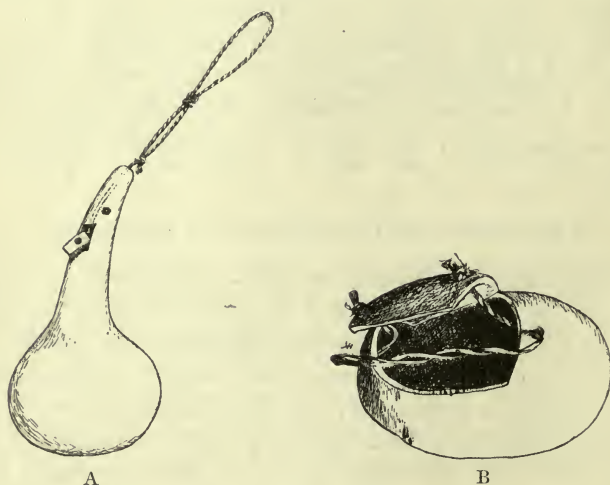


Fig. 50. A. Calabash with lid. Chané, Rio Parapiti. R. M. P. 55.  $\frac{1}{6}$ .  
 B. » » » Chiriguano. R. M. E: 508.  $\frac{1}{9}$ .

In the absence of sufficient comparative material from the Andine culture-area, I will not here seek to establish whence the Chiriguano and Chané got the ornamentation which adorns their calabashes, nor in what measure it has been independently elaborated by them. A calabash with engraved animal figures is reproduced here.

The Chané who dwell at Rio Parapiti have but little ornamentation on their calabashes, and that little is plain.

This contrasts with the Chiriguano and the Chané at Rio Itiyuro and is certainly owing to the poverty of the first-mentioned.

Sometimes the Chiriguano and Chané calabashes are surrounded by a net for greater convenience of carrying. I have already dealt with these in the foregoing.

The stoppers of calabash-bottles are generally pieces of empty corn-cobs. These are now and then used also as stoppers for earthen-vessels. The Choroti and Ashluslay, as a rule, make use of wax, which material is little used by the Chiriguano and Chané.



Fig. 51. Calabash. Chiriguano. R. M. 523.  $\frac{1}{6}$ .

*Basket-work.*

In contrast to what is the case among the Choroti and Ashluslay, a good deal of basket-work is found among the Chiriguano and Chané, though less than among the tribes of N. E. Bolivia — this being due to the lack of suitable basket-making material.

There is unfortunately no complete work<sup>1)</sup> on different types of baskets and different kinds of basket-technique embracing the whole of S. America. Such a work cannot

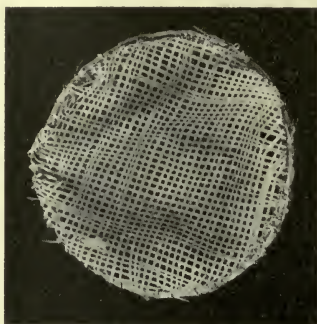


Fig. 52 Sieve. Chané, Rio Parapiti. G. M. P. 114.  $\frac{1}{8}$ .

be accomplished without access to a number of the great museum-collections. It is not, of course, from the Chaco nor, as a rule, from the west, that the Chiriguano and Chané received their basket-types and various kinds of basket-technique, but from the north. Baskets of grass, built up spirally, which seem to be very characteristic of the western area of civilization, are not found here at all<sup>2)</sup> Neither the

<sup>1)</sup> MASON had far too little material from S. America at his disposal.

<sup>2)</sup> This technique, the so-called «Coiled basketry» has a much wider distribution than is indicated on WISSLER's map. Very rarely one sees these baskets among the Mataco. They are very common at Arica on the coast of Chile.

Chiriguano nor Chané have carrying-baskets. They have carrying-nets instead.

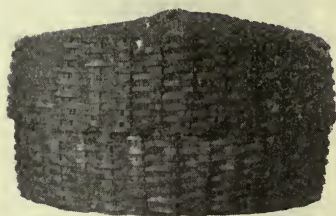
In Part I I related how, in the year 1909, I came with some Guarayú Indians to the Chané and Chiriguano country. As there was no palm with parapinnate leaves, they were unable to make themselves new carrying-baskets instead of their old ones which were worn out. Should their tribe, for any reason, be compelled to emigrate to the Chiriguano and Chané country, they must alter their type of carrying-basket. It is quite possible that something similar has befallen the Chiriguano and Chané. They did not find suitable material for basket-making and so they learnt from the original inhabitants to make and use carrying-nets. Of the carrying-nets used by neighbouring tribes, those used by the Chiriguano and Chané most resemble those found among the Yuracaré.

In N. E. Bolivia, where palms abound, the Indians often make baskets for occasional use of a single palm-leaf. The whole basket thus consists of one palm-leaf. MAX SCHMIDT has given a minute description of such baskets. They occur among the Chané on the lower Rio Parapiti and, more rarely, among the Chiriguano. It is, at present, impossible to define the distribution of such baskets, since the majority of explorers have paid them no attention. There is a considerable difference of make in different places. In my collections I possess such baskets from the Chimáne, Ixíama, Cavina, Huanyam, Itonama, Pauserna, Churápa, Yuracaré, Siriono, Guarayú and Chacobo, as well as from the Chané and Chiriguano. It can be said that, practically speaking, they were used by all the Indians whose acquaintance I made on my travels excepting the Choroti, Ashluslay, Toba, Tapiete, Matabo, Quichua and Aymara.

The »Urupé» is a type of basket which I have already dealt with in the foregoing, and I beg to refer to what I said there.



A



B



C



D

Fig. 53. Baskets from the Chiriguano.

- A -- R. M. E. 885.  
 B = » » » 507.  
 C = » » » 174.  
 D = » » » 542.

A basket-making technique sometimes seen among the Chiriguano is the one reproduced in Fig. 54. Otherwise, I only know it from the Yuracaré and Atsahuaca. We are also acquainted with it from the Araucanians<sup>1)</sup>, and from several tribes in N. W. Brazil.<sup>2)</sup> The THULIN-LILJEWALCH collection in the Gothenburg Museum has several baskets in this technique from Indians at Roraima in Guiana.



Fig. 54. The technique of a basket plaited like R. M. E.  
507, 174, 542.

The Chiriguano and Chané (at Rio Parapiti) possess baskets with overlapping lids. This type of lid seems to have a northern extension in S. America. The baskets I have seen from the western area of civilization, are from excavations on the coast of Peru. They have lids which are opened like the lid of an ordinary cigar-box. The distribution of baskets with lids may be seen from the map 14 and from the table below. Such baskets are not mentioned by MAX SCHMIDT from Guató, nor from the tribes on the upper Rio Xingú.

<sup>1)</sup> LATCHAM (1) Plate XXXV.

<sup>2)</sup> KOCH-GRÜNBERG (2) Vol. 2, Fig. 142—143.

## Table 17.

*Baskets with lids. Map 14.**Baskets with overlapping lids.*

4. Chiriguano, R. M. E. 545. (common).
5. Chané, R. M. P. 208. (rare).
6. Mataco, R. M. M. 434. (Only one).
13. Karajá, KRAUSE Pl. 57, Fig. 16.
23. Yuracáre, G. M. 13. I. 641.
24. Chimáne, G. M. 15. I. 1018.
25. Mojo.
31. Ojana, Trio, GOEJE (I) Pl. VIII. Fig. 1, 7, 8.
32. Atsahuaca, R. M. 05. 16. 444.
36. Ijca, BOLINDER (4)
37. Motilon, » (2)
- 38? Tupinamba, LERY P. 358.
40. Guarayos (Guarayú). R. M. G. 83.
41. Pauserna, G. M. 15, I. 863.
47. Indians Roraima, G. M. 12. I. 128.
48. Indians Northwestern Brazil. KOCH-GRÜNBERG (2),  
Vol. 1, Fig. 74, 174.
54. Guahivo, R. M. (H. M. K. II. 31.)
55. Caribs, Coast of Guiana, STEDMAN Vol. 2, P. 121;  
BARRERE P. 138.
62. Chacobo, R. M. Ch. 112.
- 7 p. Oyampi, CREVAUX P. 202.
- 7 S. Arawaks, Coast of Guiana.
- 8 F. Indians Bogota, UHLE (I) T. 2, Pl. 8.
- 9 F. Indians Andaquí, UHLE (I) T. 2, Pl. 8.
- V5. Maquiritare, R. M. (H. M. K. I. 72).
- 5 M. Sebondoy, Pasto } UHLE (I) T. 2, Pl. 8.
- 3 L. Otavalo, Ecuador }
- 3 L. Cayambe, Ecuador. M. C. (H. 1034, H. 1035).
- 2 L. Yumbo, Indians Rio Napo. Museum Stuttgart (L.  
1455/10 a—b).





Map. 14. The distribution of baskets with lids.

- = Baskets with overlapping lids.
- = Baskets with lids which are opened like an ordinary cigar-box.

- X 3. Piaroa Rio Ventuari, Communication by letter from Prof. KOCH-GRÜNBERG.

*Baskets with lids which are opened like an ordinary cigar-box.*

- A. Graves on the Peruvian Coast. G. M. Very common in all collections of peruvian antiquities.

Some baskets from the Chiriguano have shapes which make them look like imitations of earthen vessels. (Fig. 53 C and D) Sometimes they even have an ear. Chiriguano and Chané baskets are very seldom ornamented.

