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*Ethnographical studies in Celebes*

RESULTS OF THE AUTHOR'S EXPEDITION  
TO CELEBES 1917—1920

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III.

MUSICAL INSTRUMENTS  
IN  
CELEBES



With 19 Maps and 130 Figures.

by

*Walter Haudern*

GÖTEBORG 1927  
ELANDERS BOKTRYCKERI AKTIEBOLAG

*To*

*Consul*

*J. Sternhagen*

*Gothenburg,*

*with the author's gratitude and esteem.*





## PREFACE.

*In the publication of the present work the author was assisted by a grant from the Swedish Government to whom I beg to tender my respectful thanks.*

*The expenses of the work have also in part been defrayed by a grant from the Längman's Cultural Funds of Uppsala, to the trustees of which institution I beg to express my grateful thanks.*

*I have to acknowledge my indebtedness to the trustees of the Kungl. och Hvitfeldtska Stipendieinrättningen, for a generous grant which enabled me to visit several museums in Holland, Germany, and Switzerland in order to study the collections from Celebes and the other Malayan Islands, which was of great importance to my work. Thus the investigations that form the subject of this book are not only based on the musical instruments of my own collection but also on musical instruments from the Malayan Islands found in some European Museums.*

*I have taken the liberty of inscribing this volume of my Series to Consul F. Sternhagen as a small token of my gratitude for the interest he has shown my work by repeatedly granting free passages on his ships to and from Holland.*

*To my friend Baron E. Nordenskiöld I hereby offer my sincerest thanks for many a valuable advice, and for his kindness of placing at my disposal a study in the Ethnographical Museum at Gothenburg.*

*I am much indebted to Dr. G. Lindblom for placing at my disposal the ethnographical collections from the Malayan Islands belonging to the Riksmuseum at Stockholm, as well as to Dr. Kemner of Stockholm who kindly lent me a boat-lute which he acquired at Macassar.*

*To all the officials of the foreign museums that I visited in 1926 I hereby beg to tender my sincere thanks, especially to Doctor Juynboll, Director of the Royal Ethn. Museum at Leiden, in whose house we stayed during our visit to Leiden, and who presented me with books of great interest as well as with photographs of objects in the museum.*

*I am also greatly indebted to the Director of the Colonial Institute of Amsterdam, Professor van Eerde and to his assistants Dr. Goslings and Dr. Lamster, to the Director of the Prins Hendrik Museum at Rotterdam, Dr. v. Nouhuys, for the kindness and interest they have shown towards my researches in Celebes..*

*Herewith I also beg to tender my sincere thanks to Dr. F. Sarasin at Basel, to the director of the Dresden Museum Prof. Dr. Jacoby and his assistant Dr. Heydrich, to the Director of the Berlin Museum f. Völkerkunde Prof. Dr. Stönnner and his assistants Dr. Meinhard and Dr. Goetz, as well as to the officials of the Leipzig Museum.*

*All drawings and most of the photographs illustrating this book were made by the author. Some stereotype plates were kindly lent me by Mr. K. O. Bonnier, the publisher of my Swedish book »I Celebes obygder».*

*The geographical names as well as the native names of the musical instruments I have in this book as in Vol. I and II of this Series as a rule spelt in Dutch, in order to keep the conformity with the Dutch literature, the one being of most importance to my topic.*

*Last but not least I have to thank Dr. H. Balfour of Oxford for helping us to render in English a number of musical terms not found in dictionaries.*

*The translation into English from my manuscript as usual was carried out by my wife and revised by an English lady.*

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## INTRODUCTION.

This volume of my series »Ethnographical Studies in Celebes» originally was meant to be devoted only to the musical and sound producing instruments occurring among the Toradja of Central Celebes in order to ascertain whether there is any essential difference in that respect between the tribes. Particularly I wanted to find out if there were any instruments that could be said to be really native of the Toradja, as well as to trace the origin of instruments introduced among them from other countries.

In the course of my work I found it necessary to include in my investigation the musical instruments occurring in all Celebes, especially those of the southern part of the island, if I wanted to form an opinion on the age and the origin of the musical instruments of the Toradja. Having in my collection only a few instruments from other tribes, it was necessary to a great extent to found my investigation on the statements of other authors. I was able to enlarge my knowledge of the musical instruments of Celebes by visiting the Ethnographical Museums of Leiden, Amsterdam, Basel, Dresden, and Berlin, where I also had the opportunity of comparing them with those from the Malayan Archipelago in general.

The Dutch missionary Doctor ALB. C. KRUIJT in his great work »De Bare'e-Sprekende Toradja's», has treated the musical instruments of the Poso Toradja, without entering, however, upon the question of their affinity with other instruments found in Celebes, or their geographical distribution.

MEYER and RICHTER in Vol. XIV of »Publikationen aus dem Königlichen Ethnographischen Museum zu Dresden» more than once dilate upon the musical instruments of Celebes and their geographical distribution, founding their statements chiefly on the collections made by P. and F. SARASIN in 1893—96. Naturally this account that was published in 1903 is rather incomplete, great territories of Celebes being at that time almost unknown to the Europeans.

SACHS in »Die Musikinstrumente Indiens und Indonesiens» also deals with the musical instruments of Celebes. His account, however, is very short, and it does not give a picture of their geographical distribution or lines of dispersal.

I have also consulted the dictionary of MATTHES, »Makassaarsch-Hollandsch Woordenboek» with appertaining Atlas, where some musical instruments are figured, as well as »Unter Kopfjägern» by GRUBAUER, and »Die Sunda-Expedition» by ELBERT.

The method employed in this investigation is about the same as that of Vol. I of this series, treating temples and other structures of the Toradja of Central Celebes. I begin with examining and describing every separate musical instrument, trying to decide in which districts it occurs or does not occur, particularly as far as the Toradja are concerned, and then I have made some maps elucidating the geographical distribution of the instruments. On these maps the localities where a certain kind of instrument was procured, or from where it is recorded by other writers, are marked with a circular, square, or rectangular figure. The shaded areas indicate districts where the instrument in question is found or very likely to be found. If the extension of such a shaded area is not defined by a boundary line, this means that the exact limit cannot be given at present. If there is a boundary line the instrument is not known from the neighbouring districts, or is not likely to be found in these districts.

Unfortunately a great many musical instruments collect-

ed in Celebes, being unsatisfactory labelled, are of little value when wanting to clear the question of the geographical distribution of the instruments. If we want to form an opinion on this question, we want to know from which particular village is the instrument in question, as well as if it was manufactured at the place by a native of the tribe. When a label only tells us that an instrument came from the Poso district, or from South Celebes, or the like, it is not all sufficient, the native population of Celebes being composed of a very great number of tribes which have migrated on a large scale, and which have come in contact with several foreign cultures.

In spite of the difficulties I think I have been able to show in my maps the lines of dispersal of some of the instruments occurring in Celebes.

In the following list are given all the musical and sound producing instruments that I procured in Celebes. The numbers in a parenthesis are those of the specimens at present belonging to the Museum of Gothenburg, the rest of the numbers refer to my own original catalogue.

*North Celebes.*

No. 22—38:	transverse bamboo flutes with 6 stops .....	Goeroepahi.
• 58:	Arabian neck-lute .....	Modajag.
• 80:	old spear with carvings and pellet-bell .....	»
• 81 (26.9.714):	old spear with carvings and pellet-bell .....	»
Nos. 82, 109, 110, 135, 176:	old spears with carvings and pellet-bell.....	»
No. 185:	brass gong .....	»
• 189:	old spear with carvings and pellet-bell.....	»
• 205 (26.9.713):	old spear with carvings and pellet-bell .....	»

Nos. 219, 220: old spears with carvings and pellet-bell .....	Modajag.
Nos. 228, 274: id. ....	Mojag.
No. 319: small double-membrane cylinder drum .....	Modajag.
» 362: xylophone .....	Bwool.
» 364: loom with rattling bar .....	»
» 406: crab claw rattle .....	Lokodoka.
Nos. 432, 433: old spears with carvings and pellet-bell, .....	Motoboj.
No. 443: old spear with carvings and pellet-bell.....	Modajag.
» 471: brass gong .....	»
» 484: loom with rattling bar .....	Mojag.
Nos. 495, 496: old spears with carvings and pellet-bell .....	Boioa Besar.
No. 524: mosque drum .....	Boengkoedaj.
» 525: drumstick of the drum No. 524 .....	»
Nos. 540, 541 (26.9.712), 542 (26.9.711); old spears with carvings and pellet-bell.....	Boioa Besar.
No. 583, 584 (26.9.609): bamboo-zithers, played with a striker.....	Modajag.
» 600: rattling clogs .....	»
Nos. 611—614: bamboo instrument like a big tuning fork, ( <i>rere</i> ) .....	»
No. 615: air-gun .....	»
Nos. 642, 643: single-membrane toy drum with drumstick .....	»
No. 644: frame drum .....	Kota Bangoen
» 655: rattling implement of bamboo used by the natives for making pits in the ground when sowing maize and paddy .....	Modajag.
Nos. 667, 668: jew's-harps .....	»

No. 671: loom with rattling bar .....	Mojag.
» 681: bar-zither .....	»
» 682: long slender double-membrane cylinder drum .....	»
Nos. 683, 684: drumsticks belonging to the drum No. 682 .....	»
No. 701: (26.9.583) long, slender double-membrane cylinder drum .....	»
Nos. 702—704: drumsticks belonging to the drum No. 701 .....	»
No. 705: spitted lute ( <i>arababoe</i> ) ' .....	»
Nos. 710, 711: bamboo-zither with striker .....	Modajag.
Nos. 727a (26.9.663), 727b: rattling clogs ...	»
Nos. 729 (26.9.612), 730: bamboo flute with external air duct .....	»
» 747, 772, 773: jew's-harps .....	»
No. 776: air-gun .....	»
» 804: Triton shell trumpet .....	Goeroepahi
» 816: buffalo horn trumpet.....	Mojag.
» 817: bamboo-zither with resonator .....	Bolaang.

*Central Celebes.*

Nos. 999—1003: brass pellet-bells.....	Koelawi.
No. 1027 (26.9.552): double bamboo clarinet	Gimpoe.
Nos. 1028—1035: bamboo instruments like big tuning forks ( <i>rere</i> ) .....	Koelawi.
No. 1074: pellet-bell.....	»
» 1080: <i>rere</i> (see 1028) .....	»
» 1084: flute with external air duct .....	»
Nos. 1103, 1104: pellet-bells, worn by babies	»
» 1189—1192: bamboo gongs with strikers	»
No. 1193: bamboo gong .....	»
» 1199: jew's-harp in bamboo case .....	»
» 1225: flute with external air duct.....	Mopahi.
Nos. 1302, 1303 (26.9.410), 1304: flutes with external air duct .....	Kantewoe.



No. 1337: toy shield with rattling pegs.....	Koelawi.
» 1363: transverse flute with 6 stops.....	»
» 1367 (26.9.346): <i>rere</i> (see 1028) .....	»
» 1394: two jew's-harps stringed together .....	»
» 1412: betle bag with fringe of copper coins and beads.....	Kantewoe.
» 1417: jew's-harp in bamboo case .....	Koelawi.
» 1446 jew's-harp.....	»
» 1447: brass pellet-bells .....	»
» 1449 (26.9.351): flute with external air duct .....	»
» 1463: clapper-bell for priests .....	»
» 1482: flute with external air duct.....	Kantewoe.
» 1495: bamboo-zither .....	Koelawi.
Nos. 1525, 1532, 1544, 1545 (26.9.86): brass pelletbells.....	»
No. 1556: clapper-bell for priests .....	»
» 1588: bamboo-zither .....	»
» 1590: set of pellet-bells ( <i>tiwoloe tiwoloe</i> ) .....	»
Nos. 1591, 1592: pellet-bells worn by little girls .....	»
» 1634, 1635: brass pellet-bells, used when curing a sick person.....	Kantewoe.
No. 1636 (26.9.171): stringed beads and bell worn on a woman's bodice.....	»
» 1637: stringed beads and shells for a woman's bodice .....	»
» 1669: brass pellet-bell for a woman's bodice .....	»
» 1780: brass pellet-bell (see 1634) .....	»
» 1800: bamboo flute with external air duct .....	»
Nos. 1811, 1812: <i>rere</i> (see no. 1028) .....	»
» 1813, 1814: bamboo-zithers .....	»
» 1889a—1893a: brass pellet-bells.....	»
No. 1894a: bamboo flute with external air duct .....	Pangana.

No. 1869b: id. ....	Benahoe.
» 1887b: double bamboo clarinet.....	Kantewoe.
» 1926: buzzing nutshell .....	»
» 1970: spitted lute.....	Kilo.
» 2047: brass clapper-bell for priests.....	Siwongi.
» 2118: betle bag with fringe of copper coins and beads.....	Gintoe, Bada.
» 2173: single-membrane bamboo drum (toy) .....	Doda, Behoa.
» 2175: jew's-harp in a bamboo case.....	» »
» 2184: bomboos flute with external air duct .....	» »
Nos. 2192, 2193: head-gear with rattling pegs for boys .....	Koelawi.
No. 2194: <i>rere</i> (see No. 1028).....	Doda, Behoa.
» 2208: whizzing nutshell .....	Kantewoe.
» 2220: <i>rere</i> (see No. 1028) .....	Toro.
» 2295: betle bag with fringe of rattling seed shells .....	Koelawi.
» 2300: air-gun .....	Kantewoe.
» 2310: whizzing nutshell .....	»
» 2331, 2332: brass pellet-bells .....	»
» 2364: bar-zither .....	Tentena.
» 2428 (26.9.457): spitted lute with bow...	Taripa.
Nos. 2429—2431: brass clapper-bells for warriors .....	»
No. 2432: bunch of small pellet-bells for a womans hat.....	»
» 2433: id. ....	»
» 2436: <i>rere</i> (see No. 1028) .....	»
» 2521: bunch of brass pellet-bells at- tached to a sword.....	»
Nos. 2576, 2577: bar-zithers .....	South Boengkoe.
No. 2578: spitted lute with bow .....	» »
Nos. 2588a—2588d: transverse flutes for girls .....	Kelei.

*North-East Celebes.*

No. 2628: <i>rere</i> (see No. 1028) .....	Kalibanbang.
» 2632: bar-zither .....	»
» 2633: bamboo trumpet .....	»
Nos. 2634, 2635—2637: transverse bamboo flutes .....	»
No. 2638: bamboo flute with external air duct .....	»
» 2639: paddy pipe .....	»
» 2640: bamboo-zither .....	»
» 2641: jew's-harp (model) .....	»
» 2642: <i>rere</i> (see No. 1028) .....	»
» 2644: single-membrane bamboo drum (toy) .....	»
» 2646: cylinder of bamboo pounded on the ground, performing the service of a drum .....	»
» 2647: <i>pong pong</i> , kind of bamboo gong .....	»
» 2660: bamboo flute with external air duct .....	Molino.
» 2661: <i>rere</i> (see No. 1028) .....	Mantok.
» 2679: id. ....	Lingketeng.
» 2680: bamboo-zither .....	»
» 2694: humming-top .....	Pinapoean.
jingle of shells .....	Tongke

*Peling Island.*

No. 2752: jingle of shells .....	Lolantang.
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*Boeton Island.*

No. 2797: jingle of shells .....	Baoe Baoe.
Nos. 2805, 2806a, 2806b: double bamboo clarinets (Moena Island) .....	»    »

## Musical instruments.

Although the Toradja of Central Celebes as a rule may be said to be fond of music, and some tribes obviously are musical, their musical instruments are of inferior make and not very melodious.

The Dutch missionary Doctor KRUIJT made this observation among the Poso Toradja in the eastern part of Central Celebes, and my experiences of the Paloe Toradja as well as the Koro Toradja in the western part of Central Celebes are much the same. Especially the To<sup>1</sup>) Lindoe seem to be musical. The Menadonese teacher had at the time of my visit to Lindoe in 1918 been quite successful in his attempt to organize a flute band. This band played with never failing accuracy and good conception native as well as European tunes.

About seventy per cent of the schoolboys knew how to blow a flute, but it is to be noticed that their bamboo flutes, although made by the natives themselves, are not of native type. They use the common transverse flute with six stops for the fingers and a lateral sound-orifice. These flutes were introduced into Central Celebes by the Menadonese teachers, the first natives of the island that embraced the Christian religion.

The classification of the musical instruments of Central Celebes can be founded on different principles. KRUIJT in

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<sup>1</sup>) *To* or *tao* means in the languages of Central Celebes man as well as men.

»De Bare'e<sup>1)</sup>-Sprekende Toradja's» divides them into two groups: instruments that the natives play whenever they like, and instruments that they are allowed to play only on special occasions, or at special times of the year.

At present it would hardly be possible to trace with any amount of accuracy the old customs in this respect, the customs having changed a good deal after 1905 when the natives of Central Celebes were subdued by the Dutch. Several instruments which according to KRUIJT were played only at a certain time of the year, at the time of my researches in Celebes were played by the natives whenever they were inclined to do so.

When treating the musical instruments I have tried to follow a classification founded on the construction of the instruments used by M. VON HORNBOSTEL and CURT SACHS in »Systematik der Musikinstrumente» and by CURT SACHS in his work »Die Musikinstrumente Indiens und Indonesiens».

The musical instruments found in Celebes will conveniently be divided into the following four main groups: (A) idiophones, (B) membranophones, (C) chordophones, and (D) aerophones.

## A. IDIOPHONES.

In this groupe of instruments can be included several objects found in Celebes that cannot claim the name of real musical instruments, being only meant to produce some kind of a rattling sound lacking altogether rhythm. As real musical instruments made by the natives themselves we must consider the bamboo instrument that BALFOUR calls the musical clapper, as well as the bamboo gong, and the jew's-harp.

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<sup>1)</sup> This word is the negation of the language. It is customary to name the languages of Central Celebes by their negations. The double *e* in *bare'e*, as Adriani and Kruijt write this word, is pronounced as two French *e* making a little pause between them: *bare-e*.

In the following table I have tried to group the idiophones occurring in Celebes according to the system of V. HORNBOSTEL and SACHS.

I. **Percussion idiophones** (Schlagidiophonen v. HORNBOSTEL and SACHS) are instruments or implements caused to sound a note by clashing them together or by striking them with an external striker.

A. *Clappers* (Gegenschlagidiophonen v. H. and S.) consist of two or more similar parts which are clashed together.

1. various objects in the shape of small bars or the like, clashed together:
  - \* two similar free bars;
  - \*\* slip of rattan split in three;
2. section of bamboo, distal part split in two:
  - \* small bamboo clapper;
  - \*\* big bamboo clapper;
3. brass cymbals (Gegenschlaggefäße v. H. and S.)

B. *Idiophones struck with an external striker* (Aufschlagidiophonen v. H. and S.)

1. rattling temple floor-planks;
2. section of bamboo split at one end, struck against another object:
  - \* *appo*, section of bamboo partially split in two, struck against the piles on which a house is built;
  - \*\* big section of bamboo split into a great number of tongues;
  - \*\*\* *rere*, small section of bamboo with two tongues;
3. percussion plate;
4. bamboo cylinder pounded upon the ground;

5. slit bamboo gong (Schlitztrommel v. H. and S.)
6. xylophone;
7. brass gong.

C. *Rattling idiophones* (Schüttelidiophonen v. H. and S.)

In this group I have included all objects or instruments constructed so as to stir the whole object to make it sound.

1. brass bells:

- \* single bell with clapper;
- \*\* single globular pellet-bell with hoop;
- \*\*\* set of globular pellet-bells with hoop;
- \*\*\*\* single globular pellet-bell with a central cylinder;

2. objects strung together so as to rattle when shaking:

- \* pieces of metal;
- \*\* seeds, or shells of seeds;
- \*\*\* wooden pegs;

3. rattles, consisting of hollow objects containing some kind of pellet which rattles when the object is shaken:

- \* implement used for sowing maize or paddy;
- \*\* bar in the loom;
- \*\*\* rattling clogs.

D. *Idiophones stirred by the wind*. In this group are included objects suspended so as to sway in the wind.

1. *pong pong*;
2. crab-claw rattle;
3. jingle of shells.

II. *Idiophone with vibrating tongue*, (Zupfidiophone v. H. and S.) sounded by means of jerking or plucking it. In this group we only find the jew's-harp.

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## Percussion idiophones. (Schlagidiophonen v. H. and S.)

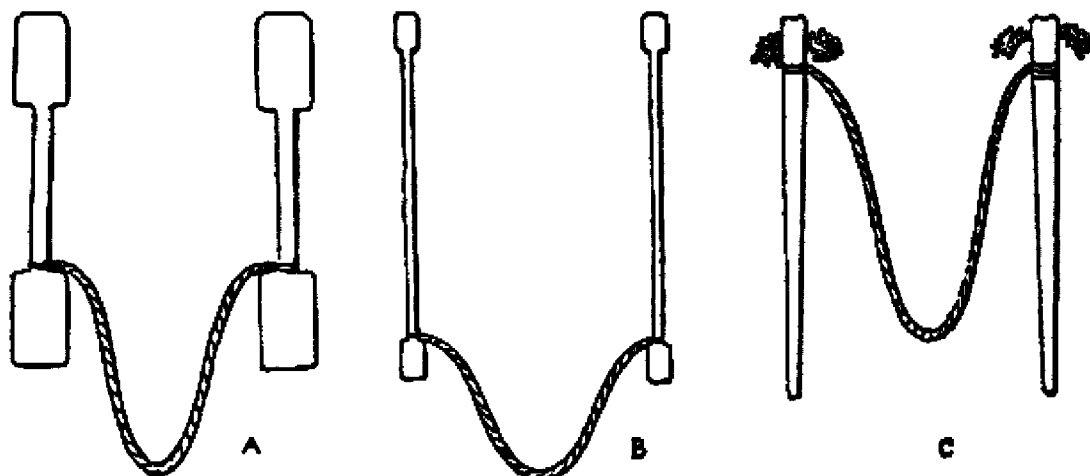
### Clappers.

(Gegenschlagidiophonen v. H. and S.)

### *Percussion staffs.*

Fig. 1.

These plain instruments I never saw in Celebes although they occur at least in the southern peninsula. MATTHES, in Plate 9 of the atlas belonging to his »Makassaarsch-Hollandsch Woordenboek», figures a great number of strange idiophones which the priests make use of in exorcising the evil spirits. Unfortunately most of these figures are too primitive to



After MATTHES

Fig. 1. Percussion staffs from South Celebes.

give an idea of the objects figured, and the text, being as a rule rather short, does not make them more intelligible to the reader. The objects represented in Figs 1, 2 and 5 no doubt must be classed as rattling staffs. Of Figs 1 and 2 of MATTHES's atlas, which in this book are reproduced in Fig. 1 A, B, he says that the instrument is called *aná-bátljiŋg*, and in his dictionary we read as follows: »... soort van duivelverdrijver, bestaande in twee platte staafjes, die ieder aan beide einden een langwerpig vierkant, insgelijks plat,





blokje hebben. Zij zijn geheel van ijser, en worden, tot wering van de booze geesten, met geweld tegen elkander geschlagen.»

In MATTHES'S Fig. 5, here Fig. 1 C, evidently are represented a pair of iron staffs which are to be clashed together. Of this figure he only says: »Soedjikâmma, soort van ijzeren duivelverdrijver».

All these idiophones mentioned by MATTHES, being made of iron or some other metal, and presumably only occurring in South Celebes, in all probability are no native instruments of this island.

*Rattan spring-clapper.*

Fig. 2.

In the Dresden Museum is an instrument No. 13006 made of rattan, 38,3 cm. in length and 2 cm. wide (Fig. 2). For two-thirds of its length (26 cm.) it is split into three springy tongues. The portion left serves as a handle. Right through the handle, near its end, there is a hole, presumably meant to hold a suspending string. The side tongues are narrowed save for the top, where there is a knob increasing the motion of the tongues. When vigorously shaken, the side tongues clash against the middle tongue making a sound similar to that of castanets.

1: 3.

Fig. 2.  
Spring-clapper  
of rattan from  
Gorontalo,  
North Celebes.  
(Dresden Mus.  
No. 13006.)

This rattan clapper does not seem to be known from any other place in Celebes.

*Small spring-clapper of bamboo.*

Fig. 3.

Beside the above mentioned metal staffs, the priests in South Celebes also used a kind of spring-clapper

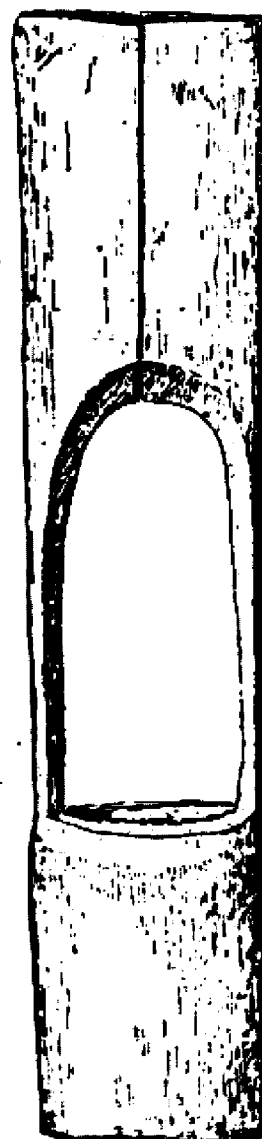
of bamboo (Fig. 3). Having seen no such clapper in Celebes, I here refer to a specimen No. 2208 in the Dresden Museum.

The clapper is made of a section of bamboo 29,5 cm. in length and 6 cm. wide. Near the proximal end there is a node. For more than two-thirds of its length the bamboo cylinder is split into two half cylinders, the basal part of which is considerably narrowed. When shaken, the semi-cylinders loudly clash together.

According to SACHS this kind of instrument is very old. The bamboo clapper from South Celebes seems to be similar to the so called *vā-letk-yot*, of which SACHS writes as follows in »Die Musikinstr. Indiens u. Indonesiens», p. 15: »Der unterste Teil eines Bambusinternodiums ist unversehrt, der folgende bis etwa zur Mitte des ganzen gabelartig ausgeschnitten und der Rest gespalten, der Spieler fasst das Instrument an der ausgeschnittenen Stelle mit beiden Händen oder auch Füßen, zieht die abgespaltenen Rinnen auseinander und lässt sie wieder zusammenschlagen. Auch Lāo kennt es».

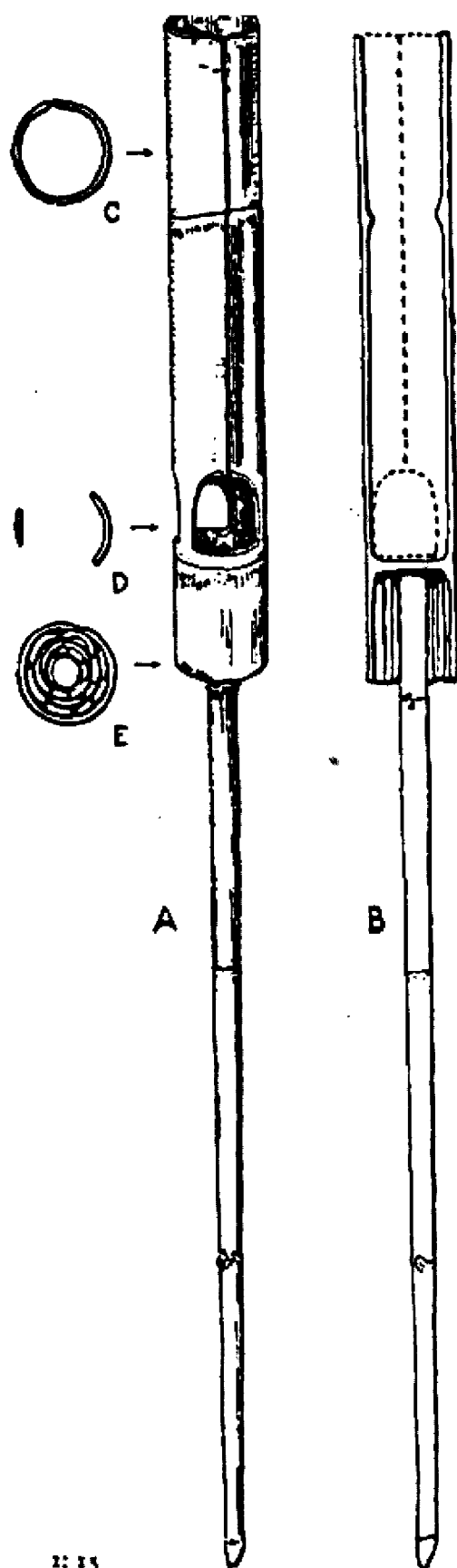
According to SACHS there is a similar arrangement in the looms used in the Soela Islands. In North Celebes I procured a similar object which is described below.

If these bamboo clappers not are local inventions they may in olden times have had a wider range than nowadays.



1: 3

Fig. 3. Small bamboo spring-clapper from South Celebes. (Dresden Mus. No. 2208.)



1: 15

Fig. 4. Big bamboo spring-clapper from Bolaang Mongondou, North Celebes. (Kaudern coll. No. 655.)

*Big spring-clapper of bamboo.*

Fig. 4.

In Bolaang Mongondou, North Celebes, I obtained an implement of bamboo, No. 655 of my collection, resembling the small bamboo clapper of the priests in South Celebes.

The object in question (Fig. 4) consists of two sections of bamboo of different size, joined together. The top is made of very stout bamboo, 98 cm. in length and 14 cm. wide, with a node near (about 18 cm. from) the lower end. The upper and greater part of the bamboo cylinder is split in two long half cylinders with a narrow basal portion, that in one of the half cylinders is 4,7 cm. wide, in the other 10,7 cm.

In the cavity of the stout bamboo internode is fixed by means of a great number of wedges, disposed in four layers or rings (Fig. 4 E), a rod of bamboo, 143 cm. in length which is bevelled off at the free end.

This implement is used by the natives in sowing maize or paddy. The native takes the rod in his right hand, with his left hand he takes

hold of the basal portion of one half cylinder, the one with a wide basis, lifting the apparatus and thrusting the point of it into the ground. At the same time he shakes the half-cylinder in his left hand, making both top parts clash together loudly.

In the hole in the ground some grains of maize are sown. When the natives go to work making a great number of holes one after the other, there is a deafening noise, that no doubt is connected with their belief in spirits having an influence over the vegetation.

As far as I am aware, such an implement as this is not known from any other place in Celebes, but in the Philippines a similar object, partly of iron, seems to be in use. In »Zeitschrift f. Ethnol.», 1885, SCHADENBERG describes the performance of sowing of the Bagobo in Mindanao as follows:

»Der Tag des Säens wird festlich begangen: Männer und Weiber versammeln sich gleich nach Sonnenaufgang auf dem neuen Felde, voran gehen einige Männer, in den Händen die Panaga, ... ein eisernes Instrument in Form eines Stemmeisens, an einer langen Caña befestigt, die oben gespalten ist, so dass sie beim Aufstossen auf- und zuklappt. Die Männer gehen mit tanzartigen Bewegungen vor und stoßen dabei das Eisen der Panaga in den Boden, die Weiber folgen und werfen Reis in die gemachten Löcher und scharren sie mit der Hand zu. Alles geschieht feierlich und ernst.»

In Central Celebes the natives in planting use sticks without any arrangements to make a noise, but the men do not work in silence. In Bada I saw a long single file of natives making holes into the ground with sticks, one meter and a half in length, accompanying their work with a strange loud, monotonous song, with which they took steps in time. They performed their task in great earnest, conscious of the importance of their doing.

In »De Bare'e-Sprekende Toradja's» KRUJIT writes the following of the sowing (p. 249, Vol. II): »Vroeg in den morgen van dien dag begint men het planten. De mannen

hebben ieder een harden, aangepunten stok in de rechterhand . . . . In een lang rij naast elkaar trekken nu de mannen over het veld langzaam voortgaande, gaten stekende in den grond. Is het een groot veld en zijn veel mannen met dit werk bezig, dan verlicht men het door een rythmisch geroep van hoo, hoo, hoo, waarmede men elkaar beantwoordt.»

I am not convinced that KRUIJT is quite right in saying that this shouting is meant to encourage the sowers and make their work easier. He tells us that the natives take many precautions against the spirits before starting making the holes into the ground in order to favour the success of the crop, which makes me think that the shouting also has something to do with their belief in good and evil spirits. But of course there is the possibility that the shouting has lost its original meaning nowadays.

MEYER and RICTER are of the opinion that the rattling in time of the big clapper is meant to encourage the working men.

Presumably the primitive pointed stick used for planting maize and paddy in Central Celebes, is the so called digging stick. In Mongodou as well as in Mindanao this stick has been fitted with a rattling apparatus that possibly is meant to dispel evil spirits. In Mindanao the rattling digging stick has been improved upon by substituting the wooden stick for an iron bar to which is attached a rattling top.

### *Brass cymbals.*

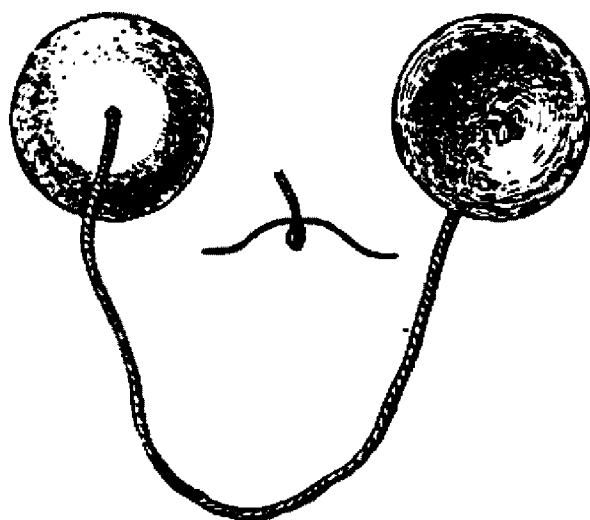
(Gegenschlaggefässe v. H. and S.)

Fig. 5.

In »Die Musikinstr. Indiens u. Indonesiens» SACHS on page 18 writes the following of brass cymbals: »Bezeichnenderweise fehlen sie trotz zum Teil sehr hochstehender Bronzetechnik in Maläka und Indonesien, da die Malaien

erst spät und nur in geringem Umfang dem oben umschriebenen Kulturkreis angeschlossen wurden.»

It seems, however, as if the brass cymbals should not be altogether unknown in the Malayan Islands, since MATTHES in the atlas of his »Makassaarsch-Hollandsch Woordenboek» figures a pair of brass cymbals strung together, the name of which is *kañtjiñg*. They are used by the priests to dispel evil spirits. The dictionary says of this word, page 32 a: »een van de vorstelijke *pabōngka-sêtañg*'s,<sup>1)</sup> bestaande in



1 : 5.

Fig. 5. Brass cymbals from South Celebes. (Leiden Mus. No. 27.322.)

twee kleine bekkens, die tegen elkander geschlagen worden.» Of *pabōngka-sêtañg* the dictionary says on page 149: »*duivelverdrijver*. Hieronder verstaat men gewoonlijk die instrumenten, welke bij gelegenheid van ziekte, of van geboorte, of van het afsnijden van den navel, of van besnijdenis en tanden schuren, of van trouwen, enz., gebezigd worden, tot verdrijving der booze geesten. Soms noemt men ze ook eenvoudig: *pabâlle*, *geneesmiddel*.»

In Leiden there are two such brass cymbals from South Celebes. They have a diameter of 9 cm. with a depth of 1,6 cm (Fig. 5).

<sup>1)</sup> *sêtañg* = devil, demon.

Of course these brass cymbals are not of native origin in Celebes. They no doubt were introduced into the island during the Hindoo period of Java, the effects of which were felt also in certain parts of Celebes.

**Idiophones struck with an external striker.**

(Aufschlagidiophone. v. H. and S.)

*Rattling temple floor-planks.*

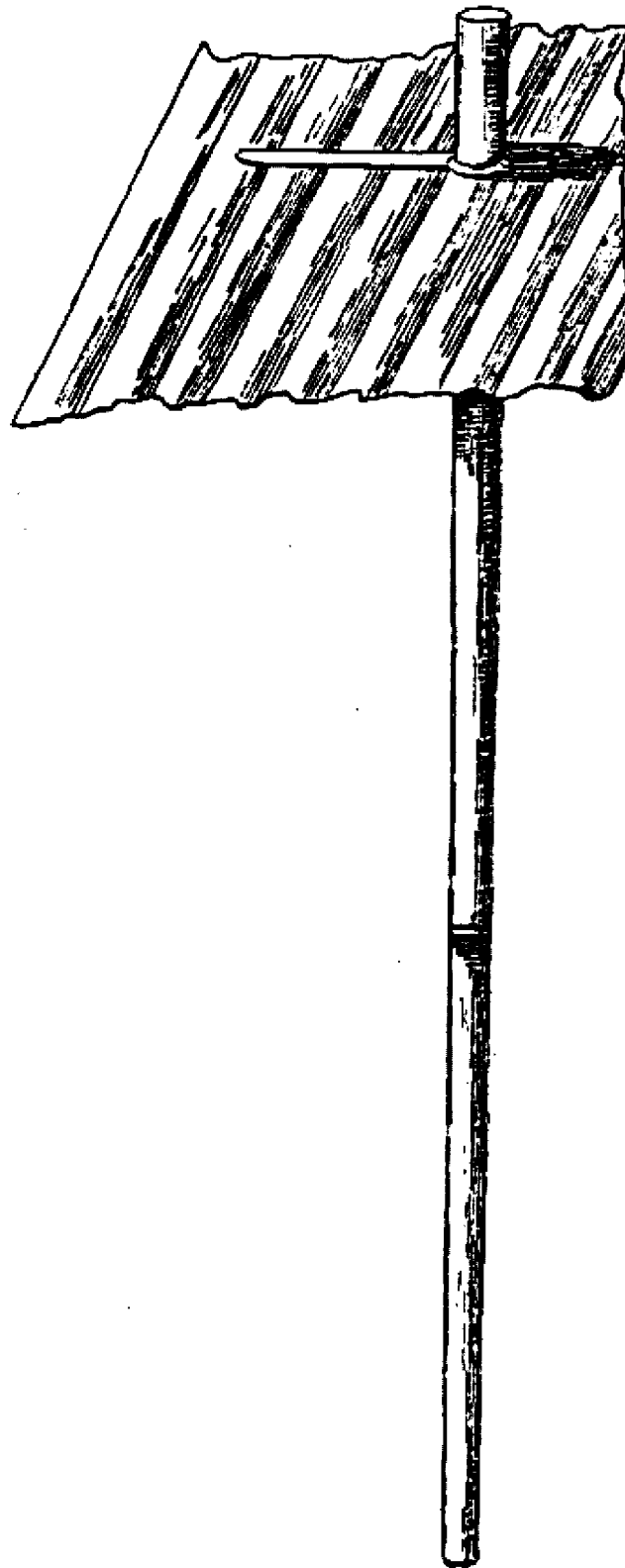
As a kind of idiophone struck with an external striker we could also classify the heavy floor-planks of the temples, which are not properly fastened to the foundation of the structure, in order to be able to spring and make a terrible noise when the native dances are performed in the temples. The native name of these planks that KRUIJT in Dutch translates by »rammelpanken» is very significant. This custom seems to occur, or to have formerly occurred among all Toradja tribes. KRUIJT records it without any restriction from all Bare-e speaking tribes of the eastern part of Central Celebes, and I myself noted it in nearly all the temples from the north-western part that I described in the first volume of this series.

*Appo.*

Fig. 6.

To the group of idiophones that are struck with an external striker we must refer a rattling object from South Celebes, described and figured by MATTHES in his »Makassaarsch-Hollandsch Woordenboek» and his atlas. Having seen no such object myself I reproduce here MATTHES's figure (Fig. 6). In the dictionary we read on page 631:

»*appo*, bep. *appôwa*, een zwaar dik stuk bamboe, ongeveer eene manslengte hebbende, en aan de eene zijde terdege gespleten. Boeg. idem. Deze *appo* wordt bij gelegenheid van ziekte, of van geboorte, of van feesten naar aanleiding van *besnijdenis*, *trouwen*, *bevalling*, enz., bij één der



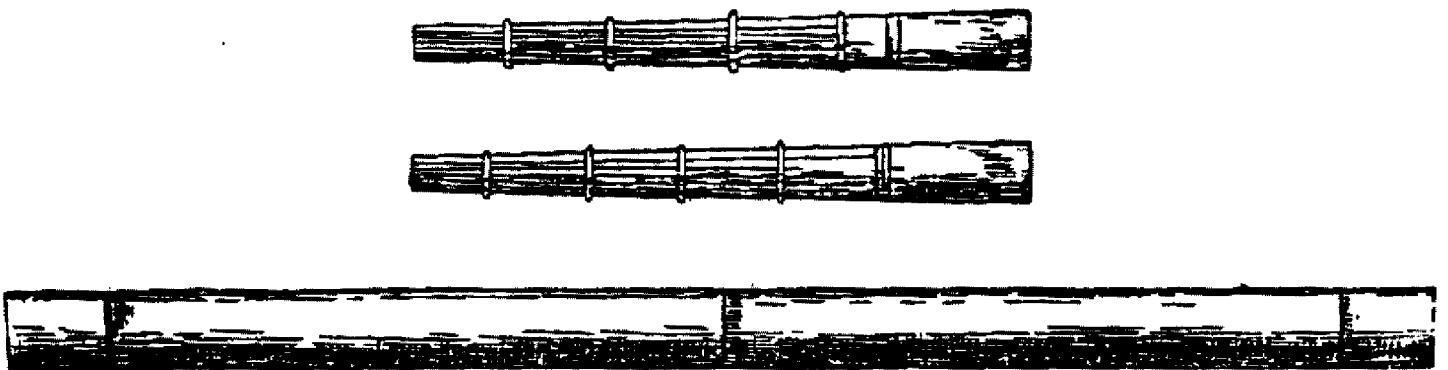
After MATTHES.

Fig. 6. Spring-clapper *appo* from South Celebes.



huispalen in de vloer gestoken, met het gespleten gedeelte naar onderen, terwijl het naar beneden zakken van den ganschen toestel voorkomen wordt, door een pen die zoo wat in het midden door de *âppo* gestoken wordt. Met deze *âppo* slaat men alsdan van tijd tot tijd tegen den huispaal aan, tot verdrijving der booze geesten. . . .»

MATTHES does not give any particulars of the geographical distribution of this apparatus, nor has it, as far as I am aware, been recorded by any other author. As it seems to occur among the Orang Macassar as well as among the Orang Bugis it presumably is found, or was so in olden times, all over the Macassar Peninsula, and we can expect to meet with it along the coast of Celebes at such places where the influence of these tribes makes itself felt.



After MATTHES

Fig. 7. Bamboo spring-clappers, *bôelo lâē-lâē*, and section of bamboo, *bôelo pâlâē-lâēyaŋg*.

*Bôelo*<sup>1)</sup> *lâē-lâē*.

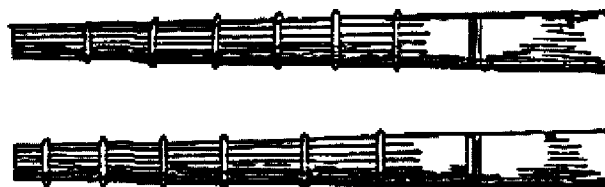
Fig. 7.

This word denotes in the Macassar language a rattling object used by the priests in South Celebes to expel evil spirits. MATTHES mentions and figures it in his dictionary and atlas, writing on page 537: *Lâē-lâē*, bep. *lâē-laēya*, Boeg., soort van *pabôŋka-sêtaŋg*, bestaande in een lang stuk

<sup>1)</sup> *Bôelo* = bamboo.

bamboe, waarop met twee kleine bamboesjes geslagen wordt. NB. de kleine bamboesjes heeten eigenlijk *bôelo lâē-lâē*, en het lange stuk bamboe: *bôelo palâē-laēyaŋg*.

To judge from MATTHES's figure (Fig. 7) the small *bôelo lâē-laē* for nearly their whole length are split into a great number of narrow tongues kept together by four equidistant rings. The text, however, does not mention these rings which also are found in his figure of the *bôelo siya-siya*, an apparatus similar to the *bôelo lâē-lâē*. It is rather strange that neither the *bôelo siya-siya* at Leiden, nor those at Dresden are kept together by rings as in MATTHES's figure. The Leiden specimen was collected by MATTHES.



After MATTHES.

Fig. 8. Bamboo spring-clappers *bôelo siya-siya* from South Celebes.

### *Bôelo siya-siya.*

Fig. 8.

If the construction of this rattling apparatus is different to that of the *bôelo lâē-lâē* cannot be inferred neither from MATTHES's dictionary nor from his atlas. Perhaps the only difference is that the *bôelo lâē-lâē* is struck against a stout section of bamboo, the *bôelo siya-siya* upon the hand or against one another, in which case they are used as clappers (Gegenschlagidiophonen). On page 577 of his dictionary MATTHES writes the following of the instrument in question: »*Bôelo siya-siya*, een stuk bamboe, ongeveer ter lengte van een' mansarm, en aan de eene zijde terdege gespleten, wordt onder voornamen Inlanders gebezigt bij gelegenheid van ziekte, bevalling, besnijdenis en tanden schuren, trouwen, enz. Alsdan plaatsen de daarmede belaste vrouwen zich voor

de persoon wien het aangaat, en slaan zich onder het zingen van de *sīya-sīya*<sup>1)</sup>, gedurig met het gespleten gedeelte van de *bôelo sīya-sīya*, eerst op de palm, dan op het midden der vlakke linkerhand, tot verdrijving der booze geesten. Aldus geschiedt het in Gôwa en Bone. In Wâdjô neemt iedere vrouw twee *bôelo sīya-sīya*'s in hare hand, en slaat die, achter den bewusten persoon staande, tegen elkander.\*

In the Leiden Museum there are two such implements of bamboo, split into a great number of tongues, collected by MATTHES as mentioned above, but there are no strings tied round the tongues. The Leiden catalogue says as follows: »No. 37/367 *Duivelbanner* (*bôelo posêya-sêya*) twee, door een touwtje aan elkaar verbonden stukken bamboe, over een groot deel der lengte herhaaldelijk gespleten. L: 54 en 57, dm: 5 cM. Zuid-Celebes.»

According to SACHS, there are in South Celebes very big similar bamboo instruments. In »Die Musikinstr. Indiens u. Indonesiens» p. 20, he writes: »die Rute erreicht hier (*i. e.* South Celebes) eine Länge von weit über zwei Metern (makassarisch *bûlo sīya-sīya*, buginesisch *bûlo pa-sêya-sêya*) und wird, bei Krankheiten, Beschwörungen, kurz überall, wo es böse Dämonen zu vertreiben gilt, gebraucht, in der Regel als Aufschlag-, hier und da, z. B. in Vâjo, als Gegenschlaginstrument.»

In the Museum of Dresden there is such a *bôelo sīya-sīya* No. 2215 that is 175 cm. in length. The second specimen of the same museum is 65 cm. long. Both specimens are from Macassar.

This instrument seems to occur only in Celebes and only in the southern part of this island among the Orang Bugis and the Orang Macassar. Possibly it may also be found at places situated on the coast where the population is mixed up with immigrating Orang Bugis. It seems formerly to have had a very wide range in the East, SACHS

<sup>1)</sup> *Siya-siya* is according to MATTHES a song that is sung during 40 nights after the birth of a baby.

mentioning similar instruments from Farther India to Hawaii and the islands of the South Pacific. Even from Europe a similar instrument is known according to SACHS. Of its present distribution he says on page 20: «Eine solche Rute, deren einfacher Bau eine einst grosse Verbreitung voraussetzen lässt, ist heute nur noch an wenigen Stellen einer südöstlich von Āsām abgehenden Linie zu Haus. Im Zentrum steht das südliche Celébes; . . . . . Am Ostende der Linie steht Hawai (pūili); auch dort in Polynesien kommen beide Schlagarten, einzeln gegen den Körper und paarweise gegeneinander, vor.»

Similar instruments with only a few tongues are found in Madagascar, these instruments being an intermediate form between the *bóelo lâē-lâē* and the *bóelo síya-síya* on the one side, and the following instrument, the *rere*, on the other.

### *Rere.*

Figs. 9—30. Maps 1, 2.

From some places in the Malayan Islands is recorded a primitive musical instrument of bamboo like a big tuning-fork (Fig. 9). It has been given different names by different authors. We note the following:

Aufschlaggabel	SACHS (Celebes)
Bambusschlägel	MEYER and SCHADENBERG (Philippines)
Lärmgerät	MEYER and RICHTER, and Elbert (Celebes)
Lärminstrument	MEYER and RICHTER (Celebes)
Bamboe harp	KRUIJT (Celebes)
Musical clapper	BALFOUR (Malay Peninsula).

None of these names seem very good since they do not convey a satisfactory idea of the construction of the instrument, or the use of it. *Aufschlaggabel* is the best name

of the lot, I think, only the same name could as well be used for a tuning-fork. To call it a *Bambusschlägel* seems rather meaningless not giving any idea as to the construction of the instrument. The names of *Lärmgerät* and *Lärminstrument* give us quite a wrong idea of the instrument, because the noise made by it can by no means be called »Lärm». Besides there are many other instruments better deserving the name of *Lärmgerät*. The name of *bamboo harp* is quite wrong, the instrument having nothing in common with a harp neither in its construction, nor when played. I do not think we can accept the name of *musical clapper* either, since we should expect this name to be applied to an instrument consisting of at least two parts being struck against one another such as for instance the castanets.

None of the names given in books to this instrument being really good, and the difficulty of making such a name in a foreign language being obvious, I have preferred to call it by a native name as we sometimes do with exotic instruments, for instance the *angklong*. The question is only *which* native name of this instrument to choose, because there are several of them, different at different places. In Central Celebes the native name of this instrument as a rule is an onomatopœic word. KRUIJT says the Bare-e speaking Toradja call it *reeree*. MEYER and RICHTER write it *rere*. GRUBAUER has an instrument from Pendolo south of Lake Poso. He says the natives call it *rerre*. In Koelawi south of the Paloe Valley it should be called *pore* according to MEYER and RICHTER who quote KRUIJT's list of words. From Koelawi I myself have noted the name of *parä*, evidently the same name as KRUIJT's *pore*, the final *e* according to KRUIJT being pronounced as the French *è*. If the vowel of the first syllable should be an *o* or an *a*, I have been unable to ascertain. It may simply be that the pronunciation of the word is different with different persons. According to a note accompanying a specimen from Koelawi, belonging to the Colonial Institute of Amsterdam the in-

strument should be called *galo* in Koelawi, a name that I never heard in this district.

Outside Celebes we meet other native names for this instrument, but being above all an instrument well known from Central Celebes, I think it most correct to keep for it the name of *rere*, *rerre*, *reeree*, which are evidently the same word differently spelt. The question is only which spelling to prefer. The one used by MEYER and RICHTER, *i. e.* *rere* seems to agree best with the pronunciation of the word in the eastern part of Central Celebes, provided *r* is rolled and *e* pronounced as the French *è*. Besides this spelling is preferable since MEYER and RICHTER up till now are the chief authorities of the material culture of Central Celebes, their researches being founded on the great collections of the two Swiss scientists P. and F. SARASIN, made in 1893—1896 and 1902—1903.

The bamboo instrument that we will call *rere* has the shape of a big tuning-fork, producing when played a soft humming. It is made of a piece of not very stout bamboo. The width of my specimens is 25—50 mm., the length varies between 40—69 cm.

The bamboo is cut off just below a node, the proximal end of the *rere* being shut by the node. The distal end is open. If the internode was too short to make a good instrument, the *rere* comprehends a little more than one joint. In this case the distal node is removed. For two-thirds of the length of the instrument two portions of the cylinder are cut away, leaving two vibrating tongues. In this way is produced a certain resemblance between the *rere* and a tuning-fork, the *rere* having a proximal cylindrical part from which project two long tongues.

The proximal part of the bamboo cylinder serves as a handle and here the exterior is pared off (Fig. 10). In the cylinder just between the tongues we notice two lateral triangular holes. The point of the triangle as a rule is turned toward the proximal end of the instrument. These holes

always communicate with the opening between the tongues by means of a slit in the cylinder.

In playing the instrument, the native takes it in his right hand and gently strikes one tongue upon the wrist of

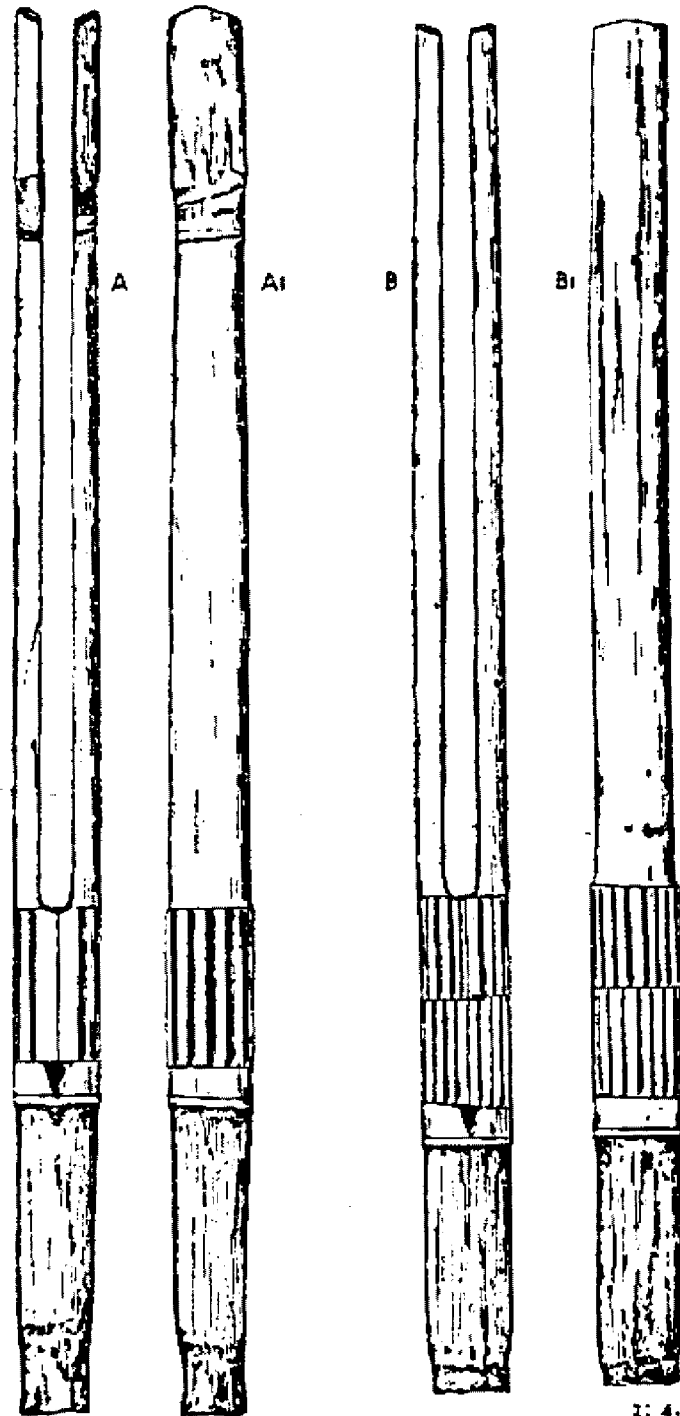


After GRUBAUER.

Fig. 9. Girl from Pendolo south of Lake Poso, playing the *zoc*.

his left hand, the tongues when vibrating giving a soft humming sound (Fig. 9). The sound can to a certain degree be modified by closing one or both lateral holes with the thumb and the index finger of the right hand.

In some specimens we find between the lateral holes somewhat lower down the handle a third triangular hole. When this is shut, or left open, there is a slight modification



1:4.

Fig. 10. *Rere* from Koelawi.  
(A = No. 1028 (26. 9. 347). B = No. 1033 Kaudern coll.)

of the sound. This odd hole is not connected with the opening between the tongues, a fact that confirms the statement made by SACHS that the humming of the *rere* is not only



the result of the vibration of the tongues but of that of the air column of the cylinder. SACHS writes the following in »Die Musikinstrumente Indiens und Indonesiens«, page 22:

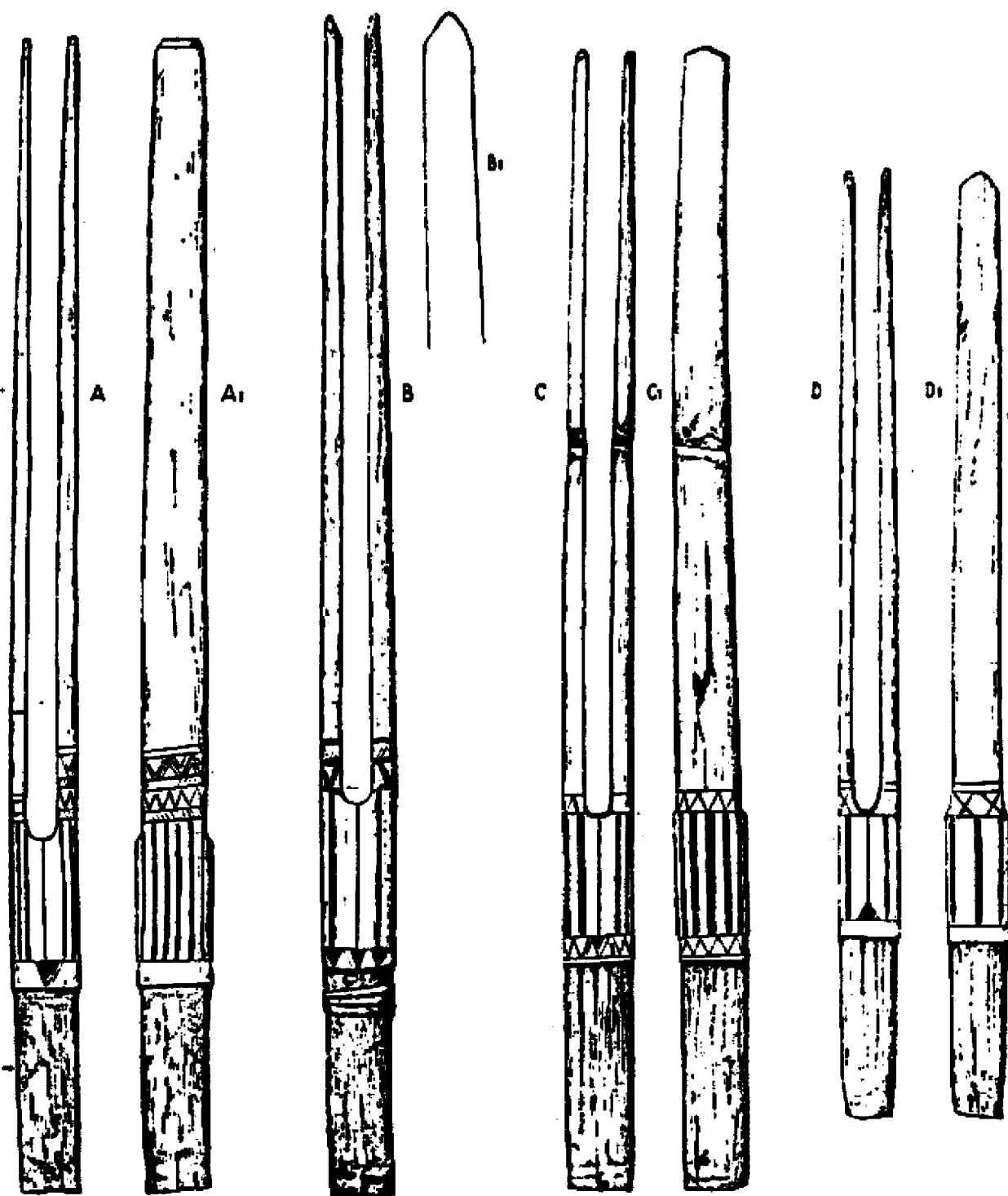
»Es handelt sich also um eine sehr interessante Kombination: nicht nur der aufschlagende Bambus klingt, sondern auch der mitschwingende Luftraum, der im Griff eingeschlossen ist; dieser wiederum erfährt durch Öffnen oder Schliessen seiner Löcher eine Änderung des Volumens und demgemäss der Tonhöhe.«

In some *rere* specimens we notice a binding or plaiting of rattan braced to the cylindric part of the instrument. According to KRUIJT the sound can be modified by means of this plaiting, removing it from, or advancing it toward the tongues (Fig. 13). A few of my *rere* have a comparatively strong binding or plaiting of rattan round the node at the proximal end of the instrument, very likely meant to prevent it from cracking (Figs 15—17).

The *rere* as a rule is adorned with some simple ornaments. The distal part of the cylinder which does not serve as a handle is always decorated with some longitudinal grooves. Sometimes there is only one row of them, sometimes we find them in two belts (Fig. 10). In some few cases the tongues are ornamented in about the same manner (Fig. 13 A), or they are more elaborately made as in the specimen from Koelawi that is represented in Fig. 18.

The *rere* seems to occur among all native tribes of Central Celebes, at least among all those who still to a certain degree keep their original culture. My collection counts fourteen specimens from Central Celebes of which thirteen were procured in the north-western part. Below we find a table of the material.

From Koelawi	9 specim.	} Paloe Toradja.
» Toro	1 »	
» Kantewoe	2 »	} Koro Toradja.
» Behoa	1 »	
» Ondae	1 »	} Poso Toradja.



F. 4.

Fig. 11. *Rere* from Koelawi. Small arrow indicates an odd lateral stop in the handle.  
 (A = No. 1030, C = No. 1029 (26. 9. 349), D = No. 1034; Kaudern coll.  
 B = Col. Inst. Amsterdam No. 91/46.)

This table in all probability is misleading as to the occurrence of the instrument among the Poso Toradja. The *rere* is no doubt common to the eastern part of Central Celebes,

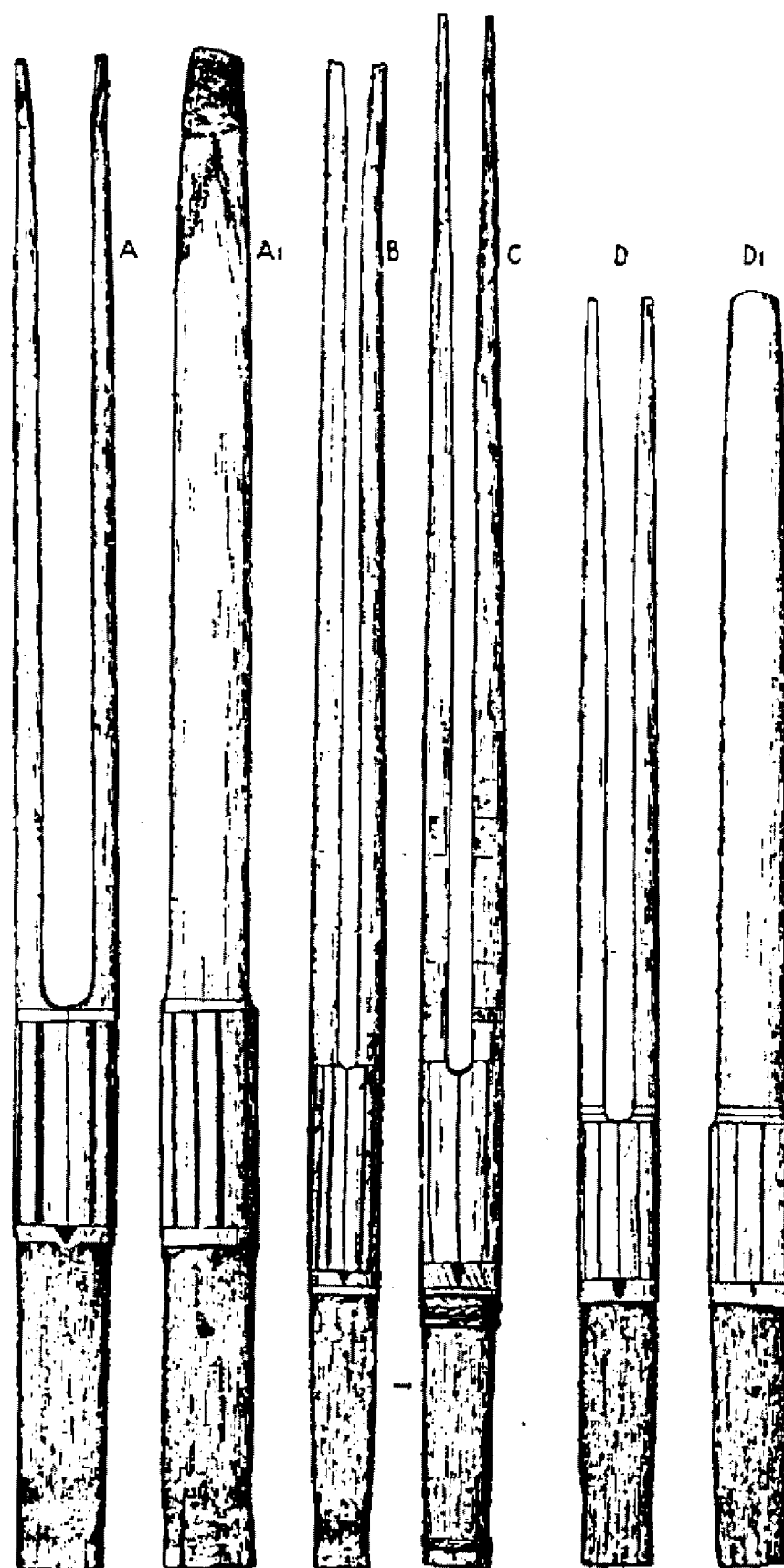
or was so not very long ago. KRUIJT when speaking of this instrument in »De Bare'e-Sprekende Toradja's» does not mention any special locality, which means, I suppose, that it was found with most if not all the Bare-e speaking tribes.

South of Lake Poso as far as to the Gulf of Bone the *rere* seems to be rather common, MEYER and RICHTER as well as GRUBAUER recording it from these districts. The latter figures an instrument from Pendolo (Fig. 9), the former note a specimen from Boraoe on the Bone Gulf (Fig. 12 D) belonging to the collection of the SARASINS. Whether this specimen really is from Boraoe, or whether it originally came from the tribes living further up the country, MEYER and RICHTER cannot tell for certain. I am later coming back to this question.

I have been able to complete my studies of the geographical distribution of the *rere* in some museums of the Continent. In the Prins Hendrik Museum at Rotterdam there is a specimen No. 17947 from Napoe, collected by the Dutch missionary TEN KATE. The same museum has another specimen No. 25494 procured by the Dutch controller WIGMAN at Paloe. This *rere* is exactly of the same model as the *rere* of Koelawi. Possibly it originally came from this district being brought to Paloe by some To Koelawi, or it came with other native things which were collected in Koelawi for the controller. I never saw a native at Paloe or in the Paloe Valley playing a *rere*. The Colonial Institute of Amsterdam possesses a fine specimen No. 91/46 (Fig. 11 B) from Koelawi, acquired from the Dutch missionary LOOIS.

The Berlin Museum für Völkerkunde has two specimens Nos. 38635a and 38635b (Fig. 12 B, C) from the village of Peoera east of Lake Poso, collected by GRUBAUER. There is in the museum of Basel in the collections of the SARASINS a specimen No. II c 527<sup>1)</sup> from the southern shore of Lake Poso (Fig. 12 A). In this museum we also find the above

<sup>1)</sup> With MEYER and RICHTER No. 414.



1: 4.

Fig. 12. *Rere* from Central Celebes.

A from the southern shore of Lake Poso; B and C from Pcoera; D from Boraoe. Small arrow indicates an odd lateral stop. (A Basel Mus. No. II c 527; B Berlin Mus. No. 1 c 38635 a; C Berlin Mus. No. 1 c 38635 b; D Basel Mus. No. II c 656.)

mentioned specimen from Boraoe on the coast of the Bone Gulf. This specimen is booked as No. II c 656<sup>1)</sup> (Fig. 12 D).

Although the *rere* specimens from Central Celebes are much the same in their construction, we may yet distinguish two varieties: one occurring in the eastern part, another in the north-western part.

In all specimens from Central Celebes we notice that the portion cut out between the tongues is at the proximal end not straight at right angles to the tongues but round, giving the base of the opening between the tongues the shape of a U (Figs 10—18). The tongues generally grow somewhat narrower toward the top which is cut square, save in the Koelawi specimens, most of which are somewhat pointed (Fig. 11).

As mentioned before the *rere* according to KRUIJT has a tiny plaiting of rattan round the upper part of the cylinder, used for modifying the sound of the instrument. Such a plaiting I only find with my two specimens from Kantewoe, both having carefully made rattan plaitings (Fig. 13). From Koelawi I have a couple of *rere* (Fig. 14) having simply a strip of rattan tied round the cylinder in front of the lateral stops. Sometimes we find a *rere* having a strip of rattan tied round the handle, generally immediately behind the stops. The specimen from Toro (Fig. 15) has such a binding of rattan wound five times round the distal part of the handle. The Doda specimen has a rather broad plaiting of rattan braced to the middle of the handle (Fig. 16). The bindings of the latter two specimens presumably are meant to prevent the instruments from cracking.

Although the plaitings or bindings round the cylindric portion of the *rere* do not seem to indicate a difference of type of instrument in Eastern and in North-Western Central Celebes, I think the number of the stops offer a characteristic of two types, one prevailing in the east, the other in the north-west. My specimens from Ondae and Behoa (Figs.

<sup>1)</sup> With MEYER and RICHTER No. 513.

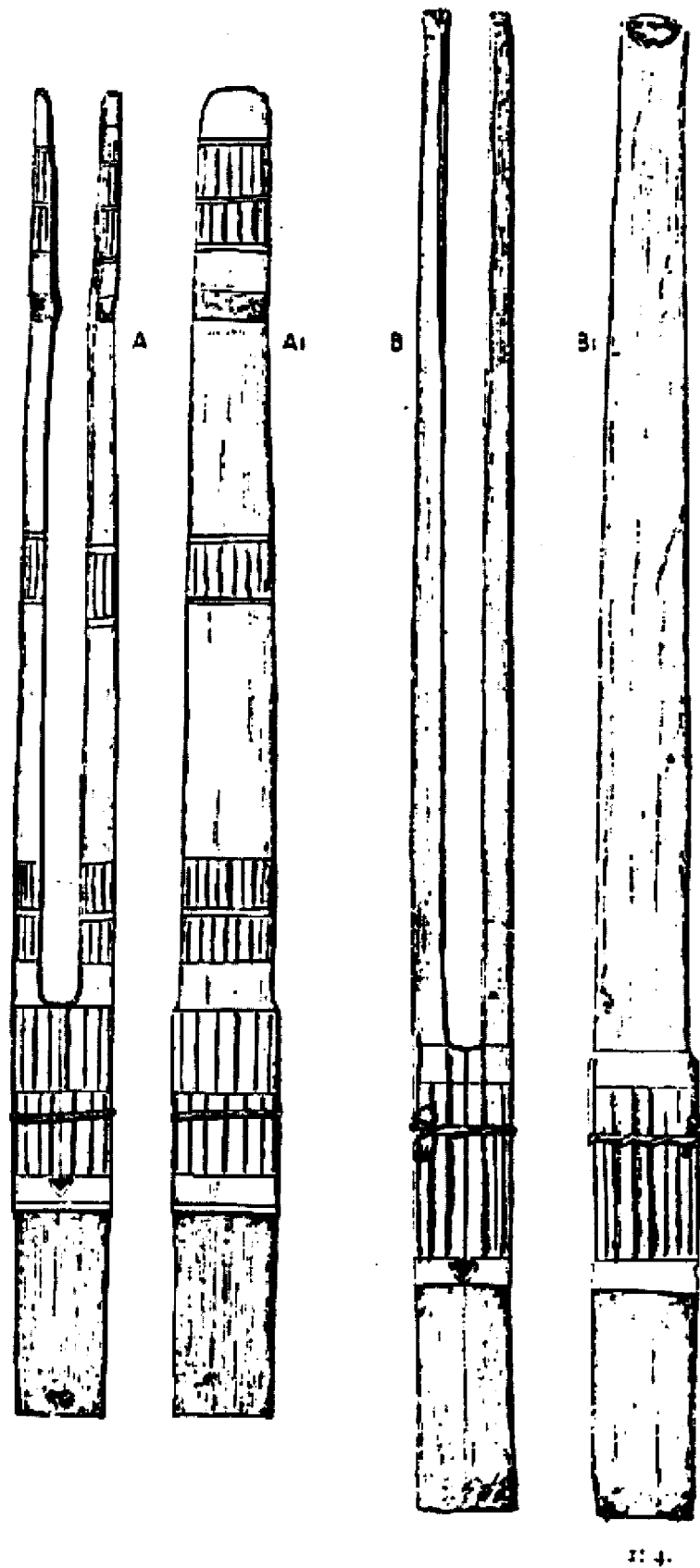


Fig. 13. *Rere* from Kantewoe.  
(A Kaudern coll. No. 1812, B id No. 1811.)

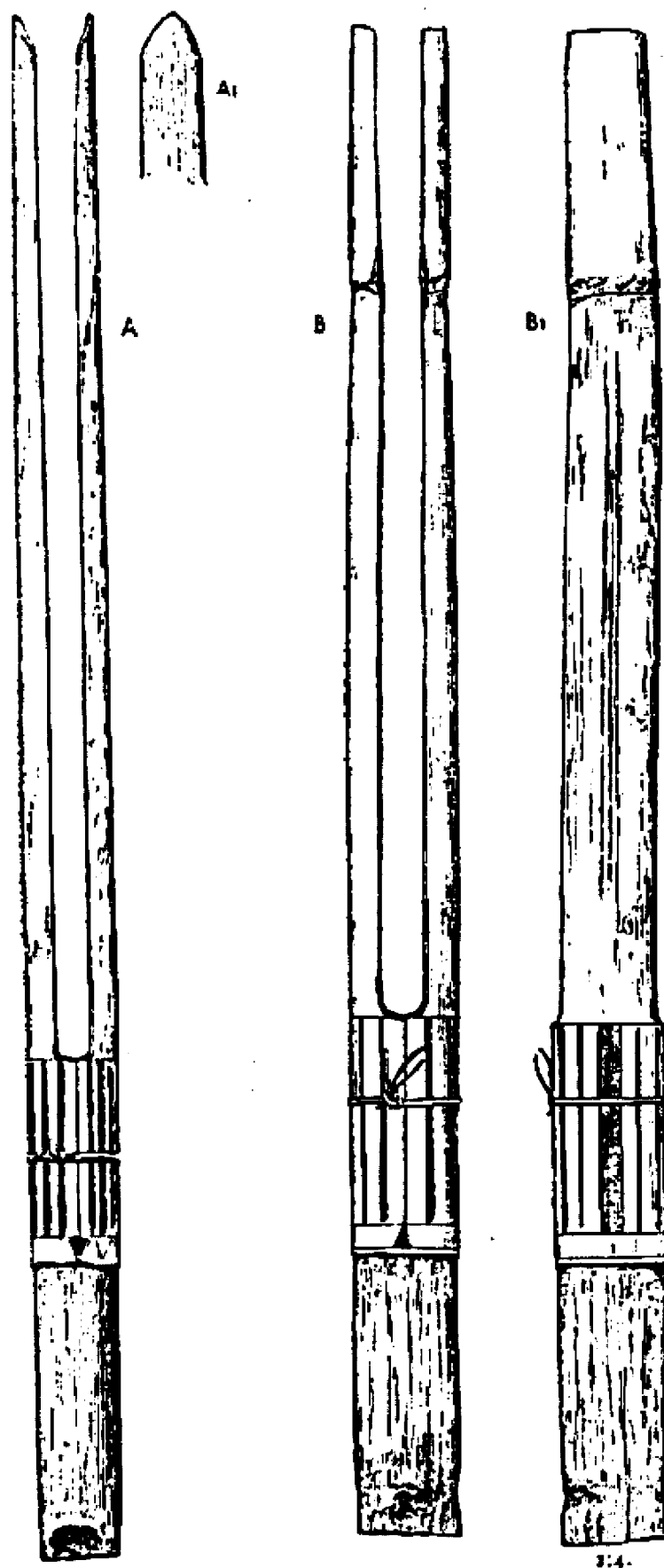
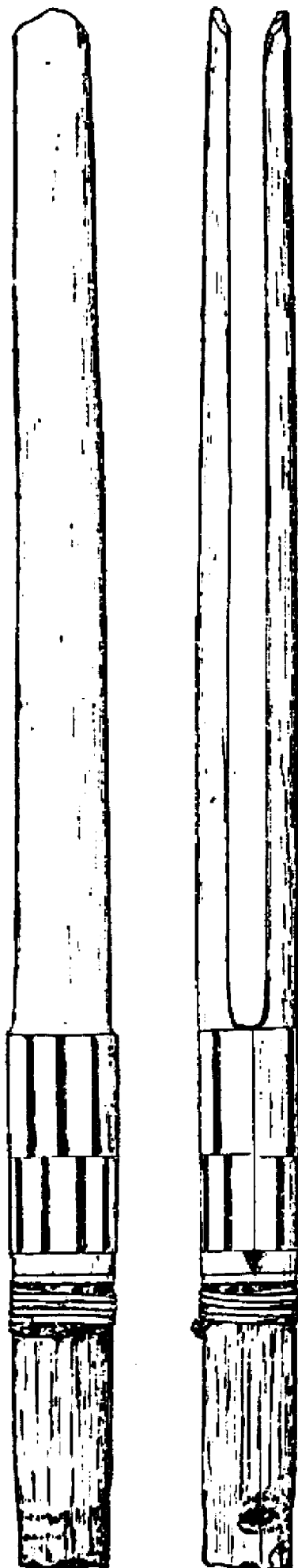


Fig. 14. *Rere* from Koelawi.  
(A Kaudern coll. No. 1031, B id. No. 1032 [26. 9. 348]).



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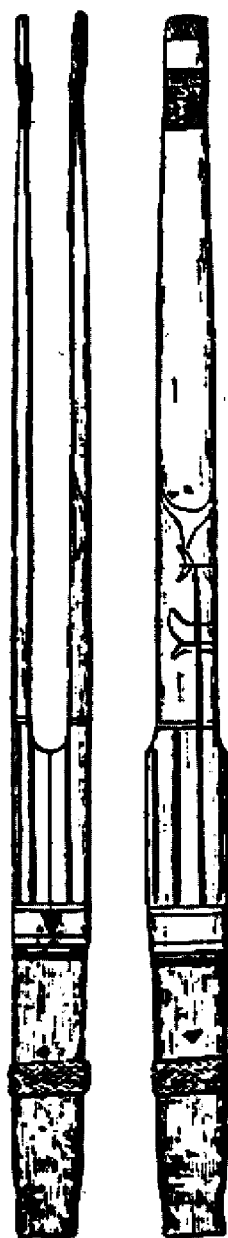
Fig. 15. *Rere* from Toro,  
Central Celebes.  
(Kaudern coll. No. 2220.)

16 and 17) have three stops, two lateral ones through the upper part of the cylinder and one through the handle, all in the shape of a triangel. The SARASIN specimen from Boraoe, mentioned above (Fig. 12 D), is just the same. Other specimens have the odd stop more or less irregularly square. This is the case of the SARASIN specimen from the southern shore of Lake Poso (Fig. 12 A) and of one of the specimens that GRUBAUER procured at Peoera east of Lake Poso (Fig. 12 C). His second specimen from this locality has only two lateral stops.

Thus it seems as if the *rere* from the eastern part of Central Celebes should have three stops, since of six specimens that I have examined all but one have that number.

Of fifteen specimens from the north-western part of Central Celebes all but two have only two stops. In Koelawi I got a *rere* No. 1080 (Fig. 18) having a third, irregularly formed square stop as well as a specimen No. 1030 (Fig. 11 A) with a half finished third irregular stop. This stop is not cut with a knife through the bamboo but burnt. As to the former specimen it is in many respects different from the common form of *rere* in Koelawi, being much better work, having the





114.

Fig. 16. *Reve* from Doda in Behoa.  
(Kaudern coll. No. 2194.)



114.

Fig. 17. *Reve* from Taripa in Ondae.  
(Kaudern coll. No. 2436.)

tongues ornamented in a manner that does not seem to be original in Koelawi. Presumably this specimen came to Koelawi from the neighbouring districts in the south-east or, if it was made in Koelawi, I suppose it was not manufactured by a To Koelawi but by some foreigner living in the district. As to the burnt stop not finished in the specimen No. 1030 it may be just a casual occurrence. I do not think I make a mistake if I say that it is a characteristic of the *rere* of the north-western part of Central Celebes, that there are only two stops, in spite of the two above mentioned specimens with three stops.

Of fifteen specimens examined, ten are from Koelawi, one from Toro, two from Kantewoe, one from Napoe, and possibly one from Paloe.

Of the use of the *rere* among the Bare-e speaking tribes KRUIJT says that as a rule only children and young people play it, although sometimes grown up people also seem to take a pleasure in playing it. According to KRUIJT the natives are not allowed to play the *rere* from after the paddy harvest until the fields are prepared for the next sowing. Possibly this

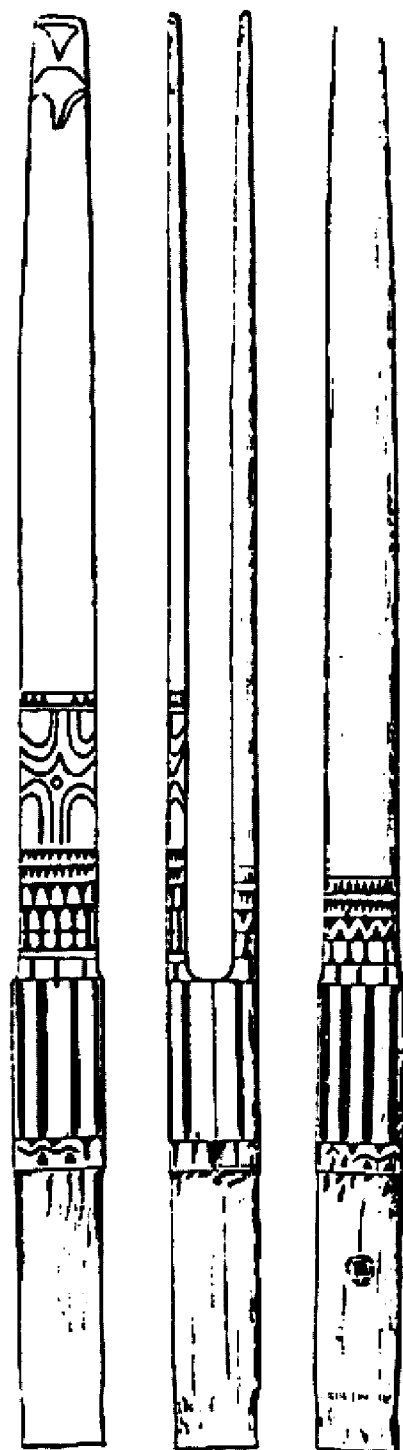
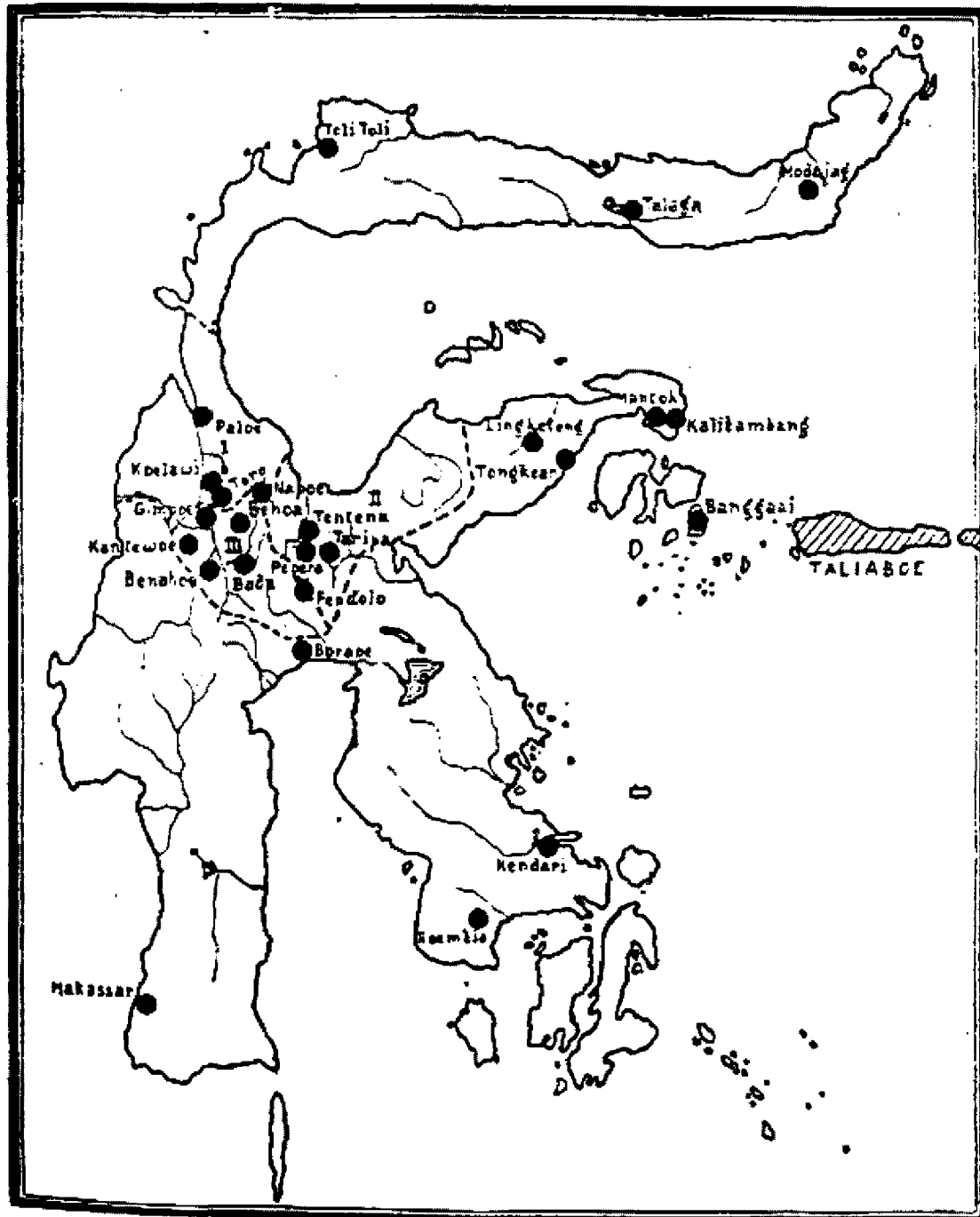


Fig. 18. I: 4.

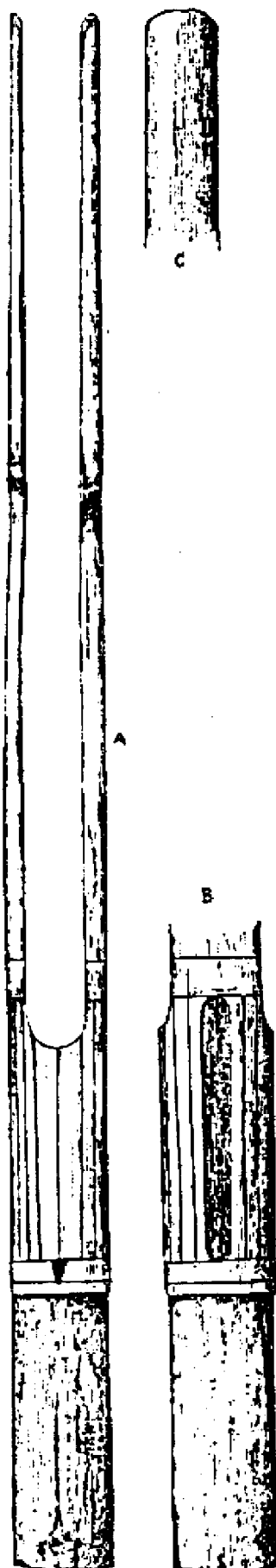
*Rere* procured in Koelawi but in all probability from the districts south-east of Koelawi (Bada, Behoa, Napoe) to judge from its ornaments and the odd stop through the handle. (Kaudern coll. No. 1080.)

was originally the custom of all Toradja but nowadays it is not kept, at least not in Koelawi, where at present you may hear the humming of the *rere* at any time of the



Map 1. Geographical distribution of the *rere* in Celebes (Kendari uncertain; from Taliaboe no special locality is given). I. District of the Paloe Toradja; II. District of the Poso Toradja; III. District of the Koro Toradja.

year. My experience of the *rere* in Koelawi, Toro, Gimpoe, Kantewoe, Benahoe, Behoa, Bada, at Tentena, and at Taripa is that only children and women play it, never men.



1:4.

Fig. 19. *Vère* from Toli Toli. (Col. Mus. Amsterdam, No. 34/145.)

The *vère* is not only an instrument of the Toradja in Central Celebes. We find it nearly all over the island. It is recorded from Toli Toli (Fig. 19) and the tract of Gorontalo, and I myself found it in Mongondou (Fig. 20), all of these situated in North Celebes. In North-East Celebes as well as in South-East Celebes it is also familiar, and I think the same may be said of the Macassar Peninsula.

This instrument was known long ago from the South-Eastern Peninsula. As early as in 1839 VOSMAER mentions it in »Verh. Bat. Gen.», and later SCHMIDTMÜLLER in 1849 in »Ausland», as well as VAN DER AA in 1851 in »Globe» describe this instrument. Whether VOSMAER and VAN DER AA point out any special localities or not I do not know, as our Swedish libraries do not possess neither the work of VOSMAER, nor that of VAN DER AA.

SCHMIDTMÜLLER speaks in general terms of the natives of the South-Eastern Peninsula and their culture, not mentioning any special place, but the connection makes me think that he means particularly the district of Kendari on the east coast.

In 1911 ELBERT (Die Sundaexpedition, Vol. I p. 268) recorded the *vère* from the district of Roembia in the South-Eastern Peninsula writing as follows: »..... ebenso stim-

gabelartige Lärmgeräte (ore-ore) aus Bambus. Auf diesem erzeugt man durch Anschlagen auf dem handballen Töne, die sich durch zuhalten von Löchern, variieren lassen.»

ELBERT, however, has not noted the *rere* from the island of Boeton, thus SACHS is wrong in saying ELBERT found the instrument in that island. I myself cannot tell whether

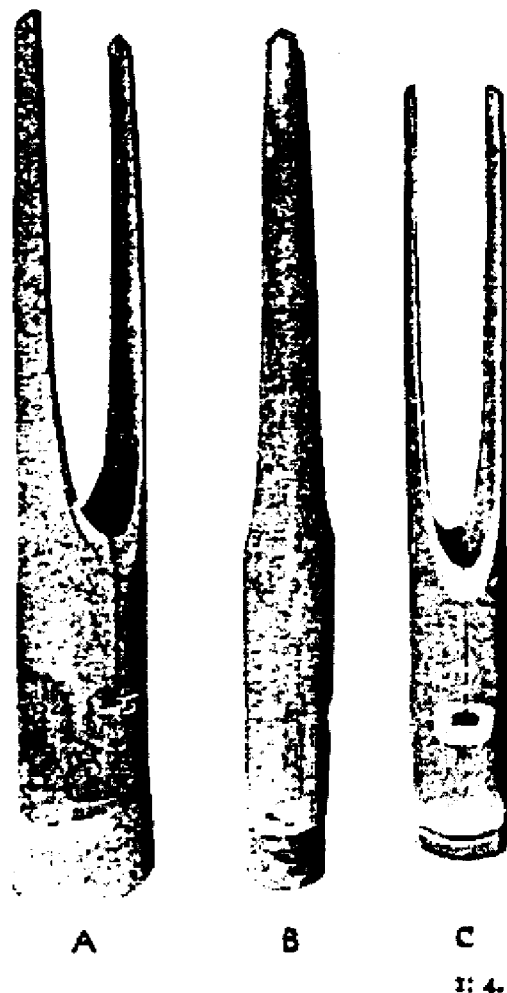


Fig. 20. *Rere* from Bolaang Mongondou, North Celebes.  
(Kaudern coll. A No. 611, B No. 612, C. No. 614.)

it occurs among the natives of Boeton or not, I never saw it, nor heard anybody playing it during the four months that I spent in Boeton in 1920.

As there are no figures of the *rere* of the South-Eastern Peninsula it is difficult to know exactly what it is like, but to judge from ELBERT's and SCHMIDTMÜLLER's descriptions of this instrument it seems to be of the same construction



1: 4.

Fig. 21. *Rere* from North-East Celebes.  
 A from Tongkean, B from Mantok, C from Kalibambang.  
 (A Dresden Mus. No. 12778, B Kaudern coll. No. 2661, C id. No. 2628.)

as the *rere* of Boraoe, Taripa, and Doda. SCHMIDTMÜLLER writes as follows: »... und der sehr allgemein gebräuchlichen »Orä-orä«, einem Damesinstrumente. Dies wird aus einem Gliede des Bambus gemacht, welches an einem Ende geschlossen bleibt; es wird bis an das geschlossene Ende der Länge nach gespalten, bis zur Hälfte etwas ausgeschnitten, und um seine Theile zweckmässig zusammenzuhalten, mit einem leichten Bande von Rotang versehen, und gibt, wenn man dasselbe sanft gegen die Hand schlägt, den Ton einer Maultrommel; einige Löcher, an dem untern Ende angebracht, verursachen verschiedene Töne, und geben so eine Art Musik...»

From this we learn that the instrument has a narrow ring of rattan round the cylindrical part just as some specimens from Central Celebes, perhaps of the same kind as my two *rere* from Kantewoe, and as the *rere* of the Poso Toradja. To judge from SCHMIDTMÜLLER's description the stops of the cylinder are more than two, or he would hardly have used the expression »einige Löcher«. How many there are we do not know, but as the *rere* of adjacent localities —

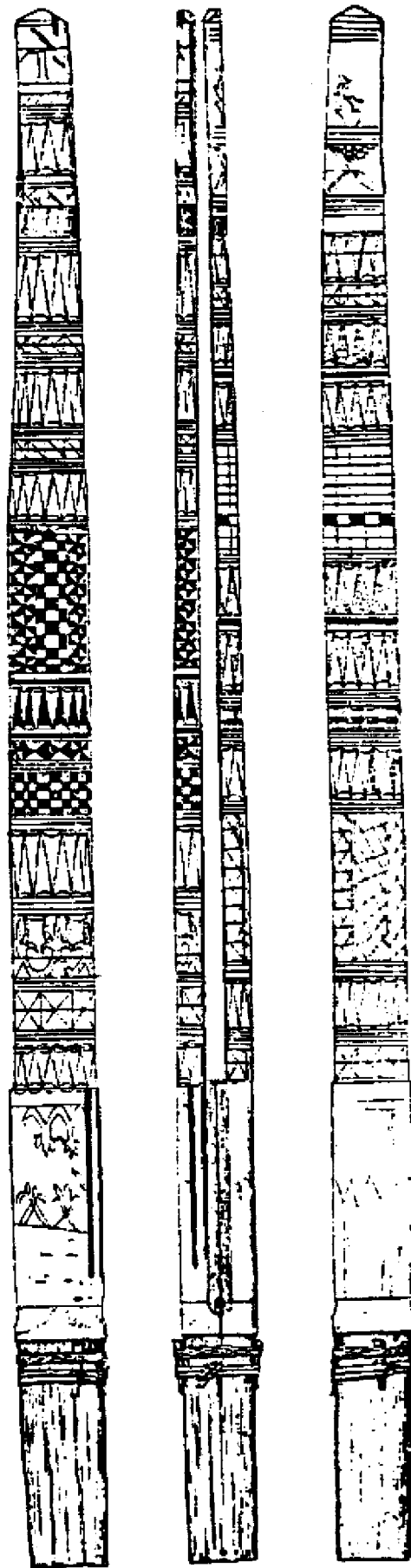


Fig. 22.