*Metal-work.*

The only metal-work now occurring here is that the Chiriguano sometimes make their tembetas (lip-buttons) of tin themselves. Whether the Chiriguano and Chané, before coming into contact with the Whites, themselves performed metal-work, I cannot say.

*Stone-work.*

The Chiriguano and Chané do not now work stone.

*Wood-work.*

For their wood-work the Chiriguano and Chané now use exclusively tools obtained from the Whites.

*Weaving.*

Among the Chiriguano I saw two types of loom; among the Chané only one.

The loom found among the Chiriguano and Chané is characterized by the completed product forming a ring (seamless) N. B. if so desired. The warp is set up as shown in the outline drawing, (Fig. 55.3) and in the sketch of a band-loom from the Chané. (Fig. 55.1). When the ring is

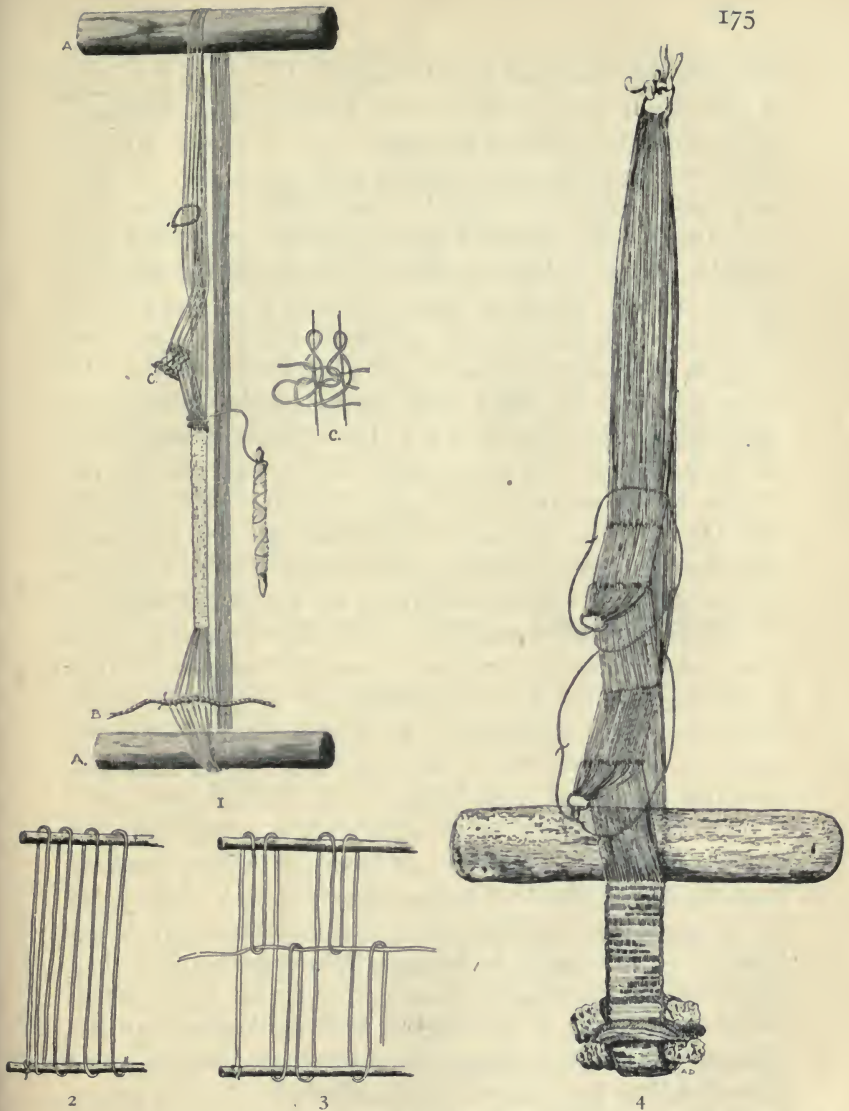


Fig. 55. 1. Sketch of a band-loom from the Chané. Rio Parapiti. R. M. P. 344.  $\frac{1}{8}$ .  
 2. Outline drawing showing how the warp is set up in the looms from the Guarayú and many other tribes.  
 3. Outline drawing showing how the warp is set up in the loom fig. 55, 1.  
 4. Band-loom from the Chiriguano. G. M. 13. I. 558.  $\frac{1}{4}$ .

completed, it is opened by drawing out the string B, a piece of cloth being thus obtained which nowhere needs hemming. If the string B is allowed to remain and is woven into the cloth, the ring-shape is retained and it can also be used as a tipoy. (Fig. 22). This is a particularly ingenious way of setting up the warp. I have looms warped in this wise from the Chané, Chiriguano, Mataco, Yuracaré and Chacobo. In BOLINDER'S collection there is a loom from the Ijca Indians on which the warp is also set up in this way. The string B is, however, replaced by a stick. There are also looms on which the warp is set up as depicted in the schematic illustration (Fig. 55,2) i. e. the completed work must be in the shape of a ring, unless the threads are cut off. I have looms warped thus from the Guarayú (Pauserna) and the Itonama Indians. Here belongs also the loom described by MAX SCHMIDT from Paressi-Kabiši, as also a loom from N. W. Brazil described by KOCH-GRÜNBERG.

There are unfortunately too few descriptions of looms from the S. American Indians to render it possible to draw up satisfactory maps of the distribution of different types. The map 15 here appended is intended to show the distribution of looms on which the warp is set up in such wise that the completed work forms a ring, or can form one if it is desired. According to information kindly supplied by MAX SCHMIDT, there are no looms on which the warp is set up in such wise that the completed work is ring-shaped in the extensive collections from pre-Columbian Peru at the Museum of Ethnology in Berlin. When writing Part I of this work, I thought, like MAX SCHMIDT, that looms whose completed product is ring-shaped were an Arawak culture-element. In order to prove this, a larger material of looms is needed than has hitherto been collected. It is, however, likely that this kind of loom is now only found in northern S. America and, farther south, only east of the Andes. Looms warped so that the completed work must form a ring appear to have a more easterly distribution than those

warped so that the completed work may form a ring or not according as it is desired.

Table 18.

»Arawak» loom. Map. 15.

2. Ashluslay, Photo in my collection. G. M.
4. Chiriguano, R. M. E. 1037.
5. Chané, R. M. P. 344.
6. Mataco, R. M. M. 1230.
8. Lengua, GRUBB P. 67.
20. Paressi, MAX SCHMIDT (4) P. 214.
21. Caingúa, AMBROSETTI (7) P. 711.
22. Yuracáre, R. M. Y. 598.
31. Emerillon. GOEJE (1), Pl. XVI.
36. Ijca, BOLINDER (4) P. 149.
37. Motilon, BOLINDER (4) P. 149.
41. Pauserna, G. M. 15. I. 806.
48. Indians Northwestern Brazil. KOCH-GRÜNBERG (2) Bd (2) P. 211.
62. Chacobo, R. M. Ch. 178.
65. Baure, R. M. C—B. 33.
- IV. Tereno, MAX SCHMIDT (4) P. 214.<sup>1)</sup>
- I C. Paez, PITTIER DE FABREGA Pl. VI.
- 2 M. Wapisiana, FARABEE Pl. VII.

The loom only occurring among the Chiriguano is a band-loom which is depicted here, This loom is much more akin to the usual Peruvian loom and must be regarded as a western culture-element. (See fig. 55,4.) East of the Andes the Peruvian loom is unknown except among the Mataco.<sup>2)</sup>

Appertaining to the loom outfit of the Chiriguano and Chané are weaving-implements of bone and wood (fig. 56).

<sup>1)</sup> Caduvei, BOGGIANI (2) P. 107. Warp set up as in the loom fig. 55, 1.

<sup>2)</sup> See Part I. Fig. 62.

Weaving-bodkins of bone are found among the Quichua. LEHMANN-NITSCHÉ depicts one from Puna de Jujuy<sup>1)</sup> and I found one in an excavation at Ollachea,<sup>2)</sup> Peru. COBO<sup>3)</sup> mentions their use by the Incas.

The large fabrics woven by the Chiriguano and Chané are not adorned with figures. On the other hand, it is not rare to see ribbons with woven human figures and other ornaments (fig. 57). The Chané on the Rio Parapiti are said to have learnt these ornaments from a Quichua woman who had immigrated to these parts. The Chiriguano girls are never seen to wear the ornaments they have learnt to embroider at the mission schools. These are flowers and the like, generally European ones, which interest the Indians very little, and are too strange for their fancy. This does not prevent the work they do at the mission schools being excellently done. At the mission schools the Indian girls also sew and crochet lace. But they never make these things once they have left school.

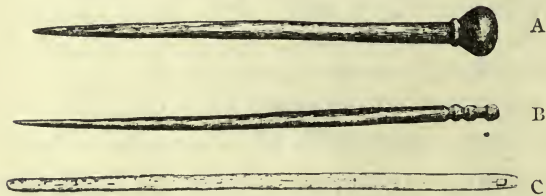


Fig. 56. Weaving-implement of wood. A and B from the Chiriguano.  
C from the Chané.

A = R. M. E. 48.  $\frac{1}{4}$ . B = R. M. E. 146.  $\frac{1}{4}$ . C = R. M. P. 21.  $\frac{1}{4}$ .

1) Pl. IV. C5.

2) (3) Pl. 3. Fig. 12.