1:4.

*Rere* from Lingketeng in Loj-nang. (Kaudern coll. No. 2679.)

Boraoe, Pendolo, Taripa, and Doda — have three holes, it may be that SCHMIDTMÜLLER's specimens also have this number of stops.

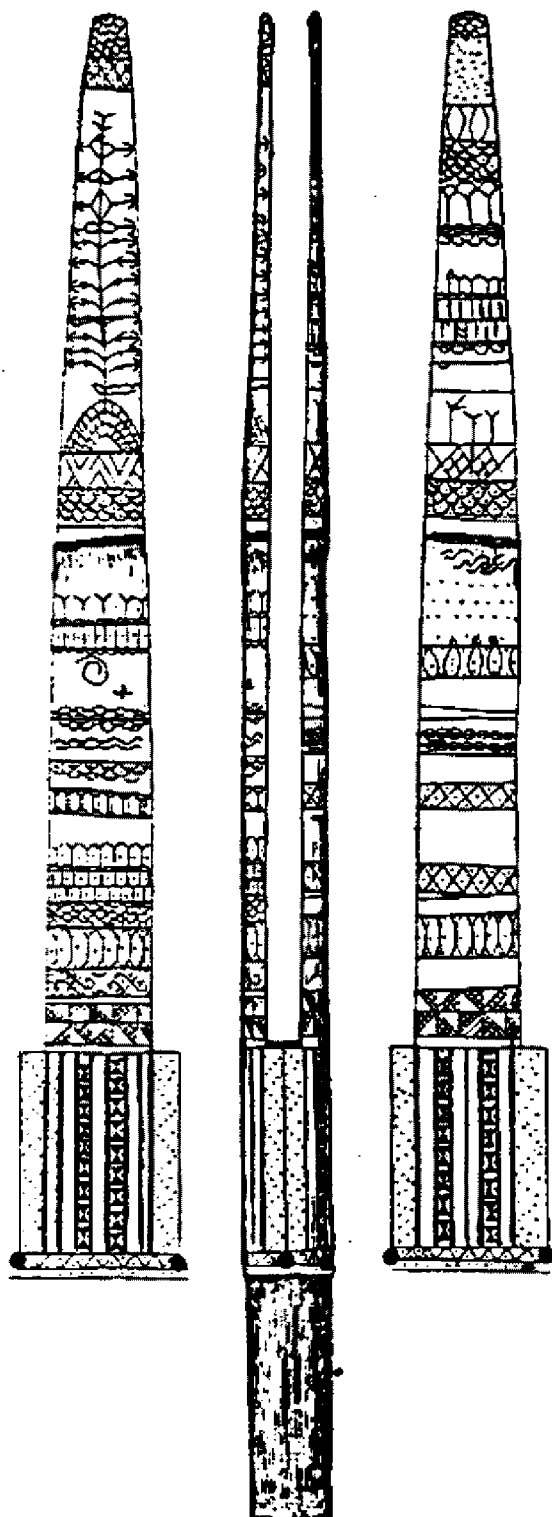


Fig. 23. 1:4.  
*Rere*, possibly from Lojnang.  
 Compare Fig. 22.  
 (Dresden Mus. No. 1770.)

The *rere*, as mentioned before, also is known from the north-eastern peninsula of Celebes. MEYER and RICHTER record a specimen No. 12778 from Tongkean, opposite to the Peling Island. It belongs to the museum of Dresden. (Fig. 21 A).

In my collection there are four specimens from the peninsula in question: one from Lingketeng in Lojnang in the mountains of the interior (Fig. 22), and three from Lamala furthest to the east. One of the latter specimens is from the village of Mantok (Fig. 21 B), the other two from Kalibambang (Figs. 21 C and 24).

The specimens from Lingketeng and Mantok, as well as one of the Kalibambang instruments resemble each other, and seem to be of a type characteristic to the North-Eastern Peninsula. The specimen 12778 of the Dresden Museum is of this type.



This *rere* differs from the *rere* of Central Celebes in construction. The instrument is comparatively long and slender with a short handle. The base of the opening between the tongues is straight, at right angles to the plane of the tongues (Figs. 21—24). The two stops are not triangular but round. There is no third stop. The Lingketeng specimen round the upper part of the handle has a tiny plaiting of rattan. The tongues of this specimen are covered with ornaments. The specimens from Mantok and Kalibambang lack adornment.

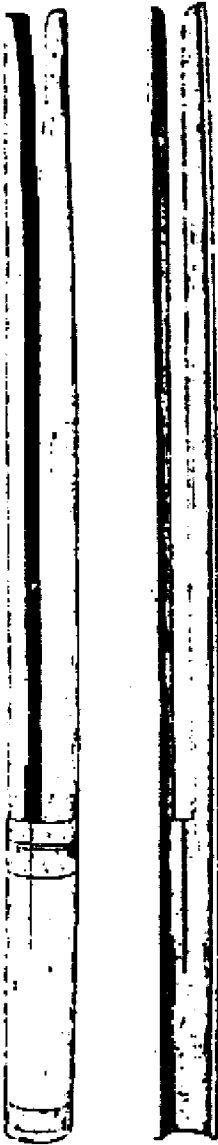


Fig. 24.

*Rere* with proximal end open, from Kalibambang, Lamala, North-East Celebes. (Kaudern Coll. No. 2642.)

In this connection I want to mention that the specimen No. 1770 of the Dresden Museum (Fig. 23), the origin of which is unknown, in all probability came from the north-eastern peninsula of Celebes. The proportions of the tongues and the handle are just the same as in my specimens from this locality. The base of the opening between the tongues is straight, the number and the shape of the stops are also the same, and the ornaments resemble those of my Lingketeng specimen so much that one would almost think the two came exactly from the same place. The resemblance strikes the eye all the more when you have the chance of comparing a great number of *rere* from the Malayan Islands. Outside the north-eastern peninsula of Celebes you will not find another *rere* of the same type as this.

The third *rere* specimen from the North-Eastern Peninsula (Fig. 24) in its construction differs from all other *rere*, the cylindrical part being open below and lacking stops for varying the note. In playing, the bottom of the instrument is placed against the palm of the right hand just below the index finger, and

the modifying of the sound is produced by means of pressing the instrument tight to the palm and then again raising the index. The sound of this *rere* resembles very much the gentle note of a jew's-harp. In Lamala the former, more common type is called *talalo* (accent on the second *a*) the latter less common type *taodo* (accent on the first *o*). At Lingketeng the *rere* is called *tenendo*. The Dresden specimen No. 12778 from Tongkean is according to the label called *sija-sija*.

The *rere* is also recorded to be used in the northern peninsula of Celebes. According to MEYER and RICHTER the museum of Dresden has an instrument No. 13005 from Talaga, a place situated just north of Gorontalo. As there is no figure of this *rere*, and not having seen the instrument myself, it was impossible to ascertain of which type it is. The *rere* of the adjacent district of Bolaang Mongondou is quite different to the *rere* already described.

Further to the west, the *rere* of North Celebes seems in all essential characteristics to agree with this instrument in Central Celebes as far as we can judge from the two specimens from Toli Toli. One of these specimens No. 34/145 (Fig. 19) belongs to the Colonial Institute of Amsterdam, the other one No. 1926/7 is found in the Prins Hendrik Museum of Rotterdam. Both specimens are of great size, the Amsterdam one being 63 cm. long, the Rotterdam one no less than 76 cm. In both the outer layer of the handle is pared off in the usual manner. The distal part of the bamboo cylinder is adorned with longitudinal grooves. The Rotterdam specimen has five grooves at the base of each tongue, the Amsterdam one six in two groups, the space between them being cut so as to make a plane surface. The tops of the tongues of the Amsterdam specimen are cut square, those of the Rotterdam one are somewhat pointed. The base of the opening between the tongues is carefully rounded off. Both have two triangular stops, one point facing the the proximal end of the instrument. The native name of the Rotterdam specimen is according to the label *rere*, that of the Amsterdam one *pare*.

In my collections I have four *rere* from the village of Modajag in Bolaang Mongondou. These specimens differ somewhat from other *rere* found in Celebes. They are made with very little care, possibly owing to the fact that they are used only as childrens toys, and their proportions are different to the usual ones. The opening between the tongues is wide and roughly made, the tongues narrow and short, the whole instrument being rather short. The proximal part of the cylinder is not made as a handle, the two lateral stops are neither round, nor triangular but carelessly made openings into the bamboo (Fig. 20).

Whether the *rere* occurs in the southern peninsula of Celebes or not cannot fully be ascertained by studying the literature. We are told that the Bugis priests used a kind of bamboo percussion instrument to dispel the evil spirits. Of this instrument SACHS writes as follows in »Die Musik-instrumente Indiens und Indonesiens»: »Die Rute erreicht hier eine Länge von weit über zwei Metern (Makassarisch *búlo síya-síya*, buginesisch *bulo páséya-séya*) und wird, . . . gebraucht, in der Regel als Aufschlags-, hier und da, z. B. in Vâjo, als Gegenschlaginstrument.» (p. 21.)

This instrument, however, is no proper *rere*, not having two vibrating tongues, the bamboo being for more than half its length split into a number of thin laths, rattling against one another when the instrument is played.

Yet, for several reasons I am inclined to think that the real *rere* is known in this part of Celebes, or was so formerly. In the Ethnographical Museum of Leiden I found among other objects from South Celebes, used to dispel the evil spirits, a pair of brass castanets, or cymbals, together with an instrument of bamboo extremely like a *rere*.

Of these objects the catalogue tells us the following: »No. 37/363 Duivelverdrijver (kantjing); twee messingen bekkens, in het midden doorboord en door een gedraaid snoer verbonden. Dm bekkens 9 cM. Hierbij een bamboe, waaraan twee lange tongen zijn gesneden, omgeven door een

ring van gevlochten rotan. L: 61, dm: 4,5 cM.  
Zuid-Celebes. Verzameling Dr. B. F. Matthes.»

This description as well as the figure below that I made (Fig. 25) shows that the instrument in question is a genuine *rere* with two tongues, only it is less carefully made than those of Central and North-East Celebes.

This however, makes it likely that the *rere* occurs or has occurred in South Celebes as well as in all other parts of the island.

Outside Celebes itself the *rere* is noted from only a few places. According to literature on the subject it occurs in the Island of Boeton, in Banggai, in Talaud, in the Philippines, and in the Malay Peninsula.

All these statements, however, are not quite correct, and there are more places than the above mentioned where the *rere* occurs.

As to Boeton I already mentioned that it is an error of SACHS when he says ELBERT found it there. ELBERT got his *rere* from the To Maronene in the southern part of South-East Celebes. This part belonged to the Sultanate of Boeton but must not be mixed up with the island of that name.

According to MEYER and RICHTER the *rere* should also be found in the island of Banggai. They write as follows: »Ausserhalb Celebes begegnet es uns nachweislich in Banggai, woher das Berliner Museum zwei Stücke (ta uto) besitzt.»

This statement does not seem quite convincing to me. I never saw or heard the instrument neither in Banggai, nor in the big

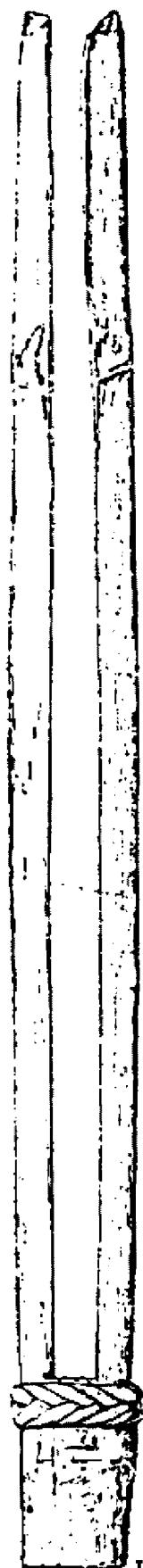


Fig. 25. *Rere*  
from Macas-  
sar.  
(Leiden Mus.  
No. 37/363.)

island of Peling west of Banggai, belonging to the Banggai Archipelago. Possibly we have here a mistake of the same kind as that of Boeton, because formerly there was the Sultanate of Banggai, comprising not only the Banggai Archipelago but also the eastern part of North-East Celebes. The Dutch often still speak of »Banggai, vaste wal» and »het eiland Banggai». In maps we sometimes find the eastern part of North-East Celebes called Banggai. Thus it may be that the two specimens of the Berlin Museum came from the part of the Sultanate of Banggai that is situated in Celebes. As the native name of the instrument is *ta uto*, which seems to be the same as my *taodo*, the Berlin specimens possibly are from Lamala.

At all events I think we want another proof in order to be sure of the occurrence of this instrument in the Banggai Archipelago. If the *rere* is known to the natives of the Archipelago it would be inter-

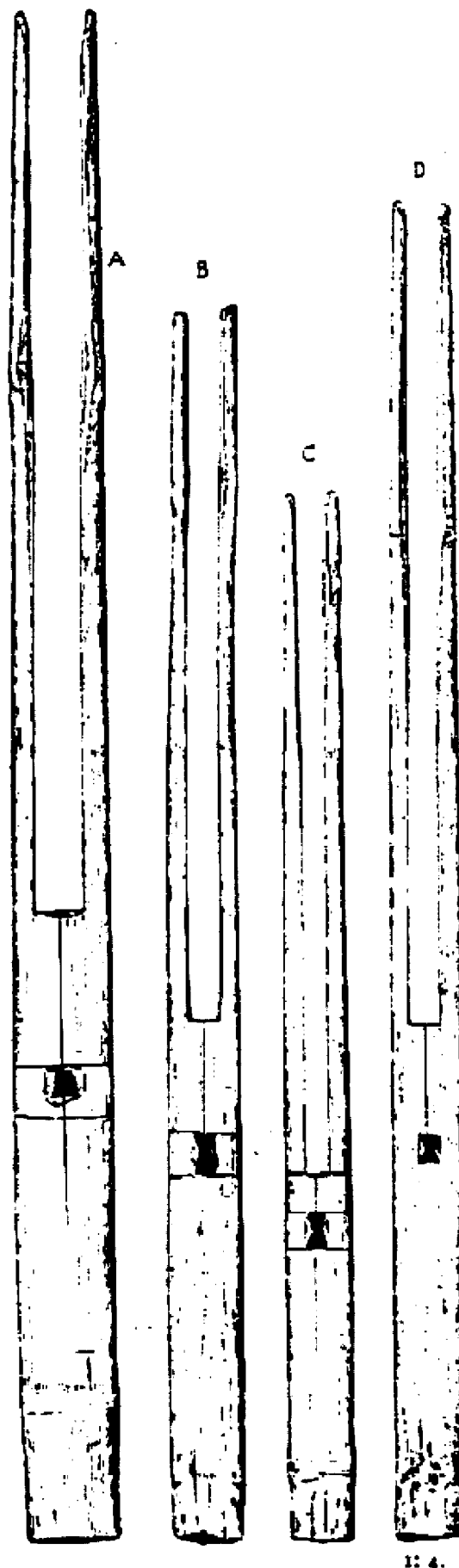


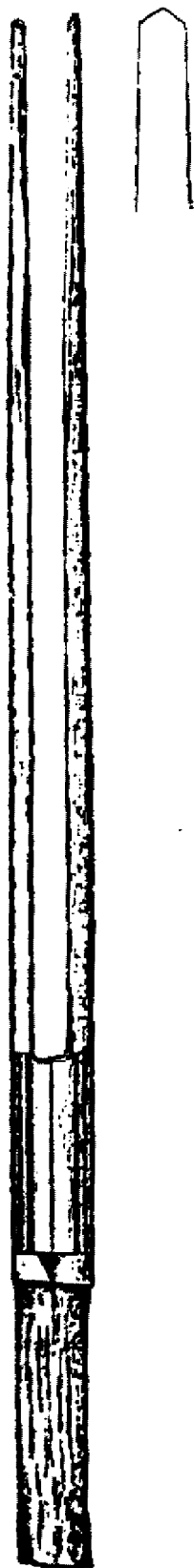
Fig. 26. *Rere* from the Soela Islands.  
A, B, C, from Taliaboe.  
(A, C, D, Leiden Mus. A and C No. 1900/97, D No. 1926/575; B. Col. Inst. Amsterdam No. 31a/93.)

esting to know whether it is of the same type as the *rere* of North-East Celebes, or if it resembles the *rere* of the Soela Islands.

VAN HULSTIJN in his official report on the Soela Islands records a simple musical instrument of bamboo called *kakonti* resembling the Javanese instrument called *grinding*. Having no figure of the *kakonti* you would hardly think it was a *rere*, because the *grinding* should be some kind of jew's-harp. In the Dutch museums, however, I found several specimens of *rere* from the Soela Islands, according to the labels called *kakonti*. The Ethnographical Museum of Leiden has three specimens, two of which have No. 1900/97, the third instrument is registered as No. 1926/575 (Fig. 26 A, C, D). Nos. 1900/97 are according to the catalogue from Taliaboe, the big island furthest to the west. They were procured by VAN HULSTIJN.

The Colonial Institute of Amsterdam has also a specimen of this instrument from Taliaboe (Fig. 26 B). Of this specimen No. 312/93 the catalogue says: »Afkomstig van de Soela-eilanden, Mohammedanen, Seboja's, Mange's en Kada's van Taliaboe». As to the use of this instrument the Leiden catalogue says of No. 1926/575: »Met dit einde (*i. e.* the tongues) wordt door kinderen op de vlakke hand geslagen». Of the Amsterdam specimen is only said that it is a toy. As children's toys these instruments are not usually very carefully made, but still seem to be too well finished to be a mere play-thing. This makes me think that the instrument once was used not only by children but also by grown up people, at least by women, as in the case of the natives of Celebes.

A *kakonti* resembles the common *rere*, only the outer layer of the bamboo as a rule seems to be pared off from the whole instrument. The smaller of the two specimens No. 1900/97 can be said to have a handle like a *rere* from Celebes since the outer coat of the distal part of the cylinder is left as a broad belt in which are found the lateral stops



1: 4.

Fig. 27. *Rere*  
from the Ta-  
laud Islands.  
(Dresden Mus.  
No. 11637.)

(Fig. 26 C): The other specimen (Fig. 26 A) is of rather primitive make, the surface not being scraped. The proportions of the instrument are not quite the same as in Celebes as can be seen in the tables on the pages 62, 63. The proximal part of the cylinder below the stops is comparatively long, the distal part, with the stops, rather short.

The lateral stops are connected with the opening between the tongues by means of a slit in the bamboo. The stops, however, are neither round, nor triangular but shaped like an hour-glass in two of the *kakonti*. One of the two specimens No. 1900/97 has foursided stops, irregularly made. The base of the opening between the tongues is in all four specimens straight, at right angles to the tongues, in the same way as the *rere* of North-East Celebes.

In the Talaud Islands between Celebes and the Philippines the *rere* is also said to be found. MEYER and RICHTER record a specimen No. 11637 of the Ethnografical Museum of Dresden (Fig. 27) that, when purchased, was said to have come from Talaud.

I am, however, not altogether convinced that this specimen really came from Talaud since it is exactly of the same pattern as the *rere* of North-East Celebes, whereas the *rere* of localities near Talaud differs in form rather much from the specimen said to have come from Talaud. Therefore, as long as we have only one specimen from Talaud, I think we cannot be positive of the occurrence of the instrument here. It may in some way or other have found its way from Celebes to

Talaud. In Central Celebes, for instance at Paloe, I saw soldiers from the Sangi Islands just south of Talaud, and possibly some soldier brought a *rere* from Celebes to Sangi and further on to Talaud. There is also the possibility that some native Sangi teacher working in Celebes brought it to the islands off the north coast of Celebes. However it be, I think we want new reports from the Talaud Islands to be sure whether the *rere* is known among the natives or not.

In the Malay region the *rere* is also known in the Philippine Islands. Already in 1886 SCHADENBERG records this instrument from the Philippines, and in 1890 MEYER and SCHADENBERG describe a specimen No. 7151 (Fig. 28 A) from Luzon belonging to the Dresden Museum. The construction of this *rere* seems to be somewhat different to that of the instruments of Celebes. The two authors write as follows p. 21 a: »Bambusschlägel der Tingianen. Stimmgabelartig, unten ein wenig mit Rotan umwickelt, ein 5 cm. vom Griffende entferntes Loch..... gestattet den Ton zu verändern. 45,5 cm. l. Buncácan. Auf Märschen schlägt man auf der linken Handwurzel den Tact damit.»

DENSMORE in 1906 records this instrument from the Igorot, but his description is very short only saying: »These resemble tuning forks and vary from eight to fourteen inches in length». His figure of it does not give us any idea of details.

If we compare MEYER's and SCHADENBERG's description with their figure of the instrument, we find that the tongues occupy nearly two-thirds of the length of the instrument. The tongues are of about the same width as in Central Celebes, but the base of the opening between the tongues is cut straight just as in the instruments from North-East Celebes. From the figure we cannot ascertain whether the bamboo cylinder is split at the base of the opening between the tongues or not, but having had the opportunity of seeing the specimen in question at Dresden I found it has the usual slits. The two lateral stops are missing, just as in one of



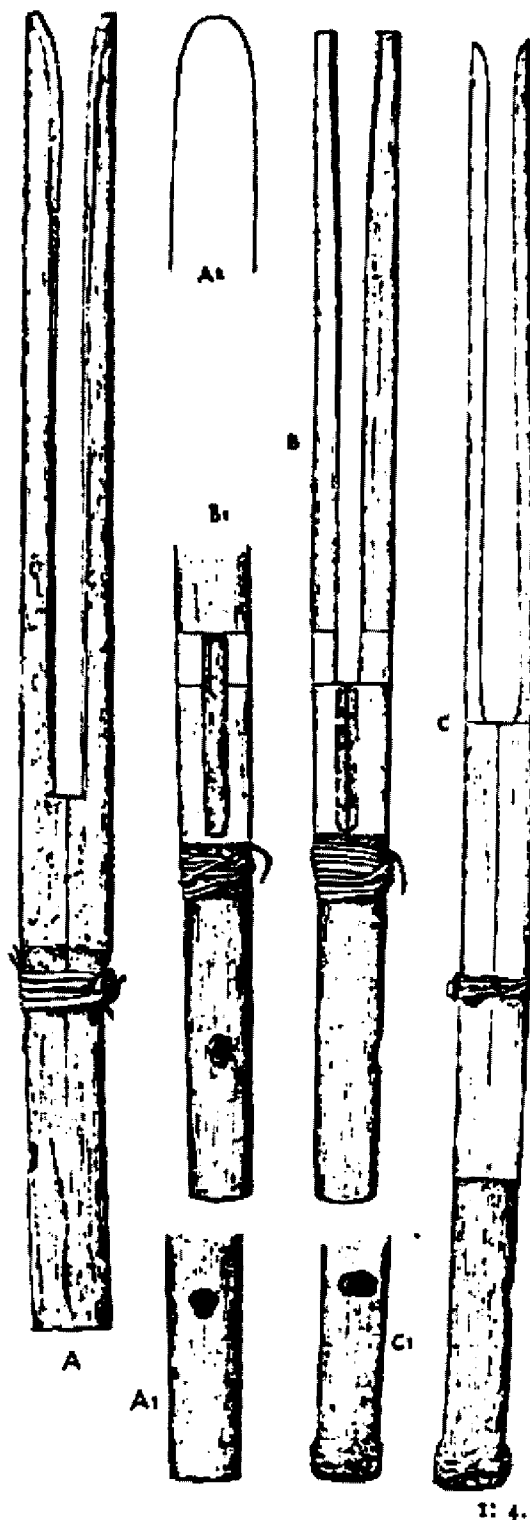


Fig. 28. *Rere* from the Philippine Islands. (A Dresden Mus. No. 7151 B Leiden Mus. 1183/763; C Leiden Mus. No. 1109/14.)

my specimens from Lamala in North-East Celebes, but there is below one tongue an odd stop in the cylindrical part (Fig. 28 A<sup>1</sup>.) analogical to the odd stop of the *rere* specimens from Doda, Taripa, Boraoe, and South-East Celebes.

Literature on the subject does not supply any particulars of the geographical distribution of the *rere* in the Philippines in general. SCHADENBERG as well as DENSMORE only mention Luzon, DENSMORE saying the instrument occurs among the Igorot, SCHADENBERG recording it from the Tinguian. In all probability the instrument is known also to other tribes living in the Philippines.

The Ethnographical Museum of Leiden has a specimen of *rere* No. 1183/763 from North Luzon, exactly of the same model as the above mentioned Dresden specimen No. 7151, the base of the opening between the tongues being straight, having a slit into the cylindrical part, a single stop burnt into the handle but no lateral stops. Below each

tongue the outer layer of the bamboo is pared off so as to make a narrow plane surface (Fig. 28 B<sup>1</sup>) The same is the

case on either side of the slits. The upper part of the cylinder is ornamented in the same manner. Round the distal part of the handle is wound a narrow strip of rattan.

Beside this specimen there is another one No. 1109/14 in the same museum. According to the catalogue it came from Bontoe, Luzon, Philippine Islands. The same kind of instrument is said to be called *boenkakan* by the Igorot. In all essential characteristics this specimen agrees with the two just mentioned. The slight difference may be owing to its having belonged to another tribe. It is not of such good workmanship as the two specimens No. 1183/763 of Leiden and 7151 of Dresden, and it is comparatively long and slender, the upper part of the cylinder being much longer than in any other instrument of this kind (Fig. 28 C). Round the middle of the upper part is wound a strip of rattan. There is only one stop, placed in almost the same manner as in the other specimens from the Philippines, only it is not burnt but rather roughly cut into the cylinder.

All the localities mentioned in the foregoing are situated in the eastern region of the Malay Archipelago. From the big islands in the western part, *i. e.* Java, Borneo, and Sumatra, the *rere* does not seem to be known.

VAN HULSTIJN says the *kakonti* (*rere*) of the Soela Islands much resembles the instrument called *grinding* in Java. This might induce us to think that the *grinding* would be a kind of *rere*. According to VAN HULSTIJN the *grinding* is described in »Mededeelingen, Encyclopaedisch Bureau», Aflevering X, a series not in the possession of any Swedish library which made it impossible for me to ascertain the amount of likeness between the two. I have consulted the great work »Real-Lexikon der Musikinstrumente» by Sachs, according to which the *grinding* is a kind of jew's-harp. We read the following: »*Grinding* nrl. Maultrommel. Die Javaner haben unter diesem Namen ein Maultrommelartiges Instrument aus einem Stück Rohr, in das drei feine Zungen ein-

geschnitten sind; zur Erhöhung der Resonanz dient eine Bambusröhre».<sup>1)</sup>

SCHADENBERG in 1890 described a *rere* No. 1770 (Fig. 23) of the Dresden Museum that was said to have come from Sumatra. Later, in 1903, the result of a repeated examination made by SCHADENBERG and MEYER was that they declare the instrument in question to have come from Celebes. As mentioned before, my opinion is that in all probability this specimen was procured in North-East Celebes.

Having no other references from Sumatra, it would seem as if the *rere* should not be known in this big island, which is rather peculiar since the instrument still is played in the island of Nias, not far off the west coast of Sumatra.

SCHRÖDER records the *rere* from this island, and the Leiden Museum possesses some specimens that he collected in 1909 and 1911. Two of these, both registered as No. 1691/34, seem according to the catalogue to be from South Nias, another specimen No. 1798/65 possibly is from the central part of Nias. This specimen is much bigger than the two Nos. 1691/34 and not so well made as those, differing also in other respects. This makes it seem likely that it belongs to another part of Nias than the two Nos. 1691/34. The latter are comparatively small, very well made instruments of very hard yellow, glossy bamboo, which makes them rather different in appearance to the *rere* of the eastern part of the Archipelago. The construction, however, is the usual one as can be seen in the figures (Fig. 29).

The position of the stops as well as their shape seems to vary a little. The smallest of the specimens has a plaiting of rattan braced to the handle. The stops are triangular,

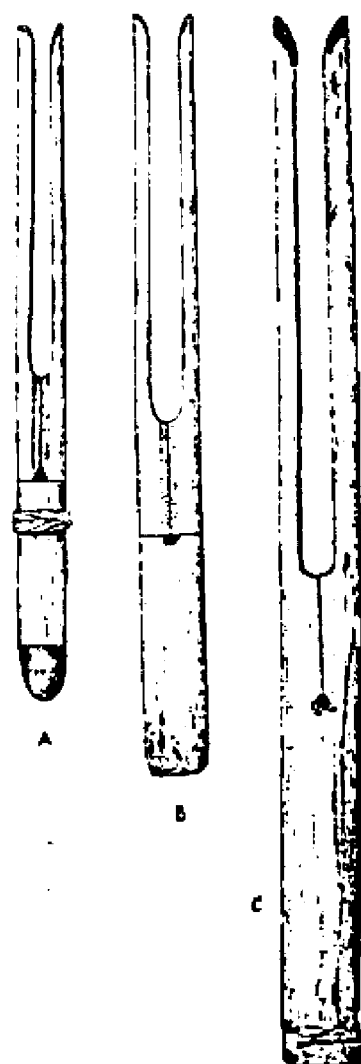
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<sup>1)</sup> The Director of the Leiden Museum Doctor H. Juynboll kindly supplied the following information. The name of this instrument is not *grinding* but *karinding*, Sundanese, and *rinding*, Javanese. There is a figure of the instrument in the catalogue of the Leiden Museum, Vol. XIII, third part, Plate III, Fig. 5. (The resemblance between the *kakonti* and the *karinding* I cannot discover.)

one point of the triangel facing the opening between the tongues. The stops of the next one in size are semi-circular. The big one has rudely cut holes. The ends of the tongues, that are somewhat pointed in all three specimens, are in the big specimen painted with black resin (Fig. 29 C).

In playing, these instruments, according to the catalogue, should not be struck upon the wrist of the left hand as is done by the natives of Celebes but upon the knee. This is rather interesting BALFOUR telling us that the Sakai of the Malay Peninsula, where he found this instrument, strike it upon the thigh. The Leiden catalogue has the following notes of the *rere* specimens from Nias: »No. 1691/34 Muziek-instrument (*doli-doli* N. N., *doeri* Z. N.). . . . . Bij het bespelen worden de tongen zacht tegen de knie geschlagen en geven het geluid als van een mondtrom, . . . . . Māliā mūlē. Zuid Nias. SCHRÖDER 1909». »No. 1798/65. . . . . vooreinden met haars besmeerd. Central? Nias. SCHRÖDER 1911».

It is strange that the *rere* is known from Nias and from the Malay Peninsula but from no intermediate localities. BALFOUR in 1904 in *Fasciculi Malayenses*, Anthropology Part II, describes two specimens from the Sakai of the interior of the Malay Peninsula (Fig. 30). The instruments, however, were constructed by a Malay who said that they were Sakai in design. BALFOUR writes as follows p. 14: »*Musical Clapper*. Malay name,



1: 4.

Fig. 29. *Rere* from Nias. A, B, from South Nias, C? Central Nias. (Leiden Mus. A No. 1691/34 B, No. 1691/34. C No. 1798 65.)

*genggong*<sup>1)</sup> Sakai. K. Jarum. Rhaman. Made from a cylinder of bamboo, fifteen and a quarter inches long, one and three-eighths inches wide. For half the length, two portions of the



bamboo are cut away, so as to leave two long and nearly flat vibrating tongues. On either side of the cylindrical part of the bamboo an elliptical hole is cut through, about four and a half inches from the end and at right angles to the plane of the two tongues. The bamboo between the holes and the bases of the tongues is split. The instrument is struck upon the thigh, the split edges being thus caused to jar together, and the two tongues to vibrate. The sound is modified by closing one or both lateral holes. This instrument was made by a Malay, who said that it was used by the *Orang Sakai* (i. e., *Semangs*) of the district, in conjunction with their rude stringed instruments and toy squirrels.»

• From this description it is evident that the instrument is identical with the *rere* of Celebes, the form and size perhaps mostly agreeing with the *rere* of Mongondou in North Celebes. To judge from BALFOUR's description the *rere* of the Malay Peninsula, like the *rere* of Mongondou, does not seem to have the proximal end of the cylinder made as a handle, which is the case in

Fig. 4.  
After BALFOUR.

Fig. 30. all other specimens from Celebes and from the Philippines. The Nias specimens agree with those of Mongondou and the Malay Peninsula, the outer layer of the cylinder not being pared off (Oxford Mus.) to indicate a handle. The two lateral stops of the Mongondou *rere* as well as that of the Malay Peninsula are rather roughly made elliptical holes, the long axis at right angles to the lateral slit. The propor-

<sup>1)</sup> According to BALFOUR the Malay name of the jew's-harp is *geng-gong*, thus *genggong Sakai* means «the jew's-harp of the Sakai».

tions of the tongues seem also to be the same in these instruments.

Considering the distribution of the *rere* throughout the Malay Archipelago such as we know it at present we can



Map 2. Geographical distribution of the *rere* in the Malayan region.

expect that it will be found at many more places in this region.

In different parts of the world we meet with percussion instruments of bamboo, resembling in some measure the above described *rere*. In these instruments, however, the bamboo is split into a great number of tongues or laths jarring

together when the instrument is played. Such instruments occur in Madagascar, in India, in the islands of the South Pacific, and elsewhere. I think it most correct to classify these instruments as a special type of percussion instruments, closely allied to the *rere*.

This seems also to be the opinion of SACHS who writes the following of the *rere* and the bamboo instruments with a great number of tongues (Musikinstr. Ind. u. Indon. p. 21): »Eine raffinierte Abart mag als Aufschlaggabel bezeichnet werden; das Bambussegment wird nicht fein zerspalten, sondern im grösseren Teil seiner Länge gabelartig ausgeschnitten.»

Having seen that the *rere* whatever its native name may be, or wherever we find it, in the Philippines, in the Soela Islands, in Celebes, in Nias, in the Malay Peninsula is quite uniform, only varying in details, we cannot attribute this fact to mere coincidence. There certainly must be a genetical connection between the instruments. Either our knowledge of the present distribution of the *rere* in the far East is imperfect, or the *rere* formerly had a much wider range throughout the Malay region than nowadays, the present places where it is found only being so to say relicts from an earlier period.

Whether the *rere* should be considered a real Malay instrument, or it should be attributed to a people older than the Malays we do not know. BALFOUR conjectures that it should be of Negrito origin. Therefore it would be of great interest to ascertain whether this instrument occurs among the most primitive tribes of the Malay Archipelago or not. It does not seem to be known by the Koeboe of Sumatra, at least HAGEN does not mention it when speaking of the musical instruments of this tribe. Nor have the SARASINS recorded it as an instrument used by the Toala, a primitive tribe living in South Celebes.

It would be of great interest to know whether the so

called To Pekawa in the mountains west of the Paloe Valley have this instrument, and if so what it is like.

Doctor KRUIJT has lately made researches among the To Pekawa, the result of which he published in »Tijdschrift Kon. Nederl. Aardrijksk. Gen.» 2e Ser. dl. XLIII, 1926, Afl. 4.

According to KRUIJT the To Pekawa are a genuine Toradja tribe, anthropologically as well as culturally, having nothing that would justify the presumption of their being a more primitive tribe than their neighbours.

I suppose doctor KRUIJT is quite right as to the To Pekawa that he visited, but I do not think he has seen all tribes living in the mountains west of the Paloe Valley, because I can hardly believe that a tribe, even if it is a small one, that existed in 1918, would altogether have disappeared in 1925.

KRUIJT presumes that I chiefly founded my opinion of the To Pekawa on the statements of the Dutch controller Mr. Wigman at Paloe. This is, however, not at all the case. Once I saw at Paloe about twenty natives called To Pekawa and said to come from the mountains west of the Valley, from which particular village or district was not mentioned. These natives were anthropologically so different to all Toradja, that they could not possibly be classified with them. Also for other reasons I am inclined to think that there are some remainders of a primitive population in these mountain districts, but I am coming back to this question in a following volume of this series.

At all events, the *rere* cannot claim to be a real Toradja instrument. Either the Toradja already used it when they spread over Central Celebes, or they got acquainted with it when they came in contact with the aborigines of the country, who possibly were of Negrito origin.

Noteworthy is the fact that the *rere* of the Malay Peninsula as well as the Mongondou one are of ruder make than those of other localities. This might indicate that the *rere* has kept a more primitive shape here, having at other places



developed into more perfect make. In Mongondou, however, this can hardly be the case. The rude make of it is here no doubt to be regarded as a kind of degeneration, the whole district having lost its native culture when embracing Mohammedanism.

In the following tables are given some measurements of the *rere* that I collected in Celebes as well as those of some instruments that I examined in some museums of the Continent.

No.	Locality	Total length cm.	Diam. cm.	Length of tongues cm.	Distal cylindric-part cm.	Handle cm.	Stops	
							Shape	Number
1031	Koelawi	61	3.7	41.3	8	11.7	triang.	2
1032	"	59.7	4.9	39.1	9.3	11.3	"	2
(26.9.348)								
1080	"	50.5	3.3	34	6.7	9.8	square	2+1
1030	"	50	3.3	35	6.3	13.7	triang.	2
1029	"	49.8	3.3	33.5	6.3	10	"	2
(26.9.349)								
1028	" "	48.5	3	31.3	6.3	10.7	"	2
(26.9.347)								
1033	"	47.3	3.2	30.3	8.6	8.4	"	2
1034	"	41	2.8	27.8	5.5	7.7	"	2
1367	"	40	2	23.5	7	7.5	"	2
(26.9.346)								
2220	Toro	68.5	5	45	11	12.5	"	2
1811	Kantewoe	57.5	4.5	39.7	9.3	8.5	"	2
1812	"	50.7	4	35	7.7	8	"	2
2194	Doda	43	3	26	7	10	"	2+1
2436	Taripa	60.6	3.5	39	9.2	12.4	"	2+1
2679	Lingketeng	62.5	3.5	43.5	10	9	round	2
2661	Mantok	59	3	41.5	8.7	8.6	"	2
2628	Kalibambang	52.3	2.4	35.8	16.5		"	2
611	Modajag	31.5	5.5	18.5	13		roundish	2
612	"	31	3.3	18	13		"	2
613	"	28	4	16.5	12		"	2
614	"	28	4.5	16	12		"	2
2642	Kalibambang	40.5	2.5	29	11.5		—	—

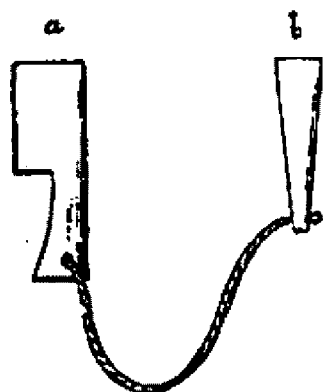
No.	Museum	Locality	Total length cm.	Diam.	Length of tongues cm.	Distal cylindric part cm.	Handle cm.	Stops	
								Shape	Num- ber
1691/34	Leiden	Nias	24	2	12.5	3.7	7.7	triang.	2
1691/34	"	"	27	2.3	14.5	4	8.5	semi-circular	2
1798/65	"	"	37.5	3	19.6	4.2	12.5	rounded	2
1926/575	"	Soela I <sup>a</sup>	55	3.1	40	4.5	15.4	hour-glass	2
13/73	Amsterdam	Soela I <sup>a</sup> Taliaboe	50	3.2	29.2	4.6	15.2	"	2
1900/97	Leiden	"	43	2.8	28	3.2	12	"	2
1900/97	"	"	63	3.5—4	37.5	6.3	17.2	irreg. square	2
11637	Dresden	Talaud I <sup>a</sup>	55.5	3.1	24.2	7	10.2	triang.	2
7151	"	Philippines.	45	3.2	26.7	6	11.2	rounded	1
1183/763	Leiden	" Luzon	42	2.7	22.5	5.2	12.4	"	1
1109/14	"	" Bontoe	52	2.5	25.5	15.8	10.5	elliptical	1
1770	Dresden	Celebes (? Lojnung)	56	2.9	25.3	7.5	8.7	round	2
12778	"	" Tongkean	43.7	2.7	27.5	6.3	9	"	2
37/363	Leiden	" Macassar	60.7	4.6	53.5	3.2	4.1	—	—
34/145	Amsterdam	" Toli Toli	63	4.2	42	9	11	triang.	2
91/46	"	" Koelawi	51.5	3.1	34.4	6.3	10	"	2
I C 38635 a	Berlin	" P'oera	57	2.9	38.1	7.7	10.5	"	2
I C 38635 b	"	"	58.9	3.2	40	7.4	10.5	triang. round	2+1
II C 656	Basel	" Boraoc	48.5	3.1	31.5	6	10	triang.	3
II C 527	"	" S. of Lake Poso	57.5	3.8	36	8	12	triang. round	2+1
	Oxford	Malay Pen.	38.7	3.5	—	—	—	elliptic.	—
	"	"	38.1	—	—	—	—	—	—

*Percussion plate.*

(Aufschlagplatten v. H. and S.)

Fig. 31.

In Celebes I never saw this kind of instrument, and strictly taken it seems to be unknown in this island. MATTHES, however, in his atlas figures an object (MATTHES's Figs 3 a



After MATTHES.

Fig. 31.

Percussion plate (a)  
with beater (b.)

and 3 b), that perhaps is a percussion plate. His dictionary says as follows of the instrument in question: »Fig. 3 a: *lagóeni*, soort van duivelverdrijver», and »fig. 3 b: een stuk ebbenhout om meê tegen de *lagóeni* te slaan.»

In Fig. 3, here Fig. 31, presumably is represented some kind of brass or iron plate, the narrow part of which is seized by the left hand of the performer who strikes the plate with a piece of wood.

This instrument I suppose to have been brought to Celebes from Asia over Java during the Hindoo period of this island, percussion plates being common in great parts of Southern and South-Eastern Asia.

*Bamboo cylinder serving as a drum.*

(Aufschlagröhre v. H. and S.)

Figs 32, 108.

I never saw among the Toradja of Central Celebes any bamboo cylinders serving as drums, or any dancing staves, nor do such instruments seem to occur in other parts of Celebes, except at one place, where I met with a specimen of the former kind that was introduced into the country lately.

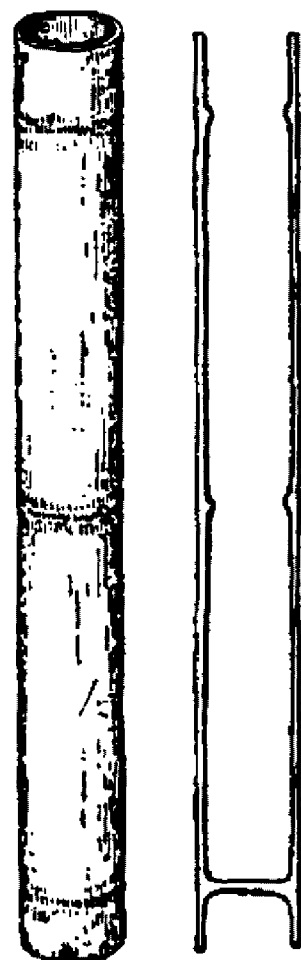
In books we find no records of any such bamboo cylinders from Celebes, and as far as I am aware there are no such instruments from Celebes in the European museums.

In the district of Lamala in the eastern part of North-East Celebes these instruments at present are used by the school bands. The chief instruments of these bands are bamboo flutes of different sizes, accompanied by three or four cylinders of bamboo. These are as a rule rather high, made of stout thick-walled bamboo, comprising two or three internodes. All nodes are removed but one constituting the bottom of the cylinder. The outer layer of the bamboo is peeled off. The drummer who often was shorter than his instrument (Fig. 108), seized it in playing with both hands pounding it in time upon the ground. The cylinders being of different length give different obtuse notes.

A bamboo cylinder No. 2646 that I obtained at the village of Kalibambang is 123 cm. high with a diameter of 14 cm.

This instrument the Ambonese schoolmasters had introduced into the country from their own island where they said it was commonly used.

The bamboo cylinder performing the service of a drum seems to be very scarce in the Malayan Islands. SACHS in his »Reallexikon der Musikinstrumente« does not mention it from any locality in these islands. It occurs in Malakka and other places. He says of its geographical distribution p. 356: »Nach einer frdl. Mitteilung des Herrn Dr. von Hornbostel konnten sie bisher in Malakka, Polynesien (Samoa, Tonga, Hawaii), Ostafrika und N. W. Brasilien festgestellt werden.



1:15

Fig. 32. Bamboo cylinder, pounded upon the ground, serving as a drum. Kalibambang North-East Celebes. (Kaudern coll. No. 2646.)

*Monotone bamboo gong.*

Fig. 33 B.

We could expect to find among the Toradja of Central Celebes the simple bamboo gong that is common to Java as well as to many other places in the Malay Archipelago. This is, however, not the case. KRUIJT when speaking of the musical instruments of the Poso Toradja, does not mention this gong, nor does he so when dealing with their signal drums. In the collections of the SARASINS no such gong from Central Celebes is found, and I myself never in this part of the island saw this kind of gong that generally is made of a joint of bamboo as thick as a man's arm with a longitudinal slot, suspended vertically and struck with a wooden striker (Fig. 33 B). On the coasts of Celebes it is rather common, being used by the night guards of the plantations who must strike their gongs every hour through the night.

MEYER and RICHTER figure such a bamboo gong from Tomohon in Minahassa in North Celebes (Fig. 33 B).

*Two or multitone bamboo gong.*

Fig. 33 A.

There is in Koelawi an instrument similar to the bamboo gong but not used for the same purpose. The instrument in question is about fifty centimeters long, made of two joints of rather stout bamboo. In each joint there is a longitudinal slot about two centimeters of width and nearly of the length of the joint. The nodes are not removed, and in two of my three specimens one of the outer nodes is perforated, the hole being rather big (Fig. 33 A).

In playing, the native takes the instrument in his left hand round the back of it just above the central node, using a striker of wood or a slip of rattan. On three sides the walls of the bamboo have been more or less pared, thus giving the instrument at least four notes. At the proximal end the wall to the left of the slot is not pared

off, consequently giving a rather high note when struck. On the opposite wall to the right, a space of about two centimeters in width is pared off along the joint, here giving a

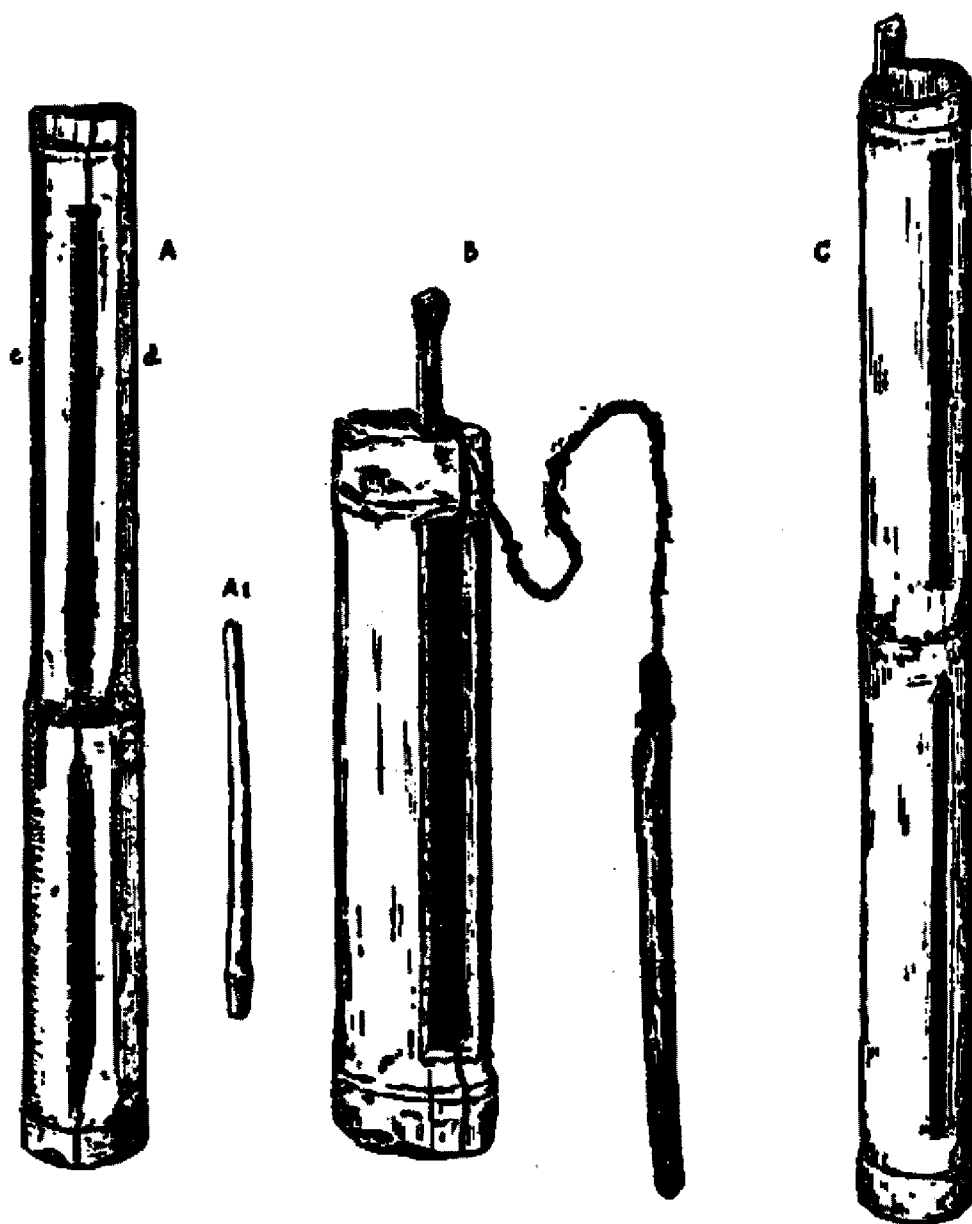


Fig. 33. *Bamboo gongs*. A from Koelawi, Central Celebes, B from Minahassa, North Celebes, C from East Java. (A Kaudern coll. No. 1191, B after Meyer and Richter Plate IV Fig. 1, C Col. Inst. Amsterdam No. H 678.)

somewhat lower note. The walls of the distal end of the instrument give still lower notes, the walls being thinner than those below. My specimen No. 1189 is simpler, having only two notes, one in the proximal joint, and another in

the distal part of the instrument, independant of whether you strike the left or the right side of it.

This double bamboo gong does not seem to be known among the Toradja in general, since neither KRUIJT, nor other authors, as far as I am aware, have mentioned it from any part of Celebes.

Possibly the multitone bamboo gong evolved from the common bamboo gong. At several places in the Malay Islands we meet an intermediate form, a gong consisting of a section of stout bamboo comprising two joints. The Colonial Institute of Amsterdam has two such specimens Nos. H678 A and B, both from Djember in East Java (Fig. 33 C). The native name of the instrument is *kentongan*, and it is used as a gong in a guard's hut. Evidently this kind of gong is not confined to the Malay region, the Ethnographical Museum of Gothenburg possessing a similar instrument from Central Africa. It is not excluded that such a simple instrument as this arose in different parts of the world, the similarity between the African and the Malay gong thus being a mere coincidence.

The occurrence of a double bamboo gong in Java may intimate that the double bamboo gong with thinned walls from Koelawi is derived from this gong, because no doubt several cultural elements from Java made their way from the south and the south-west of Celebes to the interior. If the double bamboo gong came that way we could expect to find it in the districts situated south and south-west of Koelawi. I myself have not seen any double bamboo gong in the districts near Koelawi, those further to the south and the south-west I have not visited.

This year, however, I met a Salvation Army missionary who has worked for the two last years in Kantewoe. This Mr. MIDTBÖ, a Norwegian, says the bamboo gong with thinned walls is common to Kantewoe. When I spent two months in Kantewoe, September and October in 1919, I never saw the instrument in question, according to MIDTBÖ owing to

the fact that it is only played when the paddy is ripe and the harvest-time approaching. This may mean that the drum is in some way intimately connected with the cultivation of paddy, perhaps especially the cultivation on artificially irrigated fields, a method that no doubt from Java was carried on to South Celebes from where it dispersed toward the north and the north-east. Of course this theory of the origin of the double bamboo gong at present is a mere conjecture that further researches in a richer material possibly would prove to be correct.

In the table below we find the measurements of the three instruments in question.

No.	Total length in cm.	Length of proxim. joint in cm.	Length of dist. joint in cm.	Circum- ference in cm.
1191	74	31	43	26
1189	72	32	40	23,7
1193	54	23,5	30,5	21

### *Xylophone.*

Fig. 34.

The xylophone that occurs in several forms in the Malayan Islands seems to be scarce in Celebes.

KRUIJT does not mention the xylophone among the musical instruments used by the Poso Toradja, and I myself never saw it neither among the Koro Toradja, nor among the Paloe Toradja in Central Celebes, nor among the natives of North-East Celebes.

From South Celebes, among the Toala east of Macassar the SARASINS in their »Reisen in Celebes» Vol. II p. 277 record a very primitive xylophone. They write as follows:



»... doch besitzen die Toála ein Musikinstrument, das beim Maispflanzen gespielt wird; es sind drei angekohlte und abgestimmte Holzbrettchen, welche über die Kniee gelegt und mit zwei Klöppeln geschlagen werden. Das Instrument heisst 'Gendanggendang';» (Fig. 34 A)

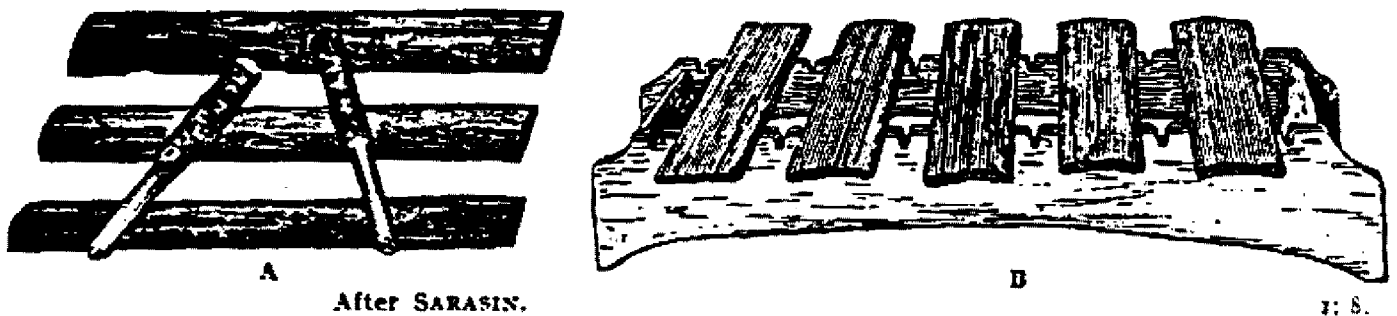
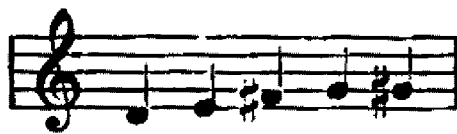


Fig. 34. Xylophones: A from the Toala, South Celebes, B from Bwool, North Celebes. (Kaudern coll. No. 362.)

At Bwool in North Celebes I met with a xylophone with five keys. The specimen in question consists of a wooden frame, making a kind of sounding box. On top of the frame are placed five rather broad keys of some dark palm wood, equal in length but of different thickness. They are struck with a short slip of wood. The range of notes obtained from this xylophone are given below.



Where did the xylophone of Bwool come from? That is a question almost impossible to answer satisfactory at present. We are reduced to mere conjecture.

Xylophones occur at many places in the Malayan Islands as well as in Eastern Asia, but none of these have five keys. Either they are more complicated, or they are of simpler construction as the Toala instrument.

According to SACHS the xylophone with five keys originally seems to occur in Sumatra. In »Die Musikinstr. Indiens u. Indon.« p. 26, he says of the evolution of the instrument in question: »Die ganze Entwicklung führt schliesslich

über die fünftönigen Batak-Instrumente zu den beiden höchststehenden Gruppen der hinterindischen und javanischen Trogxylophone.»

Possibly my Bwool xylophone is a stray specimen imported from Sumatra, directly or indirectly, but of course it may be that this rather primitive xylophone type formerly had a wider range in the Malayan Islands than at present, now being found only sporadically in this region.

### *Brass gongs.*

Beside the above mentioned idiophones we meet of course in Central Celebes several metal idiophones such as brass gongs, clapper-bells, and small globular pellet-bells, not originally belonging to the Toradja culture.

The gong seems to be rather rare, at least among the Toradja tribes living in the mountain districts. I have only seen two specimens, one in Lindoe, and one in Kantewoe. It seems, to judge from what KRUIJT tells us, as if the gong more frequently occurred among the Poso Toradja. When the missionary asked the natives for a drum to summon the children to school, they would not let him have it but offered a piece of hollow wood, or a brass gong, which makes me think gongs were not rare in this part of the country.

On the coast gongs are rather common, and in North as well as in South Celebes we rather often meet with them up the country. At the village of Modajag in Bolaang Mongondou I had no difficulty in buying for my collection two specimens, No. 185 measuring 39 cm. across, and No. 471 with a diameter of 31 cm.

Many a time the gongs are used in the native sail-boats. Their notes are believed to be able to call favourable wind. During my stay at Paleleh in 1917 the natives used to set sails at sun-set when the land-wind generally set in, either to go out fishing or to be off for some other village on the coast. Everybody would then beat his gong to get favourable

wind. When a great number of boats made toward the sea at the same time there was a regular chime of gongs from the Paleleh Bay.

At the village of Tamboenan in the district of Lojnang the natives at my visit beat a big gong to accompany a dance that was performed in my honour to welcome me.

The gong evidently is no native instrument of Celebes. No doubt it first came from Java to south Celebes from where it dispersed along the coasts with the Orang Bugis.

Here and there we find in Celebes whole sets of gongs, presumably imported in connection with the Javanese *gamelan* orchestra. At present the great industries, gold, coffee, copra, occupying a great number of Javanese coolies as a rule possess a *gamelan*.

### Rattling Idiophones.

(Schüttelidiophonen v. H. and S.)

#### *Clapper-bells.*

Figs 35—37.

This kind of bell seems to be rather common among the Toradja of Central Celebes, and they may also be found among other native tribes in this part of Celebes. MEYER and RICHTER figure a clapper-bell from North Celebes, which is attached to a bracelet. I have no more references from Celebes. In the north-eastern part of the island I never saw any bells with a clapper.

MEYER and RICHTER are of the opinion that the bell from North Celebes is of Chinese origin. The bells of this kind that I have collected in Central Celebes presumably are of native make although the model and the method are of foreign origin.

According to KRUIJT (p. 350, Vol. II of *De Bare'e-sprekende Toradja's*) almost every Bare-e speaking tribe knew how to make brass objects, and at certain places the

natives were especially skilful brass founders. This was also the case of the To Mori, the natives living east of the Poso Toradja. KRUJIT's statement that the To Koelawi are skilled brass founders is no doubt a mistake. According to

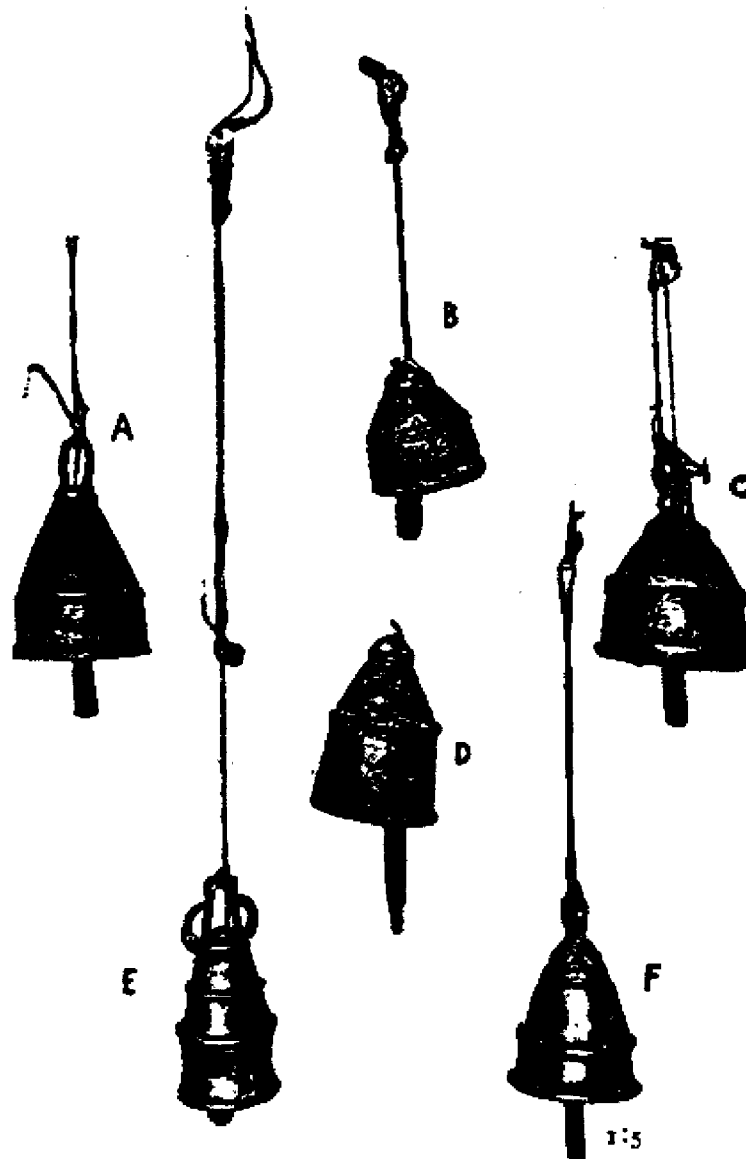


Fig. 35. Clapper-bells from Central Celebes. A and E from Koelawi (Behoa), F from Siwongi, B, C, D from Taripa. (A Kaudern coll. No. 1556; B id. No. 2431 (26. 9. 477); C id. No. 2429 (26. 9. 476); D id. No. 2430; E id. No. 1463; F id. No. 2047.)

these natives they have never, strictly speaking, made brass objects themselves. Some time before I came to Koelawi a native died who was said to know how to make very plain brass objects, but he had learnt his art from the To Tole, a tribe living in the high mountains further to the south-west

on the Koro River. This tribe was known all over the mountain districts of the north-western part of Central Celebes as clever brass founders. In Koelawi often a To Tole was called in to cast pellet-bells and other brass objects. In Tole, however, the art of brass founding had declined in the course of time according to the natives.

In Central Celebes I acquired six clapper-bells. Of these No. 1556 is from Koelawi (Fig. 35 A), No. 2047 from Siwongi in Tobakoe (Fig. 35 F), No. 1463 is bought in Koelawi but was said to have come from Behoa (Fig. 35 E), Nos. 2429, 2430, and 2431 from Taripa in Ondae (Figs 35 B, C, D). Thus two specimens came from the Paloe Toradja, one from the Koro Toradja, and three from the Poso Toradja.

Without any difficulty I bought the bells in Ondae where they evidently were much more common than in Koelawi and adjacent districts, presumably owing to the fact that these bells are differently used in the east and in the west.

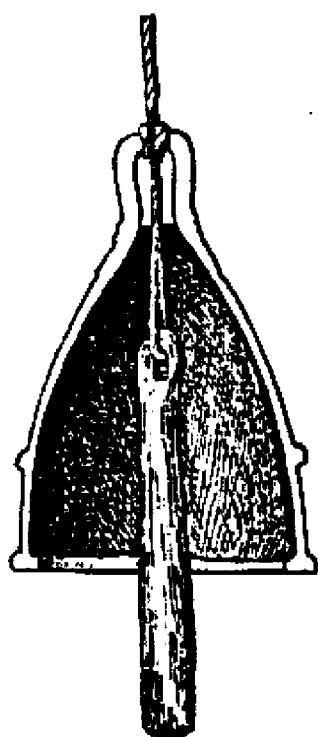


Fig. 36. 1:2.  
Longitudinal section  
of clapper-bell from  
Central Celebes  
(Siwongi).  
(Kaudern coll. No.  
2047.)

These bells at present form an indispensable part of the dress of certain persons, or on certain occasions. In Koelawi for instance, a priest always wears a bell suspended from his belt while executing his office. According to the statements of the natives, as a rule only a priest should carry these bells.

KRUIJT says that in the eastern part of Central Celebes the warriors used to have a bell suspended from the sword when they went out head hunting.

All clapper-bells are much the same in form as well as in size. They are either hive-shaped (Figs. 35, 36) or conical with a hole in the top. The mouth is fitted with a flange. In most bells there is another flange at some distance from

the mouth. Some specimens have even two such flanges (Fig. 35 E). Round the top hole there is either a small flange or some other kind of ornament. In the Behoa bell two horns stand out from the top of the bell (Fig. 35 E). There is a hoop for a suspending string to which is attached a long clapper of brass or iron.

We do not know for certain at what time, or from where the Toradja learnt the use of bells. Originally the bells were imported, and later the natives learnt to melt down imported brass objects to make bells themselves.

It may be that the metal bells came from Java during the Hindoo period of that island, the bells being of rather great importance to the Buddha priests.

The shape of the Toradja bells seems to be similar to certain bells in India, Sachs writing on page 41 of »Die Musikinstr. Indiens u. Indonesiens: »Grosse, frei in einem niedrigen Galgen aufgehängte Glocken kommen bis Birma herüber vor..... Sie ähneln unsern Kirchenglocken, sind aber schlanker, geradliniger, bienenkorbformiger und in der Regel reicher reliefiert; einen befestigten Klöppel haben auch sie nicht.»

There is also the possibility that they came from China, the Chinese already several centuries ago having had commercial intercourse with Central Celebes, especially with the south-western part on the coast of the Macassar Strait, of which intercourse the enormous quantity of old Chinese ware still found among the natives bears witness. This Chinese ware may be up to 500 or 600 years old.

Presumably only a careful investigation in Celebes itself would enable us to solve the question of the origin of the bells.

Beside the rather big clapper-bells I got in Koelawi a little plain bell No. 1592 (Fig. 37), which instead of the usual

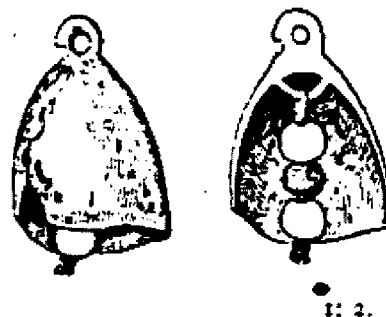


Fig. 37. Bell from Koelawi. As a clapper serves a string of beads. (Käudern coll. No. 1592.)

clapper has a string with two white beads and one blue bead. The top of this bell is not perforated, the clapper here depending from a loop inside the bell. The bell is laterally flattened, and the mouth is a little damaged, perhaps owing to abortive founding.

This bell was tied round the wrist of a little child, presumably to protect it against evil minded spirits. From where it had come, the natives did not know, but they were quite positive that it was manufactured neither in Koelawi nor in Tole. No doubt it is imported from some other country, the plain surface of the bell indicating a workmanship quite different to the one that is commonly met with in Central Celebes.

*Pellet-bells.*

Figs 38—42.

In Central Celebes small, more or less globular bells are very common. They contain either a tiny pebble, or a small piece of metal. The name of these bells is according to KRUJIT in Bare-e *bangkoela*. In Koelawi they are called *tiwoloe* (Fig. 38).

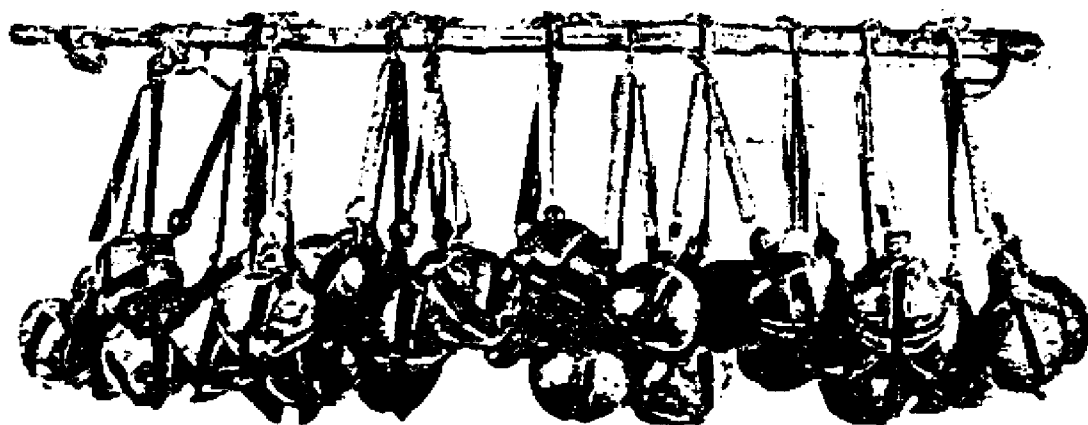


Fig. 38. *Tiwoloe tiwoloe*, set of pellet-bells used by Koelawi girls.  
(Kaudern coll. No. 1590.)

There is so great a variety of size and form in these bells that it is almost impossible to trace the origin of the different

types found in a district. Many of them must have been brought from far off places. In Koelawi the majority of the bells were manufactured by some To Tole, but there were also bells from Behoa and from the coast.

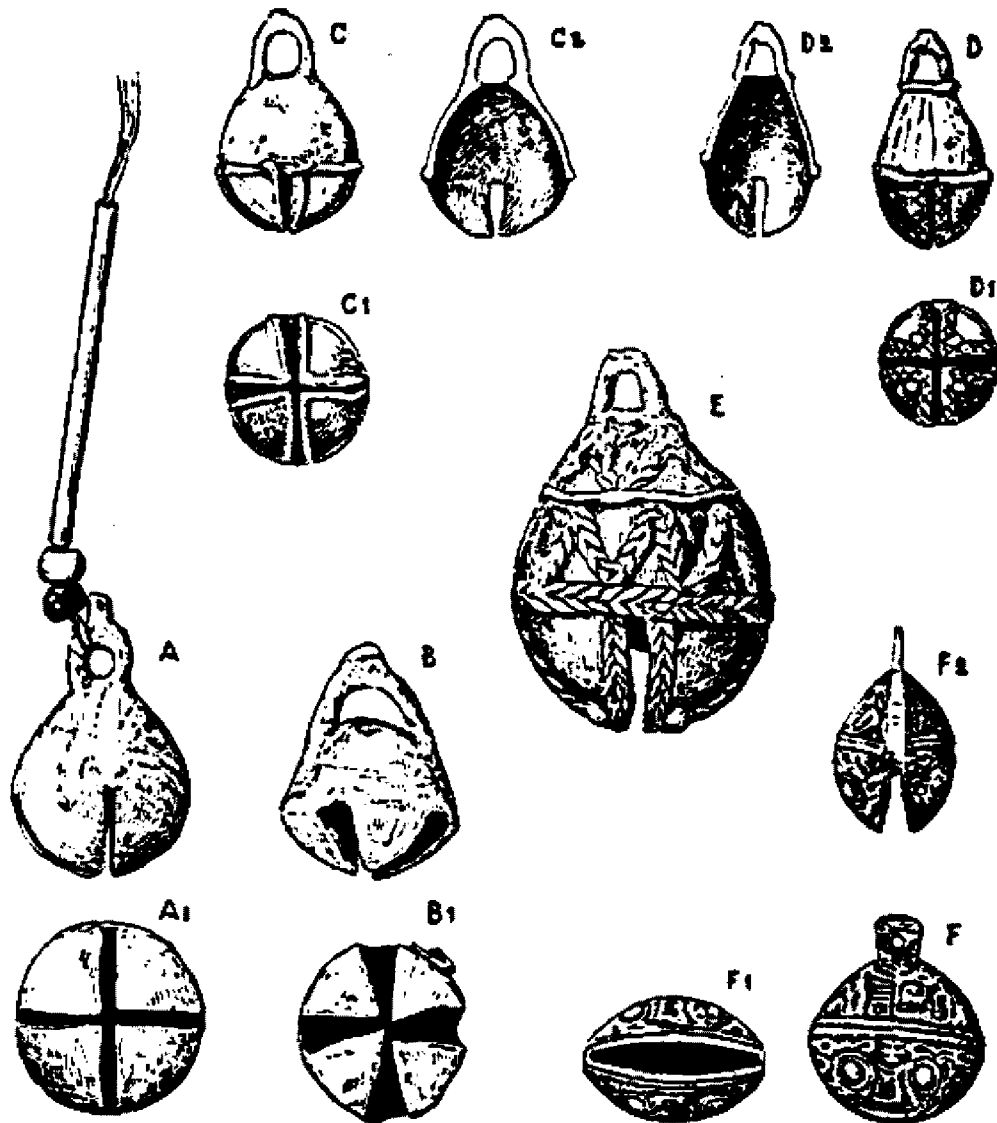


Fig. 39. Pellet-bells. A—E from Koelawi; F from Kantewoe. 1:2.  
(A Kaudern coll. No. 1545 [26. 9. 86]; B id. No. 1525; C id. No. 1074; D id. No. 1104 [26. 9. 91]; E id. No. 999; F id. No. 1636 [26. 9. 171].)

The common pellet-bell in Koelawi (Fig. 39 A) is slightly pear-shaped with a cross-shaped slot opposite to the hoop, the size of which varies. The hole of the hoop is almost circular and rather small. These bells, the surface of which is rather rough, are never adorned with ornaments. When used for a long time and having been repeatedly polished with fine sand, the surface becomes smooth and bright.



Beside this kind of pellet-bell I got in Koelawi two bells Nos. 1525 and 1544 that, although of the same size and lacking ornaments just as the bells described above, no doubt represent a different type. The four lobes forming the lower part of the bell are pressed together, giving the opening between them the shape of the cross of St. George (Fig. 39 B<sup>1</sup>). The hoop of this bell is too big to be in good proportion.

From Koelawi I have also two comparatively small bells, No. 1074, strung together with a string of beads (Fig. 39 C). They measure only 25 and 27 mm. The top is perforated in these bells, and the cross-shaped slot bordered by a low flange. Round the middle of the bell there is a similar flange.

In Koelawi also were acquired two bells Nos. 1104 and 999 which were said to have come from Behoa south-east of Koelawi.

No. 1104 is a small elongated bell (Fig. 39 D) similar to No. 1074, but round the basis of the hoop there is in this bell a second flange like the one round the middle. The flanges round the cross-shaped slot are here broad with a design of oblique squares. On each lobe there is near the point a little ball-shaped knob. The top of the bell is perforated.

No. 999, a rather big bell, is similar to No. 1104 but more richely and carefully ornamented than No. 1104 (Fig. 39 E). The diameter is 46 mm., the height to the small hoop 55 mm.

Finally there are in my collection three bells Nos. 1002, 1103 from Koelawi, and 1636 (26. 9. 171) from Kantewoe, which were said to be from the coast. Whether they were of Chinese or of Bugis origin the natives could not tell.

Nos. 1002 and 1636 are a little bigger than No. 1103, their ornaments coming out better than those of No. 1103. These bells are laterally flattened with a square hoop, perforated for a suspending string. Below there is a rather broad

slot, possibly meant to represent the mouth of an animal, two knobs on either side, surrounded by rings, looking like two eyes (Fig. 39 F).

In Kantewoe were obtained six bells. Nos. 1634, 1669, 1893 a, and 2332 are plain bells without ornaments. The biggest one, No. 1634, resembles the plain bell from Koelawi,

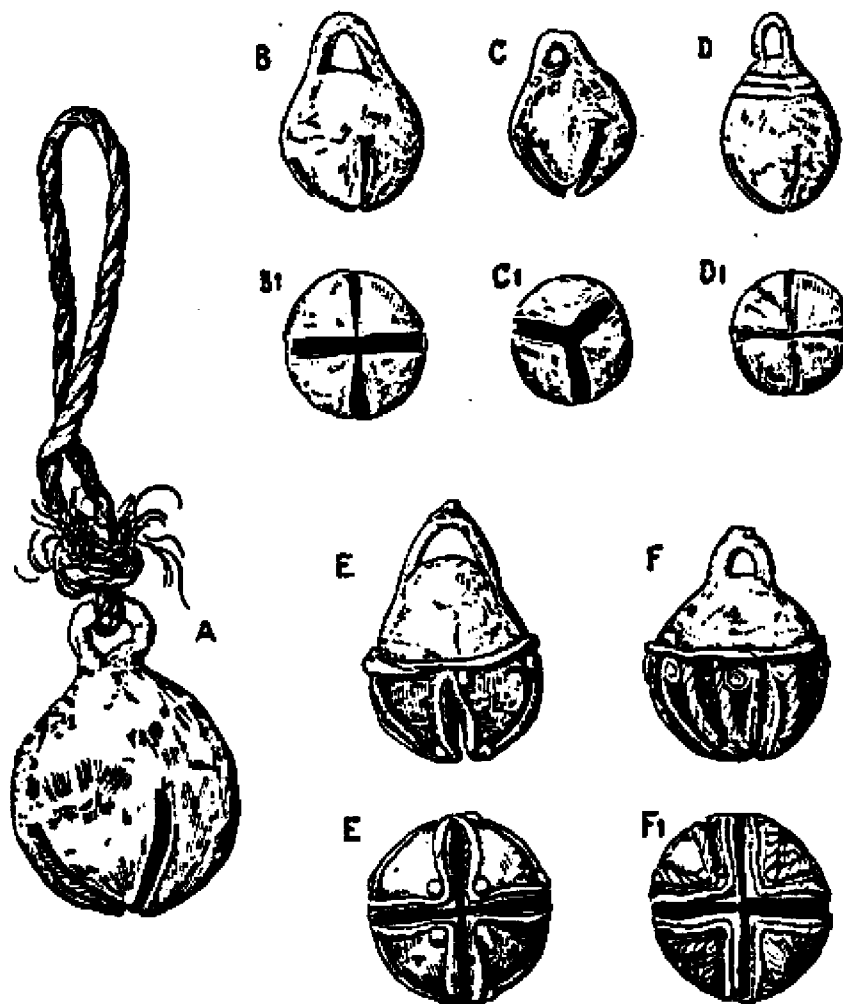
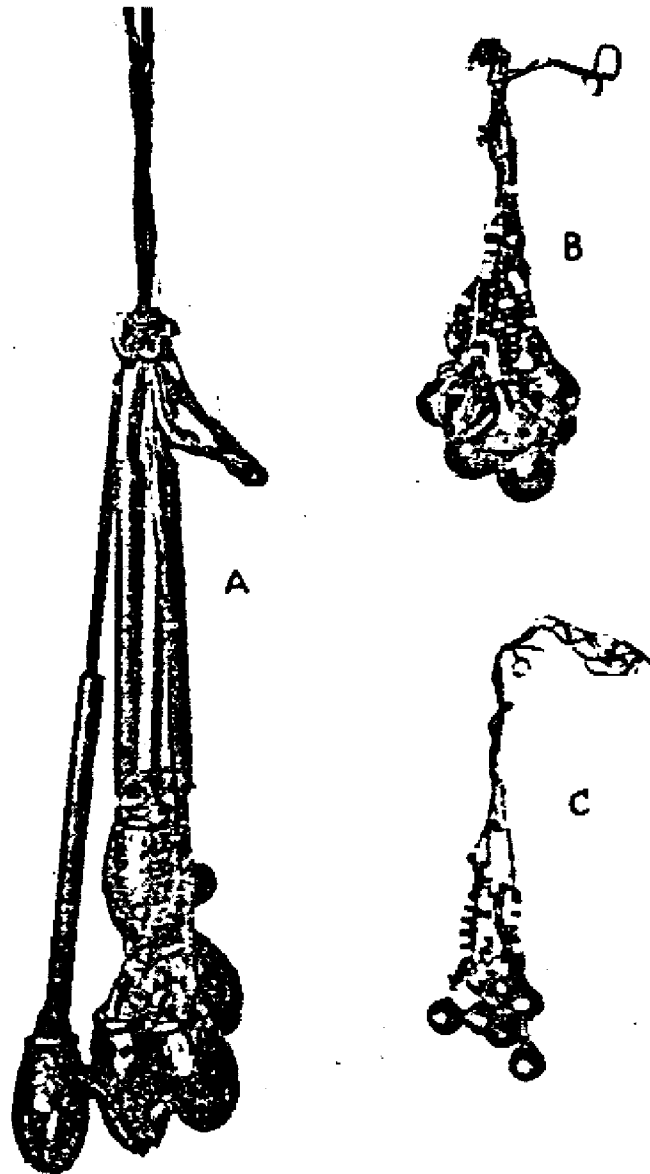


Fig. 40. Pellet-bells from Kantewoe. 1: 1.  
(A Kaudern coll. No. 1634; B id. No. 1669; C id. No. 1893 a; D id. No. 2332; E id. No. 1635; F id. No. 1890 a.)

but the hoop is almost round (Fig. 40 A). The bell measures 41 mm. across and 49 mm. from the hoop to the cross-shaped slot. No. 1669 still more corresponds to a plain Koelawi bell but is much smaller. The hoop is comparatively big in this specimen, that has a diameter of 27 mm. and a height of 26 mm. not counting the hoop. There is an irregular

hole in the top owing to abortive founding (Fig. 40 B). No. 1893 a is a small bell with a diameter of 23 mm. and a height of 23 mm. to the hoop. The surface of this bell is smooth and the lobes are here only three instead of four (Fig. 40 C).



1:3.

Fig. 41. Bunches of pellet-bells from Ondae.  
(A. Kaudern coll. No. 2521; B id. No. 2432; C id. No. 2433 [26. 9. 475].)

No. 2332 is more egg-shaped with a cross-shaped slot. The hoop is rather high, its base surrounded by three parallel engraved rings (Fig. 40 D). The diameter is 22 mm., the height 27 mm.

Nos. 1635 and 1890 a resemble one another but for the ornaments as will be seen in Figs 40 E and 40 F. They have

a diameter of respectively 32 and 33 mm., and a height of 36 and 34 mm. from the slot to the hoop. These bells were said to be of Tole make.

It seems rather doubtful whether such bells as these described above occur among the Poso Toradja in the eastern part of Central Celebes. KRUIJT figures a pellet-bell from this part of the island, but it seems to be quite a small bell with a big hoop and a slit-like opening below. There is, however, no scale given in KRUIJT's figure.

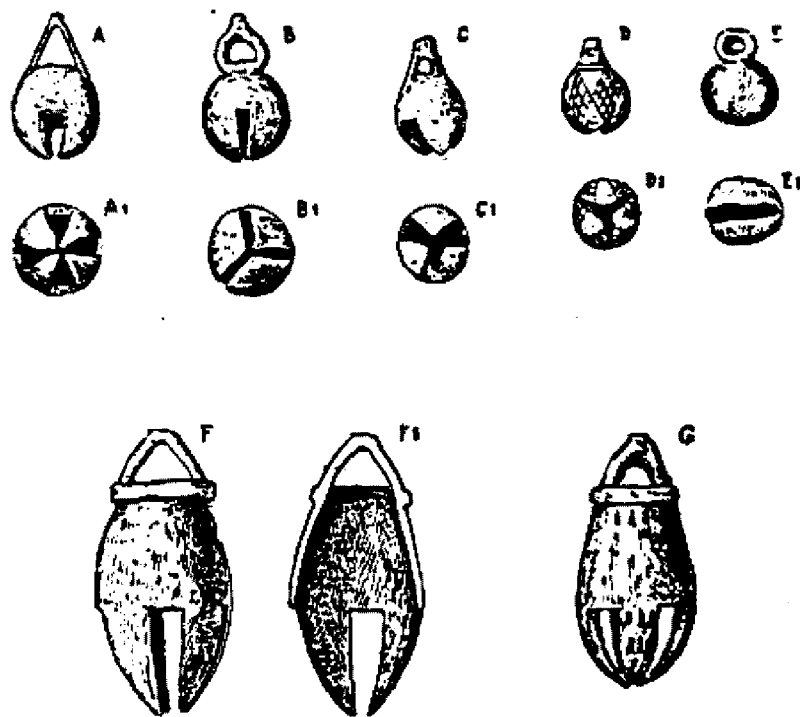


Fig. 42. Small pellet-bells. 1:2.  
A—E from bunch B in Fig. 41; F—G from bunch A in the same figure.

MEYER and RICHTER figure a couple of rather small bells with a three pointed star slot from the tracts near Lake Matano, as well as a somewhat bigger bell with cross-shaped slot surrounded by some small ornaments. This bell resembles to a certain extent the bells from the north-western part of Central Celebes.

From the Poso Toradja there are in my collection three bunches of bells, Nos. 2432, 2433, and 2521, acquired in Ondae (Fig. 41). The bunch No. 2432 (Fig. 42 A—E) con-

tains eight small almost globular bells, each bell with a suspending string of beads. There are five different kinds of bells in this bunch, four bells being of the same kind, the other four representing four different patterns.

The four similar bells have a diameter and a height of about 16 mm. The slot has the shape of the cross of St. George, the hoop is a big triangle (Fig. 42 A).

Another bell is similar to these four bells although smaller, the diameter and the height being only 13 mm. The angle of the lobes is obtuse, making a rather wide opening at the bottom of the bell (Fig. 42 C). The hoop is a bulky knob perforated by a hole. Another similar bell is of better make, ornamented with engraved lines crossing one another (Fig. 42 D). It has three, pointed lobes, the diameter is 12 mm., the height 11,5 mm.

The remaining two bells (Fig. 42 B, E) resemble the bell figured by KRUIJT. Contrary to the six already described, their surface is smooth. The hoop is big, nearly circular. The smaller of these two specimens has a slit-like opening, the bigger specimen has the lower part divided in three lobes. They measure respectively 14 and 17 mm. across, with a height of 13,5 and 17 mm.

The bunch No. 2433 contains seven very small bells with suspending bead strings. These bells no doubt are manufactured articles bought on the coast. The same kind of bells are often used in the bead-necklaces worn by the natives in the north-western part of Central Celebes. They are made of pressed sheet brass and have a slot at the bottom.

No. 2521 is a bunch of five comparatively big bells. The suspending bead string is here replaced by a strip of cotton cloth. All five strips are passed through a small bamboo tube, 8,5 cm. in length (Figs 41 A, 42 F, G). These bells are different from those of the bunches described above. They are almost alike but for one bell, that is bigger than the rest and lacks ornament. They are elongated, with a

flat perforated top and a hoop with a big hole (Figs 42 F, G). The distal end is pointed with a cross-shaped slot. The narrow lobes of the small bell are ornamented with rows of engraved triangles. Round the upper part of the bell there is a row of similar triangles (Fig. 42 G).

The use of bells seems to be somewhat different with different Toradja tribes. According to KRUIJT bells are used only to attract attention. He writes in »De Bare'e-Sprekende Toradja's» Vol. II, p. 228: »Sommige mannen, vooral jonge lieden, dragen een klokje van koper aan hun zwaard, *bangkoela* en *dio-dio* genaamd. Zij dragen dit om het middel, zoodat het onder het loopen tegen de beenen slingert en daardoor voortdurend klingelt. *Men doet dit alleen om de aandacht op zich te vestigen.*<sup>1)</sup>

My experience of the use of the bells in the north-western part of Central Celebes is that they had quite another task to fulfill. The statement of the natives in Ondae that only the warriors going out head hunting were permitted to carry these bells makes it likely that the mission of the bells was not to attract the attention of other people. The bunch No. 2521 was said to have been attached to the sword of a warrior, whether attached to the hilt, or to the sheath I could not ascertain, but most likely the bells depended from the hilt. The other two bunches had adorned the pointed crown of a woman's hat.

In the north-western part of Central Celebes it is quite different.

The globular bells seem chiefly to be used by women. This is at least the custom of Koelawi. In Kantewoe also as a rule only women wear these bells, but sometimes you may see a child having a pellet-bell tied round the neck or the wrist.

In Koelawi the bells generally are used in two different manners. Sometimes we see a couple of them suspended from the collar of a certain kind of blouse, a custom originally

<sup>1)</sup> The italics are mine.

characteristic of the Koro Toradja, the bells only being used with blouses of the type common to the Koro Toradja. With a genuine Koelawi blouse no bells are ever worn.

In Koelawi it is also customary to make bunches of three bells. A great number of these bunches, making perhaps thirty or forty bells, depend from a wooden lath. This arrangement, called *tiwoloe tiwoloe* (Fig. 38) is tied round the waist, the bells appearing at the back just below the edge of the blouse. Only young girls are allowed to wear such a decoration at certain religious feasts. I only saw it at the feast called *woentja*, celebrated when the natives were to begin preparing their fields for the following planting of the paddy. In dancing, all young girls wore a *tiwoloe tiwoloe* jingling every time they made a courtesy.

The bells may serve different purposes, but no doubt they as a rule in some way or other are associated with the natives' belief in spirits.

In some cases the bells are used in immediate connection with magical performances. The bells No. 1634 and 1635 were used by a *to balia*, priest, in curing a sick person. The *to balia*, in my case a woman, rang the bell holding it over the head of the person that was to be cured, in order to call the spirits. Further information than this I could not get from the natives.

At a native funeral at Kantewoe that I attended, the women standing by the road side where the funeral procession passed, rang the bells that were depending from the collar of their blouse, or they rattled with their brass bracelets in order to protect themselves against the spirit of the dead man.

The bells tied round the neck or the wrist of small children were believed to protect the bearer.

It is also to be noticed that the native girls were allowed to wear the *tiwoloe tiwoloe* only at the above mentioned religious feast.

Thus everything makes it likely that clapper-bells as well as pellet-bells, at least in the north-western part of

Central Celebes, are not in the first place adornments. Their mission no doubt has something to do with the spirits. The same seems to be the case in North Celebes, MEYER and RICHTER on p. 25 b writing the following of the purpose for which the bells are used in this part of the island: »Der Zweck der Gehänge ist ohne weiteres klar; es handelt sich um Rasseln, einmal vom Krieger gebraucht, um den Feind zu schrecken, dann vom Priester, der böse Geister verscheuchen will.»

It seems to be a matter of fact that clapper-bells and pellet-bells were used at least in Mongondou and Minahassa in a similar manner as in the north-western part of Central Celebes, MEYER and RICHTER figuring a bracelet from Roeroekan from which depend four small pellet-bells and one clapper-bell. The bracelet belonged to a priest, a so called *walian*.

MEYER and RICHTER also mention a couple of similar objects Nos. 12653 and 10305 in the Dresden Museum, both from Bantik near Menado.

When I stayed in Mongondou and other parts of North Celebes in 1917—1918 I never saw any bells at all, which may be taken to indicate that bells are out of use at present in the northern part of Celebes.

In North-East Celebes I did not meet with any bells, neither in Lojnang in the mountains of the interior, nor in Lamala on the coast. Nor did I see any bells in the Banggai Archipelago, nor in the island of Boeton, but I suppose that a close investigation at the place would prove that bells formerly had a much wider range in Celebes than nowadays.

Properly neither the clapper-bells, nor the pellet-bells are native of Celebes, but it is difficult to make out for certain from where the use of bells has come to Celebes.

As to the clapper-bells I suggested above that they came to Celebes from India over Java as well as that they may be of Chinese origin. The latter seems to be the case of the



clapper-bell of the Roeroekan bracelet figured by MEYER and RICHTER. This bell is quite different in shape to the bells from Central Celebes, and its ornaments are Chinese letters.

The case of the pellet-bells no doubt is the same as of the clapper-bells. It cannot be doubted that they have not all of them the same origin, even if most of them are manufactured in Celebes. Such bells as No. 1636 with Chinese letters evidently are imported in later times (Fig. 39 F).

Wherever the model of the bells may have come from, the use of bells must be old in Celebes since many tribes have learnt to found bells themselves and some tribes even have acquired a high degree of skilfulness in the art of founding. This is for instance the case of the Koro Toradja who surpass the Paloe as well as the Poso Toradja in making as well as in ornamenting bells, being an expression of the artistical disposition of these natives.

*Ring-shaped bell.*

Fig. 43.

In North Celebes we meet with a special kind of pellet-bell attached to the old beautifully ornamented spears. MEYER and RICHTER record this bell from Mongondou, and I myself obtained in 1917 in the village of Modajag a number of spears with bells.

These brass bells (Fig. 43) have the shape of two small bowls, the brims of which are joined with two to four short narrow bridges, the usual number of which are three. The center is pierced by a cylinder holding the shaft of the spear. The bell is attached to the spears by means of a ferrul or a string, one end of which is knotted to the shaft above the bell, the other end below it, running outside the bell. It contains a pellet that rattles when the spear is shaken.