3) «Van apretando y tupiendo la tela con un hueso puntiagudo y liso»  
... COBO T. 4, p. 204. COBO gives a description of the Peruvian loom.  
P. 203.



Map. 15. The distribution of the «Arawak» loom.

- ⊙ = Warp set up as shown in fig. 55.3.
- = » » » » » » » » 55.2.
- = It is not exactly known how the warp is set up.

## XXIV

## Trophies.

We know from several writers<sup>1)</sup> that the Chiriguano used to keep the heads of their beaten enemies as trophies. According to what a Chané Indian named Batirayu told me, the Chané used to bring home the heads of slain enemies. At festivals these were put up on the »square» in the villages. Thanks to FRIEDERICI we have a fine work on scalping in America to which I beg to refer. It is, at present, impossible to say whence the Chiriguano and Chané obtained this custom.

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<sup>1)</sup> See PASTELLS P. 30; CORRADO P. 46.

## XXV.

## Property Marks.

In part I (Map 34) I have already written about the geographic distribution of such marks. They belong to the cultural elements that these Indians probably got from the culture zone in the west.



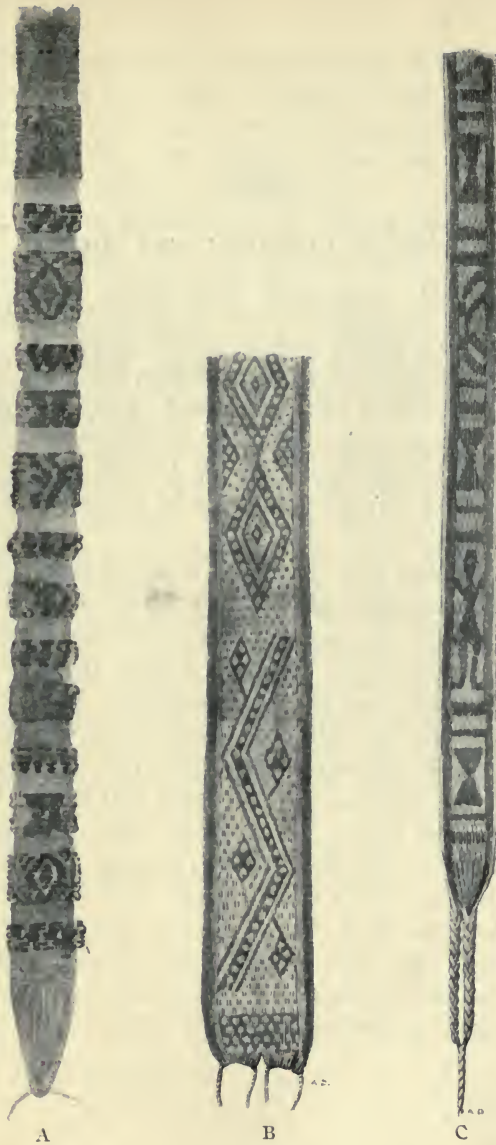


Fig. 57. Ribbons from the Chané, Rio Parapiti.  $\frac{1}{2}$ .

A = R. M. P. 162. B = R. M. P. 134. C = R. M. P. 159.

## XXVI

## Symbols of authority and dignity.

According to CORRADO<sup>1)</sup> the Chiriguano chief was distinguished by a tuft of hair on his head the »yattira» and earrings of green stones. At feasts the chief carried a pole with a bunch of ostrich feathers at the end of it, the »yandugua», and a carved stick the »iguïrape». I have only seen the »yandugua». Among the Chané I have seen plain sticks that formed some kind of symbol of authority for the chiefs.

I have neither seen nor heard of any symbols of authority among any other Indians than the Chané, Chiriguano, Quichua and Aymara, and also, at the missions, among the Guarayos, Mosekene and Cavina. Among the Aymara and Quichua the staff, usually silver mounted, is a symbol of authority carried by Indian officials in the villages. It is the same at the missions among the tribes mentioned and also among the Chiriguano. LOZANO<sup>2)</sup> states that the Spaniards at the end of the seventeenth century solemnly presented a staff to a Chiriguano chief, Cambichuri, as a symbol of authority. CREVAUX<sup>3)</sup> relates from his visit to the Oyampi that the chief carried a staff in his hand, for all over Guiana the staff is »le signe de commandement». KOCH-GRÜNBERG<sup>4)</sup> speaks of the staff as a symbol of authority for chiefs in northwest Brazil. GILIJ<sup>5)</sup> says that the

<sup>1)</sup> P. 45.

<sup>2)</sup> P. 298.

<sup>3)</sup> P. 164.

<sup>4)</sup> (2) I P. 260, Fig. 142; P. 297, Fig. 175.

<sup>5)</sup> T. 2 P. 195.

staff was introduced at the missionary stations as a symbol of authority for chiefs. In the same way white men had introduced the staff as a symbol of authority among the Araucanians.<sup>1)</sup> The half civilized Ijca<sup>2)</sup> use the staff as a symbol of authority for medicinemen.

According to RESTREPO<sup>3)</sup> the Chibcha chiefs had staffs of guayacán. MARTIUS<sup>4)</sup> tells us that the chief of the Tupi-Indians carried a tall staff »pocacaba». He also tells us that POMBAL in order to flatter conquered chiefs ordered Malacca canes with big knobs and tassels to be distributed among them. The Incas do not seem to have used the staff as a symbol of authority.

It is obvious from what I have said that the staff, as a symbol of authority, was introduced here by the Whites, while on the other hand the Chiriguano most likely got the »yandugua», from the Incas. One of the Inca symbols of authority was a parasol of ostrich-feathers. Thus BETANZOS<sup>5)</sup> <sup>6)</sup> tells us about Inca Urco, a son of Viracocha that he was borne in a litter on the shoulders of chiefs. When he went into the market-square, he sat on a golden stool and had a parasol made of ostrich-feathers dyed red.

Dr. MAX UHLE has been kind enough to inform me that he possesses a japanned wooden drinking-cup, possibly from Carabuco near Lago Titicaca. It dates from the period of conquest. On the cup is depicted an Inca with all his tokens of honour, down to the parasol.

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1) GUEVARA, P. 27.

2) BOLINDER (4), P. 215.

3) P. 99.

4) (1), P. 64.

5) P. 34.

6) See also MARKHAM P. 292.

## XXVII.

## Urn-Burial.

The Chiriguano and Chané bury their dead in urns. The geographical distribution of interment in urns has been treated by several authors, particularly by PREUSS, BOMAN, OUTES, TORRES and PATER SCHMIDT. We can distinguish between two different methods of urn-burial in America. In one case the whole body has been stuffed into the urn, in the second the urn was only used for after-interment of the fleshless, and not unfrequently, painted bones. This secondary burial of the bones naturally requires smaller urns than those needed when the whole body is put into them. In some places children have been deposited in urns and adults in another manner.

It is natural that the conceptions on which direct or secondary urn-burial are based must be very different. The secondary burial of the bones in baskets instead of urns is of course more in conformity with this latter mortuary custom than immediate burying in urns. Secondary interment in baskets and in urns can also occur in the same cemetery. The basket is a substitute for the urn or vice versa<sup>1</sup>).

The essential thing in the secondary burial of the bones is their preservation which is considered most important. The direct interment in urns resembles burial in stone vaults and the like. The whole body is to be preserved, not only the bones. This should be kept in mind when we study the distribution of different kinds of urn-graves. EHRENREICH<sup>2</sup>)

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<sup>1</sup>) KARL, V. D. STEINEN (3) P. 504.

<sup>2</sup>) (5).

and above all BOMAN have assumed that urn-burial of adults is a Guarani custom. The latter supports this statement by the fact that this mode of burial is supposed to be very uncommon in the western zone of civilization and that it was chiefly used by the Guarani-Tupi tribes.

As this mode of burial is characteristic of the Indians I am treating of here, I will take up the question for closer examination and endeavour to make a map of the distribution of different modes of urn-burial in S. America. Some finds of burial-urns, lately made by UHLE, makes the origin of direct urn-burial a subject which ought to be brought up for discussion again. I will here endeavour to show that direct urn-burial is chiefly an element of western culture, which most likely spread to the Tupi-Guarani tribes at a comparatively late period.

The Tupi-Indians on the coast of Brazil had this form of burial. This was, however, not the commonest mode of interment there. Direct burial in the earth was more usual as pointed out by TORRES.<sup>1)</sup>

LERY,<sup>2)</sup> YVES D'ÉVREUX,<sup>3)</sup> CLAUDE D'ABBEVILLE<sup>4)</sup> PERO DÈ MAGALHAES<sup>5)</sup> and NOBREGA<sup>6)</sup> only mention burial directly in the ground. Of these LERY is one of the greatest authors of the 16th century who has written about the Tupi-Indians on the coast of Brazil. THEVET,<sup>7)</sup> VASCONCELLOS,<sup>8)</sup> the author of *Principio e origem dos indios de Brazil*,<sup>9)</sup>

1) (2) P. 400.

2) P. 384. «Après que la fosse aura esté faite, non pas longue à nostre mode, ains ronde et profonde comme un grand tonneau à tenir le vin, le corps qui aussi incontinent apres estre expiré, aura esté plié, les bras et les iambes liez à l'entour, sera ainsi enterré presques tout debout:»

3) P. 126.

4) P. 329.

5) P. 210.

6) P. 93.

7) P. 219.

8) P. LXXXIII.

9) P. 195.

and (MANOEL TRISTA)<sup>1)</sup> mention urn-burial. The first two also speak of other methods of burial. SOARES DE SOUZA, who has given such an excellent description of the customs and habits of the Indians on the Brazilian coast describes in detail the Tupinambá-Indians' mode of burial. According to him grown up people are buried in underground vaults and only the children of the chiefs in urns. For the chiefs they apparently dug good-sized underground vaults where the remains were protected from pressure or contact with the earth.<sup>2)</sup>

Thus the Tupi-Indians on the coast of Brazil buried their dead in dug-out vaults or in great urns. As I have already pointed out the difference between these modes of interment is not very great. In the vault, and still more so in the urn, the body was protected from the earth. It is told of the Quichua that after the Roman Catholic priests had introduced burial in the earth (without coffins) these Indians unearthed their dead in the cemeteries and took them to their own burial ground in order that the earth might not press upon them. Something similar is related by JARQUE<sup>3)</sup> from the Guarani-Indians in Paraguay. That urn-burial is not practised by the Mundrucú and Apiacá, who are Guarani Indians, is a known fact. The Oyampi, and the Omagua other Guarani tribes, practises secondary urn-burial.

RUIZ DE MONTROYA mentions urn-burial among the

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<sup>1)</sup> P. 1293.

<sup>2)</sup> P. 307. «e tem-lhe feito na mesma casa e lança onde elle vivia, uma cova muito funda e grande, com sua estacada por de redor, para que tenha a terra que nao caía sobre o difunto, e arman-lhe sua rede em baixo de maneira que não toque o morto no chão; and P. 308 «E quando morre algum moço, filho de algum principal, que não tem muita idade, metem-no em cocoras, atados os joelhos com a barriga, em um pote em que elle caiba, e enterrem o porte na mesma casa debaixo do chão.»

<sup>3)</sup> T. 3, P. 82.



Map. 16. The distribution of urnburial in South-America.

● = Primary urnburial. ○ = Secondary urnburial. ■ = Primary and secondary urnburial, or a combination of both occur. □ = Urnburial occurs. Unknown if it is primary or secondary urnburial.

Guarani in Paraguay. According to TECHO<sup>1)</sup> the dead were deposited in the ground. Earthenware bowls were inverted over the faces of the dead. Direct urn-burial is the typical mode of interment among the Chiriguano and Chané.

Coming to the Andine culture zone we find that urn-burial of adults has had a very wide distribution. Urn-burials of this kind have been found in the Argentine at Carmen in Valle de Lerma, in the province of Salta, at San Pedro in the province of Jujuy, at Pampa Grande and other places and on the coast of Peru at Ica, Ancon and Cañete. At Ica urn-burials seem to have been quite usual. UHLE, who made a careful examination of them assigns them to the later Ica period<sup>2)</sup>. UHLE has also found urn-burial at Ancon from the period previous to the Inca.

Urn-burial of adults also occurs in several places on the coast of Ecuador. This mortuary custom has also been usual at the Rio Ucayali and at the Upper Amazon where it occurs alternately with secondary urn-burial. A combination of these two different kinds of urn-burial was practised by at least two tribes the Cocama and Passé. The dead body as a whole was first deposited in a large earthenware vessel and then when the flesh had decayed the bones were put in a smaller urn. Direct urn-burial seems to have reached some tribes near the Rio

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1) »believing the souls are buried with the bodies, cover the faces of the dead with concave dishes» P. 670 I regret not to have had the opportunity of verifying this quotation from the original Latin edition.

2) (4), P. 365. Da hingegen sind die in der späteren Ica Zeit üblichen Bestattungen in Gestalt eiförmiger Mumienbündel, die in grosse irdene Töpfe gesetzt wurden, wohl als eine Fortbildung des ursprünglichen Proto-Nazca Typus zu betrachten. Erst die Inca brachten an der Küste wieder einen neuen Mumientypus auf, den man in Gräbern der mittel-peruanischen Küste vielfach findet: regellos in allerhand Tücher eingeschlagene einfach gefaltete Körper.»

In a letter to me of the 27 September 1919 UHLE writes: »Natürlich gab es Unmassen von Urnengräber im Thale von Ica (letzte Zeit, zusammenfallend mit der incaischen.)»



Branco from the Upper Amazon River. It is not known if direct or secondary urn-burial was practised in the Cauca-Valley.

In northern Argentine in the region of the Diaguita it has been quite a usual custom to bury children in prettily painted urns, whereas grown up people were buried in the earth. As I have already pointed out urn-burial of adults has not been uncommon in the Argentine. At Pampa Grande AMBROSETTI found face-urns containing skeletons of children above an urn with the skeleton of an adult. I used to incline to the belief that the last mentioned burial-urn belonged to an older cultural period than the infant burial-urns, because they were not found on the same level. This was most likely premature. Presumably all the burial-urns at this place are coeval, as AMBROSETTI<sup>1)</sup> assumes, in the same way as the skeleton found by BOMAN<sup>2)</sup> at Arroyo del Medio is presumably coeval with the infant burial-urns which he found above it.

At Pampa Grande adults have most likely been placed deeper down in the earth than the children. The same rough earthenware used for the big urns has also been employed for some of the infant burial-urns.

UHLE<sup>3)</sup> has endeavoured to make clear the relative ages of the cemeteries found in North Argentine and he comes to the conclusion, after having revised AMBROSETTI'S<sup>4)</sup> archaeological work from La Paya, that burial-urns of the Santa Maria type or of a type related to it went out of use during the Inca period or perhaps before it.

He points out that AMBROSETTI at Pampa Grande found no objects from the times of the Inca. So it is obvious that urn-burial began in a pre-Incan period both on the coast of Peru and in the Diaguita territory. *It follows from*

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<sup>1)</sup> (5) P. 89.

<sup>2)</sup> P. 838.

<sup>3)</sup> (3).

<sup>4)</sup> (6).

*that I have said that it is not correct to describe urn-burial of adults as typical of the Tupi-Guarani Indians in particular. It is most likely a western cultural element which first spread eastwards to the east coast of S. America and then was carried back from east to west by the Chiriguano.*

As has been already mentioned inhumation of adults in underground vaults as also in urns has been performed with the object of protecting the deceased from the weight of the earth. Interment in underground sepulchres has been extremely common throughout the whole of the western culture zone. Secondary burial of the bones in urns, baskets or some other receptacle must, as already mentioned, be based on quite a different conception. This mortuary custom as far as I know is not known from the western culture-zone.

The following table and map show the distribution of different kinds of urn-burial in S. America. On examining an urntomb it is not always easy to determine what kind of burial has been employed. Thus it has happened during my excavations that I have found urns in which the remains of the skeleton consisted of tiny fragments of bone. Some accounts of direct urn-burial of adults must probably be deemed very doubtful.

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Fig. 38. Dancing mask of wood, with tembeta of the same material.  
Chiriguano. R. M. E. 6or.  $\frac{1}{4}$ .

Table 19.  
*Urnburial in South America.*

Number on the map.	Geographical distribution		Primary urn-burial.	Secondary urn-burial.	Only children buried in urns.	The face of the dead covered with concave dishes.	Literature
A.	Ancon; near Lima.	Peru.	×				UHLE (4 b) P. 39; BERTHON P. 58.
A.	Ica.	»	×				» (4) P. 365.
A.	Cañete.	»	×				BOMAN P. 261.
AE.	Río Doce.	Brazil.	×				EHRENREICH (4) P. 65.
AF.	La Rioja.	Argentina.	×				AMEGHINO T. I, P. 515.
E.	Chañar Yaco.	»	×				LAFONE QUEVEDO (4).
E.	Carmen de Lerua, Salta	»	×				BOMAN P. 255.
E.	Pampa Grande.	»	×				AMBROSETTI (5).
E.	Prov. Salta.	»	×				BOMAN P. 278.
E.	Santiago del Estero.	»	×				» P. 278.
E.	San Pedro, Jujuy.	»	×				» P. 259.
EA.	Guarayos.	Bolivia.	?	?			NORDENSKIÖLD (10).
EB.	Río Guaporé.	Brazil.	?	?			» (11).
EC.	Ature.	Venezuela.	?	×			PREUSS. P. 59; GILIJ T. 2, P. 107
ED.	Las Pavas and Santa Rosa.	Columbia.	?				» P. 131.
EE.	Esmeralda, Manabí and Guayas.	Ecuador.	×				RIVET AND VERNEAU P. 126, after GONZALES SUÁREZ, BUCHWALD P. 8.
EF.	Beetween Arequipa and Puno.	Peru.	?				PREUSS F. 61.
EH.	Ilo-Ilo.	Central-Chile.	×				OVARZUN (2) P. 14.