At great feasts the men used to dance, holding these big spears horizontally, now and then shaking them so as

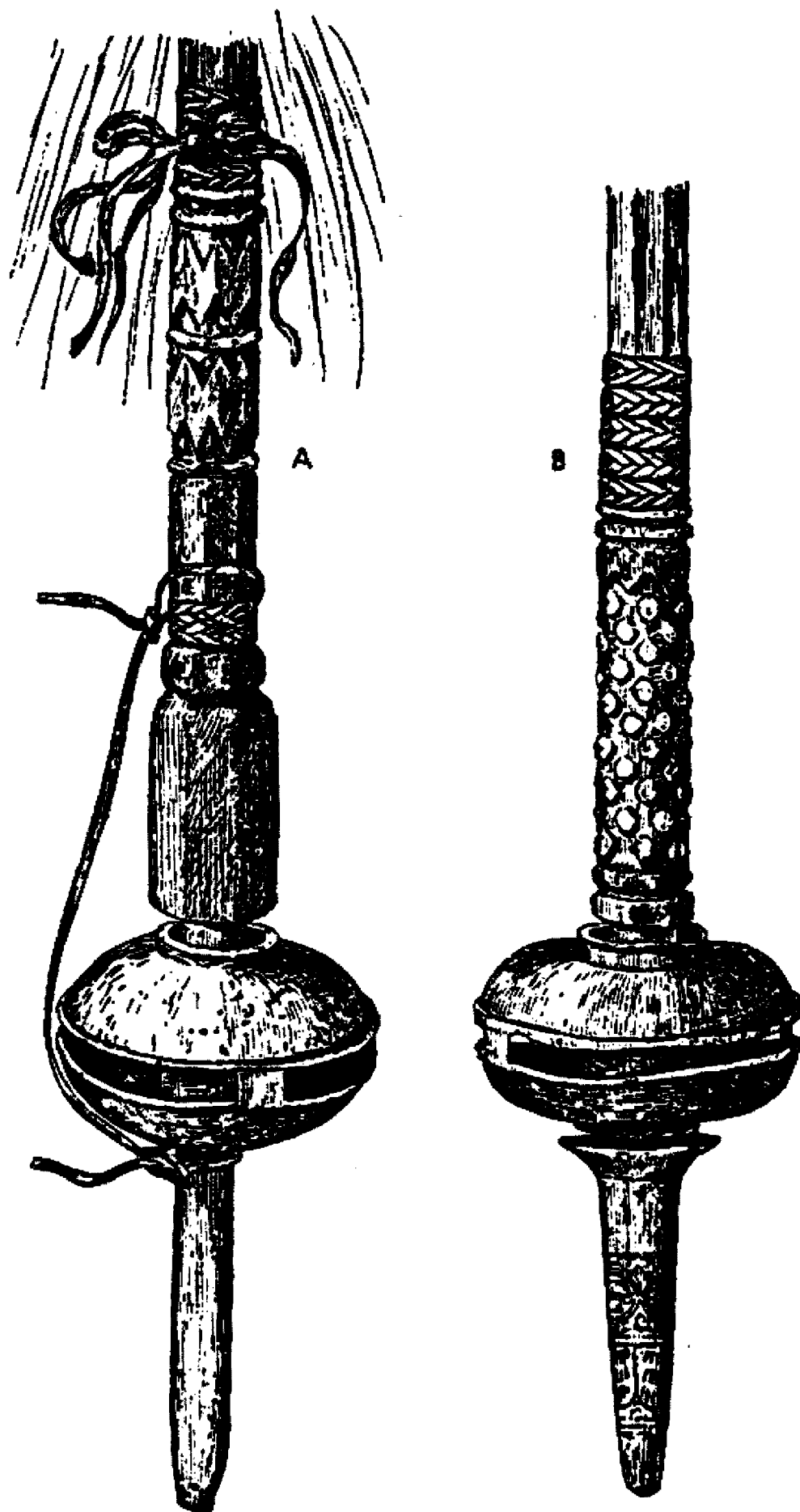


Fig. 43. Pellet-bells with a central cylinder, attached to old Mongondou spears, in A by means of a string, in B by means of a ferrule.  
 (A Kaudern coll. No. 540; B id. No. 432.)

to make the bells sound. No doubt the effect of these bells when a great many warriors were dancing, was considerable. An old Mongondou man called Sikona showed me how the dance was performed in olden times.

I do not know of such a bell as this from any other part of Celebes, and no doubt its origin is another than that of the pellet-bells so common in Central Celebes.

Some old Mongondou natives told me that originally the spears were not fitted with a brass bell but with the skull of a beaten enemy, the spear being passed right through the skull from foramen magnum to an opening made in the parietals. I have no special reason to doubt these statements, the natives of Mongondou having been head hunters not so very long ago. I was told that as late as in 1915 a head was taken somewhere between the gold-mine of Goeroepahi and Modajag.

Possibly the present bell may be an imitation of the skulls originally adorning the spears, but if so this must have happened very long ago, since the brass bell does not show any striking likeness with a human skull.

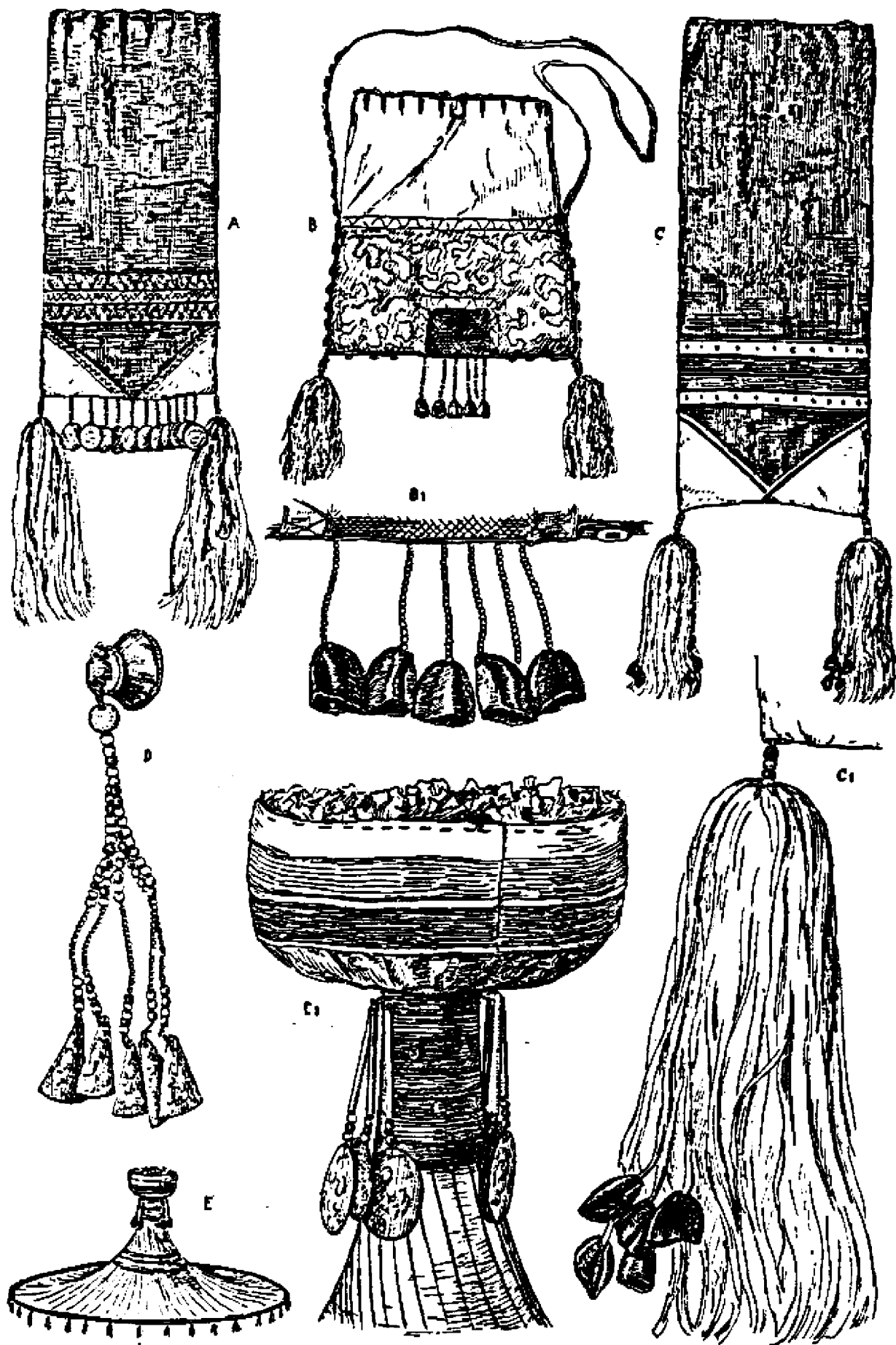
### *Rattling strings.*

Figs 44—47.

As a kind of primitive idiophone must be reckoned various objects applied so as to clap or rattle when moved in some manner or other.

Strange to say the Toradja as a rule hardly seem to know the use of shells of seeds, or fruits, hoofs, and other similar hollow objects to produce a rattling sound.

In my collection from Central Celebes there are very few objects decorated in this manner. The lower edge of a betle bag, *batoetoe*, is adorned with a row of big shells, suspended from short strings of beads (Fig. 44 B). At the slightest motion these shells rattle. This *batoetoe*, however, is not of a type common to the country. In Koelawi where I got



A, B, C 1:6; E 1:16; B<sup>1</sup>, C<sup>1</sup>, C, D, E<sup>1</sup> 1:2.

Fig. 44. A, C Beetle bags, *latotloe*, from Kantewoe; B beetle bag from Koelawi; D cardrop from Onoe in Tole; E woman's hat from Koelawi. (A Kaudern coll. No. 1412; B id. No. 2295; C id. No. 1650; D id. No. 1717; E id. 2319.)

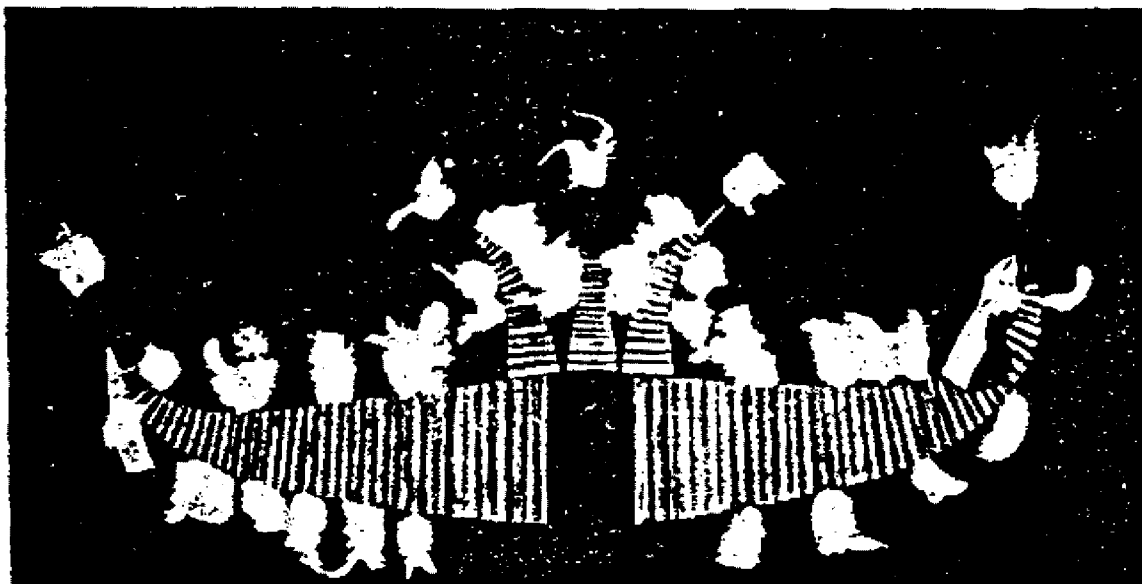


Fig. 45.

1: 10.

Head-gear for boys, used when they chase the buffalos round and round in the fields in order to prepare them for planting paddy. Inside there are some loose rattling pegs. Koelawi. See Fig. 46.  
(Kaudern coll. No. 2192.)

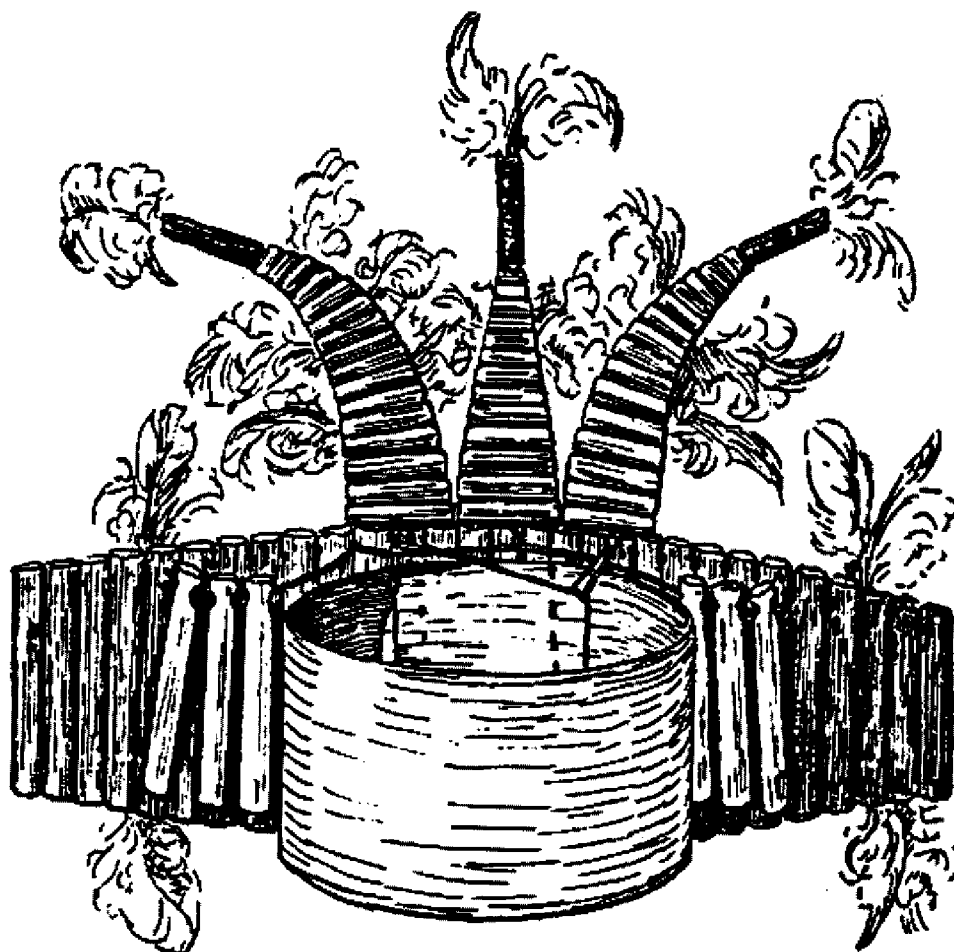


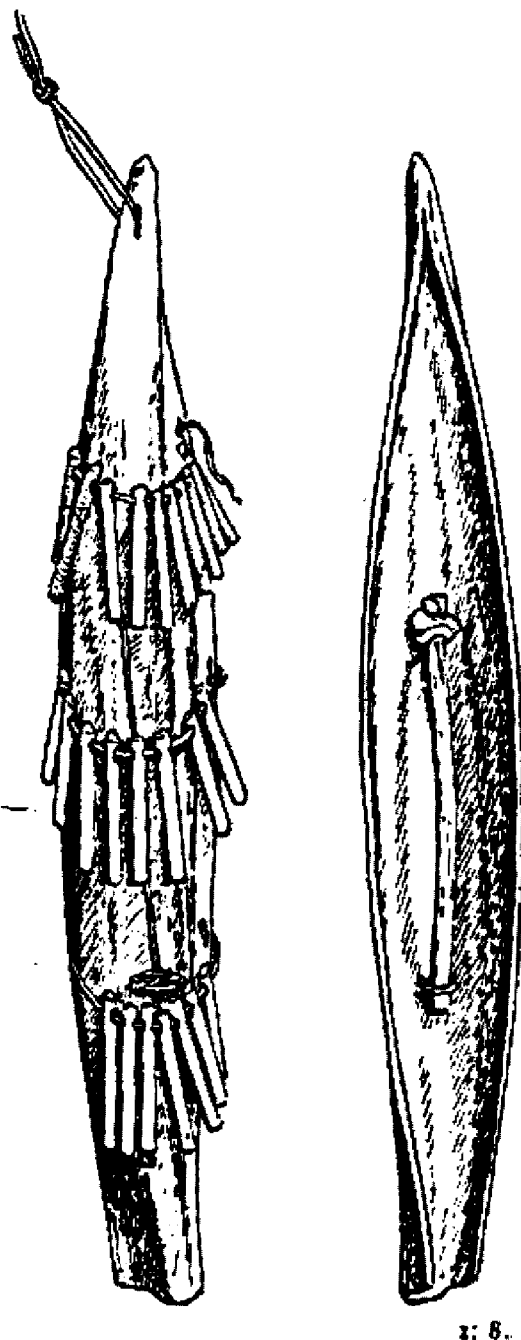
Fig. 46.

1: 5.

Head-gear with rattling pegs. Inside. Compare Fig. 45.

it, the natives said it was from »Kaseloa«, which turned out to mean not a village as I first imagined but »the West«, i. e. the coast on the Macassar Strait. Among a great number of *batoetoe* procured in Kantewoe there is only one bag the big tassels of which are adorned with some shells (Fig. 44 C). Thus it almost seems as if the Toradja did not use those rattling shells etc., common to so many other peoples in different parts of the world. Possibly in olden times they did so, but if so this method is nowadays replaced by a new one. It is at present customary to use two or three copper coins called *doi manoe* (*doi* = coin, money; *manoe* = fowl) suspended from a cord or string. These bunches often depend from the lower edge of the indispensable *batoetoe* (Fig. 44 A), betle bag, or from the top of the women's large pointed hats (Fig. 44 E), where they rattle when the person walks or moves. A pair of eardrops from Tole (Fig. 44 D) consist of a wooden button, from which depend five strings of beads to which are attached the same number of pieces of copper coins.

In Koelawi the natives sometimes string together a number of small pegs, about ten centimeters in length. These strings are fastened for instance inside the head-ring adorned with two horns of pegs (Figs. 45, 46) that the boys



1: 8.

Fig. 47. Toy shield with rattling pegs. Koelawi. (Kaudern coll. No. 7337.)

wear when chasing the buffalos round and round in the mud of the fields in order to prepare them for planting paddy. The boys' toy shields sometimes are adorned with three strings of pegs (Fig. 47), rattling when the children play. I have not noticed with any other Toradja tribe this method of stringing together pegs, and not seen it in the collections from Celebes in the Continent, thus it may prove to be characteristic only of Koelawi.

### *Rattling staffs.*

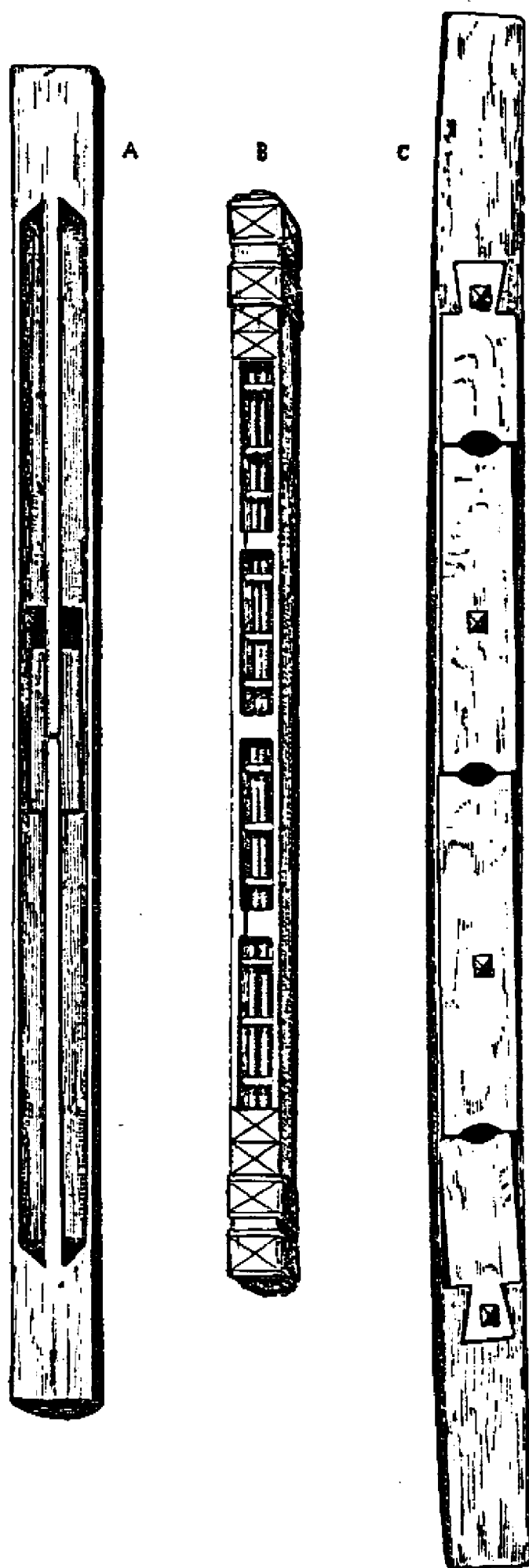
Figs 48, 49.

In Central Celebes rattling staffs seem to be unknown. I never saw any such objects while travelling in this part of the island, nor have I found any records in books that I have consulted. On the coast, however, as well as in those districts where the natives know how to weave, rattling staffs seem to be very common. In every loom there seems to be at least one rattling staff which may be found in connection with different parts of the loom and may be of rather different construction.

In North Celebes I acquired for my collection a complete loom with its web (No. 364) at the village of Bwool, another complete loom (No. 484), as well as some parts of a loom (No. 835) at Modajag in Bolaang Mongondou.

In Nos. 364 and 835 it is the warp-beam<sup>1)</sup> that makes the noise, in No. 484 it is the slide-bar. The warp-beam of No. 364 is a plano-convex, hollow staff of heavy redish wood, 120 cm. in length, the plane side being 7 cm. wide. In this side two long tongues are cut out, their free ends meeting at the middle of the beam (Fig. 48 A). The cavity is in its central part bigger, having the shape of a rectangular box, holding a clamp of the same hard wood as the

<sup>1)</sup> It is to be noticed that this is a primitive loom giving a cylindrica web.



C after MEYER and RICHTER. 1:8.

Fig. 48. Rattling warp-beams.

A from Bwool; B from Modajag in Bolaang Mongondou, C from Enrekang. (A Kaudein coll. No. 364; B id. No. 835; C Dresden Mus. No. 509.)



beam, that rattles every time the weaver uses her batten.

The warp-beam of the loom No. 835 (Fig. 48 B) is a plano-convex staff of light wood, 98 cm. in length, 5 cm. wide, with ornamented ends. In the flat side there are four deep excavations, each holding four slips of bamboo as thick as a pencil. They are prevented from falling out by three small wooden bars in front of each hollow. Each bar is passed through a slip of bamboo to increase the noise of the shaking beam.

Similar rattling staffs in the looms are known also from other parts of Celebes. MEYER and RICHTER (p. 117 b) record two such warp-beams from Gorontalo almost identically similar to my one from Bwool. They write as follows: »Ähnliche Lärmgeräte besitzen zwei Webgestelle aus dem Gorontalgebiete im Dresdner Museum 11826, von Tapa, und 11933, von Talaga. Die Holzschiene hat hier rechteckigen Durchschnitt. Auf der einen Breitseite sind in der Mitte (bei 11826 zwei, bei 11933 zwei×zwei) lange, mit der Spitze einander zugekehrte Zungen ausgeschnitten. Die Spitzen der Zungen sind verbreitet; unter den Spitzen liegt in dem hier etwas vertieften Hohlraume der Schiene frei beweglich ein Brettchen aus Holz, das beim Bewegen der Schiene klappert.»

A loom from Enrekang (Fig. 48 C) collected by the SARASINS seems to correspond to my Mongondou specimen No. 835. MEYER and RICHTER write of the Sarasin loom as follows: »Lärminstrument (509) von einem Webgestell aus der Gegend von Enrekang. . . Ein 1,39 m. langes Stück braunen Holzes von halbkreisförmigem Durchschnitt, 8,5 cm. breit und 6,7 cm. hoch, ist auf der Flachseite in der Mitte, bis auf zwei Unterbrechungen, 86,5 cm. lang rinnenartig ausgehöhlt. Diese Rinne ist von vier aneinanderschliessenden Brettchen aus gleichem Holz überdeckt. . . . Die Brettchen sind mit Holzpflöcken an einer Auflage befestigt. . . . In den Hohlräumen befinden sich einige längere, mässig dicke

Bambusstücke, die zusammen mit den Brettchen bei Bewegung des Geräts ein klapperndes Geräusch erzeugen.»

The rattling slide-bar of the loom No. 484 is a section of bamboo, 93 cm. in length with a diameter of 2,8 cm. having no node. Both ends are closed, one by a conical plug of dark wood, the other by a plug of *gaba gaba*,<sup>1)</sup> presumably replacing an original plug of wood. Inside the cavity of the bamboo there are a great number of pieces of looking-glass, rattling when the slide-bar moves.

The rattling looms of course are no native invention of Celebes. They are used at many places outside Celebes, and the methods of making noise vary. SACHS, for instance, describes a kind of rattling loom from the Soela Islands, reminding us of the bamboo clappers from South Celebes and the big bamboo spring-clapper from Mongondou used for making holes to sow maize. SACHS is of the opinion that the rattle is meant to elucidate the industriousness of the girl weaving. He says: »je tüchtiger die Weberin, um so rascher die Folge der Signale, und heiratslustige Mädchen versäumen nicht, durch Hinzufügen einer Schelle ihre Arbeitskraft noch eindringlicher zu empfehlen.»

MEYER and RICHTER mention another kind of rattling staff from Bolaang Mongondou (Fig. 49). On page 32 a we read as follows: »Reisstampfer von *Dumogabesar*. . . . Aus einem Stücke braunen Holz geschnitzt. 177,3 cm. lang in der unteren Hälfte im Durchschnitte rund und etwa 4 cm. dick, nach oben zuerst acht-, dann vierseitig werdend und hier von 4,1×4,7 cm. Durchmesser. Der längere vierseitige Teil gliedert sich in zwei Systeme von vier vierseitigen Säu-

<sup>1)</sup> *Gaba gaba* is the Malay name of the leaf stem of the sago palm used for a great many purposes in the Malayan Islands.

len an den Kanten und mit je einem 9 oder 10 cm. grossen Holzklöppel dazwischen. . . . . Der obere Klöppel ist im Durchschnitt etwa kreuzförmig und aus dem nämlichen Stücke Holz wie der Stampfer geschnitzt, der untere hingegen besteht aus anderm (hellern) Holz, ist roher geschnitzt und zwischen den Säulen eingefügt worden, indem eine von diesen an ihrem obern Ende losgebrochen wurde. An der Bruchstelle läuft um den Stampfer ein geflochtener Bund aus einem Rotanstreifen. . . . .

Beim Stampfen fallen die Klöppel auf und nieder und verursachen dadurch einen Lärm.»

Such paddy-stampers I never saw in any other parts of Celebes, nor are they mentioned in books that I have consulted. MEYER and RICHTER are of the opinion that the rattling is meant to encourage the person at work and to inform the master that his servant is working.

*Rattling clogs.*

Fig. 50.

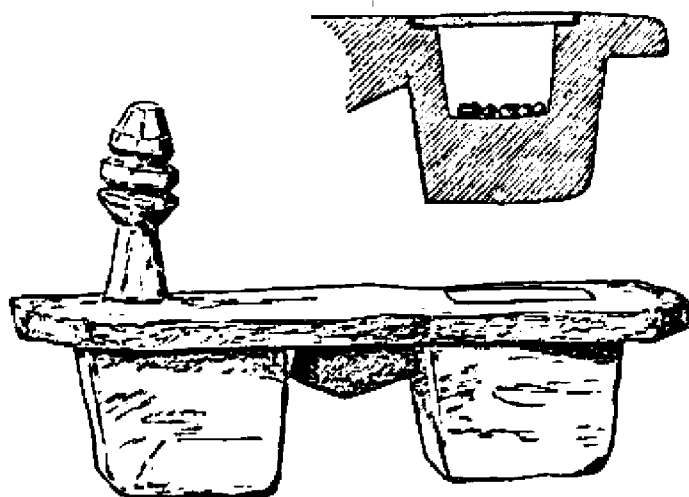


Fig. 50. Rattling clog from Modajag in Bolaang Mongondou, (Kaudern coll. No. 667.)

Among the rattling objects we also find a kind of foot wear from Bolaang Mongondou. They are used by young girls who have had their foreteeth filed. After this perform-

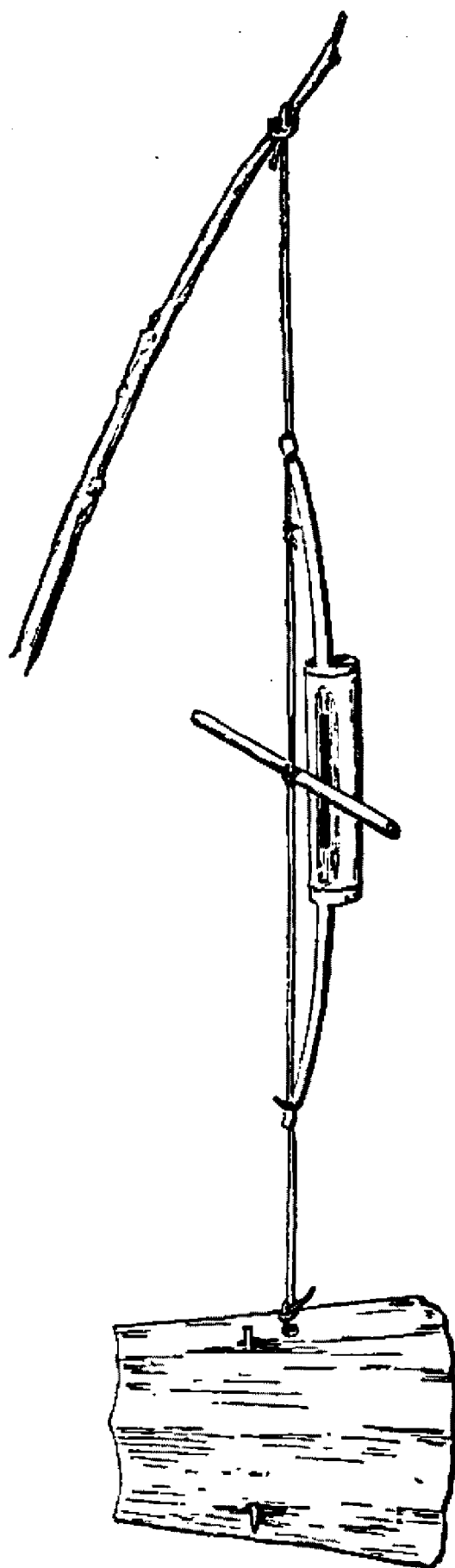


Fig. 51. *Pong pong*, bamboo gong stirred by the wind. Kalibambang, North-East Celebes. (Kaudern coll. No. 2647.)

ance the girls are not allowed to touch the ground with bare feet for four months. Then they wear hollow wooden sandals with seeds inside that rattle at every step. They are kept to the foot by means of a peg in the fore part of the sandal, pushed in between the big toe and the toe next to it.

### Idiophones stirred by the wind.

#### *Pong pong*.

Fig. 51. Map 3.

*Pong pong* is the name of a special kind of bamboo gong that I have seen in Lamala in North-East Celebes as well as in Mongondou in North Celebes. It is used to scare away the wild boars from the fields of the natives.

A *pong pong* (Fig. 51) is made of a section of bamboo comprising three internodes. The greater part of the outer internodes is cut away, leaving a long spur at each end of the middle internode. From the base of one spur to that of the other a slot, 1 cm. wide, is cut through the wall of the bamboo cylinder. Between the ends of the spurs

a string of rattan is strained like the string of a bow, and to the string is attached a wooden striker. The *pong pong* depends from a big flexible rod fixed in the ground. From the opposite end of the bow depends in a strip of rattan a piece of the sheath of the sago palm (Lamala), or a little mat plaited of palm leaf (Mongondou, village Motongkad)

These *pong pong* are often placed in a long file round the fields so that the depending mat is stirred by the wind. When the mat sways about the whole thing oscillates, and the striker attached to the string keeps striking the bamboo cylinder.

*Crab-claw rattle.*

Fig. 32. Map. 3.

In North Celebes I obtained another rattling instrument that is stirred by the wind (Fig. 52). It is a big crab-claw depending from the edge of the roof of a native dwelling in a slender rattan string. Inside the claw the movable part of a crab's claw serves as a clapper from which depends in a string of rattan a little mat plaited of Pandaus leaves. When the wind blows the mat sways making the clapper strike the claw just as the clapper of a bell. These rattles I only saw at

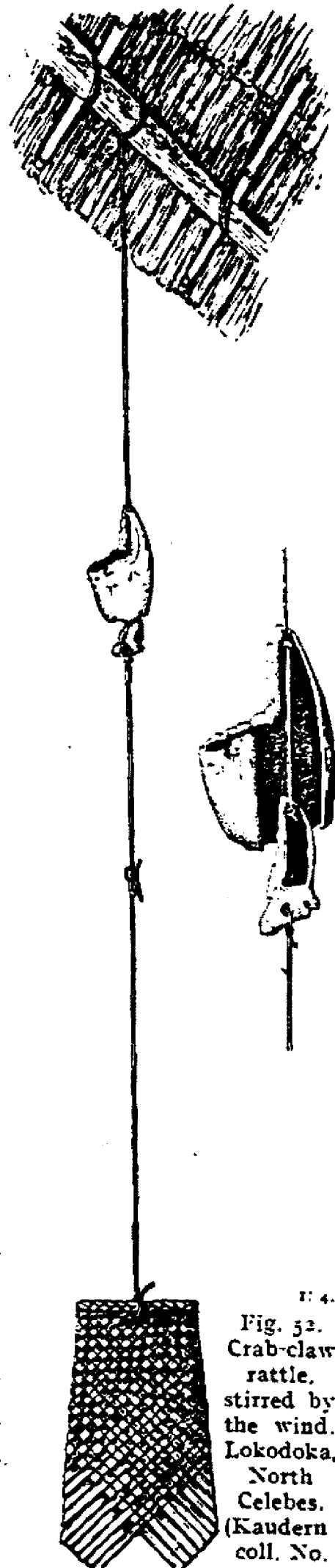


Fig. 52.  
Crab-claw  
rattle,  
stirred by  
the wind.  
Lokodoka,  
North  
Celebes.  
(Kaudern  
coll. No.  
406.)

the village of Lokodoka near Bwool and in Modajag in Mongondou.

According to the natives the rattle was a kind of toy meant to amuse a baby kept in the house, but presumable it was not a mere toy. Perhaps its mission was to protect the baby against evil minded spirits.

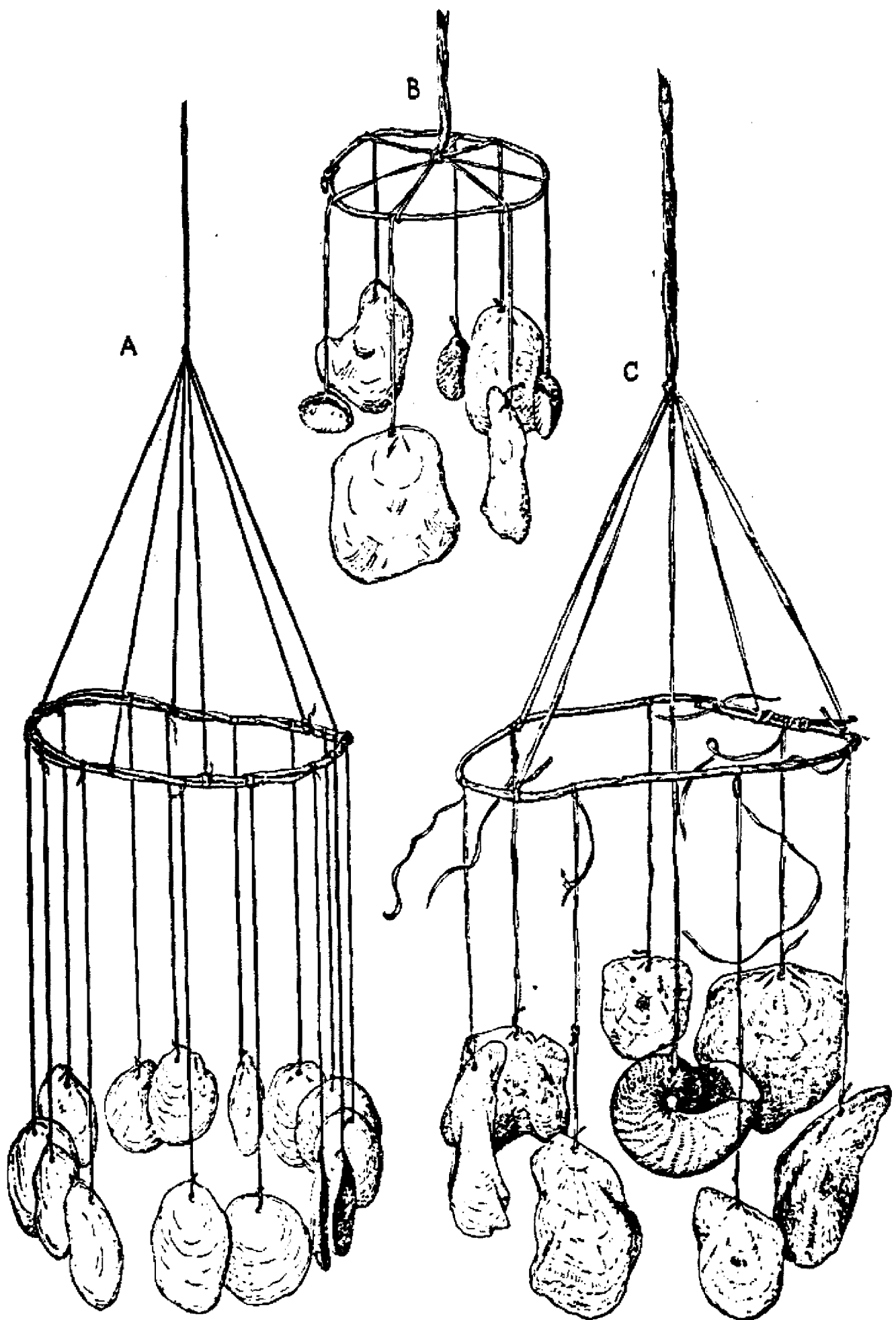
*Jingle of shells.*

Fig. 53. Map 3.

In the islands of Boeton and Peling as well as in the most northerly part of North-East Celebes I met with a jingle of shells that no doubt served for the same purpose as the crab-claw rattle described above. I always found these jingles of shells depending from the roof of a house where there was a baby. It was, however, impossible to get authentic information of the relation between the child and the instrument, but it can hardly be doubted that the latter was connected with the natives' belief in spirits who especially seem to have an eye to babies.

A jingle of shells (Fig. 53 C) that was acquired at the village of Tongke in Lamala consists of a rattan ring suspended from the roof by means of four strings. From the ring depend seven rather big mussel shells which at every gust of the wind rattle against one another as well as against a pearl-nautilus hanging down in the centre of the ring.

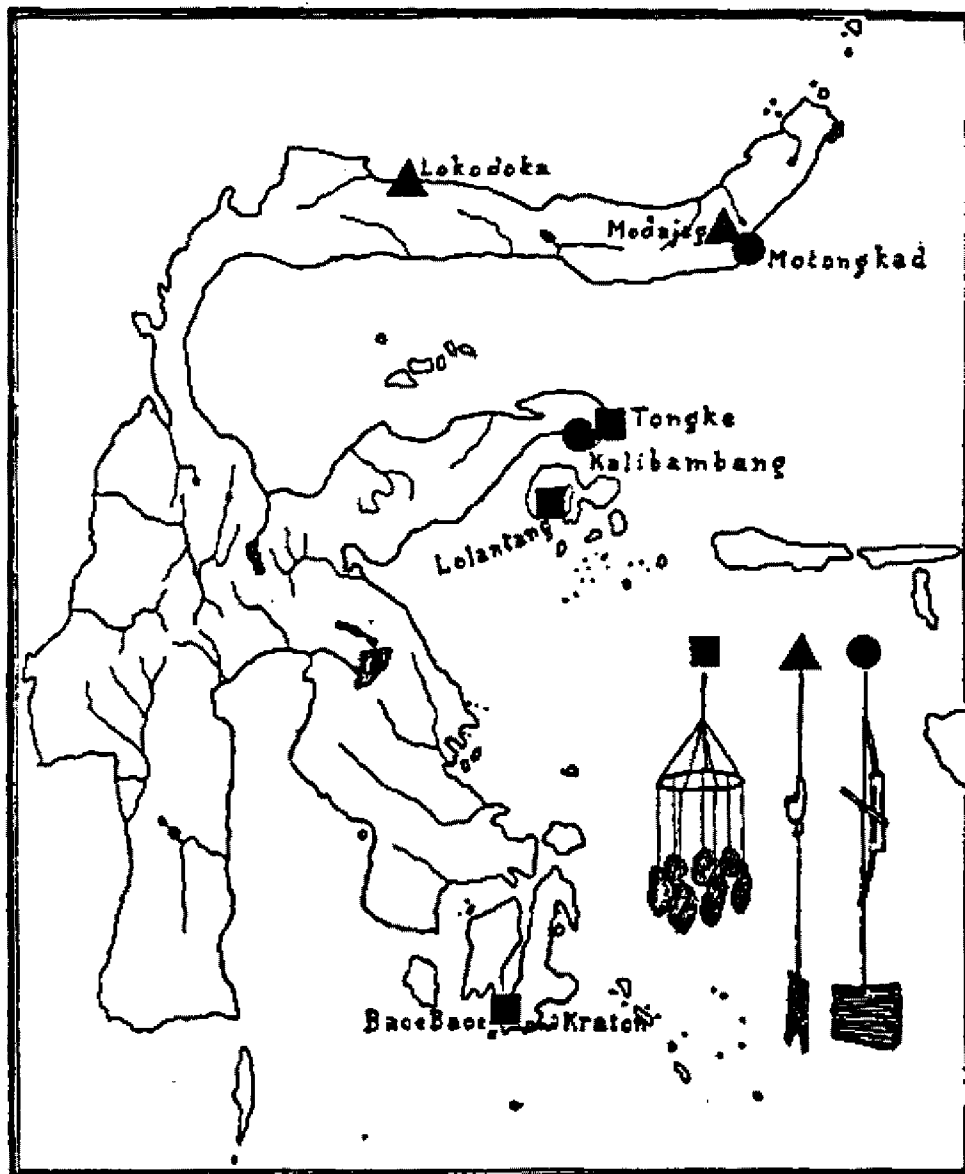
The ring of the specimen No. 2752 from Lolantang in West Peling is made from a twig of a tree (Fig. 53 B). It is much smaller than the ring of the previous specimen. From it depend in seven strips of bast the same number of shells. Four of them are rather flat and thin, like oyster shells. The rest, alternating with the oyster-like shells, are thick shells, two of which resemble a *Cardium*. By means of the same seven strips of bast in which the shells are suspended, the whole apparatus is fastened to the edge of the roof.



1: 6.

Fig. 53. Jingles of shells. A from Kraton in Boeton, B from Lolantang in West Peling, C from Tongke in Lamala.

The third specimen, No. 2797 of my collection (Fig. 53 A) was obtained at Baoe Baoe in the island of Boeton. The ring of this specimen is rather wide, measuring 26 cm. across. It is made from a slender liana wound two three times. The



Map. 3. Jingle of shells, crab claw rattle, and *pong-pong* in Celebes Peling, and Boeton.

suspending strings are only six but very likely they originally were seven. They are knotted to a slip of bast holding the whole instrument. From the ring depend fourteen almost circular, flat thin shells.

Beside the jingle of shells that I obtained at the village of Lolantang, I saw two more specimens outside two dwell-



ings. At the village of Kraton near Bae Bae in Boeton the jingles of shells were rather common.

The instrument seems to occur only on the coast of North-East and South-East Celebes among the Mohammedan population. I never saw it further up the country. This may be taken to indicate that it was invented by natives living on the coast where the supply of big sea shells is abundant. If the invention was made in Celebes or not I do not know.

### Idiophone with vibrating tongue.

(Zupfidiophone v. H. and S.)

#### *Jew's-harp.*

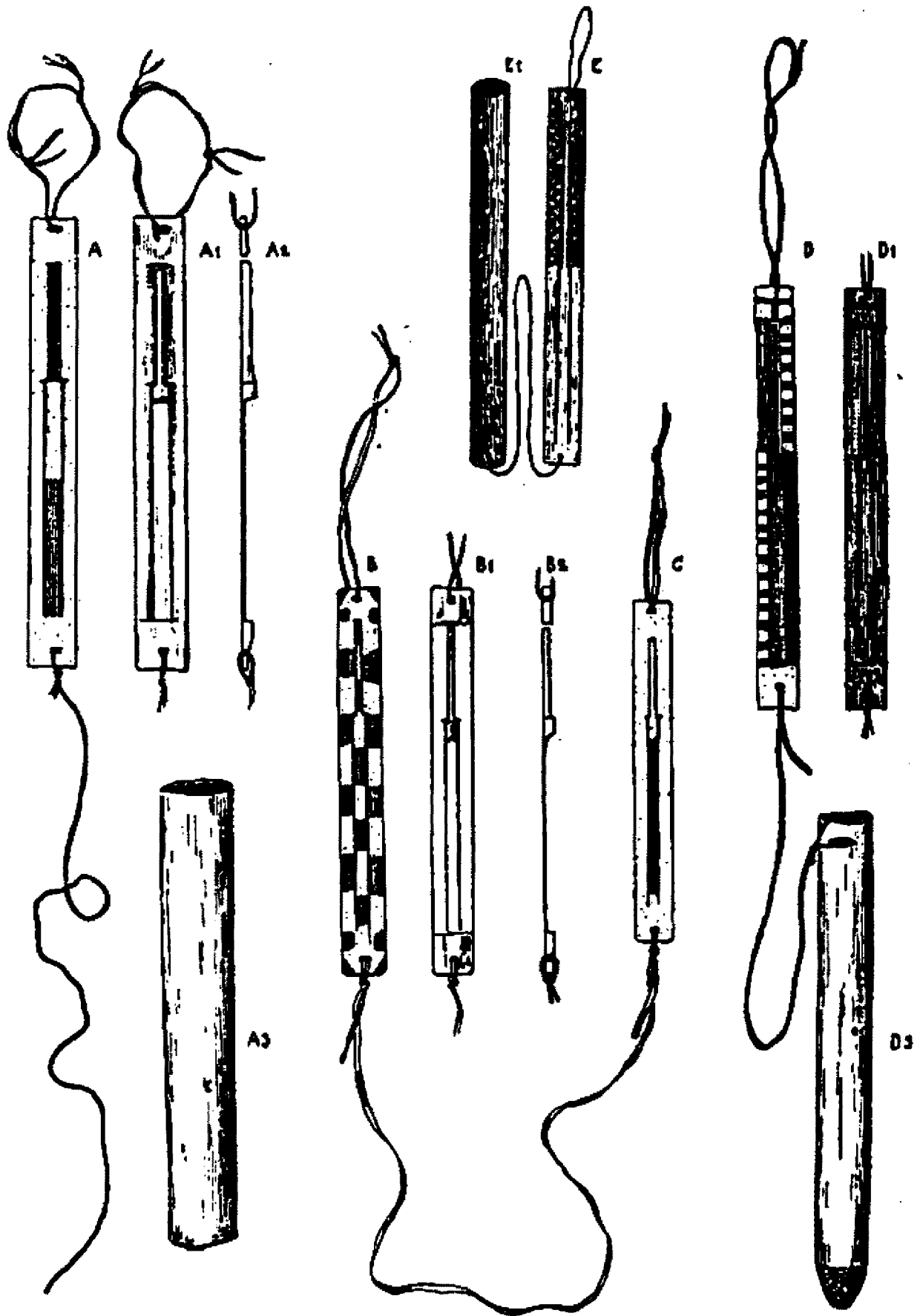
Figs 54, 55.

A really native idiophone, the jew's-harp, we find among nearly all the peoples of the Dutch East Indies. The type occurring in Celebes is the one common to the whole Malay region, by SACHS called »Rahmenmaultrommel».