Table 19.  
*Urnburial in South America.*

Number on the map.	Geographical distribution		Primary urn-burial.	Secondary urn-burial.	Only children buried in urns.	The face of the dead covered with concave dishes.	Literature
38.	Tupinambá.	Brazil.	×		×		THEVEY P. 218; PURCHAS P. 1293. <sup>1)</sup> ; VASCÓNCELLOS P. LXXXIII; PRINCIPIO E ORIGEM P. 195; SOARES DE SOUZA P. 308.*)
39.	Guajiro.	Columbia.		×			CANDELIER P. 220; BRETTEES P. 436.
42.	Caripuna.	Rio Madeira.		×?			KELLER-LEUZINGER P. 104.
46.	Conibo.	Rio Ucayali.	×				ST. CRICQ P. 294.
68.	Omagua.	Maynas.		×			[MARONI] P. 85.
I.	Guarani.	Paraguay.	×				MONTOYA P. 52.
VO.	Jumana, Caiuxana.	Amazonas.	×				MARTIUS (I) 482, P. 485.
Not on the map	Quimbaya.	Columbia.		×			RESTREPO TIRADO P. 45. <sup>2)</sup>
»	Caingá.	Misiones.				×	RENGGER P. 133.
»	Payaguá.	Rio Paraguay.				×	» P. 140; AZARA (I) T. 2, P. 1 43.
»	Puna de Jujuy.	Argentina.					ERIC VON ROSEN (4) P. 112.
»	Catamarca and other parts of Northern Argentina.				×		BOMAN.
bd.	Northern Venezuela		×				SPINDEN P. 327.
bc.	Prov. de Malleco and Cautin.	Southern Chile.	?		×		GUEVARA (I) P. 275.

bf.	Manaos.	Rio Amazonas.	?				KELLER-LEUZINGER P. 26; MARTIUS (1) P. 440; KOCH-GRÜNBERG. Letter to the author. NETTO. GOELDI.
c.	Marajo.	§ Brazil.		×	×		
d.	Counany.						
e.	Prov. Sara, Santa Cruz.	Bolivia. Brazil.	×	×			
l.	São Paulo.		×				NORDENSKIÖLD (10). IHERING (4) P. 31; NEHRING P. 309.
p.	Island of Aruba.		×	×			BOMAN P. 274; JOSSELIN DE JONG.
s.	Rio Grande do Sul.	South Brazil.	×	×			PREUSS P. 131; BOMAN P. 265; V. IHERING (1) P. 76. NORDENSKIÖLD (11).
Not on the map	Saipina.	Bolivia.				×	
§	San Juan.	Argentina.				×	DEBENEDETTI (4) P. 183.
ba	Sierra de Perijá.	Venezuela.	?				DE BOOY (2) P. 401.
Not on the map	Rio Yapurá.	Brazil.	?				KOCH-GRÜNBERG (2) T. 2, P. 313.
§	Tarupáyu.	Bolivia.				×	NORDENSKIÖLD (11).
bc.	Xingü.	Brazil.		×			P. SCHMIDT P. 1075.

1) A Treatise of Brasil, written by a Portugall which had long [lived there. Purchas his pilgrimes, London 1625. After he is dead they wash him and paint him verie bravely, as they paint their enemies; and after this they cover him with Cotton Yarne that nothing is seene of him, and put a covering over his face, and sitting they put him in a great tinnage or vessell that they have under the Earth for that purpose, and doe cover it in such manner that no Earth may come to him and the vessel they cover with earth, making him a house where everie day they carrie him meat. The author probably *Manoel Trista* — on *Emfermeiro do Colegio da Baya*.

2) The corpse is burnt and the ashes are preserved in a golden urn which is kept in a vault.

## Resumé.

In the foregoing pages I have attempted to analyse the material culture of the Chiriguano and Chané, and have tried to show from where they have derived the cultural elements existent among them. Finally I will see to what extent conclusions can be drawn from what has been said above, as to the changes the material culture of these Indian tribes has undergone under the influence of an entirely strange culture — that of the Whites — and of a kindred culture — that of the bronze age in the west. Furthermore, we will see what the Chiriguano and Chané have kept of the culture they had before they migrated to the districts they now inhabit, in what measure they have adapted themselves to their new natural surroundings, and what they presumably have learnt from their neighbours the Choroti, Toba, Mataco and Tapiete.

I have shown in tabular form the cultural elements the Chiriguano and Chané received from the Whites, those they received from the Mountain culture, and those that derive from the north and the east. This third table embraces such cultural elements as the Chiriguano and Chané took with them when they migrated to their present habitat. In the tables I have mentioned, as the reader will see, in the case of each cultural element whether its distribution in the region examined is favoured by natural surroundings, whether in its distribution it is in general independent of such surroundings, whether it is of great importance in the struggle for existence, whether its manufacture calls for technical skill, whether it is man's or woman's work, whether it is used by men or women or both, or only by children, whether it may be looked upon as still frequently used or as disappearing, and whether it can be regarded as a



luxury or as a necessity. The tables thus reveal, for instance, whether these Indians have received chiefly articles of luxury from a certain source, whether what they received was mainly what women manufacture, and so forth.

Among the Chiriguano and Chané we naturally find a number of cultural elements with regard to whose origin we are quite ignorant. Without doubt many of these have a large distribution, but it is simply unknown. Others again have a distribution of such a nature that it yields us no conclusions regarding their origins. The Chiriguano and Chané have no cultural elements of any importance that are not known from one or several other Indian tribes. There are, of course, minor peculiarities in shape and ornamentation that characterize all the belongings of these Indians when compared with similar articles from other tribes, but I know of no striking invention of any description to the sole credit of these tribes

A. *The influence of the Whites on the culture of  
Chiriguano and Chané*

The cultural elements the Chiriguano and Chané certainly or presumably derived from the Whites, are given in the table 20. It includes such elements as they manufacture themselves, but are indebted to the Whites for the idea; cultivated plants and domestic animals which were not introduced among them until post-Columbian times.

If we examine the table 20 we shall find that it embraces 31 cultural elements. It omits a few cultivated plants obtained by the Chiriguano and Chané from the Whites which are not, and never were, of any importance whatever, likewise a few domestic animals that are rarely seen. It includes three cultivated plants and four kinds of domestic animals. Of the remaining cultural elements, 17 are man's or boy's work, and only four woman's work. The majority

Table 20.

Culture element that the Chiriguano and

+ Indicates occurrence. — Indicates absence.

	Chiriguano.	Chané.	Distribution favoured by natural surroundings.	Distribution independent of natural surroundings	Of great importance in the struggle for existence.
Modern hut .....	+	+	+	—	+
Chair .....	+	+	/	+	—
Wooden boxes .....	+	—	/	+	—
Sugar-cane .....	+	+	+	—	—
Water-melon .....	+	+	+	—	—
Reeds for arrow-shafts (Arundo donax) .....	+	+	—	—	+
Pellet-bow .....	+	+	/	+	—
Cattle .....	+	+	+	—	+
Sheep .....	+	+	—	—	+
Horses .....	+	+	+	—	—
Poultry-keeping .....	+	+	+	—	+
Riding whip stock .....	+	+	/	+	—
Saddle .....	+	+	/	+	—
Tinder when striking fire with flint and steel .....	+	+	/	+	—
Clothes of tanned skin .....	+	—	+	—	—
Leather-girdle with pocket .....	+	+	/	—	—
Hairband with tassels .....	+	+	/	+	—
Strawhats .....	—	+	/	—	—
Women with pierced ears ..	+	+	/	+	—
»Boivéra» .....	+	+	/	+	—
Taba-game .....	+	+	/	+	—
Dice .....	+	+	/	+	—
»Rifle »(plaything) .....	+	+	/	+	—
Musical bow .....	—	+	/	+	—
Flutes with six carefully fitted holes .....	+	+	/	+	—
Trumpets of cow-horn .....	+	+	/	+	—
Trumpets with mouth-piece of reed .....	—	+	/	+	—
Vessels with lips in rims. ..	+	+	/	+	—
Brazier .....	+	+	/	+	—
Tanning .....	+	+	/	+	—
Staff .....	+	+	/	+	—



are chiefly used by the men. It is clear that the latter learnt more from the Whites than the women, for they came into contact with them to a far greater extent. Hence many of the men, but few of the women, learnt to speak Spanish. All the Chiriguano and Chané men now clothe themselves more or less like the Whites, that is to say in shirt and trousers. Few have coats. You rarely see anyone with boots, and never anyone with stockings. Practically all the Chiriguano and Chané women still wear the tipoy. It is usually made of cloth bought from the Whites. But in some villages the women still have a predominance of home-woven tipoys. The clothes worn by the men, and which are of the same cut as those of the Whites, are not their own make, but are obtained ready-made in exchange for manual labour. The cloth for the women's tipoys, too, which they make up themselves, is as a rule earned in similar wise by the men. The Indians now obtain the implements for all these things from the Whites.

The agriculture of the Chiriguano and Chané has been very little affected by the Whites. As the banana cannot be cultivated here with any success, the Indians have not been able appreciably to improve their conditions of life by extensive planting of the cultivated plants introduced by the Whites. For some of the Chiriguano and Chané Indians, cattle-breeding has become of considerable importance.

Seventeen of the cultural elements included in the tables may be regarded as articles of luxury. These are games, musical instruments, etc.

The domestic industry of these Indians has been very little influenced in its development by the Whites, a fact on which I laid stress in speaking of their pottery, which has remained in a wonderful manner untouched by 400 years of intercourse with missionaries and others. I here repeat that even the instruction given in the mission schools in embroidery, lace-making and the like, has but very slightly affected the native domestic industry of the In-

dians. A handicraft the Chiriguano and Chané have learnt from the Whites, is tanning.

The dwelling-places of these two tribes have been greatly changed under the influence of the Whites. I have noticed the same phenomenon in several other tracts. The Yamaica, a small Peruvian tribe that I visited in 1904, a few years after its discovery, had already given up the old type of hut and built huts on the pattern of the houses of the Whites. The Huanyam, a small tribe near the Rio Guaporé in Brazil, which had not long been under the influence of the Whites (or more correctly, the negroes), now builds huts on the model of the houses they see at the rubber barracks. Several similar examples could be recorded. Everywhere it is the introduction of the white man's implements, so excellent in comparison with the stone axes, that has brought about the revolution.

The negative influence of the Whites has of course been very great here. The primitive tools have disappeared, a number of implements and ornaments have become rare or have vanished, a quantity of domestic industry has become superfluous, since readymade things have been purchasable from the Whites. The Indian domestic industry is gradually disappearing, but is not transformed under the influence of the Whites.

A race like the Chiriguano or Chané, when it falls under the influence of a culture, such as the Whites', which is very strange to them, very soon, as a rule, utilizes for its own ends such elements as smooth for them the struggle for existence. We know, for instance, with what incredible rapidity the culture of the banana spread among the Indians soon after the Discovery of America, and that in many places it rapidly became one of their most important cultivated plants. And I have already mentioned that, a few years after its introduction, poultry-keeping spread far and wide among the Indians in S. Brazil.

In the matter of ornaments and adornments the Indian

is conservative, which may partly be connected with the fact that for him, as KARSTEN has pointed out, colours and ornaments have a great magical importance. When the Chiriguano and Chané obtain by barter glass-beads for their labrets, these must be blue, like the turquoises they were wont to fasten in them.

When they come across anything in the culture of the Whites that approximates to their own conception of the ideal, the Indians have no difficulty in adapting it to their own use. We know that the dance mask is an Indian practice: it is therefore quite natural for the Indians to have embraced the carnival of the Whites with great interest and have added to it their own dances, in which they appear with masks on.

B. *The influence of the bronze age culture  
on that of the Chiriguano and Chané.*

In the table 21 I have put together the cultural elements that the Chiriguano and Chané have very probably obtained from the culture zone in the west. We can see at a glance that this influence has been very considerable. The positive influence has been greater even than from the Whites.

If we look into the table we shall find that the Chiriguano and Chané have especially learnt from the culture zone in the west such things as are connected in some way with festivals. Here belong the men's festal attire, several adornments worn by men and women, the feather parasol, the finer sorts of pottery, the ornamentation of calabashes with pyrograving, several musical instruments, games, etc. When we know with what interest the Indians have embraced the festivals of the Catholic Church, wherever they have had an opportunity of doing so, it can easily be understood that the tribes that were neighbours of the Incas, also imitated their festivals.

The influence of the Mountain culture has extended considerably further east than the territory of the Chiriguano and Chané. In the First Part of this work I showed what a great influence this culture had on the Choroti, Ashluslay, Lengua, Mbayá, and other tribes. The Guarani-Tupi Indians in the most easterly part of S. America have even been influenced by it. The influence of the Mountain culture east of the Andes has probably been considerable not only under the Incas, but also at earlier epochs. But this is difficult to substantiate, with the paucity of distribution maps at present drawn up. I would ascribe to it certain cultural elements such as urn-burial and the shape of the labret among the Chiriguano. If this assumption is correct, these cultural elements must first have been conveyed eastward from the culture zone in the west, and then have been brought westward again by the migrations of the Chiriguano Indians. Both are here evidently original to Chiriguano and not to Chané.

The influence of the bronze age culture on tribes with a lower civilization must have been quite different from that of the Whites. And yet the culture of the more highly civilized Indians consisted of the same elements as that of the more primitive Indians. The Chané and Chiriguano have therefore not only learnt the use of a number of things from the bronze age culture, but have also learnt to make them themselves. Among these more primitive Indians domestic industry has evidently progressed under the influence of the Mountain culture, but is perishing under the influence of the Whites.

As I pointed out in Part I, the bronze age culture in the west was a great attraction for the Indians east of the Andes. It was in order to pillage the rich districts in the west that the Chiriguano migrated to those parts at the beginning of the 16th century. It must have been in order to facilitate the establishment of intercourse with the opulent culture of the bronze age that the Arawaks (i. e., the

Table 21.

*Cultural elements that the Chiriguano and Chané*

+ Indicates occurrence. — Indicates absence

	Chiriguano.	Chané.	Distribution favoured by natural surroundings	Distribution independent of natural surroundings	Of great importance in the struggle for existence.
Wooden hook on which to hang their belongings . . . . .	+	+	/	+	—
Spade (Wooden) . . . . .	+	+	/	+	—
Bird-net . . . . .	+	—	+	—	—
Wooden bowl . . . . .	+	+	/	+	—
Wooden spoon . . . . .	+	+	/	+	—
Coca . . . . .	+	—	—	—	—
Poncho-shirt . . . . .	+	+	+	—	—
Sandal . . . . .	+	+	+	—	—
Woven girdle . . . . .	+	+	/	+	—
Frontlet . . . . .	+	+	/	+	—
Wooden comb . . . . .	+	—	/	+	—
Pincer . . . . .	+	+	/	+	—
Topu . . . . .	+	—	/	+	—
Necklaces of green stones . .	+	+	/	/	—
Headdress worn by Chiriguano Women on festive occasions . . . . .	+	—	/	+	—
Vessels which are intended to be carried by a string running round the vessel . . . . .	+	+	/	+	—
Chunquanti-game . . . . .	+	+	/	+	—
Chucareta- » . . . . .	+	+	/	+	—
Quoits- » . . . . .	+	—	/	+	—
Long wooden whistle . . . . .	+	+	/	+	—
Round » » . . . . .	+	+	/	+	—
Drum . . . . .	+	+	/	+	—
Vessels provided with ears or handles . . . . .	+	+	/	+	—
Double pitchers . . . . .	+	—	/	+	—
Water-pitchers . . . . .	+	+	/	+	—
Pitchers with a bulging neck . . . . .	+	+	/	+	—
Calabashes with lids . . . . .	+	+	/	+	—
Calabashes with burnt ornamentation . . . . .	+	+	/	+	—
Peruvian loom . . . . .	+	—	/	+	—
Bodkin of bone . . . . .	+	+	/	+	—
Property marks . . . . .	+	—	/	+	—
Yandugua the parasol of ostrich feathers . . . . .	+	—	/	/	—





Chané) wandered south along the Andes to parts where no dense primeval forests hampered communications. This is always on the presumption that they were not forced southward by other tribes, which may possibly have been the case.

The question may naturally suggest itself, 'How was it possible for the Chiriguano, if they did not establish themselves in their present habitat until the beginning of the 16th century, to have learnt so much from the bronze age culture in the west, which began to decay a few years later?' They did not do so by direct intercourse with this culture, but learnt it from the original inhabitants of those districts, who were for a long time under the influence of that culture. The Chiriguano conquerors were presumably very few in number, compared with the original inhabitants, who most likely had long been under the influence of the bronze age culture. The conquerors adopted the culture of the original inhabitants, these the language of the conquerors.

The pottery of the Chiriguano and Chané is evidently an offshoot of the Mountain culture, their textile industry has been strongly influenced by it. The most important domestic industries of these Indians are woman's work, and it is probable that kidnapped women have here been the intermediary agents of culture. When the Chiriguano conquered the parts they now occupy, they did so, to a great extent at least, from the Chané.<sup>1)</sup> They then kidnapped a great number of women from these Indians. After being admitted into the tribe, the women taught their skill to their offspring. Being culturally much above their husbands, they would no doubt have a great influence on them.

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<sup>1)</sup> See NORDENSKIÖLD (13).

C. *Cultural Elements which the Chané and Chiriguano have got from the Mataco, Toba, and other tribes in the Gran Chaco.*

The Chané and Chiriguano have presumably not learnt much from their neighbours the Choroti, Toba, Mataco, and Tapiete, whose chief domestic industry is the caraguatá work, in which they have developed an astonishing skill. As we saw in Part I of this work, they have various different kinds of knitting, sewing, and plaiting. The Chiriguano and Chané, on the other hand, do very little caraguatá work, and the technique of their knitting is without much variety. I consider it likely that they learnt from the Chaco Indians the use of the bowstring made of shreds of hide, landing-nets of the type used here, the wooden needle with the line for stringing fish, the skin rug, the forked wooden spit, the use of the resin of palo santo for painting earthen vessels, and possibly the bat and ball game.

It is clear that more civilized Indians like the Chiriguano and Chané, when they come in contact with more primitive Indians, like the Mataco, Tapiete, and Choroti, do not imitate their ornaments, clothes, etc. I have already pointed this out in Part I. We must bear in mind that the Mataco sometimes work as servants for the Chané, and the Tapiete for the Chiriguano.<sup>1)</sup> These more cultured tribes would be more inclined to recognise the warlike Toba Indians as their likes.<sup>2)</sup>

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<sup>1)</sup> Among the Chiriguano (it does not exist among the Chané) it is characteristically only a boys' game, whereas among the less civilized tribes, the Mataco, Choroti etc., it is indulged in by grown-up men.

<sup>2)</sup> NORDENSKIÖLD (8).

D. *Northern and Eastern Cultural Elements that occur among the Chiriguano and Chané.*

The Chiriguano and Chané have a number of cultural elements that clearly reveal their connection with their kinsmen in northern and eastern S. America. The area of their distribution stretches like a wedge from the more tropical northern Bolivia between the Andes and El Gran Chaco proper. Several of these cultural elements, moreover, have a distribution that induces us to assume that they reached the region examined with the Arawaks, i. e. the Chané. One such is, for instance, the india-rubber ball game. Several of them, such as the hammock and the seat, were familiar to both Chiriguano and Chané before they migrated to their present habitat. Those cultural elements that we may with more or less certainty assume to have been known to the Chiriguano or the Chané, or to both, at the time of their immigration, I have collocated in the table (22). Of course these Indians have several other cultural elements with a similar origin, though this cannot be proved from the material at our disposal.