It is recorded by KRUIJT from Central Celebes. He has given a very good description of the make as well as of the use of this instrument. He says it is common to the whole Archipelago, not mentioning any special localities. This means, I suppose, that the jew's harp also is found among all the Toradja of Celebes (Fig. 54 E). MATTHES records it from South Celebes.

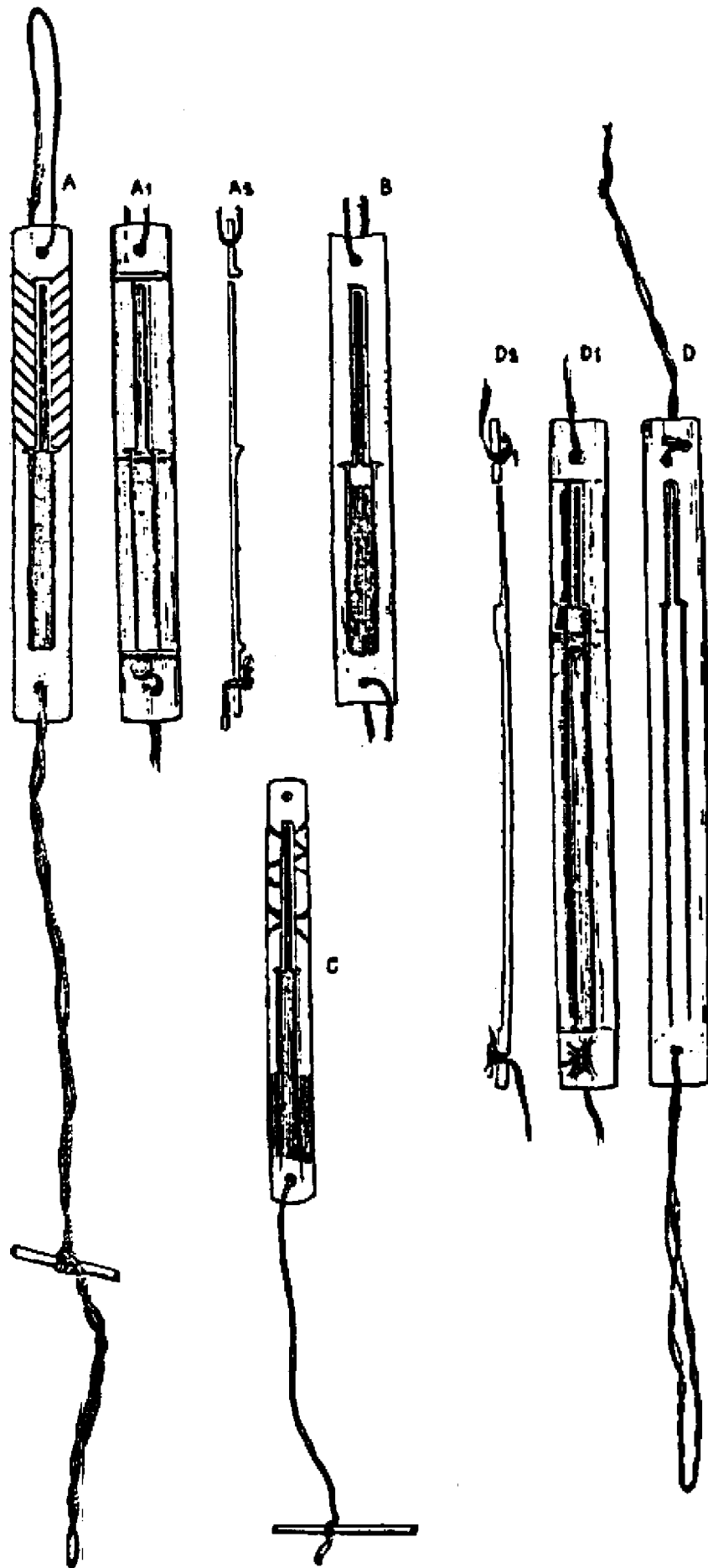
In my collections I have specimens from Mongondou in North Celebes (Figs 55 A—C), from Koelawi (Figs. 54 B, C), Kantewoe (Fig. 54 A), and Doda (Fig. 54 D) in Central Celebes, and from Kalibambang (Fig. 55 D) in North-East Celebes.

All my specimens from Central Celebes are made of a thin lath of the leaf stem of the sugar palm (*Arenga saccharifera*). According to KRUIJT it may also be made of bamboo.



x: 2.

Fig. 34. Jew's-harps from Central Celebes.  
 A from Kantewoe, B, C from Koelawi, D from Doda in Behoa, E from  
 the Poso Toradja (after Kruijt.)  
 (A Kaudern coll. No. 1446, B, C id. No. 1394, D id. No. 2175.)



1: 2.

Fig. 55. Jew's-harps. A, B, C from Mongondou, North Celebes; D from Kalibambang, North-East Celebes.  
(A Kaudern coll. No. 667; B id. No. 773; C id. No. 747; D id. No. 2641.)

In the following table we find some measurements referring to the jew's-harp from Central Celebes, Mongondou, and Lamala. It seems as if the proportions of the instruments vary not only in different parts of Celebes but perhaps even in Central Celebes, but the material of course is too small to allow any conclusions to be depended upon. Noteworthy seems the length of the point of the tongue in the Doda specimen (Fig. 54 D), which seems to agree more with the jew's-harp of the Poso Toradja (Fig. 54 E) than with that of Koelawi (Fig. 54 B, C).

District (village)	No.	Length mm.	Width mm.	Base of the tongue		Length of point mm.
				width mm.	length mm.	
Koelawi	1394a	91	10	2,5	48	22
	1394b	80,5	8,5	2,3	42,5	23
	1417	88	10	2,3	42,5	23
Kantewoe	1446	107	12	4	56	27
Behoa (Doda)	2175	100	9,5	3	48	31
Bolaang Mon- gondou (Mo- dajag)	667	104	12	4,3	41	34
	668	103	13,5	4,5	41	35
	747	89	8	3	35	30
	772	100	11,5	5,5	38	34
	773	99	12,5	5	40	35,5
Lamala (Kalibambang)	2641	140	12,5	3,5	87	25

Although the proportions may be different, the construction is almost the same in all specimens from Central Celebes. The short ends of the frame are thicker than the sides. In the instruments of Mongondou the frame is thickened at the base of the tongue. The wider part of the tongue is always very thin. Only the distal part of it is somewhat thickened as can be seen in the figures. The narrow free end of the tongue is comparatively high, the section having

the shape of a triangel, which is especially the case of the Koelawi specimens.

Very often the jew's-harps are adorned with some simple ornaments, made by means of scraping lines or squares in the surface of the instruments. In this way are produced dark figures on a lighter ground. We see some of these patterns in Figs 54 B, E, D, and 55 A, C. Possibly the patterns are different as occurring in different parts of the country, but the material is too small to allow any studies on the subject.

## B. MEMBRANOPHONES.

Among the Toradja we only meet with the kind of drum that SACHS in his system calls *Schlagtrommeln*. P. and F. SARASIN as well as MEYER and RICHTER and GRUBAUER record and figure some drums from the interior of Central Celebes, collected for European museums, and KRUIJT describes the three different kinds of drum occurring among the Poso Toradja, especially dilating upon the use of the drums. I myself have procured some drums from North, Central, and North-East Celebes.

If all these drums are taken into consideration, the drums of Celebes may conveniently be ranged in the following table, chiefly in conformity with the system set up by von HORNBOSTEL and SACHS.

*I. Frame drum* (Rahmentrommel. v. H. and S.)

*II. Tubular drum* (Röhrentrommel. v. H. and S.)

A. cylindrical drum; membrane braced with lacings of rattan, and with wedges:

1. single-membrane drum, one end open:

\* body of wood,

\*\* body of bamboo,

2. double-membrane drum:

\* body long; played with three drumsticks,

\*\* body rather short; » » two »

\*\*\* body small; » » one drumstick,

- B. barrel-shaped drum; membrane attached with wooden plugs;
- C. hour-glass shaped drum;
- D. conical drum;
- E. cup-shaped drum:
  - \* body egg-cup shaped,
  - \*\* body wine-glass shaped,
  - \*\*\* body standing on two or four legs.

## Frame drum.

Rabana.

(Rahmentrommel. v. H. and S.)

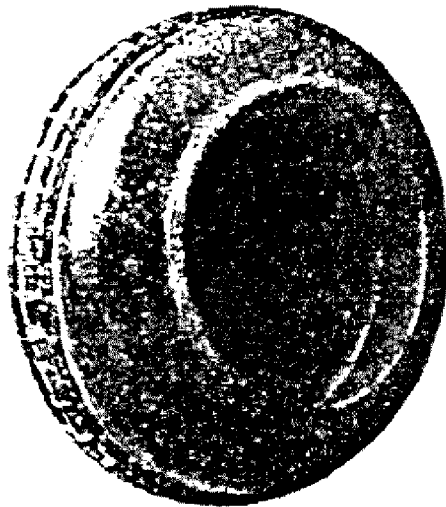
Figs 56, 57.

I never saw in Celebes any primitive frame drum, nor is such a drum, as far as I am aware, recorded from this island by other authors, but in North Celebes as well as in North-East Celebes I met with a drum that so to say is a combination of a frame drum and a kettledrum, the body having the shape of a rather shallow bowl with a hole in the bottom. At the village of Kota Bangoen in Bolaang Mongondou, North Celebes, a specimen was acquired for my collection, and at Pagimana on the north coast of North-East Celebes I saw another specimen.

The Kota Bangoen drum is of rather good size, measuring 45 cm. across. The height of the frame is 12 cm., the diameter of the central hole in the bottom 25,5 cm. Just above the edge of the membrane, which is strengthened with a thin line of rattan, there are small holes in the membrane at a distance of 2,5 cm. to 3 cm. from one another. Half way down the body there is a flange cut out from the wood, perforated by the same number of holes as the membrane. By means of a lacing consisting of three strips of rattan, the membrane is braced to the central flange. The rather complicated lacing can be followed in

Fig. 57. To increase the tension, a split rattan as thick as a finger is pushed underneath the lacing, passing round the body. Another ring of rattan is laid round the aperture of the bowl underneath the membrane (Fig. 57). The flange is decorated with a great number of brass nails with big heads. This drum is played with the right hand.

It seems to occur at several places in Celebes, to judge from the specimens in the European museums. At Leipzig there is a specimen No. SAs 6127 from Gorontalo on the southern coast of North Celebes. A study of the figure



1: 10

Fig. 56. Frame drum from Kota Bangoen, Bolaang Mongondou. North Celebes.  
(Kaudern coll. No. 644.)

given in the Museum Catalogue gives to understand that the method in which the membrane is attached to the body is less complicated as in my Mongondou specimen, nor does the body of the former seem to be so strongly curved as that of the latter. At my visit to the Leipzig Museum the collections were packed because of the removal of the Museum, which prevented me from examining this specimen.

In Leiden there are four frame drums from South Celebes. The frames of two of them, Nos. 37/258 and 654/3 are made of wood, those of the other two, Nos. 804/273

and 1009/88 are of earthenware. The locality of Nos. 37/258 and 804/273 is only given as South Celebes. No. 654/3 originates from Macassar, No. 1009/88 from Gowa. The size of the drums varies a good deal as will be seen in the table below.

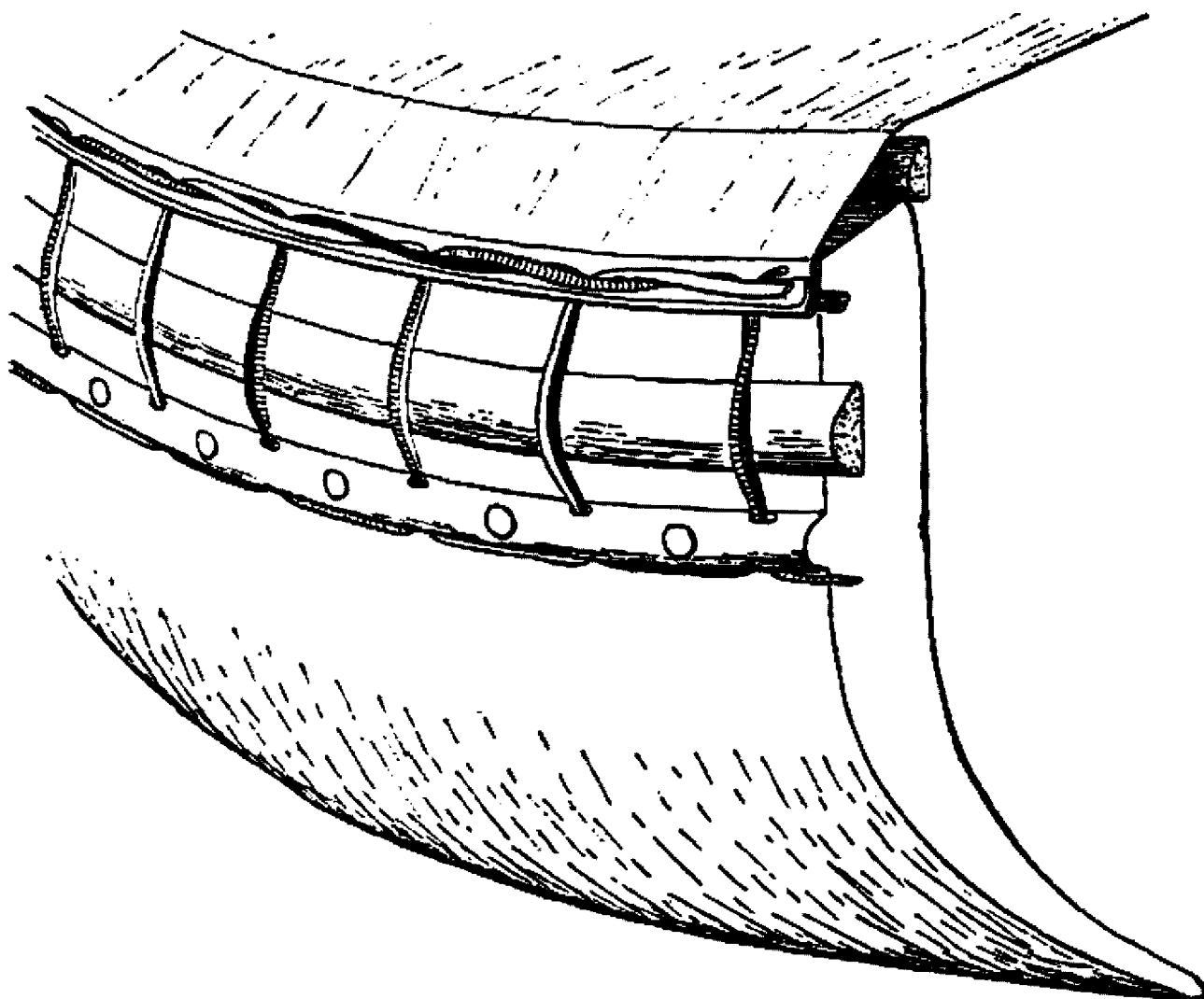


Fig. 57. Bracing of the frame drum in Fig. 56.  
(Kaudern coll. No. 644.)

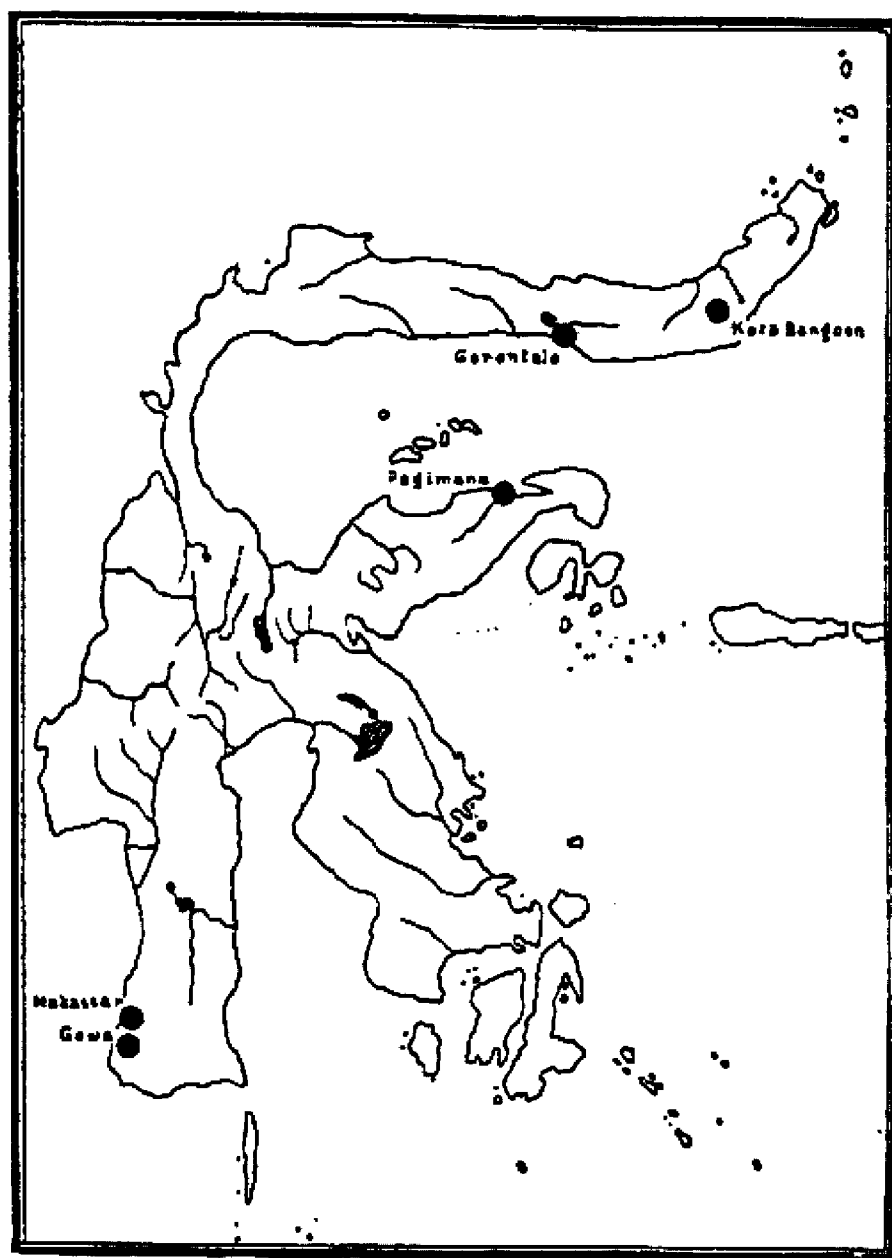
	Upper diam.	Lower diam.	Hight of frame
No. 654/3	49 cm.	38 cm.	14,5 cm.
No. 804/273	40 cm.	—	14 cm.
No. 37/258	38 cm.	—	8,5 cm.
No. 1009/88	22 cm.	—	8 cm.

MATTHES is the first one, I think, to mention this drum from South Celebes. In the atlas of his »Makassaarsch-



Hollandsch Woordenboek» he figures it (Plate VIII, Fig. 19). In his dictionary he writes on page 444 b. only as follows: »Rabâna, bep. rabanâya, Mal. *tamboerijn*, kleine trom.»

Outside Celebes this drum seems to occur throughout



Map 4. Frame drum rabana in Celebes.

the Malayan Islands, SACHS writing as follows in »Die Musikinstr. Indiens u. Indonesiens» p. 65: »Sie leiten zu einer merkwürdigen Verschmelzung von Rahmen- und Kesseltrommel über, die im Archipel heimisch ist (Sumátra *redap*, Kêi gon, Molukken *ravana*, malaiisch *rabana*).

Thus SACHS is of the opinion that the home of the *rabana* should be the Malayan Islands. Be this as it may, in Celebes it is no native instrument but introduced from some other country. It is to be noticed that at all places where this drum was found the Mohammedan influence is very strong. In South Celebes Islam long ago was deeply rooted, and the native culture was ousted by the Mohammedan one. The same is the case of Gorontalo, of the bigger villages in Mongondou, as well as of Pagimana. This makes it plausible that the dispersal of the *rabana* in Celebes, perhaps even in the whole Malayan Archipelago, is the same as that of Mohammedanism in this region.

### Tubular drums.

(Röhrentrommel. v. H. and S.)

All drums occurring in Celebes, except the one described above, are tubular drums of various kinds, the majority being so called cylinder drums and cup-shaped drums, the former being the type commonly met with in Celebes.

#### *Single-membrane wooden cylinder drum.*

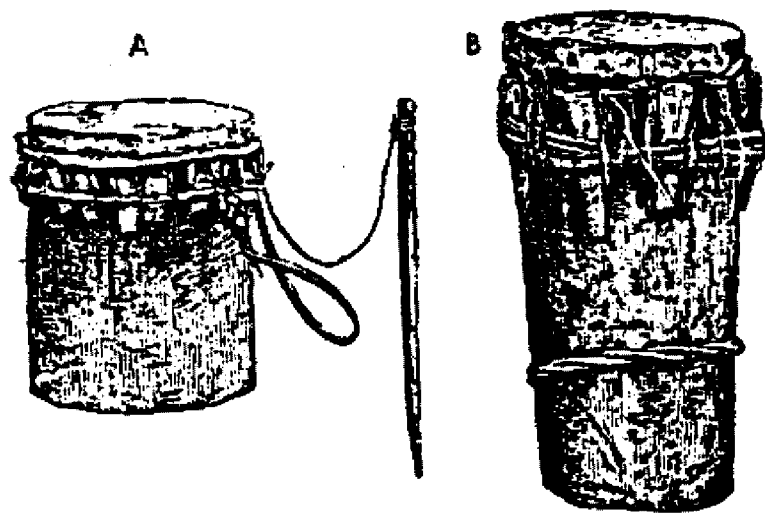
(Einfällige, offene Zylindertrommel. v. H. and S.)

Figs 58—62.

The body of this plain drum is made from a tree trunk that is hollowed out, the end overlaid with membrane often being slightly wider than the open end. These drums are never very big.

The membrane is braced in the usual Malay manner by a zigzag lacing of split rattan passing between a series of holes in the edge of the membrane, and a ring of strong rattan wound lower down the body. For tightening the bracing thongs, a number of wedges are jammed in between the body of the drum and the strong rattan ring (Fig. 58).

The geographical distribution of this drum in Celebes as well as in the other Malayan Islands we do not know exactly as yet. KRUIJT says it occurs among the Poso Toradja, not mentioning any special tribes. These natives call it *tiboeoe*. MEYER and RICHTER describe and figure a specimen acquired by the SARASINS at the village of Tonabo east of Lake Poso. The body of this drum measures 42 cm., the diameter of the open end 17 cm., that of the other end 21,5 cm. It is made of some dark palm wood. (Fig.



After MEYER and RICHTER.

C. 1:10.

Fig. 58. Single-membrane drums.

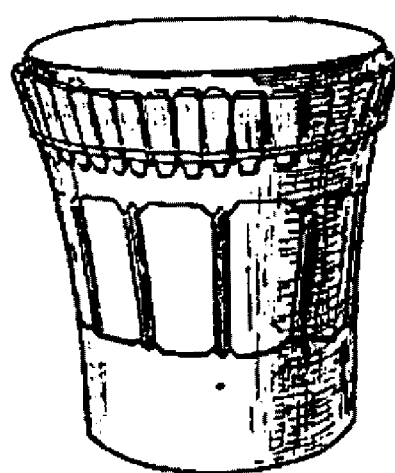
A from Molibagoe in Bolaang Oeki, North Celebes. B from the temple of Tonabo east of Lake Poso. Central Celebes.

58 B). RIEDEL in »Int. Arch. f. Ethn.» Vol. VIII, Plate X, Fig. 7, figures a single-membrane cylinder drum from Minahassa (Fig. 59), saying it was used at the betrothal feast of a young couple of the Tooemboekoe tribe. The native name of it is *tiwal*, and it is said to be a big drum.

Travelling in Central Celebes I met with this kind of drum in Koelawi, Kantewoe, at Pangana, and Tipe, and no doubt it occurs in all districts in the north-western part of Central Celebes, among the Paloe Toradja as well as among the Koro Toradja. Presumably it is, or was, found at all places where there was a village temple, this drum always being a temple drum.

In North Celebes it is found, now here, now there. MEYER and RICHTER record a single-membrane drum of this kind from Molibagoe in Bolaang Oeki (Fig. 58 A). The body of dark palm wood measures 26 cm., with a diameter of 22 cm. A similar specimen I obtained at Modajag in Bolaang Mongondou. The body, made of dark brown palm wood, is 29 cm. long, the diameter of the open smaller end is 19.5 cm., that of the wider end 21 cm. (Fig. 60). It was said to be used as a plaything for children.

Similar drums of great size with a body made from a hollowed out tree trunk were used in the Mohammedan mosques along the north coast of North Celebes, from Bolaang in the east to Bwool in the west. Also in the mosques in the interior of Bolaang Mongondou as well as at the villages of Motongkad and Molobog on the south coast I saw such a single-membrane-drum hanging outside every so called *mesigit* or *masdjid*. The same I noticed at the villages on the north coast of North-East Celebes.



After RIEDEL.

Fig. 59. Single-membrane drum, *tiwal*, from the To-oenboekoe in Minahassa. North Celebes.

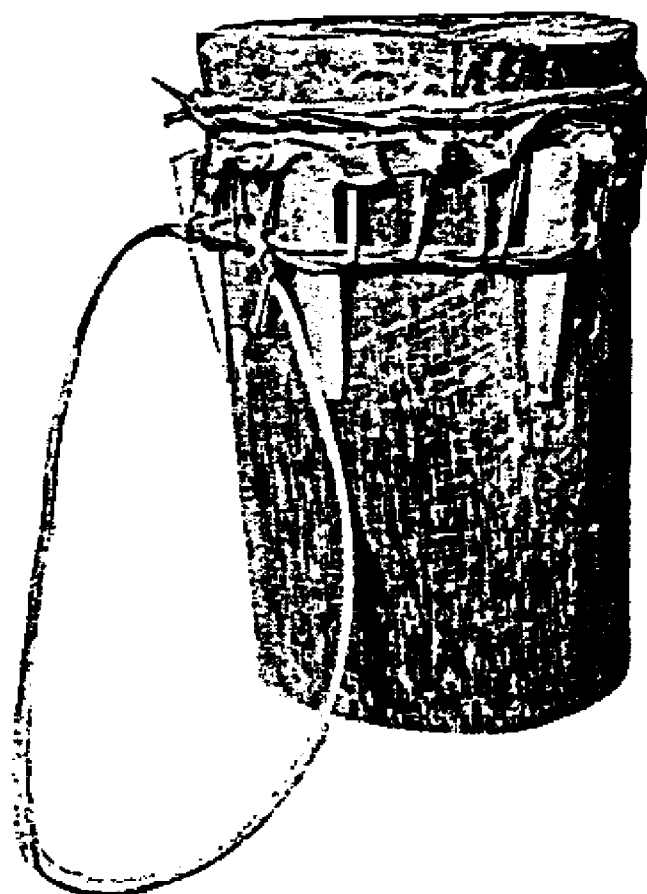
At the village of Boengkoedaj in Bolaang Mongondou was acquired for my collection such a *misigit* drum, the body measuring 49 cm., the end covered with membrane having a diameter of 36 cm. The body is slightly barrel-shaped with a diameter of 40 cm. at the widest part (Fig. 61).

In North-East Celebes I never saw any other single-membrane cylinder drums than the *misigit* drums, possibly owing to the fact that the native culture of this part of the island is on the point of disappearing.

I suppose this drum also to be found in South Celebes

as well as in South-East Celebes, especially at the mosques, although I have no references from these tracts.

At any place where I saw this drum it was struck with a single drumstick, whether it belonged to an old heathen temple in the interior of Central Celebes, or it was a mosque drum on the coast, or a mere toy.



C. I: 5

Fig. 60. Single-membrane toy drum from Modajag in Bolaang Mongondou, North Celebes. (Kaudern coll. No. 642.)

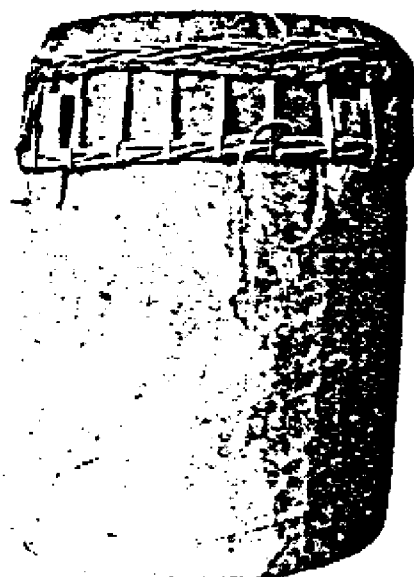
The drumstick is different at different places. In the north-western part of Central Celebes I saw the natives using a wooden drumstick nearly 30 cm. in length, one end slightly thicker than the other. The drumstick of the Molibagoe drum is a rather long and thin stick, pointed at one end, that of the Boengkoedaj drum is a section of bamboo, 55 cm. in length, with a diameter of 3 cm. One end, the one used as a handle, is thinner, ending in a flat knob.

The mosque drum is always found outside the temple, generally suspended from the edge of the roof at the entrance.

In Central Celebes this drum seems to be used hanging as well as standing. KRUIJT in »De Bare'e-Sprekende Toradja's» says that this drum always is played hanging. In Koelawi, Tole, as well as at other places where I saw this kind of temple drum played, it was always suspended from the roof-truss by means of a long rattan loop. The drums, when not in use, were hoisted up to the roof, (Fig. 62), or they were kept on a shelf in the temple as was the case in the Boladangko temple of Koelawi, or they were brought to the house of the village head man as at Kantewoe.

According to MEYER and RICHTER the drum from Tonabo, acquired by the SARASINS, was standing on the floor when played. They write as follows p. 82 a: »Beim Gebrauche werden sie senkrecht auf die Erde gesetzt und sitzend geschlagen».

The single-membrane cylinder drum seems to have a rather wide range outside Celebes, but I was unable to make an authentic map of its geographical distribution, the material of the European museums that I have seen being too small. SACHS in his »Musikinstr. Indiens u. Indonesiens» has nothing to tell of its geographical distribution throughout India and the Malayan Islands, only writing the following of it, p. 66: »Dass eine scharfe Grenze zwischen diesen Rahmentrommeln und den *einfalligen Röhrentrommeln* nur künstlich zu ziehen ist, haben wir vorausgeschickt.» And on p. 62: »Es ist leicht genug, eine typische Rahmentrommel von

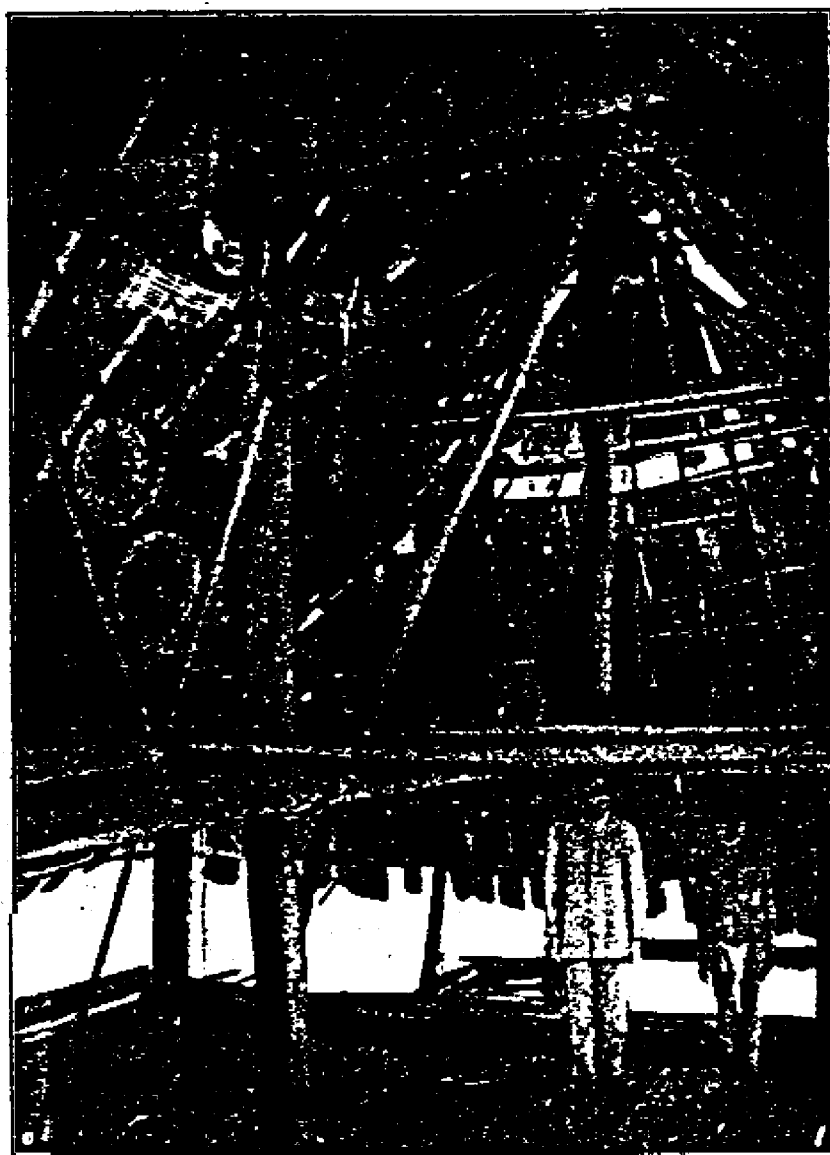


1: 10

Fig. 61. Single-membrane mosque drum from Boengkoedaj, Bolaang Mongondou. North Celebes. (Kaudern coll. No. 524.)

einer ausgesprochenen Röhrentrommel zu unterscheiden.  
Die Übergänge aber sind fließend . . . . . »

According to the catalogue of the Leiden Museum



W. KAUDERN Photo

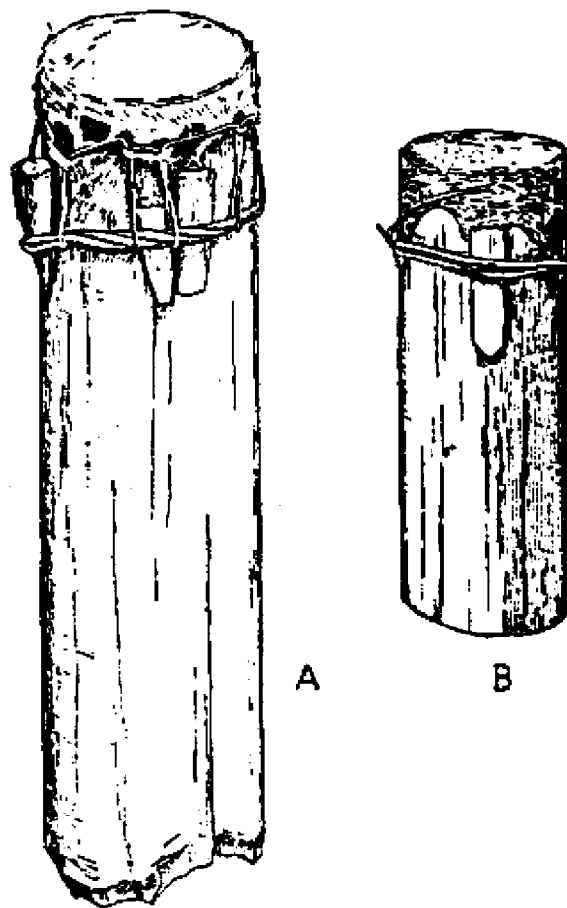
Fig. 62. Interior of the temple of Tikala in Tamoengkolowi in N. W. Central Celebes.

similar drums occur at least in Borneo, Banka, Simaloer, Nias, and Flores. Presumably this type of drum is found all over the Dutch East Indies, or was so not very long ago.

*Single-membrane cylinder bamboo drum.*

Fig. 63.

Beside the comparatively big cylindrical single-membrane drums, the body of which is made of wood, we sometimes in Celebes meet with rather small drums with a



1:4

Fig. 63. Single-membrane cylinder bamboo drums (toys).

A from Doda in Behoa. Central Celebes.

B from Kalibambang. North-East Celebes.

(A Kaudern Coll. No. 2173; B id. No. 2644.)

body of stout bamboo. All drums of this kind that I saw were used as childrens toys. For my collection a specimen was acquired at the village of Doda in Central Celebes (Fig. 63 A), another at Kalibambang in Lamala in North-East Celebes. The latter specimen No. 2644 (Fig. 63 B) is of rather poor make. The length of the cylinder is



16 cm., the diameter 6 to 6,5 cm. The membrane is taken from the wings of a big bat (*Pteropus*). It is attached to the cylinder by means of a binding of split rattan, wound two times round the bamboo. Between this binding and the membrane some thin bamboo wedges are jammed in.

The Doda specimen No. 2173 is of better make, although the lower edge of the cylinder is rather uneven. The cylinder is 27 cm. high with a diameter of 7,8 cm. The membrane seems to be made from the hide of a stag (*Russa*), presumably from the loin, or some other part of the hide where the hair is thin. It is braced in the usual manner.

Possibly these drums are copies from the big single-membrane temple drums. This may be the case of the little toy-drum from Kalibambang where the native culture is rapidly dying away, but hardly of the Doda drum. The temple drums being more or less sacred, it would be strange if the children were allowed to play with sacred objects, which, no doubt, would rouse the anger of the spirits. Therefore, it seems more likely to my mind that the small bamboo drums are mere toys, or they may possibly be a remainder of an earlier type of drum, at present not in use, having declined into a mere toy drum. Many a time, an object going out of use with grown-up people, in a simplified shape is kept as a play thing among the children. That this really was the case of the little drum in question seems likely, since small single-membrane bamboo drums at other places in the Malayan Islands are used for religious purposes.

According to the catalogue of the Leiden Museum, Vol. 3, II, there is a similar drum from South-East Borneo, the culture of which has many a feature in common with that of Central Celebes. This little bamboo drum seems to be used by the priestesses. The catalogue says as follows: »1624/1. Wie oben (drum) aber von Bambus, zylindrisch, oben mit Tierhaut überzogen, befestigt durch einen Rotanstreif und ein Band diagonalen Rotanflechtarbeit, in einiger

Entfernung darunter und demselben parallel. Der Rotanstreif und das Rotanband durch Paare verticaler Streifen verbunden. Unter dem Rotanband sind vier keilförmige Holzstücke gesteckt. — Von Priesterinnen gebraucht. S. O. H. 35,8; dm. 8,5 cM.»

Of course my material of these bamboo drums is much too small to allow any conclusions to be depended upon. A close investigation at the place would perhaps give an answer to the question whether they are mere toys, or they are a remainder of a drum that formerly was used by the male or female priests.

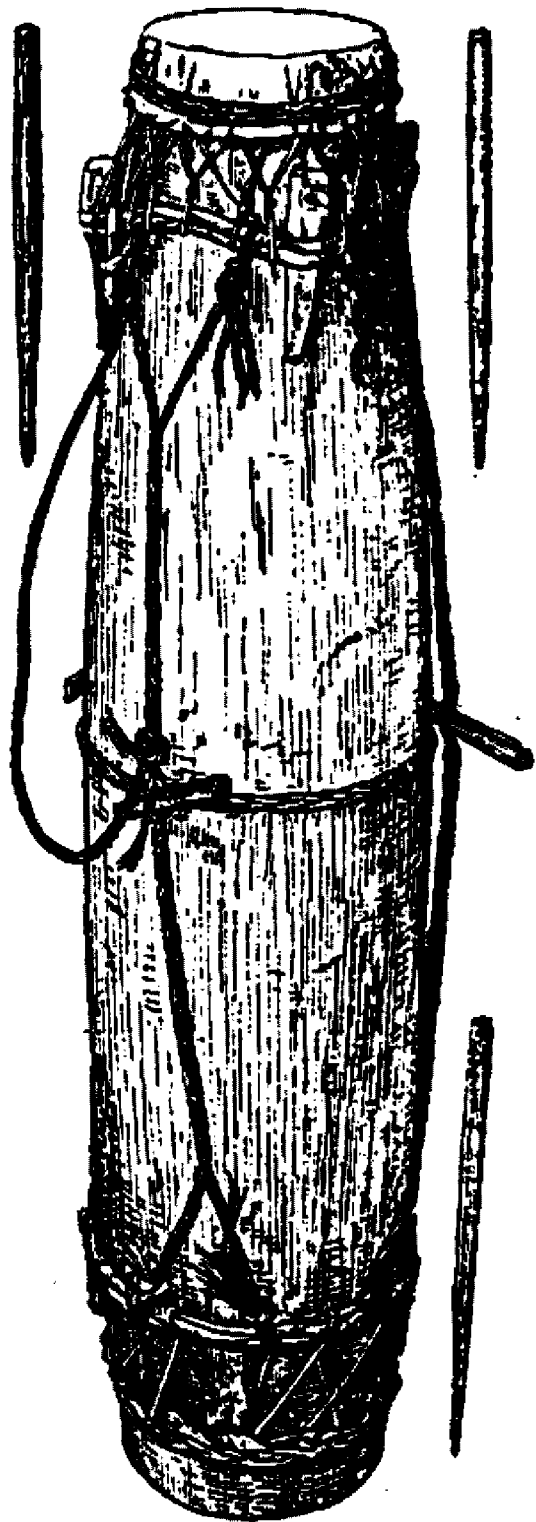
*Long double-membrane cylinder drum.*

(Zweifällige Zylindertrommeln v. H. and S.)

Fig. 64.

At many places in Celebes we meet with a double-membrane drum. There are two or even three types, one of which is very long, the other two of ordinary length. One of the latter is of great size and is used in the temples, the other one is a small toy-drum.

At the village of Mojag I acquired two specimens Nos. 682 and 701 of the long type (Fig. 64). The body is of the



1: 8

Fig. 64. Double-membrane cylinder drum from Mojag in Bolaang Mongondou, North Celebes. (Kaudern coll. No. 682.)

same size nearly all over; only slightly wider at the middle. It is made of some kind of dark brown wood, like mahogany, but it is rather difficult to tell exactly what the colour is like, the drums being dark with smoke and dust.

The length of the specimen No. 682 is 103 cm., the diameter at the ends 18 cm., at the middle 21,5 cm. The measurements of the other specimen, No. 701, are 96 cm., 17 cm., and 20 cm.

The membranes are braced in the usual manner with a lacing of split rattan, running zigzag from the membrane to a ring of rattan passing round the body lower down. The bracings of the two ends are joined by six cords of



After ELBERT.

Fig. 65. Double-membrane cylinder drum from Kolaka in Mengkoka. South-East Celebes.

vegetable fibre (Arenga), twisted together two and two by means of a small handspike, preventing the bracings from slackening.

Inside the drums there are a great number of pellets, buzzing when the drum is played. In playing, the drum is not hung horizontally from its suspension cords but slantingly. It is beaten with three drumsticks, about 31 cm. long, tapering from the handle that is about 1,5 cm. wide.

Two men play this drum. The one beating the higher end, presses his left hand against the membrane, modifying the sound produced with the drumstick that is held in the right hand. The other performer is seated on the ground, playing the lower end with a couple of drumsticks, the small pellets inside the drum jumping up and down at every stroke.

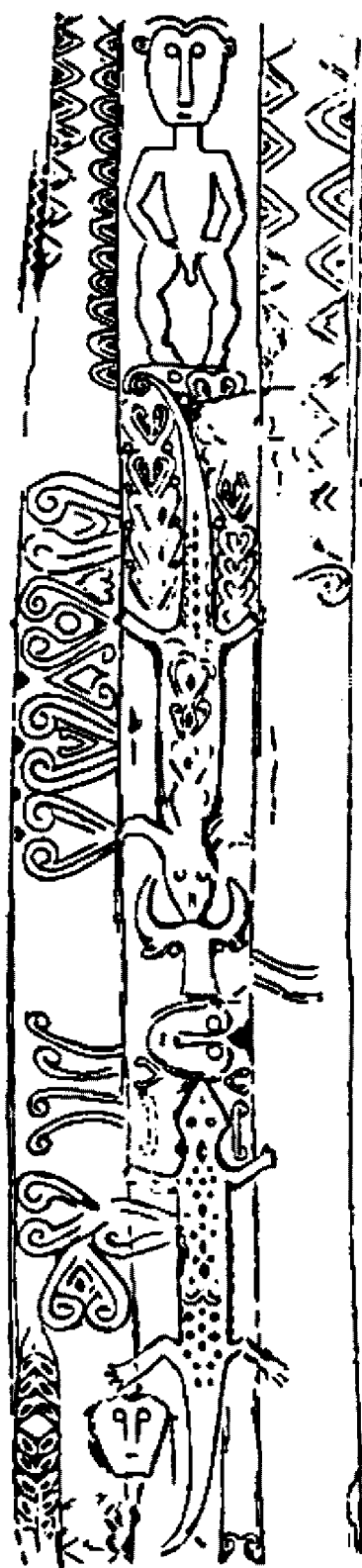
This drum does not seem to be recorded from any other place in Celebes.

In Plate XXVIII, Fig. 2 of ELBERT'S »Die Sunda-Expedition» is seen a rather long double-membrane cylinder drum. The figure is a representation of a native war game at Kolaka in Mengkoka, South-East Celebes. The bracing of the drum lying on the ground, here Fig. 65, is to a certain extent similar to that of the long double-membrane Mongondou drums although more complicated.

*Short double-membrane cylinder drum:*

(Zweifällige Zylindertrommeln v.  
H. and S.) Figs. 66—70.

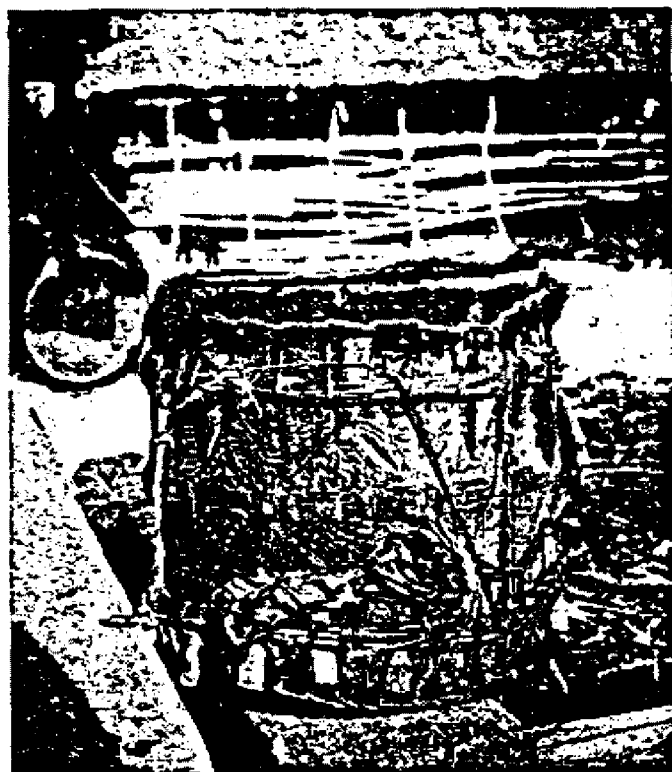
In every Toradja village in Central Celebes that has a temple, are found some comparatively short cylinder drums with two membranes. As a rule these drums are of greater size than the above described single-membrane temple drum. I cannot give any accurate measurements, but the length, I dare say, is never less than 50 cm., the width across the membrane about as much. The drum from Lindoe, for instance, the carvings of which are seen in Fig. 66, has a compass of 135 cm., but this was by no means a big drum but rather smaller than most double-membrane temple drums.