In Table 22 there is scarcely any reference to clothing and adornments, owing to the fact that the Chiriguano and Chané have learnt much in this respect from the civilization of the bronze age and from the Whites. It is a characteristic trait for the Indian women to have clung to an older type of garment, — the tipoy.

Most of the cultural elements the Chané and Chiriguano have kept from the time of their migration to these parts, are useful articles, such as household furniture and fishing tackle. But some of these things are of minor importance here, since their existence is not necessitated by external conditions: they are evidently suited to other natural conditions than those that obtain in these parts.

One can conceive that several of the cultural elements included in Table 22 did not reach the Chané and Chiri-

guano until they had settled in their present territory, let us say by trade or other connections with the tribes living in N. E. Bolivia. I will not assert that this is impossible, but I am of opinion that it cannot apply to most of these cultural elements. In any case it does not apply to such cultural elements as rubber balls, certain kinds of basket work of palm-leaves, and hammocks, which clearly overstepped the natural confines as a result of emigration. The rubber for the balls must be procured from the north, and suitable palm-leaves for basket-work is not to be found locally. The hammock is not the kind of bed best suited to this part of the continent.

Mandioca is now cultivated only as a rarity by the Chiriguano and Chané. It is highly probable that, before they settled in their present habitat, this plant was of considerable importance to them. Neither the Chiriguano nor the Chané depended so largely on maize before they came to the parts they now inhabit. Here they have an excellent soil for growing maize.

Fish and game are now certainly of less importance to these Indians than they used to be. I mentioned earlier that the Chiriguano and Chané now make the impression of fishermen without water to fish in. A method of fishing which is of no little importance to the kinsmen of these Indians, is fishing with poison. In these parts it is rare, but occurs, at least among the Chiriguano.

»Chuchio» (*Gynerium* sp.) was formerly the plant that yielded at least the material for the arrows of the Chané Indians. As it has now been uprooted, its place is taken by another growth of grass, *Arundo donax*. It was not until post-Columbian times that this reed, which is used by the Chiriguano, Chané, and all the Chaco tribes for the shafts of their arrows and for other purposes, was introduced into S. America, where now, not least in El Gran Chaco, it has an exceedingly widespread distribution. (I ought to have pointed this out in the First Part of the pre-

Table 22.

Northern and Eastern Elements that

+ Indicates occurrence. — Indicates absence.

	Chiriguano.	Chané.	Distribution favoured by natural surroundings	Distribution independent of natural surroundings.	Of great importance in the struggle for existence.
Maize-barns on piles .....	+	+	—	—	+
Hammock used as a bed ..	+	+	—	—	+
Seat .....	+	+	/	+	—
Mandioca .....	+	+	—	—	—
Urucu .....	+	+	—	—	—
Bird arrows .....	+	+	/	+	—
» » (special type fig. 6 E.) .....	+	+	/	+	—
Snare fixed onto a long rod	—	+	/	+	—
Fish-spear .....	+	—	—	—	—
Multi-pointed fishing-arrows	+	—	—	—	—
Fishing with poison .....	+	—	—	—	—
Wooden mortar .....	+	+	/	—	+
Round-Sieve, »Urupe» .....	+	+	—	—	+
Great pot-spades of wood ..	+	+	/	+	+
Fire fans of plaited palm leaves .....	+	+	—	—	—
»Tipoy» .....	+	+	+	—	+
Rubber-balls .....	+	+	—	—	—
Souki-game .....	—	+	/	—	—
Panpipe .....	?	+	/	—	—
Game with maize-leaf balls	+	—	/	—	—
Vessels ornamented with finger-impressions .....	+	+	/	+	—
Bakaïri-spindle .....	+	+	/	+	+
Baskets made of a single palm-leaf .....	+	+	—	—	—
Baskets with overlapping lids	+	+	/	+	—
»Arawak» loom .....	+	+	/	+	+



sent work.) It follows that these Indians used other material for their arrows in pre-Columbian days. The Choroti and Ashluslay probably had wooden shafts to their arrows, as Chuchio does not, and probably never did grow in their country. Before *Arundo donax* grew in the Chaco it must have been difficult in many places to find material for flutes, etc. Even in the country of the Chiriguano and Chané there were reeds only in certain parts, so that the introduction of *Arundo donax* may have been of importance for other things than the material for arrows.

The difficulty of getting suitable material for basket-making has resulted in the baskets being of less importance to the Indians of the district under examination than to the Arawaks and Guarani-tribes elsewhere. Presumably the Chiriguano and Chané used to have carrying-baskets, which were supplanted by carrying-nets of Caraguatá or Yuchan.

Pile-barns are probably a reminiscence from a time when the Chané lived in swampy parts.

I have already pointed out that the great cleanliness of the Chané and Chiriguano shows that they immigrated to their present habitat from warmer, well-watered parts.

There are not many cultural elements of which we can say with absolute certainty that they were brought by the Chiriguano, and not by the Chané. Such are, however, urn-burials and »tembeta» of the kind now in use. This is not precluded by the fact that these cultural elements were originally western. Finger-mark ornamentation, the wooden mortar, and certain bird-arrows, spindles of the Bakaïri type with a little knob on the top of the stick, are also cultural elements with such a distribution that we can assume that they were originally more intimately connected with the Chiriguano than with the Chané. Further comparative investigations, and access to an extensive quantity of the necessary material will doubtless enable us, from a study of the minor details in the external form of



the various objects, to prove that some ideas are to be traced to the Chané, others to the Chiriguano.<sup>1)</sup> For the purpose of such studies, we require access to the collections of all the great museums, and probably much more material.

There are of course among the Chiriguano and Chané many cultural elements of which we cannot say whence these Indians obtained them. These are such cultural elements of which the distribution is very imperfectly known, as well as some old ones whose distribution does not reveal from where they came originally. I do not consider it worth while tabulating all these cultural elements specially. They are mentioned in the foregoing, though occasionally only *en passant*.

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<sup>1)</sup> This calls for a number of special studies of different cultural elements, such as Frödin's, and my own on the spindle.

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## Notes on the Bibliographical maps.

To this bibliography several maps have been added which ought to prove useful from many points of view. *The maps indicate the territories concerning which the authors quoted in parts 1 and 2 made their investigations.*

The first map shows the literature from 1498—1600, the second from 1600—1700, the third from 1700—1800, the fourth from 1800—1900 and the fifth from 1900—1920. We find a separate map of the archæological literature. Several important works are unfortunately missing which I have not been able to study. It is difficult and expensive work to collect the literature on the S. American Indians. Not the least difficult of access are certain works printed in S. America during the 19th century. For my ethno-geographical studies I have of course read a number of books without finding anything to quote from them and consequently they are not mentioned here. I desired especially to show the merits and demerits of the maps of the distribution of the cultural elements here published. The maps of the authors' names show us the districts from which I have no material at all and those from which I only have the material of older authors, or only of modern writers.

Some authors have not travelled in the territories they have written about, but have drawn from the works of several other authors. The most remarkable existant work of this kind is COOPER's excellent work on all that has been written about the Indian tribes in southernmost S. America. If there were many such compilations, it would not be difficult to draw up maps of the distribution of the various cultural elements.

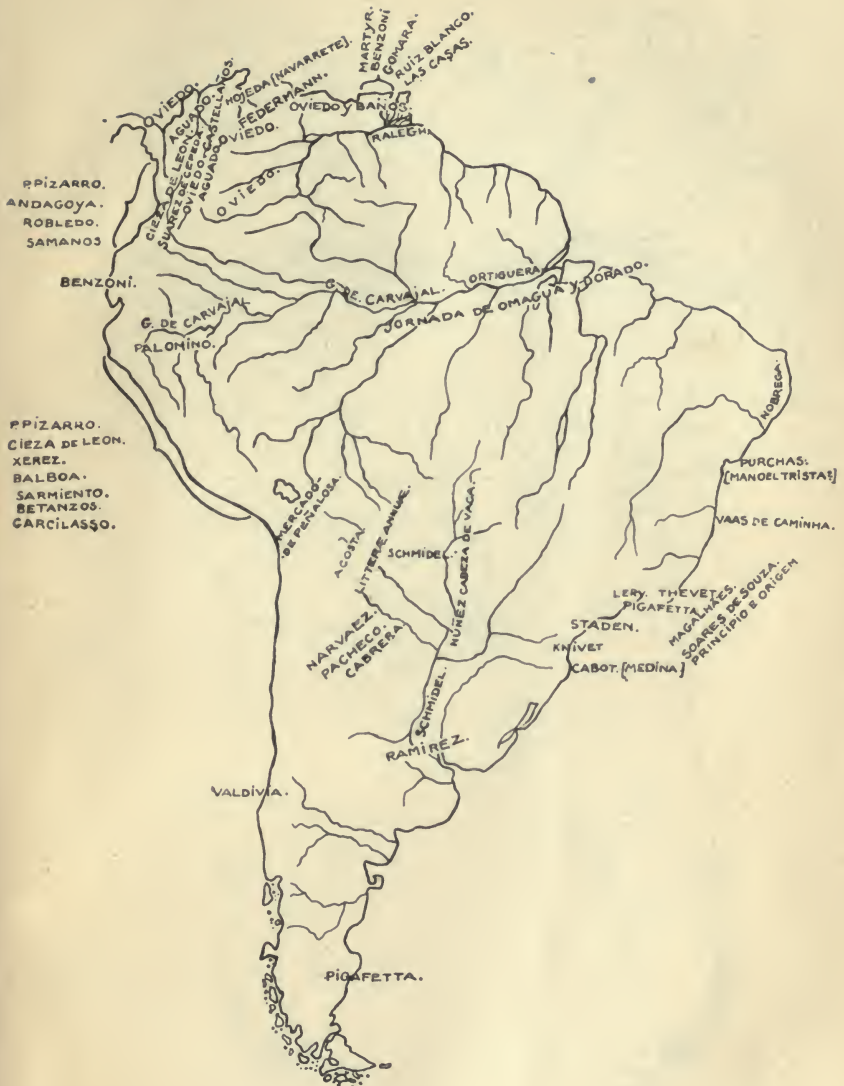
From the map that indicates about which districts the archeological treatises are written, we can see, even though

some names are missing, what immense territories in S. America are still entirely unexplored archeologically.

The bibliography includes some authors whose names will not be found in the maps, i. e. FRIEDERICI and PATER SCHMIDT, great as their services to the ethnography of S. America have been. This is because they have written comprehensive works dealing with the ethnography of the whole continent, and not with any particular part of it.

When I have quoted from several works by the same author, these are numbered 1, 2, 3, etc. in the bibliography. The same work has the same number in the First and Second Parts of my own book.

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Bibliographical map I. 1498—1600.



Bibliographical map 2. 1600—1700.]



Bibliographical map 3. 1700—1800.



Bibliographical map 4. 1800—1900.



Bibliographical map 5. 1900—1920.



Bibliographical map 6. Archæological literature.



## ERRATA.

- Page 25, l. 6 from the bottom in note, *read* See SERRANO y SANZ  
P. 328 *for* P. 328.
- » 97, l. 6 » » » *read* P. 241 *for* P. 141
- » 133, l. 7 » » » » 58 *for* 59.
- » 144, l. 1 » » top, *read* lips in rims *for* spouts.
- » 191, *read* Fig. 58, *for* Fig. 38.
-

APPENDIX

The following table shows the results of the experiments conducted on the 15th and 16th of June 1881. The first column gives the number of the experiment, the second column the time taken for the passage of the gas, the third column the volume of gas evolved, and the fourth column the weight of the substance used.

Exp. No.	Time (min.)	Volume (c.c.)	Weight (grs.)
1	1.2	10.0	0.5
2	1.5	12.5	0.6
3	1.8	15.0	0.7
4	2.1	17.5	0.8
5	2.4	20.0	0.9
6	2.7	22.5	1.0
7	3.0	25.0	1.1
8	3.3	27.5	1.2
9	3.6	30.0	1.3
10	3.9	32.5	1.4
11	4.2	35.0	1.5
12	4.5	37.5	1.6
13	4.8	40.0	1.7
14	5.1	42.5	1.8
15	5.4	45.0	1.9
16	5.7	47.5	2.0
17	6.0	50.0	2.1
18	6.3	52.5	2.2
19	6.6	55.0	2.3
20	6.9	57.5	2.4
21	7.2	60.0	2.5
22	7.5	62.5	2.6
23	7.8	65.0	2.7
24	8.1	67.5	2.8
25	8.4	70.0	2.9
26	8.7	72.5	3.0
27	9.0	75.0	3.1
28	9.3	77.5	3.2
29	9.6	80.0	3.3
30	9.9	82.5	3.4
31	10.2	85.0	3.5
32	10.5	87.5	3.6
33	10.8	90.0	3.7
34	11.1	92.5	3.8
35	11.4	95.0	3.9
36	11.7	97.5	4.0
37	12.0	100.0	4.1
38	12.3	102.5	4.2
39	12.6	105.0	4.3
40	12.9	107.5	4.4
41	13.2	110.0	4.5
42	13.5	112.5	4.6
43	13.8	115.0	4.7
44	14.1	117.5	4.8
45	14.4	120.0	4.9
46	14.7	122.5	5.0
47	15.0	125.0	5.1
48	15.3	127.5	5.2
49	15.6	130.0	5.3
50	15.9	132.5	5.4
51	16.2	135.0	5.5
52	16.5	137.5	5.6
53	16.8	140.0	5.7
54	17.1	142.5	5.8
55	17.4	145.0	5.9
56	17.7	147.5	6.0
57	18.0	150.0	6.1
58	18.3	152.5	6.2
59	18.6	155.0	6.3
60	18.9	157.5	6.4
61	19.2	160.0	6.5
62	19.5	162.5	6.6
63	19.8	165.0	6.7
64	20.1	167.5	6.8
65	20.4	170.0	6.9
66	20.7	172.5	7.0
67	21.0	175.0	7.1
68	21.3	177.5	7.2
69	21.6	180.0	7.3
70	21.9	182.5	7.4
71	22.2	185.0	7.5
72	22.5	187.5	7.6
73	22.8	190.0	7.7
74	23.1	192.5	7.8
75	23.4	195.0	7.9
76	23.7	197.5	8.0
77	24.0	200.0	8.1
78	24.3	202.5	8.2
79	24.6	205.0	8.3
80	24.9	207.5	8.4
81	25.2	210.0	8.5
82	25.5	212.5	8.6
83	25.8	215.0	8.7
84	26.1	217.5	8.8
85	26.4	220.0	8.9
86	26.7	222.5	9.0
87	27.0	225.0	9.1
88	27.3	227.5	9.2
89	27.6	230.0	9.3
90	27.9	232.5	9.4
91	28.2	235.0	9.5
92	28.5	237.5	9.6
93	28.8	240.0	9.7
94	29.1	242.5	9.8
95	29.4	245.0	9.9
96	29.7	247.5	10.0
97	30.0	250.0	10.1
98	30.3	252.5	10.2
99	30.6	255.0	10.3
100	30.9	257.5	10.4
101	31.2	260.0	10.5
102	31.5	262.5	10.6
103	31.8	265.0	10.7
104	32.1	267.5	10.8
105	32.4	270.0	10.9
106	32.7	272.5	11.0
107	33.0	275.0	11.1
108	33.3	277.5	11.2
109	33.6	280.0	11.3
110	33.9	282.5	11.4
111	34.2	285.0	11.5
112	34.5	287.5	11.6
113	34.8	290.0	11.7
114	35.1	292.5	11.8
115	35.4	295.0	11.9
116	35.7	297.5	12.0
117	36.0	300.0	12.1
118	36.3	302.5	12.2
119	36.6	305.0	12.3
120	36.9	307.5	12.4
121	37.2	310.0	12.5
122	37.5	312.5	12.6
123	37.8	315.0	12.7
124	38.1	317.5	12.8
125	38.4	320.0	12.9
126	38.7	322.5	13.0
127	39.0	325.0	13.1
128	39.3	327.5	13.2
129	39.6	330.0	13.3
130	39.9	332.5	13.4
131	40.2	335.0	13.5
132	40.5	337.5	13.6
133	40.8	340.0	13.7
134	41.1	342.5	13.8
135	41.4	345.0	13.9
136	41.7	347.5	14.0
137	42.0	350.0	14.1
138	42.3	352.5	14.2
139	42.6	355.0	14.3
140	42.9	357.5	14.4
141	43.2	360.0	14.5
142	43.5	362.5	14.6
143	43.8	365.0	14.7
144	44.1	367.5	14.8
145	44.4	370.0	14.9
146	44.7	372.5	15.0
147	45.0	375.0	15.1
148	45.3	377.5	15.2
149	45.6	380.0	15.3
150	45.9	382.5	15.4
151	46.2	385.0	15.5
152	46.5	387.5	15.6
153	46.8	390.0	15.7
154	47.1	392.5	15.8
155	47.4	395.0	15.9
156	47.7	397.5	16.0
157	48.0	400.0	16.1
158	48.3	402.5	16.2
159	48.6	405.0	16.3
160	48.9	407.5	16.4
161	49.2	410.0	16.5
162	49.5	412.5	16.6
163	49.8	415.0	16.7
164	50.1	417.5	16.8
165	50.4	420.0	16.9
166	50.7	422.5	17.0
167	51.0	425.0	17.1
168	51.3	427.5	17.2
169	51.6	430.0	17.3
170	51.9	432.5	17.4
171	52.2	435.0	17.5
172	52.5	437.5	17.6
173	52.8	440.0	17.7
174	53.1	442.5	17.8
175	53.4	445.0	17.9
176	53.7	447.5	18.0
177	54.0	450.0	18.1
178	54.3	452.5	18.2
179	54.6	455.0	18.3
180	54.9	457.5	18.4
181	55.2	460.0	18.5
182	55.5	462.5	18.6
183	55.8	465.0	18.7
184	56.1	467.5	18.8
185	56.4	470.0	18.9
186	56.7	472.5	19.0
187	57.0	475.0	19.1
188	57.3	477.5	19.2
189	57.6	480.0	19.3
190	57.9	482.5	19.4
191	58.2	485.0	19.5
192	58.5	487.5	19.6
193	58.8	490.0	19.7
194	59.1	492.5	19.8
195	59.4	495.0	19.9
196	59.7	497.5	20.0
197	60.0	500.0	20.1
198	60.3	502.5	20.2
199	60.6	505.0	20.3
200	60.9	507.5	20.4





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