1: 10.

Fig. 66. Wood carvings round the center of an old drum in the temple of Iwongko in Lindoe. N. W. Central Celebes.

MEYER and RICHTER do not give any measurements of this drum, nor do the SARASINS do so, only saying on page 126, Vol. II of their »Reisen in Celebes» that the temple drum from Leboni, which they figure, was a big one (Fig. 67). Sometimes these drums seem to be of huge size, KRUIJT in »De Bare'e-Sprekende Toradja's» writing as follows on page 381: »Men heeft trommen van zeer groote afmetingen,



After SARASIN.

Fig. 67. Double-membrane temple drum from Leboni. Central Celebes.

zoodat de mededeeling, welke men hier en daar in de Toradja'sche verhalen vindt, dat een mensch zich in een trom verbergt, geen fantasie behoeft te zijn.»

Contrary to the single-membrane drums there were in a temple several double-membrane ones, from three to five. I was told in Koelawi and Kantewoe that the usual number was four.

This drum is recorded by several authors. KRUIJT in »De Bare'e-Sprekende Toradja's» has given a good description as well as a figure of it. The proportions of his drum

seem, however, strange, the diameter being two-thirds of the length. Such long and narrow drums I never saw in the north-western part of Central Celebes. The length and the diameter are here almost the same (1 : 1), or nearly the same (15 : 14), which also seems to be the case of the Leboni drum figured by the SARASINS.



After GRUBAUER.

Fig. 68. Interior of the temple of Maboengka. Central Celebes.

GRUBAUER has a photo of the interior of a temple, presumably that of Maboengka, where some double-membrane drums are seen (Fig. 68). It is, of course, rather difficult to estimate the measurements of these drums, but it seems as if they were more long than wide, especially is this the case of the drum on the floor. The width of this drum seems to be four-fifths of the length, proportions being between those of the drum figured by KRUIJT and those of the temple drums found in the north-western part of Central Celebes.

This would perhaps induce us to think that the drums of the Paloe and the Koro Toradja in the west are shorter than those of the Poso Toradja in the east. This may, however, not be the case. KRUIJT has a photo (Fig. 56 of the plates belonging to »De Bare'e-Sprekende Toradja's»), here Fig. 69, in which are seen two boys playing a double-membrane cylinder drum. If the perspective is taken into consideration, we find that the length of this drum is almost the same as the width. To my mind it seems most likely that the proportions of this kind of drum vary a little in the eastern as well as in the western part of Central Celebes.

In Fig. 74 is seen a schoolboy from Lindoe with a big drum, the width of which is three-fourths of the length. The outer border of the body of the drum must not be taken into consideration having been added at a later time. This specimen was originally a drum belonging to the big temple in the Lindoe Island (See Vol. I of this Series, page 143) with carvings all round. When the drum was to be used for the school band, the carvings were cut away, with the consequence that the width of the drum was somewhat reduced. Originally it may have been four-fifths of the length.

The heavy body of this kind of drum is always made from a tree trunk of a leaf tree, never from a palm. The membrane of the drums in Koelawi and Kantewoe were made from the hide of the little wild buffalo (*Anoa fergusonii*). I do not know if any other kinds of hide is used for this purpose in the north-western part of Central Celebes, but KRUIJT, writing of drums in general, in »De Bare'e-Sprekende Toradja's», page 380, Vol. II, says: »Tot trommelvel bezigt men het liefst de huid van herten, geiten of gemsbuffels (*bentji*). Eenig voorschrift hieromtrent bestaat niet.» MEYER and RICHTER, quoting SARASIN, »Ges. Erdk.» Berlin XXX 1895, p. 322, write as follows: »Als Trommelfell wird Büffel- oder Schweine-, seltener Pythonhaut verwendet.»



After KRUIJT.

Fig. 69. Boys playing a double-membrane temple drum. C. Celebes.



I am not convinced that all these kinds of hide are used for the big double-membrane cylinder drums. I suppose it would be almost impossible to use python skin for such a drum. Presumably it may be used for some other kind of drum.

The membranes are braced in the usual Malay manner with a lacing of split rattan and a rattan ring passing round the body. Between the body and the ring wooden wedges are jammed in. The membranes also are braced from one to the other with a long lacing of rattan, either running zigzag, or at some distance from one another.

The body is occasionally adorned with rich wood-carvings, making geometrical designs as in the drum from Leboni figured by the SARASINS (Fig. 67), or representing men and animals as was the case of the single drum that was left in the temple of Lindoe at the time of my visit to Lindoe in 1919 (Fig. 66).

In Koelawi, Tamoengkolowi, Toro, Winatoe, and Pipikoro, the decoration of the drums was very simple, or altogether left out. The latter seems to be the case of the drums made by the Koro Toradja tribes living further to the south, GRUBAUER, for instance, saying the following of the drums of the Rato temple («Unter Kopfjägern», p. 404): »An den 4 Eckpfosten des Lobo hingen unverzierte Holztrommeln.» Also the drums of the Poso Toradja seem to have lacked ornaments.

As a rule, I think, the body of the drums was smooth, possibly with a perforated flange at the middle like a handle for a suspending cord. In some drums there is round the middle of the body a broad, low flange, the edges of which are jagged like a saw.

The drumsticks that I saw the natives using were rather stout but not very long. Sometimes a piece of a branch served for a drumstick.

In »De Bare'e-Sprekende Toradja's» KRUIJT writes as follows of the drumsticks, Vol. II p. 380: »De trommen worden

geschlagen met stukken hout, die den naam dragen van *kodoentoe*, en die in daarvoor bestemde korfjes in den dorps-tempel worden bewaard.»

Such baskets for keeping the drumsticks I never saw in any temple that I examined in the north-western part of Central Celebes.

The double-membrane cylinder drum as a rule is played by two boys, one at each side. This was always the case when I saw the drums in action in Koelawi as well as in Kantewoe. KRUIJT's Fig. 56 in »De Bare'e-Sprekende Toradja's» also shows two boys, each beating his side of the drum (Fig. 69).

In Koelawi and Kantewoe the performer seized the upper edge of the drum, suspended from the roof-truss, with his left hand. Pressing the right elbow against the side, the boys, in playing, only moved their fore-arm. At the beginning of the performance the boys, alternately beating the drum, played at a rather slow pace, gradually increasing into a final regular roll. The quick motion of the arm with the elbow pressed against the side made the body of the performers swing intensely. It is not every boy who knows how to handle the drumsticks in the right manner.

To judge from the above mentioned figure given by KRUIJT, the drum of the Poso Toradja is played in a similar manner.

According to P. and F. SARASIN, at Leboni the method of playing was a little different from the one just described, the boys in playing seizing the drumstick with both hands. We read on page 126, Vol. II of their »Reisen in Celebes» as follows: »Nachdem wir in einer der Logen Platz genommen, traten ein paar Knaben vor und fingen an, die herabgelassen dahängende grosse Trommel zu wecken, wobei sie eine sonderbare Haltung annahmen: sie fassten den Schlägel mit beiden Händen und hielten die Ellenbogen an den Leib gedrückt, so dass sie beim Zuschlagen sich mit dem Ober-

leib fortwährend auf- und abbewegen mussten, was sie mit solchem Eifer ausführten, dass ihr fliegendes Haar hin und herwehte.»

As a rule we find these drums depending from the roof inside the temple. At the village of Lemoe in Koelawi, where there was no temple, the drums were hanging in a house belonging to the former chief of the head hunters, the old Tomai Lingkoe. When there is not a perforated flange for the suspending cord as in the Leboni drum (Fig. 67), the cord is attached to the thongs bracing the membranes. This is the case of the drums in Koelawi and Pipikoro as well as of the drum that KRUIJT represents in the above mentioned Fig. 56 (here Fig. 69).

When not in use, these drums like the single-membrane temple drums are mounted on the joists, or on a shelf in the temple. The Leboni drum according to the SARASINS could be hoisted up and down at will. They write as follows, page 126, Vol. II: »Diese grosse Trommel konnte man mittels einer Rolle herabsenken und hochziehen, wobei ein Stein als Gegenwicht diente.« At Kantewoe the drums were kept in the house of the village head man. The same was the case at the village of Pangana in Tole, but here only a special kind of temple drum called *karatoe* must not remain in the temple after having been used.

According to KRUIJT it was not allowed among the Poso Toradja to keep the drums, when not in use, in a dwelling house. We read as follows on page 388, Vol. II of »De Bare'e-Sprekende Toradja's»: »De bewaarplaats der trommen is de tempel; soms bergt men ze ook wel op in de rijtschuur; maar in de woonhuizen komen trommen alleen dan, wanneer een *woerake*-plechtigheid plaats heeft.«

Originally the drums were used only for religious purposes. At the time of my sojourn in the north-western part of Central Celebes I could not get authentic information of the old customs regarding the temple drums. The old veneration apparently was disappearing, since I

once noticed some boys playing with the drums of the Bolapapoe temple for mere pleasure. As mentioned before, the natives of Lindoe had given up a temple drum to the school band. But still the drums are used at religious performances. Once when the old Tomai Lingkoe had a so called *balia* in order to get some relief from his pain — his legs were so stiff that he could hardly walk — the drums were beaten every day for a fortnight.

KRTIJT in »De Bare'e-Sprekende Toradja's», Vol. II p. 379 tells us the following of the use of the drums among the Poso Toradja: »De trommen worden alleen gebruikt met godsdienstige doeleinden, en wij hebben steeds den indruk gekregen, dat zij, waar ze niet aangewend worden tot begeleiding van den dans, moeten dienen om goden en geesten te roepen bij den aanvang der plechtigheden. Zoo worden een twintigtal dagen vóór het vieren van een groot doodenfeest (*tengke*) de *karatoe*-trommen geslagen, om de afgestorvenen kennis te geven van het voornemen; en op het feest zelf worden de trommen op een bepaalde wijze geroerd (*momeno*) om de zielen der afgestorvenen in den tempel te roepen. Om de zielen der gesneuvelde voorouders kennis te geven van het succes in den oorlog werden, vóór de komst der N. I. Regeering, de trommen geslagen bij de terugkomst van een sneltocht.»

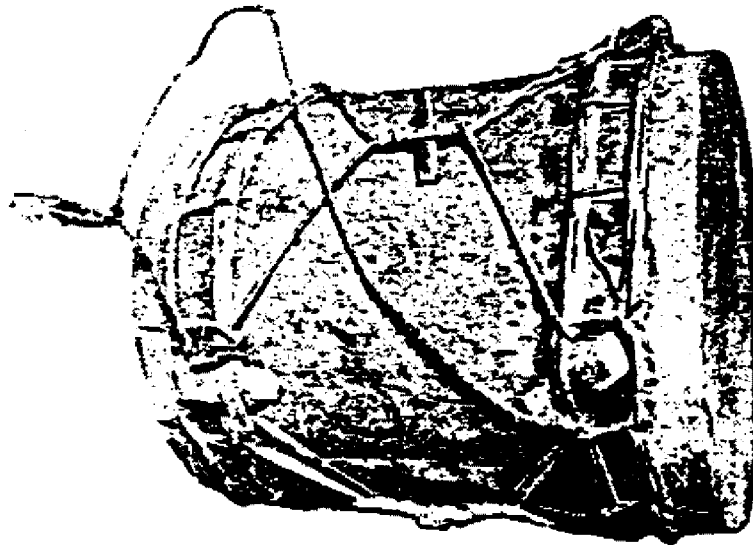
»De dansen, welke met de trom worden begeleid, zijn het *moënde* en het *motaro*.»

On page 380 we read as follows: »Wanneer eertijds . . . een dorp in nood verkeerde bij de nadering van een vijand, werden de trommen in een bepaalden rythmus geschlagen, *boeboeroo* genaamd. Dan werd dat sein door de omliggende dorpen overgenomen, en men snelde de bedreigde stammen te hulp. In zulke gevallen was er alle reden om ook de voorouders te hulp te roepen.»

We do, as yet, not know if this double-membrane cylinder drum occurs in Celebes outside the central part of the island. Neither the SARASINS, nor GRUBAUER have

anything to tell that throws a light upon this question. Travelling in Celebes I myself only saw these temple drums among the Toradja of Central Celebes. In Minahassa in North Celebes, as well as in South Celebes, and at some other places occur, however, double-membrane drums, but the question is if not the majority of these drums are of another type than the Toradja drum.

There is, however, at some places a similar drum, although not used in a temple. At the village of Modajag in Bolaang Mongondou I got a small double-membrane



1: 5-

Fig. 70. Small double-membrane cylinder drum from Modajag, Bolaang Mongondou, North Celebes.  
(Kaudern coll. No. 319.)

cylinder drum with membranes braced in the usual Malay manner with lacings of split rattan and wooden wedges (Fig. 70). The body of this specimen, No. 319, measures 24,5 cm. in length. The diameter of one end is 20 cm. that of the other 18 cm. The natives said it was used to accompany their dance. The native dancing originally very often being performed in connection with religious feasts, it may then be that this small Mongondou double-membrane drum is a remainder from heathen times, having now lost its religious character.

The drum is played with a single stick, a small twig as thick as a finger. It hangs down in front of the performer who is seated on the ground with the drumstick in his right hand, the left hand tapping the opposite membrane.

Outside Celebes this drum seems to occur at many places in the Malayan region, BUSCHAN in »Ill. Völkerkunde«, Vol. II, p. 889, writing as follows: »Aus den zahlreichen Formen seien hier nur zwei herausgehoben: grosse, aus einem ausgehöhlten Baumstamm hergestellte und an beiden Enden bespannte *Röhrentrommeln*, die meist im Junggesellen- oder Versammlungshaus aufbewahrt und bei religiösen Festen geschlagen werden (Katschin, Luschei, Zentral-Sumatra, Luzon, Dayak, Celebes, Wetar usw.).«

SACHS in »Die Musikinstr. Indiens u. Indonesiens« has not much to tell of the geographical distribution of this drum. On page 73 we read the following: »Hinterindien, das Land, in dessen Boden sich drei grosse Kulturen teilen, hat auch einen an Schattierungen reicheren Bestand von Fasstrommeln. . . . . im Süden, in den Malaiischen Schutzstaaten, hat den Malaiën eigene Spannung mit Stuhlrohr (*rōtan*) Eingang gefunden.« And on page 75: »Bei der Fasstrommel des Archipels (malaiisch *gēndan*, dayakisch *gandan*, javanisch *kēndan*, auf Flores *gandar*, atjeh *gōndēran*, makassarisch *gānran*, buginesisch *gānran*, To-Radja-Sprache *gimba*, batakisch *gordan*, *gondan*) herrscht, wie wir schon andeuteten, die Rōtanspannung vor.« Sachs also refers to his Fig. 5 representing a Javanese *gamelan*.

All the drums enumerated by SACHS cannot possibly be double-membrane cylinder drums braced in Malay manner, because the two drums found in Fig. 5 are not of this kind, one being a big drum called *gāmbāng* with the membranes nailed to the body. The other drum, according to the text called *kēndan*, is not braced in the Malay manner either, having no wedges jammed in between the rattan ring and the body of the drum. This seems to be some kind of Indian type.

As to the Dayak name *gandan* it is to be noticed that according to the catalogue the Leiden Museum possesses a great number of Dayak drums, some of which are called *gandan*, but they all are single-membrane drums.

The Macassar name for drum is according to MATTHES *ganrang*, but the figure given to explain this word has nothing to do with the double-membrane cylindrical drum in question. It is a conical drum (Fig. 73). I am coming back to this later on.

If we want an answer to the question whether this drum is a native instrument of Celebes, or introduced into the island with the migrating Toradja, it will be necessary to study the geographical distribution of this type in the Malayan Islands in a richer material than the one at my disposal.

*Barrel-shaped drum with plugged membranes.*

(Fasstrommel v. H. and S.)

Fig. 71.

This type of drum, the home of which is Eastern Asia, has, as yet, not been recorded from Celebes. In the temple of Soengkoe in Koelawi I found, however, two specimens, apparently very old and in rather bad condition.

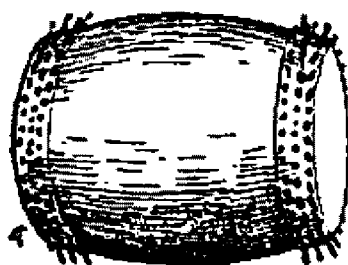


Fig. 71. Double-membrane barrel-shaped drum from the temple of Soengkoe in Koelawi. Central Celebes.

The body of these drums was about 75 cm. long, barrel-shaped, at least one of them fitted with a perforated flange at the middle for the suspending cord. The membranes were attached to the body by means of rather long wooden plugs arranged in three rows (Fig. 71).

It does not seem likely to my mind that these drums were manufactured in Koelawi. Presumably they came

from the coast where a great number of Chinese merchants live, either they were acquired by robbery, or in a more honest manner, by change or purchase.

*Hour-glass shaped drum.*

(Sanduhrtrommel v. H. and S.)

Fig. 72.

This drum seems only to be known by one specimen from Celebes, procured in the district between Lake Matano and Lake Towoeti, by GRUBAUER. In »Unter Kopfjägern in Central-Celebes» he figures on page 105 this drum that he got at the village of Leoka, but he does not mention anything as to the use of it, or of its make (Fig. 72).

The drum of this kind mentioned by SACHS in »Die Musikinstr. Indiens u. Indonesiens» seems to be the GRUBAUER specimen in the Berlin Museum although the drum to which SACHS refers is from Tabarano, and GRUBAUER's drum from Leoka. No doubt the names are confounded here, GRUBAUER according to his own account having got the drum during a halt at Leoka, marching from Tabarano to Wowondoela.

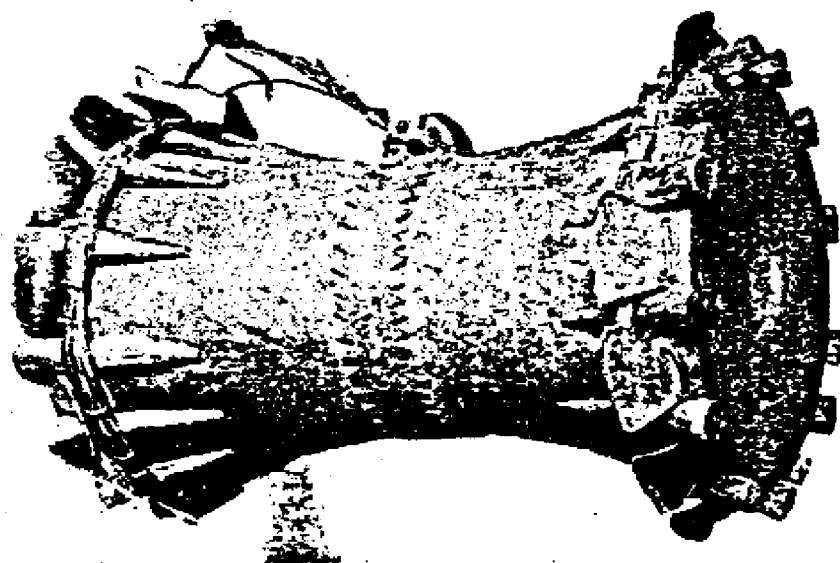
On page 77 of »Die Musikinstr. Indiens u. Indonesiens» SACHS says that the hour-glass shaped drum, if we take this word in its strict sense, does not occur in Celebes, but if we take the word in a wider sense there is such a drum also in Celebes. He writes as follows:

»Die Berliner Sammlung hat ein auffallendes Stück von Tabarano im Südosten der Insel, dessen Felle derart geschnitten sind, dass zwischen den einzelnen Spannbändern überschüssige Lappen am Rande herauspringen. Die nur geringe Einziehung des Körpers weist nach der Südsee hin. Dagegen deutet die seltsame Anordnung des Spannapparats auf die Herkunft von der Bechertrommel; nicht wie sonst bei zweifelligen Trommeln werden beide Membranen durch die Bänder verbunden, sondern von jedem Fell laufen kurze Rötanführungen längs zu einem durch Keile gehobenen



Abschlussring, genau wie bei den indonesischen Bechertrommeln.»

Against this some objections may be raised. SACHS says that the membranes of the two ends should be braced from one to the other, which is quite the opposite of my experience of the double-membrane cylinder drums from Celebes, the membranes of all of them being attached to the body just in the manner that SACHS says is characteristic of the so called egg-cup shaped drums. The rattan



After GRUBAUER.

Fig. 72. Double-membrane hour-glass shaped drum from Leoka. South-East Celebes.

rings to which the membranes are braced, may, in some cases, be joined by means of lines of rattan, or vegetable fibre (of the sugar palm), but this is a feature of secondary rank, not being of capital importance to the bracing of the membranes.

The similarity with the drums from the South Pacific is not especially striking I think, those drums being comparatively long and narrow, one end open, the membrane braced in quite another manner than is the case of the Leoka drum. Nor do we know of any intermediate forms of drum that could be expected to occur in the

islands between Celebes and New Guinea where the South Pacific type of drum also is found.

It is difficult to say from where the Leoka drum came to Celebes, but possibly it came from the west, drums of this type occurring, or having occurred in India. The Indian drums, however, are much narrower at the middle than the Celebes specimen.

SACHS conjectures that the Indian drum possibly may have evolved from the Tibetan drum, the body of which is made from two human calottes, with their bowls back to back. Against this theory speak, however, some old Indian paintings. On page 77 SACHS writes as follows: »Dagegen spricht aber eins: die älteste mir bekannte Darstellung einer vorderindischen Sanduhrtrommel — auf den Malereien der ersten Höhle von Ajanta in Khandesh, ca. 700 n. Chr. — stellt ein langgezogenes, nur wenig eingeschnürtes Holz-instrument dar, entfernt sich also von der tibetischen Schädeltrommel noch mehr als die heutige.»

From this it seems as if in India formerly a drum had occurred, the body of which was only slightly drawn in at the middle. If this drum should have found its way to the Malayan Islands during the Hindoo period that lasted more than one thousand years, it would not be astonishing, nor would it be surprising to find this model still being kept at some places.

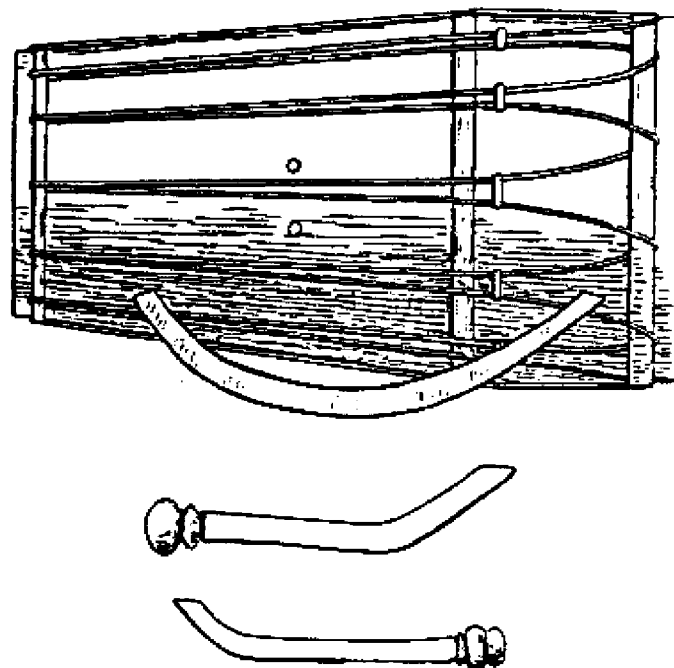
#### *Conical drum.*

(Konustrommel v. H. and S.)

Fig. 73.

I myself have not seen any drum of this kind in Celebes, but MATTHES in the Atlas belonging to his »Makas-saarsch Woordenboek» figures a drum (Plate 8, Fig. 17) that perhaps should be classed with the conical drums. In the figure in question is represented a double-membrane drum one end of which is much wider than the other. In

the figure the proportions between the smaller diameter, the length, and the bigger diameter are 24: 59: 32 (Fig. 73). Each membrane seems to be jammed in a ring of rattan passing on top of it round the drum. From one ring to the other there runs all round the body a long zigzag lacing of rattan called *gantayang* which is braced by means of small rings, possibly of rattan, holding two bracing lines and being pushed as far as possible toward the wider end, just in the



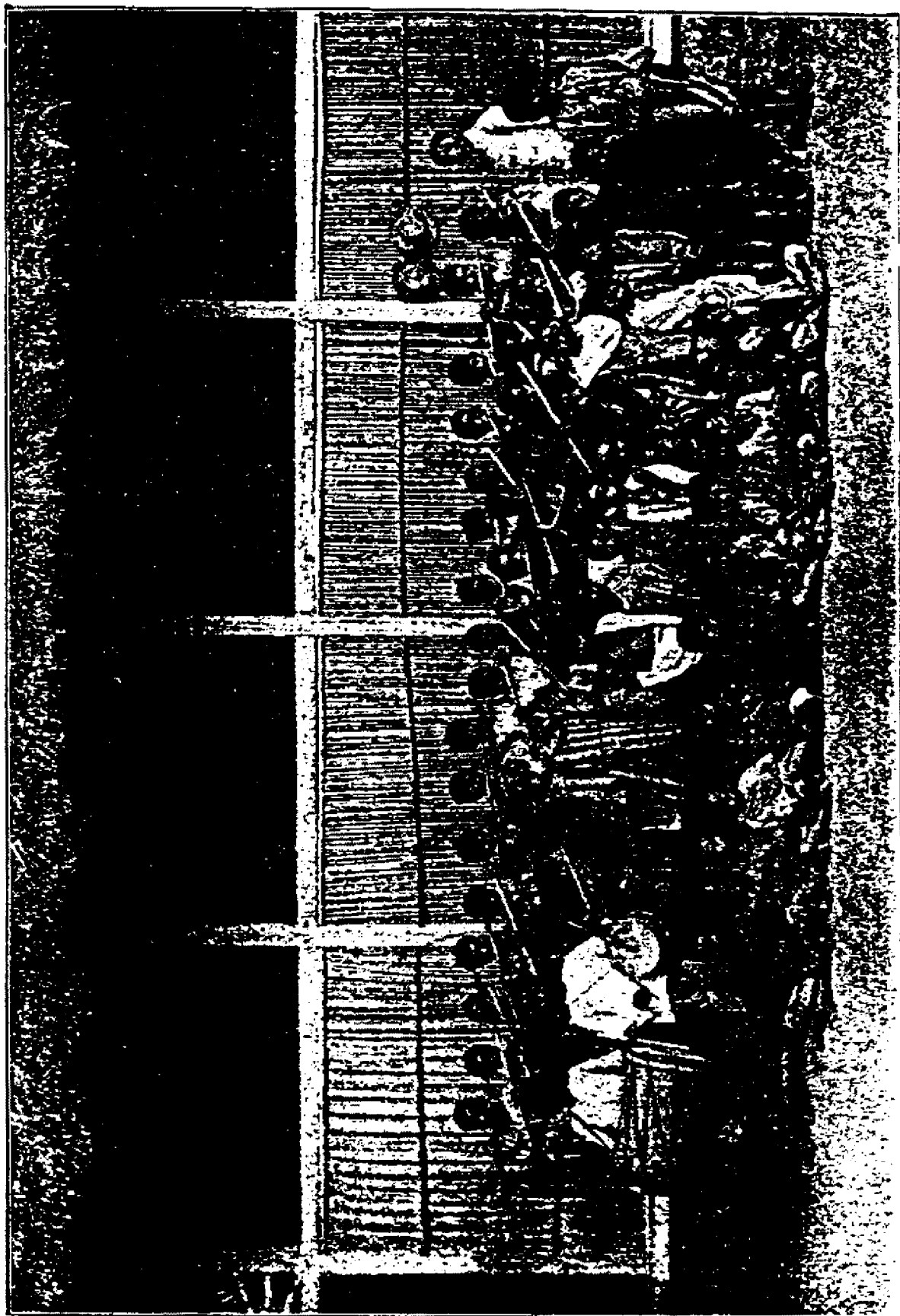
After MATTHES.

Fig. 73. Double-membrane conical drum from South Celebes.

same manner as the metal rings of the Bengal drum called *dhōlaka*.

Whether similar drums occur at other places in Celebes I do not know for certain, but presumably they do so. MEYER and RICHTER in Plate III give two original water colours from 1839 in which are represented native dances and musical instruments from Minahassa. In one of these water colours there is a man with a drum in his lap, perhaps of the same kind as the drum figured by MATTHES.

The membranes of the conical drum being braced in Indian manner, and the drum only occurring in Celebes in



W. KAUDERN Photo.

Fig. 74. School band of Jindoe, N. W. Central Celebes.

those parts of the island where the influence of foreign cultures was rather strongly felt, makes it likely that this drum is no native instrument of Celebes. Presumably it was introduced from India during the Hindoo period of the Malay Archipelago.

A similar bracing of the membranes we find in some other drums as will be seen in Figs 74 and 75, being represen-



W. KAUDERN Photo.

Fig. 75. School band of Pinapoean, Lojnang. North-East Celebes.

tations of the schoolboy bands of Lindoe in Central Celebes and of Pinapoean in North-East Celebes. In Fig. 76 are represented the drummers of the Sultan of Boeton with their drums. They are of European pattern, presumably relics from the sixteenth and the seventeenth century when the Dutch East India Company ruled the Malayan Archipelago. The bracing of the membranes is that of the old European drum, the same being the case of the drums given

in the other two figures, which is not astonishing, the schools being established by Europeans, and the schoolmasters, whether they are Ambonese or Menadonese, having been trained by European masters.



W. KAUDERN Photo.

Fig. 76. Drummers of the Sultan of Boeton.

*Cup-shaped drum.*

(Bechertrommel v. H. and S.)

Fig. 77. Map 5.

The body of these drums is more or less shaped like an egg-cup, fitted with a single membrane. This type, that according to SACHS has a very wide geographical distribution, from the north-western part of Africa through the northern coast of that continent, and southern Asia to the islands of the South Pacific, is also found in Celebes.

Here it seems to occur only in Central Celebes, and possibly only among the Toradja. There are, as far as I

am aware, no written records of this drum from any other part of the island, and I myself never saw it when travelling in North, North-East, or South-East Celebes. In Central Celebes this drum at present seems to be getting out of use.

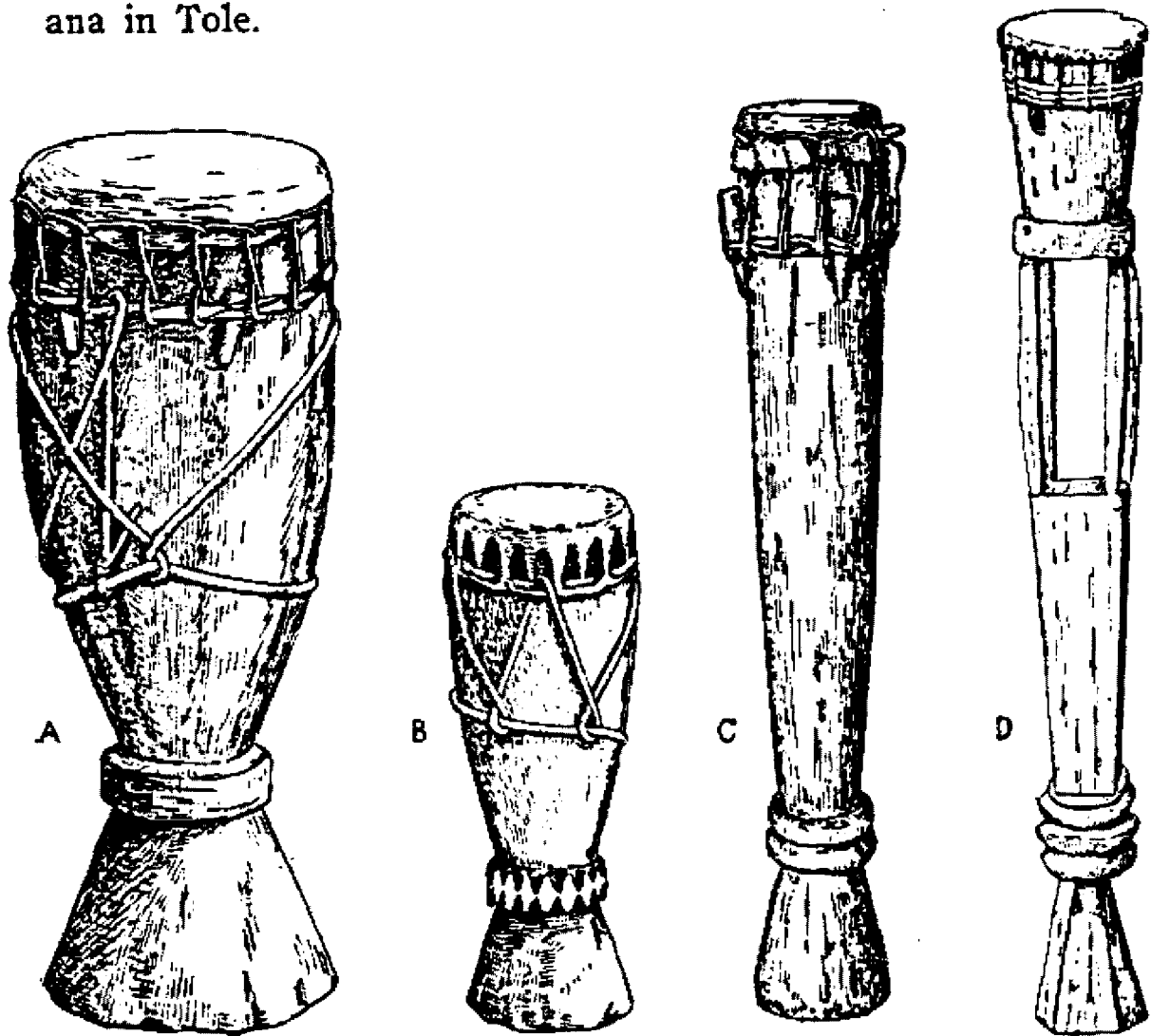
The name of these drums, that seem to have been the drums of the priestesses, is in Central Celebes generally *karatœ*. The body and the stand are cut in one piece of wood. In some drums the body is connected with the stand by means of four pillars cut out from the wood, but the stand of the *karatœ* is never hollow as generally seems to be the case of the single-membrane egg-cup shaped drums to judge from the Leiden catalogue. The use of the *karatœ* is different, possibly owing to the construction of the stand. In »Die Musikinstr. Indiens u. Indonesiens» p. 68 SACHS writes as follows: »Die Bechertrommel wird in Indonesien in der Regel über die linke Schulter gehängt, mit dem linken Ellbogen fest gegen die Seite gedrückt und mit den Fingern beider Hände gespielt.»

According to KRUJIT the *karatœ*, contrary to other drums, stands on the ground when played upon. The drums of this kind that I saw at the village of Pangana were played standing on the floor, the biggest specimen being much too heavy to hang on the shoulder.

There are in Central Celebes at least three types of egg-cup shaped drum, although the bracing seems to be the same in all of them, similar to that of the cylindrical drums (Fig. 77). Whether the three types are confined to special districts or not I cannot tell, having references only from a few places.

As to the *karatœ* of the Poso Toradja, KRUJIT in »De Bare'e-Sprekende Toradja's» gives a figure that presumably represents the common type of *karatœ* occurring among the natives of the eastern part of Central Celebes. On page 380 of Vol. II he writes as follows of this drum: »De *karatœ* eindelijk is een lang smal stuk hout, waarvan alleen het bovenste gedeelte is uitgehold en met vel bespannen.»

GRUBAUER figures another kind of *karatoc* from the temple of Maboengka, a village inhabited by a southerly tribe belonging to the group that I have called Koro Toradja. The third type is the one that I met with at Pangana in Tole.



A, B 1:10.

Fig. 77. Cup-shaped drums. A, B from Pangana in Tole. N. W. Central Celebes. C from Maboengka. Central Celebes (After Grubauer). D from the Poso Toradja (After Kruijt.)

When I visited this village in 1918, three old *karatoc* were kept in the dwelling of the village headman. It was impossible to acquire a single specimen for my collection, and the only thing for me to do, was to make a sketch and some notes.

The shape of these drums is seen in Fig. 77 A, B. The height of the biggest one was nearly 75 cm., that of the



smallest one not fully 50 cm. The third one was of intermediate size, and not being of special interest, I did not figure it. The membrane of this specimen as well as of the big one was braced in the ordinary manner with a ring of rattan passing round the body and a lacing of rattan, with the addition of wooden wedges (77 A). Besides, a line of rattan, wound round the body kept the ring in place.

The membrane of the small drum was braced in another manner. In the edge of the membrane were a number of holes close to one another, and through these perforations a strong rattan was passed round the drum, attaching the membrane to the body. Lower down there was another rattan ring connected with the upper one with a lacing of strong rattan (Fig. 77 B). No wedges were used.

None of the drums had any ornaments, if we do not count a flange between the body and the stand. In the smallest drum the edges of this flange were jagged like a saw (Fig. 77 B).

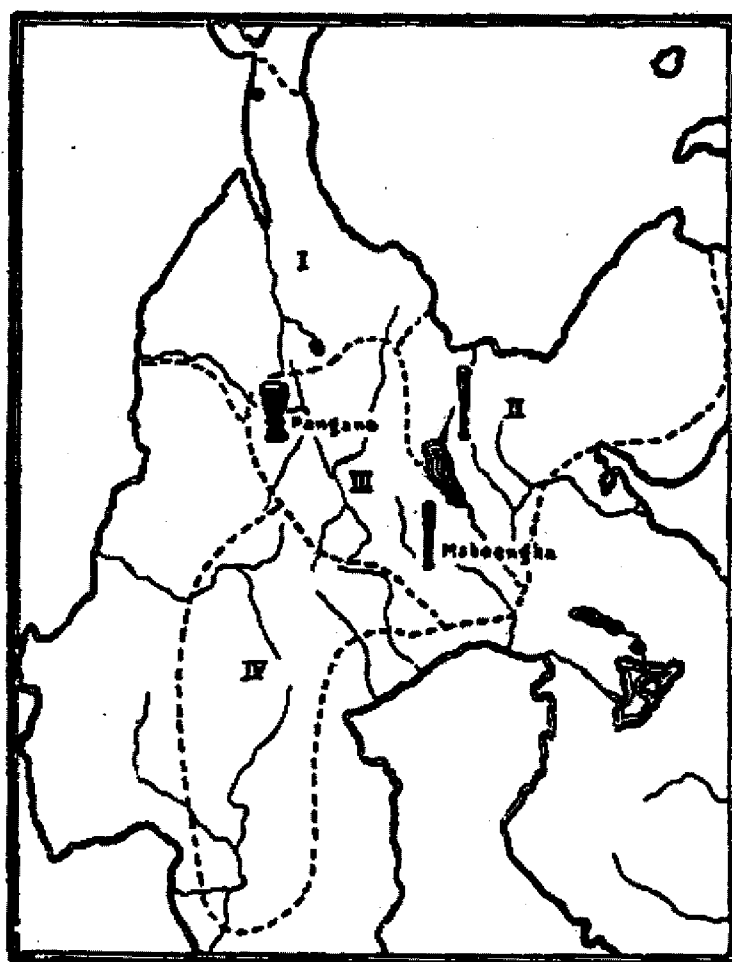
The body of the Maboengka *karatoe* is rather thin (Fig. 77 C), the membrane is braced in the usual manner, the base of the stand is rather small, and there are two parallel flanges between body and stand.

The *karatoe* of the Poso Toradjaas (Fig. 77 D) figured by KRUIJT, has a rather peculiar shape. The body looks like a pail on four high legs, resting on a square block of wood. Below the block three flanges are cut out on top of the round or angular base of the stand. The membrane is braced in the same manner as in the Maboengka drum.

These types of egg-cup shaped drum also are found at different places in the Malayan Islands. According to RIEDEL there are in Boeroe egg-cup shaped drums, and these drums seem to bear a strong resemblance to my Pangana *karatoe*. The Maboengka type occurs at many places, and SACHS figures a drum from Kisser similar to the Poso Toradja *karatoe*, but with the difference that there

are only two legs in the Kisser drum. According to SACHS drums with legs also are found in Africa.

Evidently the drums occurring in Celebes are of different age, the early forms presumably being used by the first Malay inhabitants of the country, other forms being introduced into Celebes in later times.



Map 5. Different kinds of the temple drum called *karatos* in Celebes.  
I Paloe, II Poso, III Koro, IV Saadang Toradja.

The European type no doubt is a type of late date here, being brought to the East in the sixteenth or the seventeenth century, presumably appearing in Celebes in connection with the Christian mission.

The frame drum that we meet with now here, now there, is in all probability connected with Mohammedanism, and if so of young age in Celebes. The same is no doubt

the case of the Bengal conical drum figured by MATTHES. It was no doubt introduced from Java with other instruments belonging to the Javanese orchestra called *gamelan*. At what time this happened is difficult to say but it seems likely to my mind that it was in the fourteenth or the fifteenth century during the time of the Madjapahit realm. That this drum never got a wide range in Celebes may be owing to the fact of its being part of the *gamelan*, a set of instruments that only the great could afford to buy.

As to the age of the hour-glass shaped drum from the tract of Malili it is difficult to pronounce an opinion, but as mentioned before, there is the possibility of its being of Hindoo origin.

The two barrel-shaped drums from Soengkoe no doubt are strangers in Celebes, the type not being found at any other place in the island.

Leaving out of consideration these types, which all are of comparatively late date in Celebes, we have only cylinder drums and egg-cup shaped drums that may be more or less native in Celebes, although of different age and presumably belonging to different cultures. The long stretched double-membrane cylindrical drum from North Celebes, for instance, no doubt developed along another line than the double-membrane cylindrical drum of Central Celebes.

It is at present impossible to tell which is the earlier of the two, the egg-cup shaped type, or the cylindrical one, but among the cylindrical drums the single-membrane type no doubt is earlier than the double-membrane one. Among the single-membrane drums I should say the small bamboo drum is the earlier type, possibly originally belonging to some of the first settlers in Celebes, and at present a toy.

In the following table I have ventured to arrange the drums according to their age, beginning with the earliest type.

1. Single-membrane cylinder drum made from bamboo (toy);
2. Single-membrane cylinder drum made from palm wood or other wood;
3. *karatoe*, possibly of the same age as No. 2;
4. double-membrane temple drum;
5.       »       »       long drum;
6. hour-glass shaped drum;
7. conical drum; frame drum;
8. school-drum and barrel-shaped drum.

### C. CHORDOPHONES.

Among the Toradja of Central Celebes we meet with some stringed instruments. They do not seem to be very common, however, nor do we find any great variety of forms. The same may be said of the rest of the island. In the table below are given all the stringed instruments that I procured in Celebes as well as those that I have seen in the museums of the Continent.

#### A. *Bar-zithers* (Stabzithern v. H. and S.):

1. with a gourd or coconut resonator; bar straight, between the bar and the resonator is interposed a piece of bamboo..... Type I a.
- b. bar arched, id. .... Type I b.
- c. bar arched, between the bar and the resonator is interposed a piece of bamboo as well as a collar of wood, or the middle piece is altogether of wood ..... Type I c.
2. without a resonator, bar scooped out, serving as a resonator ..... Type II.

B. *Bamboo-zithers* (Röhrenzithern v. H. and S.):

1. without a resonator
  - a. with one, two, or more strings on both sides of one hole ..... Type III a.
  - b. with four string, two pairs of holes ..... Type III b.
  - c. with one string, flanked by a hole ..... Type III c.
2. resonator of a palm leaf..... Type IV.

C. *Spitted lutes* (Spiesslauten v. H. and S.):

1. the handle is made of a single rod; one string, no tuning-peg (*geso geso*) ..... Type V.
2. the handle composed of two or three parts; one or two strings with tuning-pegs
  - a. wooden handle (*rebab*) .....
    - \* Celebes *rebab*, one string, carved handle..... Type VI a.
    - \*\* Javanese *rebab*, two strings, turned handle ..... Type VI b.
  - b. handle of bamboo (*arababoe*) ..... Type VII.

D. *Neck-lutes* (Halslauten v. H. and S.):

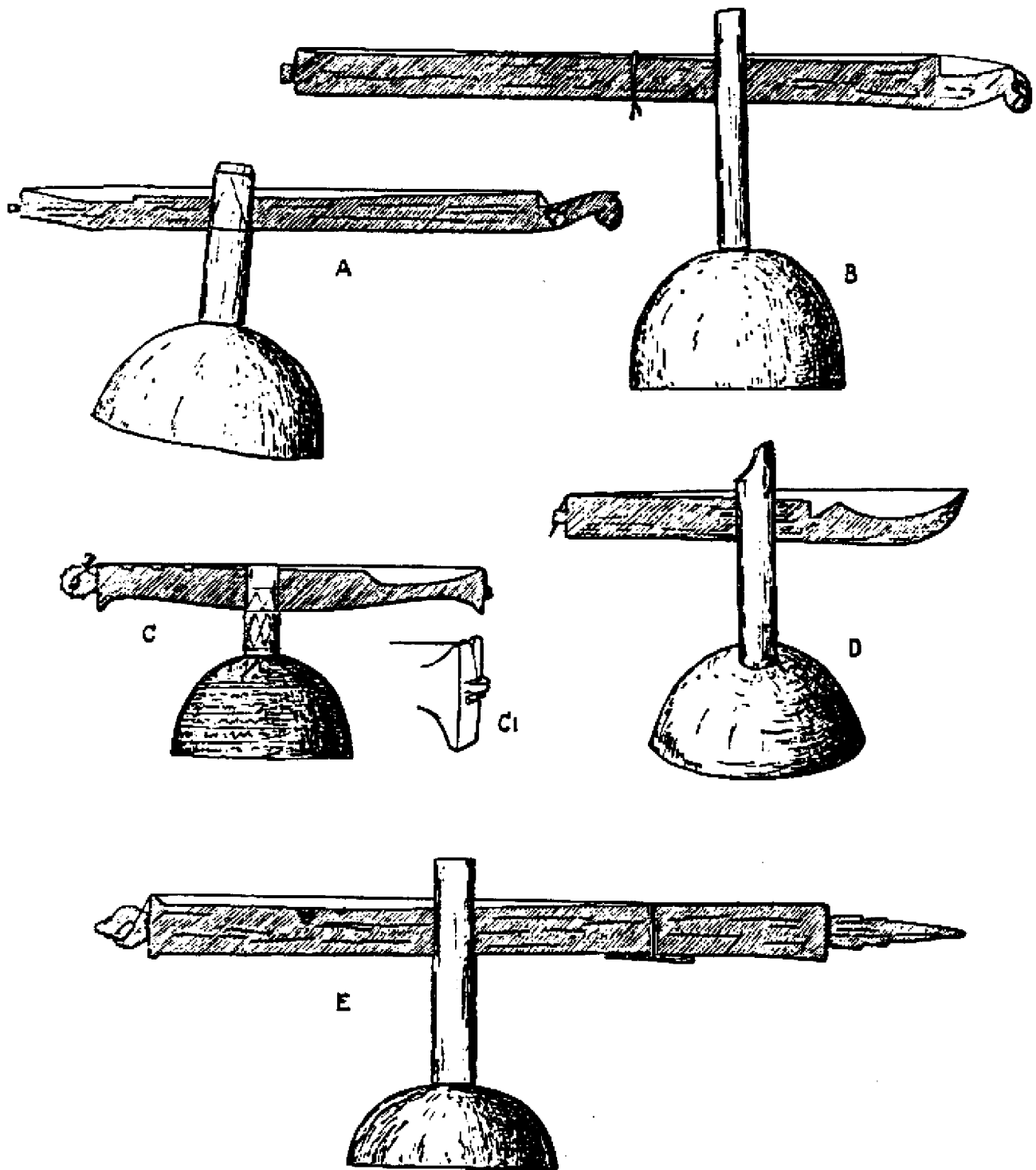
1. bout-lute (Bootlaute) ..... Type VIII.
2. *gamboes* (Arabic lute) ..... Tye IX.

## Bar-zithers.

(Stabzithers v. H. and S.)

Figs 78—85. Map 6.

The simplest form of this stringed instrument consists of a laterally flattened bar of wood about 30 to 60 cm. long, 25 to 30 mm. high, along one edge of which a string is stretched. One end of the bar is generally pointed, or it ends in a peg round which the string is wound. The other end of the bar, the head, is generally carved in some manner, ma-



D after KAVIJT 2:6.

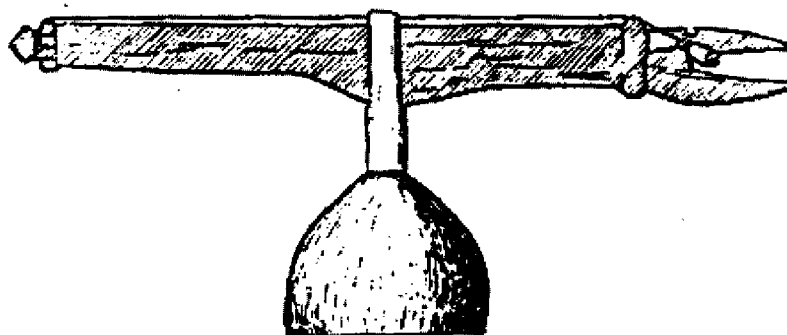
Fig. 78. Bar-zithers. A from Koekoe, B from Tentena, D from the Poso district, C, E from South Boengkoe. (A Dresden Mus. No. Ic 38654; B Kaudern coll. No. 2364; C id. No. 2576; E id. No. 2577.)

king a simple ornament. This is perforated to hold a wooden tuning-peg, to which is attached the other end of the string.

The shape of the bar varies, sometimes being only a straight piece of wood (Type Ia, Figs 78, 79), sometimes

being more or less arched, in which case one end is usually much thinner than the other (Type I b and c, Figs 80—82).

As a sound-board, serves in all these zithers the half of a coco-nut shell or a gourd, on the top of which is attached a piece of bamboo, notched out at the other end to hold the bar. The resonator is fastened near the center of the instrument by means of a string, knotted through a hole in the bar, passing through the bamboo and holding the resonator by means of the string, being knotted through two perforations in the resonator, which is braced to the bar by twisting it once or twice round itself (Figs. 78—84).



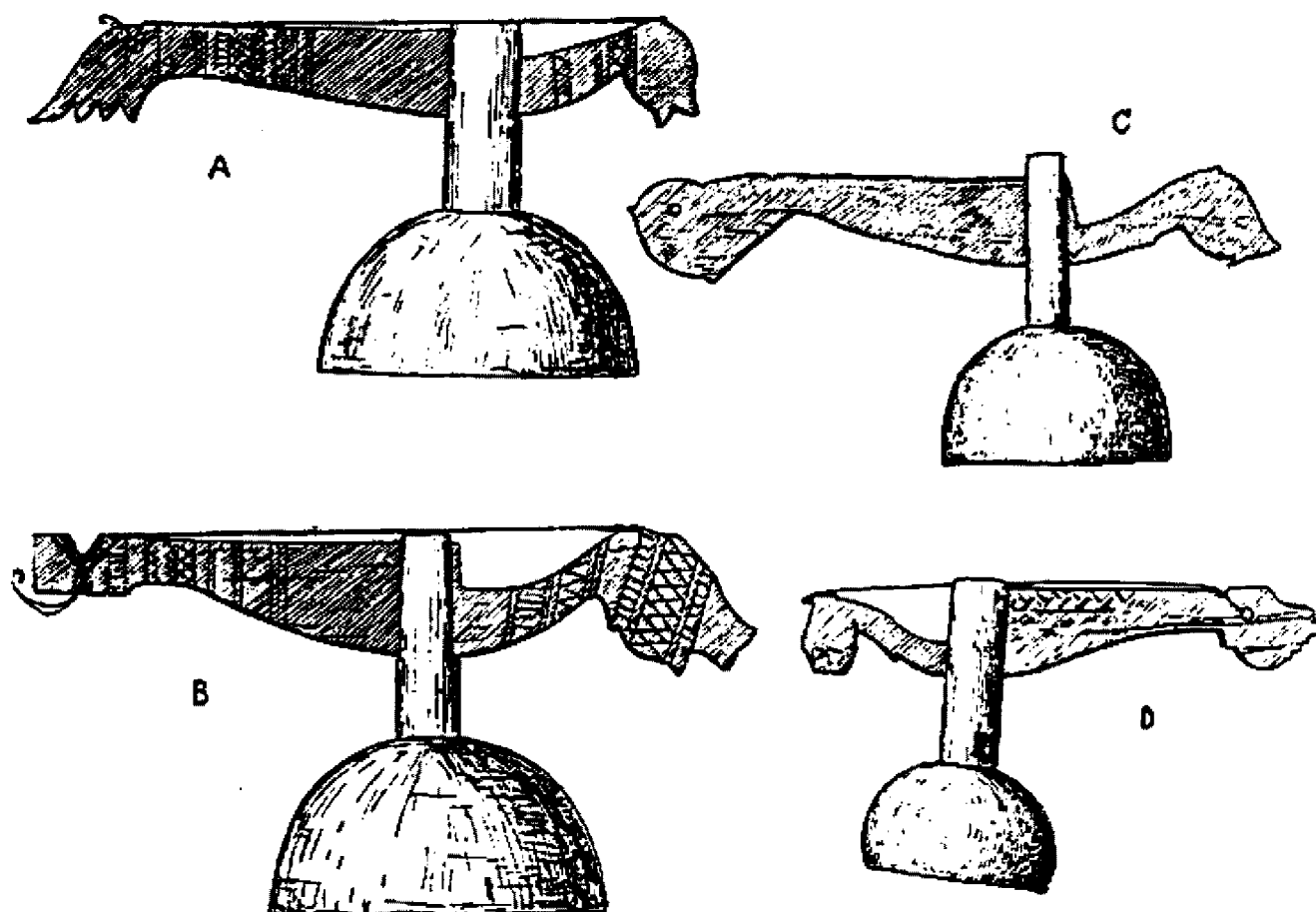
1: 6.

Fig. 79. Bar-zither from Mojag, Bolaang Mongondou.  
North Celebes. (Kaudern coll. No. 681.)

We do not know very much of the occurrence of this instrument among the Toradja. KRUIJT describes and figures it, calling it in Dutch *éénsnarig harp*, in Bare-e *doende* (Fig. 78 D). I suppose this instrument generally to be found among all Bare-e speaking tribes, since KRUIJT does not mention any special tribes. The Berlin Museum has a specimen No. Ic 38654, acquired by GRUBAUER at Koekoe, a village on the Poso River, inhabited by Bare-e speaking natives (Fig. 78 A).

Travelling in Celebes I very seldom saw this instrument. Among the Poso or Bare-e Toradja I only twice met with a bar-zither, once at Poso, and once at Tentena north of Lake Poso. The latter specimen was acquired for my collection (Fig. 78 B). Among the Paloe and Koro Toradja

I never saw this instrument. This does of course by no means prove that it is unknown to these tribes, but I dare say it cannot be a common instrument with them. SACHS in »Die Musikinstrumente Indiens u. Indonesiens» p. 88 records the bar-zither from Kageroa, a village situated in the western part of the district of Bada, inhabited by



A, B after GRUBAUER; D after MEYER and RICHTER. 1:6

Fig. 80. Bar-zithers from the tracts of Lake Matano. South-East Celebes. A and B from Soroako and Karonsië (GRUBAUER); C and D from Soroako (SARASIN.)

(C Basel Mus. No. II c 598, D Dresden Mus. No. 18506.)

natives belonging to the group that I have called Koro Toradja.

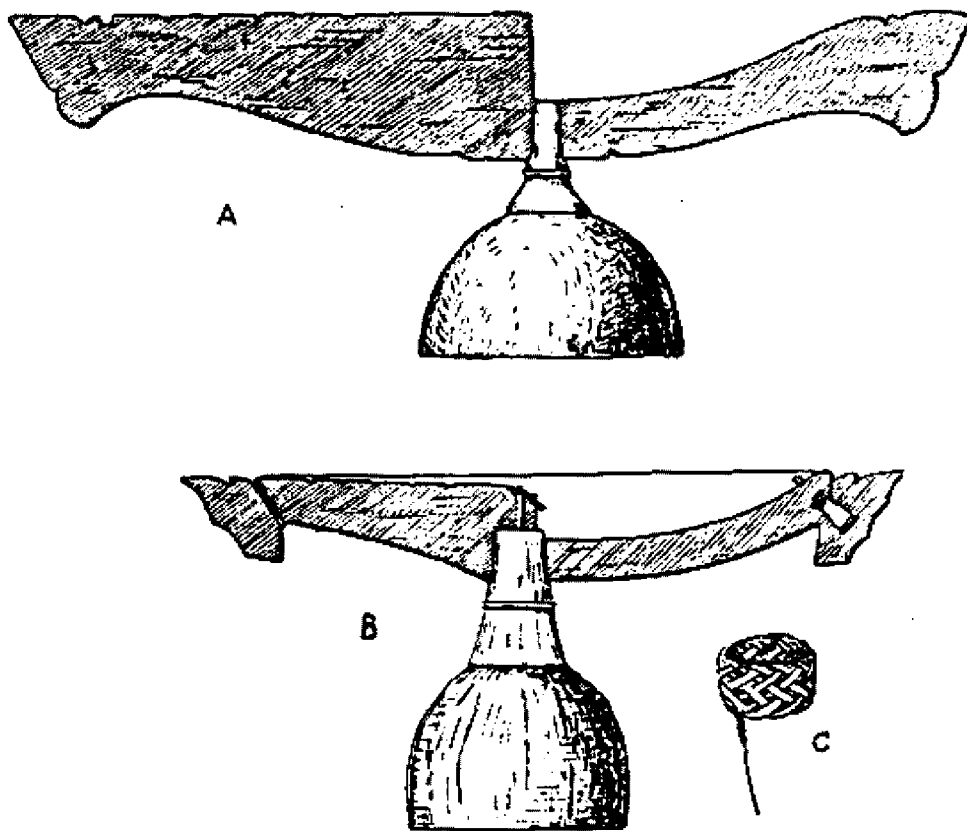
MEYER and RICHTER describe two specimens of bar-zither in the SARASIN collection (Nos. 570, 571), procured at the village of Soroako<sup>1)</sup> south of Lake Matano. The native

<sup>1)</sup> MEYER and RICHTER write this name Sarawako, GRUBAUER Soro-wako, the Dutch maps give Soroako.



name is said to be *santung* (Fig. 80 C, D). GRUBAUER also mentions this instrument from the same locality as well as from Karonsië<sup>1</sup>), a village situated just south of Soroako. The native name is said to be *sosanru* at Karonsië (Fig. 80 A, B). MEYER and RICHTER record a specimen in the Dresden Museum from Tonkean in North-East Celebes (Fig. 81 A).

My own collection from Celebes contains two specimens from South-Boengkoe, one from Lonas (Fig. 81 B) in North-



A, B 1:6; C 1:1

Fig. 81. Bar-zithers from North-East Celebes. A from Tongkean, B from Lonas (*talindo*) with plectrum C.

(A Dresden Mus. No. 12774; B Kaudern coll. No. 2632.)

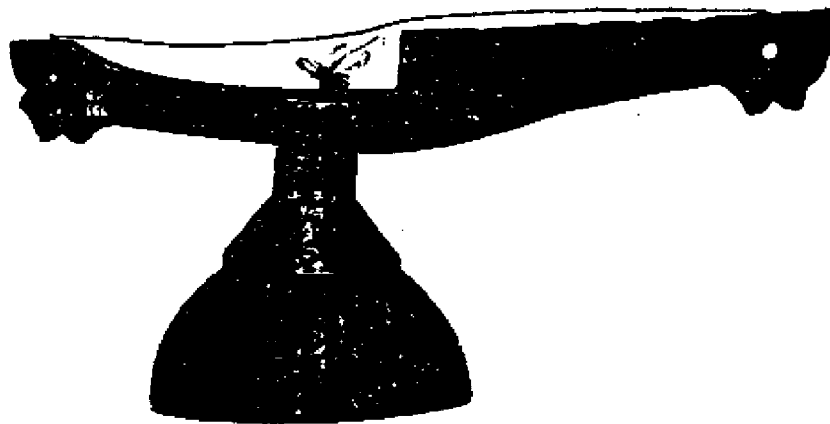
East Celebes, and another from Mojag in Bolaang Mongondou, North Celebes (Fig. 79).

No doubt the bar-zither occurs a little everywhere in Celebes being an instrument also known in some of the islands east of Celebes, but it seems as if the instrument was

<sup>1</sup>) With GRUBAUER Karongsie. Dutch maps Karonsië.

chiefly confined to the coast districts of Celebes and to districts easily communicating with the coast. In the inaccessible mountain districts of the western part of Central Celebes it seems to be rare, or altogether missing.

In all probability the bar-zither is no real Toradja instrument, *i. e.* an instrument already known to these natives when taking possession of Central Celebes. It does not seem likely to me that it originally was known all over Central Celebes, having for some reason or other gone out of use



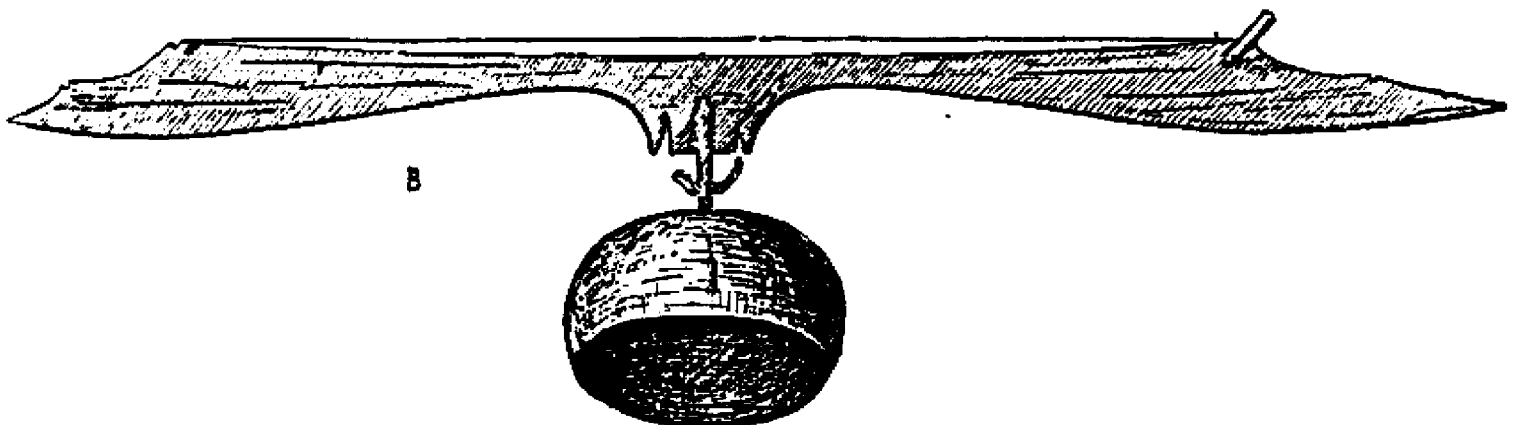
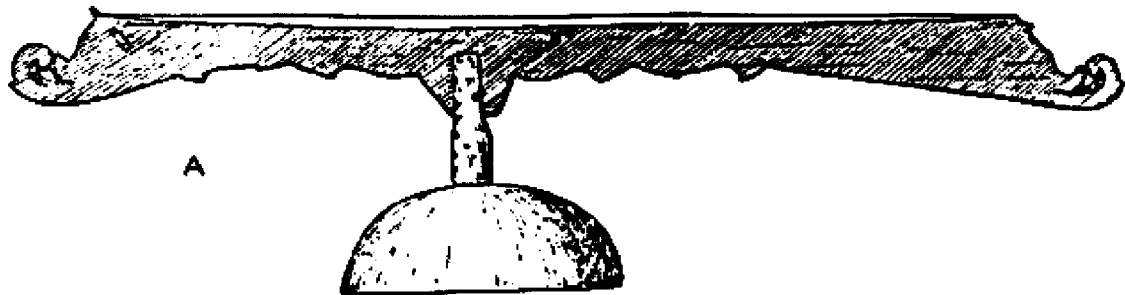
Leiden Mus. Photo.

Fig. 82. Bar-zither from Banggai. (Leiden Mus. 793/9.)

at present. The volume of the sound of the bar-zither is rather small, but there is in Central Celebes no other stringed instrument of greater strength and more specialized construction that may have ousted the bar-zither. Our present material from Central Celebes is, however, too small to allow any conclusions as to the age of the instrument in this part of Celebes.

As mentioned before, the bar-zither varies to a certain extent, the varieties being very likely confined to special geographical areas. In Celebes we distinguish at least three different types. The simplest of these types, the handle of which consists of a straight wooden bar (Figs 78, 79), seems

to have a rather wide distribution, being known from Mongondou as well as from Central Celebes. The second, more specialised type with a somewhat arched handle, one end of which is narrow, as yet recorded from South Boengkoe, Soroako, and Karonsië, may be a more easterly form (Fig. 80). The third type seems only to occur in North-East Celebes but it may also be found in the Banggai Islands (Figs



1: 6

Fig. 83. Bar-zithers from Halmahera.  
B from Todelo (After Kükenthal). Possibly the bamboo cylinder, interposed between the coco-nut resonator and the bar, is lost in this specimen.  
(A. Leiden Mus. No. 1828/3.)

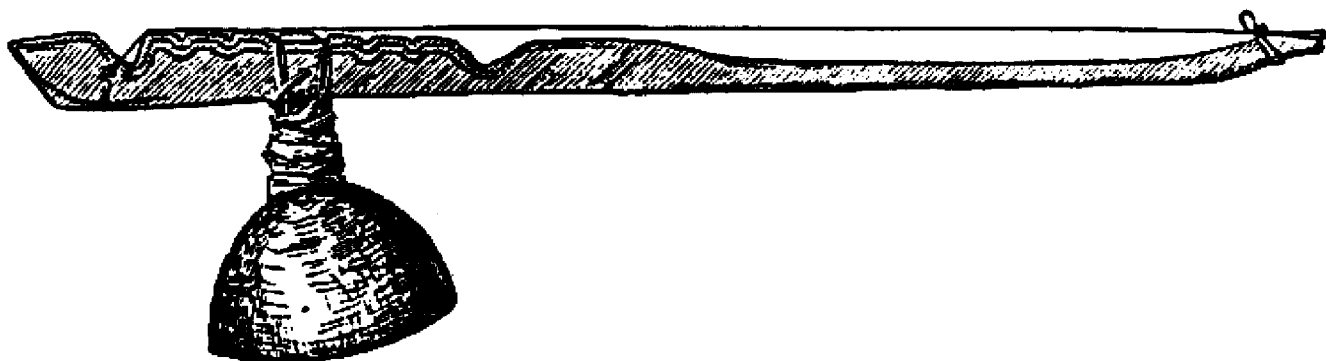
81, 82). It differs from the other two types just mentioned, having the coco-nut resonator attached to the bar by means of a piece of bamboo in addition with a little collar of wood, resting on the top of the resonator (Fig. 82), or there is no separate bamboo top, the tube as well as the collar being cut in one piece of wood (Fig. 81 A, B).

The label of the Leiden zither No. 793/9 says it came from Banggai. As mentioned before, Banggai does not only mean the island of that name. Sometimes the eastern

part of North-East Celebes also is called Banggaai. Not knowing whether the zither in question came from Celebes or from the Banggaai Islands, I could not put it on Map 6.

The bar-zither of Halmahera, north-east of Banggaai, is quite different in form (Fig. 83), the bar being almost straight in front, slightly arched at the back, the ends of the bar being wide. The Halmahera type, which seems to be closely allied to the simplest type of zither from Celebes, perhaps evolved from that type.

I do not know whether the zither with a laterally flattened bar occurs at other places in the Moluccas, but it



1: 6.

Fig. 84. Bar-zither from Soemba.  
(Leiden Mus. No. 1710/129.)

seems very likely that it should be known at least among the natives of Soela and Boeroe.

Further to the south, in the island of Soemba, we meet a bar-zither that seems to be an intermediate form between the Celebes zithers and a more westerly type the bar of which is a round, at one end slightly flexible rod, the sounding gourd attached near the straight end of the rod, no piece of bamboo being interposed between the gourd and the rod.

A specimen from Soemba, No. 1710/129 (Fig. 84) is in the possession of the Leiden Museum. For half its length, the one where the gourd is fastened, the bar is laterally flattened. Toward the other end it is almost round, slightly arched, so as to keep the string away from the wood

Unlike the bar-zither of Celebes the gourd is not attached to the bar by means of a cylinder of bamboo as mentioned before.

In Central Celebes there seems to occur a kind of stringed instrument that possibly evolved from the musical bow, or perhaps from some kind of bar-zither. I myself never saw this instrument in Celebes, and as far as I am aware it has not been recorded by anybody else. There is, however, in the Ethnographical Museum of Rotterdam an instrument from Madjene in the south-western part of Central Celebes, catalogued as No. 21572 (Fig. 85). It consists of a slightly arched piece of wood, the upper surface of which is scooped out like a canoe or a trough, the whole bow ma-

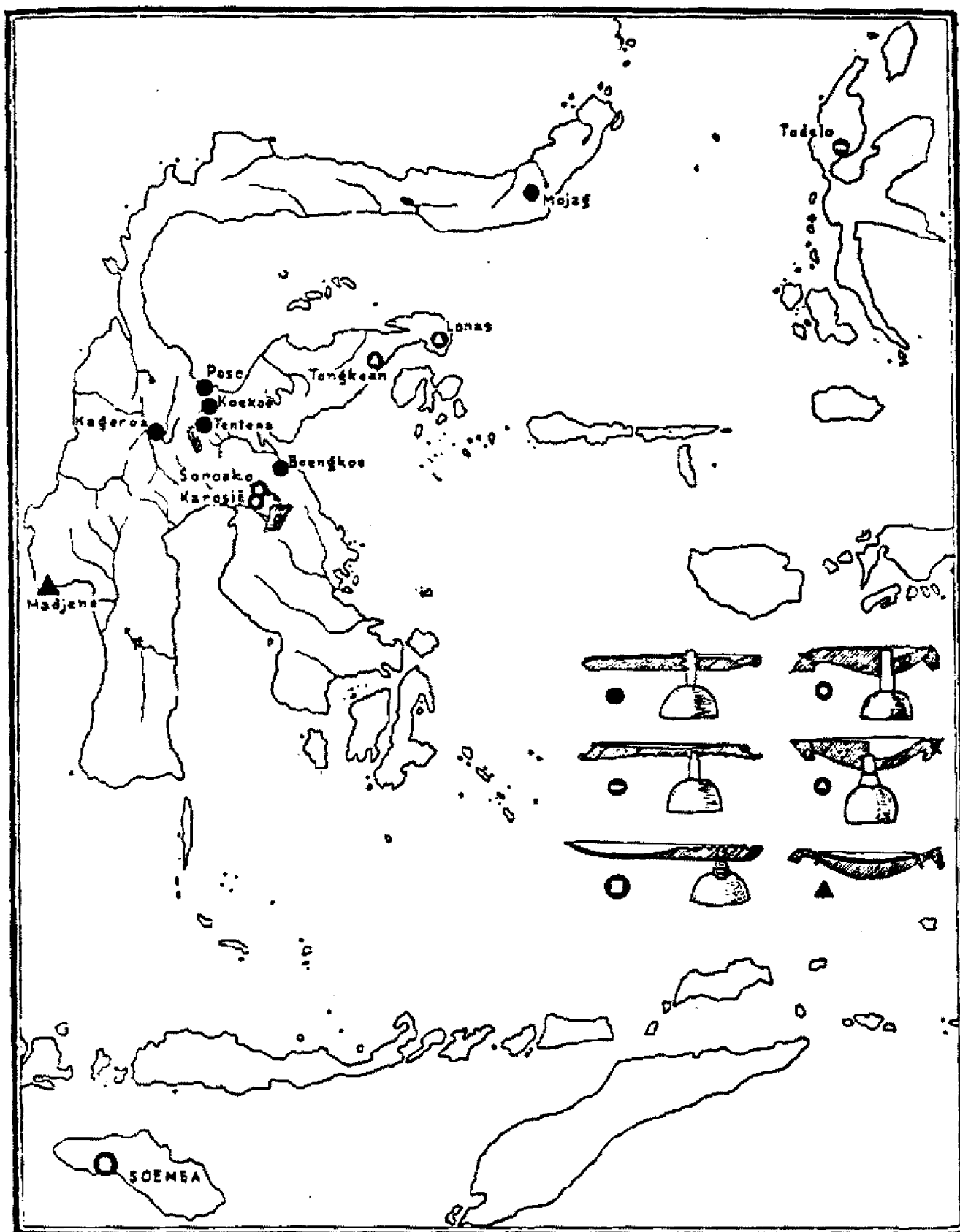


Fig. 85. Bar-zither from Madjene. South Celebes. A<sup>1</sup> transverse section of the sound-board. (Rotterdam. Prins Hendrik Mus. No. 21572.)

king the service of a sound-board. Both ends are carved, one reminding us of the handle of a chopping knife, the other representing the head of an animal, possibly that of a horse.

Between the ends are braced two strings of brass wire, lashed round the end shaped like a chopping knife's handle, at the other end attached to two wooden tuning-pegs. The instrument is not played on with a bow, the strings being twanged with the fingers. I do not think the notes can be regulated in the ordinary way, by fingering the strings.

Although this instrument differs rather much from all bar-zithers described above, I have classed it with them, not being able to refer it to any other group of instruments more closely allied to it. The instrument can hardly be considered as a primitive type. It has, no doubt, passed through several stages of evolution before reaching its pre-



Map 6. Bar-zithers in Celebes.

sent appearance. Possibly, as mentioned before, it emerged from the simple musical bow, according to SACHS rarely found in the Malayan region, but strange to say not far from Celebes. SACHS writes as follows in *»Die Musikinstrumente Indiens u. Indonesiens«*, p. 84: *»Im Archipel, auf Timor und Timorlaut, sollen ebenso einfache Musikbögen mit Holzstange und Drahtsaite zur Gesang- und Tanzbegleitung mit einem Schlägel gespielt werden«*.

If the Madjene specimen is a derivative of the musical bow, the original bow has here been replaced by a short piece of arched wood, and tuning-pegs introduced to brace the string or strings. We notice, however, that the bow in this instrument resembles rather much in its shape the bar of some of the bar-zithers of Celebes (Fig. 80 A). Thus it may also be that the Madjene zither evolved from the type that is represented by for instance the Soroako zither, in making the bar broad and scooping it out, no gourd resonator being necessary, the bar itself serving for a sounding-board. Then the width of the bar allowed the use of two strings instead of one.

There is still another possibility. The origin of the instrument may have been two bar-zithers of the arched type being placed close to each other and tied together. That is to say, the evolution was a similar one to that of a polychord Japanese zither of which SACHS in the above quoted work writes as follows, p. 84: *»Die Japaner haben noch heute eine Zither mit sechs Saiten; nach ihrer Auslegung wäre dies Yamato koto aus sechs Schiessbögen zusammengesetzt.«*

## Bamboo-Zither.

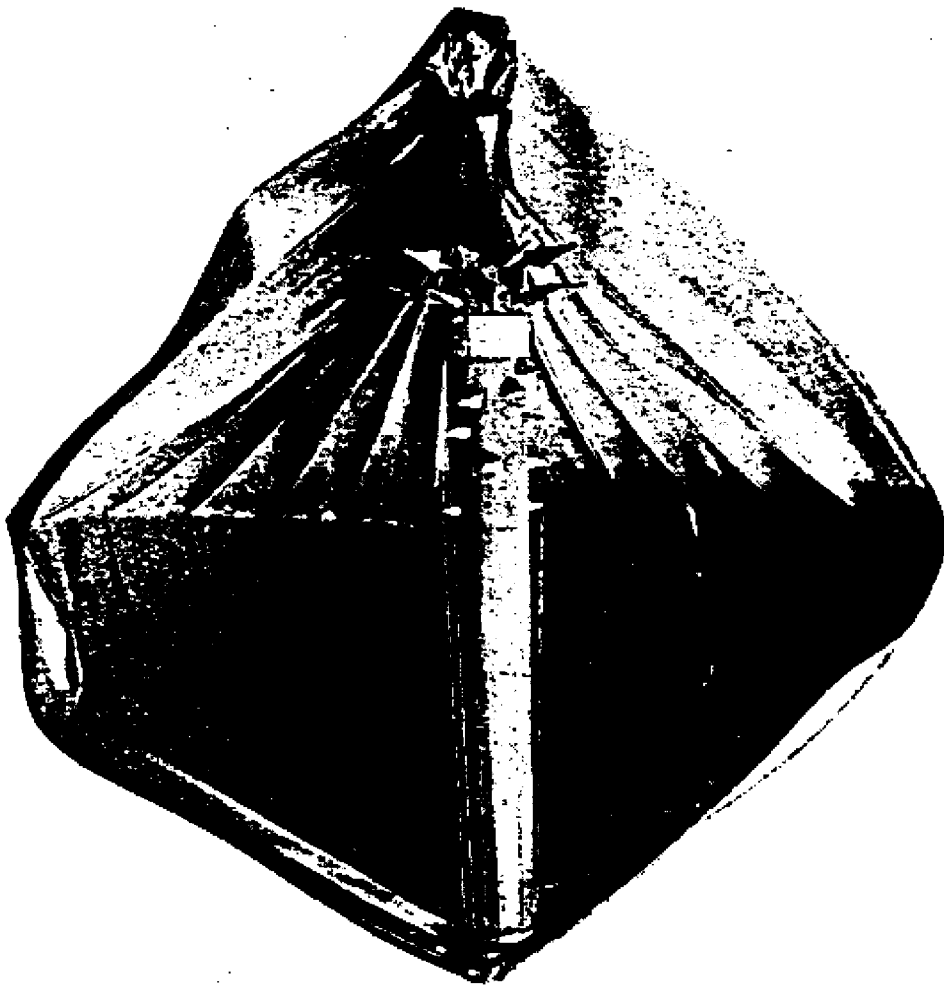
(Röhrenzither v. H. and S.)

Figs 86—90. Map 7.

Contrary to the bar-zither, the bamboo-zither seems to be a stringed instrument that is common among the To-

radja of Central Celebes, where I met with it at several places among the tribes of the Paloe Toradja as well as among the Koro Toradja.

KRUIJT has given a good description of this instrument and the use of it, stating it to be common among the Bare-e



1:7.

Fig. 86. Bamboo-zither with palm leaf resonator from Timor, acquired at Bolaang, Bolaang Mongondou. North Celebes.  
(Kaudern coll. No. 817.)

speaking tribes in general. MEYER and RICHTER on p. 125 a record a specimen from Mapane, No. 511, in the Sarasin collection, but SACHS does not mention it in »Die Musik-instrumente Indiens u. Indonesiens» as occurring in Celebes. The instrument is no doubt rather common also outside Central Celebes. I myself found it in North-East Celebes as well as in North Celebes. In North Celebes I acquired three



specimens at the village of Modajag in Mongondou, in North-East Celebes one specimen at Lingketeng in Lojnang, another at Kalibambang in Lamala. Besides there are several specimens of the bamboo-zither in the museums of the Continent. The museum of Rotterdam possesses a specimen No. 21573 with four strings from Madjene, that of Leiden another specimen No. 1002/101 with three strings, only said to be from the Toradja, no special locality given. The same museum has another specimen No. 1926/1 with four strings from Toli Toli. A similar instrument from this locality is found in the Colonial Institute of Amsterdam, catalogued as No. 34/146. There are also some specimens from Minahassa in North Celebes, two with a single broad string at Rotterdam, two with four strings at Amsterdam, catalogued as No. 60/14 and No. 34/140. Thus in all probability the instrument is known all over Celebes.

At Bolaang, a village on the north coast of Bolaang Mongondou I acquired a specimen of the so called resonator bamboo-zither (Fig. 86), imported from the island of Timor, the home of this zither.

Leaving this imported zither out of consideration, we find in Celebes two or rather three slightly different types of bamboo-zither. The great majority of these instruments belong to the well known type with a lateral opening, on either side flanked by one or more than one string (Figs. 87, 88). Another type is the Minahassa specimen No. 60/14 of Amsterdam, having four strings but no lateral opening. This is replaced by four triangular holes into the bamboo, placed in pairs between the strings, leaving the space in the middle unbroken (Fig. 89). The specimens that I acquired in Mongondou represent a third type having only one string (Fig. 90), to which no doubt should be referred the two Rotterdam specimens from Minahassa, in spite of their being in some details different to the Mongondou instruments.

The first type, the one common to the whole Malayan

region is described and figured by many authors such as KRTIJT (from the Poso Toradja), MEYER and SCHADENBERG (from the Philippines), SACHS as well as BALFOUR (from the Malay Peninsula).



Fig. 87. Bamboo zithers.  
A from Kantewoe; B from Koelawi.  
(A Kaudern coll. No. 1813; B id. No. 1495 [26. 9. 345].)

This bamboo-zither is made of a joint of rather stout bamboo, closed near each end by a node, one node being pierced in the centre. In the middle of the cylinder

a more or less square hole is cut into the bamboo. On each side of the hole one or two narrow strips of the outer layer of the bamboo are split away, forming strings, the ends still being attached near the nodes. The strings are braced by means of small wooden bridges near their ends. In order to prevent the strings to tear away at the ends, bands or plaitings of rattan are braced to the bamboo cylinder.



Fig. 88. Bamboo zithers  
from North-East Celebes.  
A from Lingketeng, four  
strings, B from Kalibambang,  
five strings.

(A. Kaudern coll. No. 681; B  
id. No. 2640.)

Just above the lateral opening two strings are joined by a little rectangular plate of wood, the ends of which clip on to the strings.

The number of the strings varies in the instruments of this type from Celebes between two and five. According to KRUIJT the bamboo-zither of the Poso Toradja has only two strings. The four specimens that I obtained in the north-western part of Central Celebes, two in Koelawi and two in Kantewoe, have two strings on either side of the lateral opening. The same is the case of the bamboo-zithers of Madjene in Central Celebes, of Toli Toli in North Celebes, and of Lingketeng in North-East Celebes. The specimen from Kalibambang in North-East Celebes has a fifth string (Fig. 88 B),

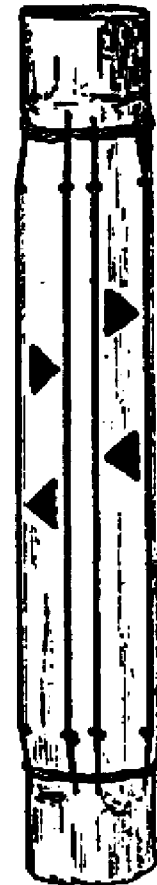
To this type of bamboo-zither no doubt must be referred the specimen No. 1002/101 of the Leiden Museum, although it is the only instrument with three strings that I know of from Central Celebes. Otherwise three stringed bamboo-zithers are found east of Celebes in Ternate, from which locality the Leiden Museum has a specimen No. 409/15,

as well as in the island of Taliaboe, the Colonial Institute of Amsterdam possessing a specimen No. 13/76 which hails from this island.

One or two strings on either side of the lateral opening seem to be the usual number with the bamboo-zithers of Celebes, two stringed instruments being confined to the Poso Toradja, four stringed instruments occurring nearly all over the island. According to SACHS two stringed bamboo-zithers should only occur in Sumatra and in the small islands off the coasts of it such as Nias. This is, however, not quite correct considering the statement of KRUIJT as to the zither of the Poso Toradja in the eastern part of Central Celebes.

In Mongondou in North Celebes the monochord bamboo-zither seems to be typical. It is similar to the instruments with two and four strings. The lateral opening, however, has not the shape of a small square but is more or less triangular (Fig. 90). The string is found at one side close to one point of the triangle, being braced in the usual way by means of two small wooden bridges pushed toward the ends of the string. In front of the opening a heart-shaped or shield-like thin plate of wood clips on to the string by means of an incision in the plate, parallel to the plane of the plate. At the bottom of the instrument there is a small hole cut through the node.

The symmetrical four and two stringed bamboo-zithers are as a rule played in the same manner. The instrument is held in the left hand, the nearest string being twanged with the thumb nail of the same hand. The sound is modified by covering and uncovering with the palm of the right hand the perforated bottom of the instrument. From time to time the



Sketch.  
Fig. 89. Four stringed bamboo zither with two pairs of holes. Minahassa, North Celebes. (Col. Inst. Amsterdam No. 60/14.)

performer with the outside of the nail of his right thumb glides over the strings from the right to the left. In Koelawi I once or twice saw a man in playing the bamboo-zither strike it upon his thigh.



A

A

1: 5.

Fig. 90. One stringed bamboo-zither from Modajag, Bolaang Mongondou, North Celebes. (Bridges lost.) (Kaudern coll. No. 584 [29. 6. 609].)

In Mongondou the string is not twanged with the fingers but tapped with a narrow slip of bamboo. The pitch is modified in the usual manner by shutting and opening the hole at the bottom of the instrument.

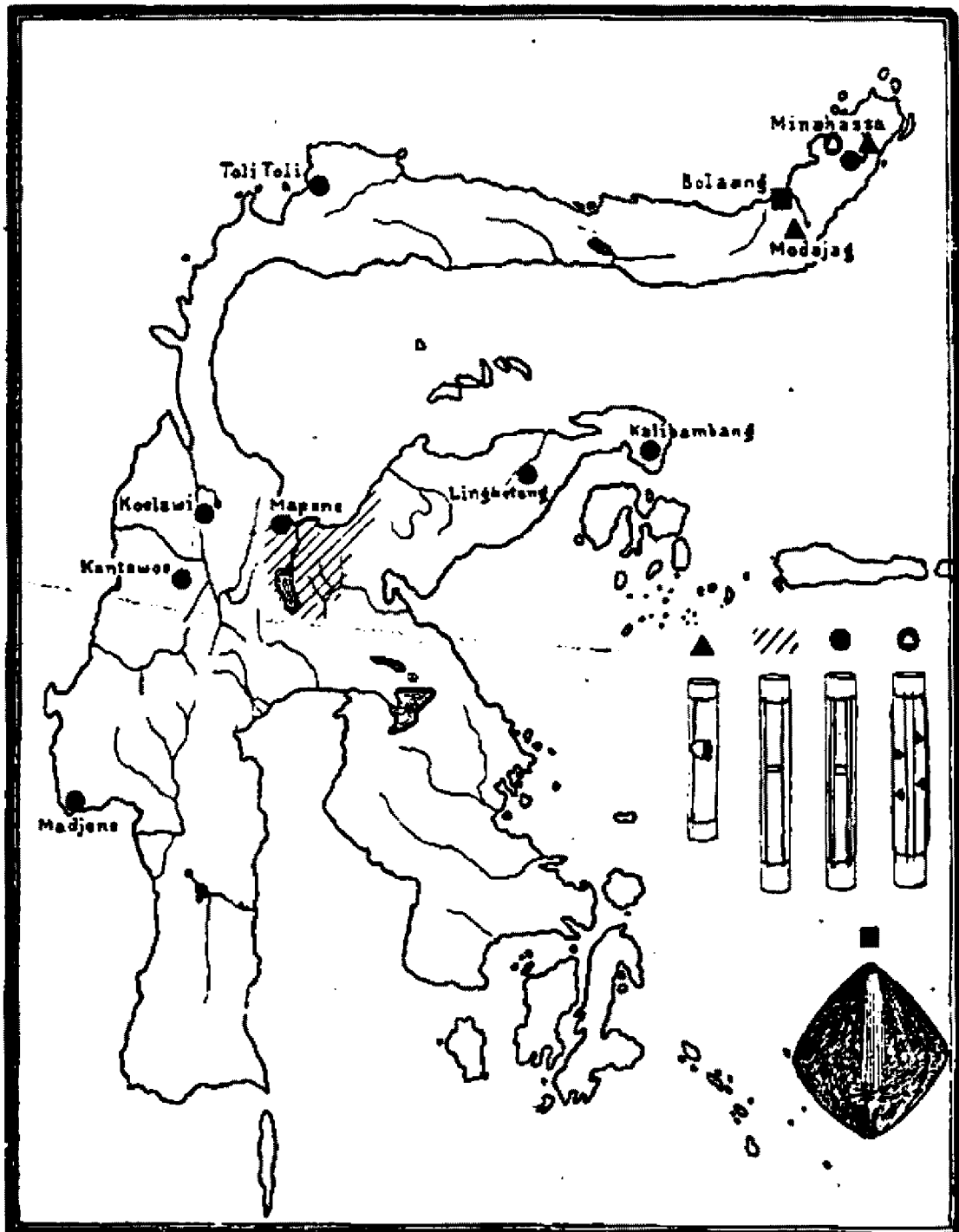
The authors on the subject do not mention whether the bamboo-zither is an instrument for men or for women. I myself never saw a woman play it, only men and boys. In Mongondou the bamboo-zither had declined into a mere plaything for children.

The one stringed zithers of Mongondou and Minahassa may possibly be the prototype of the more complicated instruments with more than one string found in Central Celebes. We must not forget, however, that these one stringed zithers occur in the eastern part of North Celebes, the inhabitants of which have another origin than the rest of the natives of Celebes. This may mean that the Celebes bamboo-zithers with more than one string did not evolve from the monochord zither of Mongondou or Minahassa, the affinity not being so very close as it would appear at first sight.

The culture of Mongondou and Minahassa in more than one respect is related to that of the Philippines, an affinity that cannot be traced among the Toradja of Central Celebes.

The geographical distribution of the four and two stringed bamboo-zithers gives to understand that these instruments by no means can claim the name of real Toradja

instruments, but probably they were known among the Toradja long ago, perhaps even before they dispersed over Central Celebes. If the bamboo-zither was known among



Map 7. Bamboo-zithers in Celebes.

the aborigines of Central Celebes we do not know, the old culture of Celebes being as yet very little studied. The Toala, a primitive tribe in South Celebes who were disco-

vered by the SARASINS, did not seem to know the instrument in question, nor was this the case of the primitive Orang Koeboe of Sumatra.

## Spitted lutes.

(Spiesslaute v. H. and S.).

In Celebes there are several stringed instruments that are played with a bow. Common to all of them, whether the resonator is made from a gourd, a cup-shaped coco-nut shell, or it is a wooden more or less heart-shaped box, is the resonator being pierced near the rim at two opposite places. One or two strings are attached to a rod of wood passing through the resonator like a spit. The rod varies with different instruments. With those more elaborately made it consists of two or three parts, a long handle and a short foot of varying shape (Fig. 91). Sometimes we find the string attached directly to the rod, sometimes there are special arrangements such as tuning-pegs.

With this lute we distinguish in Celebes at least three different types, two of which vary a good deal, evidently having a number of intermediate forms. Whether all three types are found among the Toradja is uncertain. Anyhow two of them are common, although less common than the bamboo-zither.

I have called the three types *geso geso*, *rebab*, and *arababoe*, although I am conscious that objections may be raised against these names. With the Toradja for instance all three types are called *geso geso*, bearing on the fact that they are played with a bow. *Rebab* is the Javanese name for a special kind of lute, thus no Toradja word. The same is the case of *arababoe*, a name being used in the Moluccas. The names of *rebab* and *arababoe* being well known from literature on this subject decided me to keep them. The

same may be said of *geso geso*, SACHS using this name for the simplest kind of lute from Celebes in his book »Die Musikinstrumente Indiens u. Indonesiens» p. 107.

*Geso geso.*

Figs. 91—94. Map 8.

This instrument, no doubt the most primitive among the three lute types: a rod passed through a coconut shell, or a gourd, is found among the Poso Toradja in the eastern part of Central Celebes as well as in the mountain districts of the north-western part, where it, however, seems to be rare. In my collection there is only a single specimen (Fig. 92), acquired at the village of Kilo in the Tole district (Koro Toradja). The instrument in question is of very poor make. In Koelawi, Lindoe, Tamoengkolowi, and Tobakoe, the southern part of the region occupied by the Paloe Toradja, I never met with any kind of spitted lute. In Koelawi I stayed for nearly nine months, thus it can hardly be by mere chance that I never saw it. Either it does not occur at all, or it must be very rare. If some single specimens will be discovered in these districts I dare say they were imported not very long ago.

Also among the Koro Toradja, at least among those living in the district called Pipikoro, the *geso geso* is so scarce that it can hardly be said to be a native instrument here, being no doubt either imported, or rude copies from the instruments of some other tribe. The Tole specimen evidently is such a copy of inferior make, showing that the To Tole are not very skilled in making such an instrument as the *geso geso*. As will be seen in Fig. 92, the body of the Kilo lute is a coco-nut shell not scraped, the handle passing through the resonator forming a pointed foot beyond it. The resonator is covered with a piece of the sheath of the sago palm's leaf stem kept in place by means of a slip of rattan wound round the coco-nut shell. A narrow string of rattan is






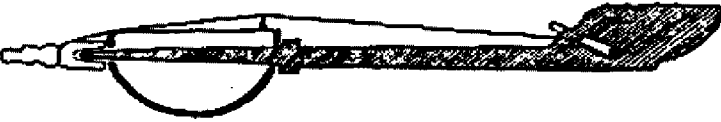



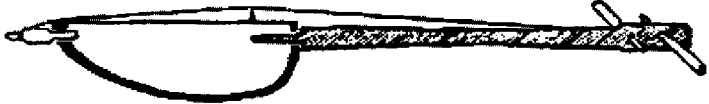



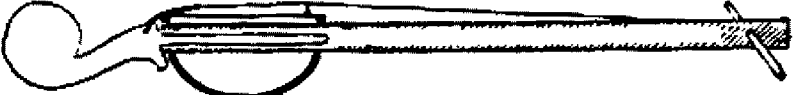
- A  Kilo. Kaudern coll.  
No. 1917.
- B  Pendolo. Berl. Mus.  
No. 1 C 38590 al.
- C  Makale. Leiden Mus.  
No. 2017/6.
- D  S. Celebes. Leiden Mus.  
No. 804/274.
- E  Toli Toli. Leiden Mus.  
No. 1926/4.
- F  Kadomboekoe. Leiden  
Mus. No. 1300/6.
- G  S. Celebes. Dresden  
Mus. No. 12893.
- H  S. Celebes. Leiden Mus.  
No. 37/253.
- J  Gowa. Leiden Mus.  
No. 1009/84.
- K  Gorontalo. Dresden  
Mus. No. 2113.
- L  Macassar. Leiden Mus.  
No. 654/6.
- M  S. Boengkoe. Kaudern  
coll. No. 2578.

Fig. 91. Different kinds of spitted lute in Celebes.

attached to the foot, the other end being wound round the upper part of the handle. As a bridge serves a piece of an empty corn-cob. The frame of the bow is a thin rod of bamboo, the string a slip of rattan. The volume of the sound of this instrument is very small, hardly deserving the name of music. The whole instrument gives the impression of being made incidentally by a person not knowing properly how to make a *geso geso*. That this specimen should represent some primitive stage from which emerged more specialized and better finished forms of *geso geso* is not very likely.

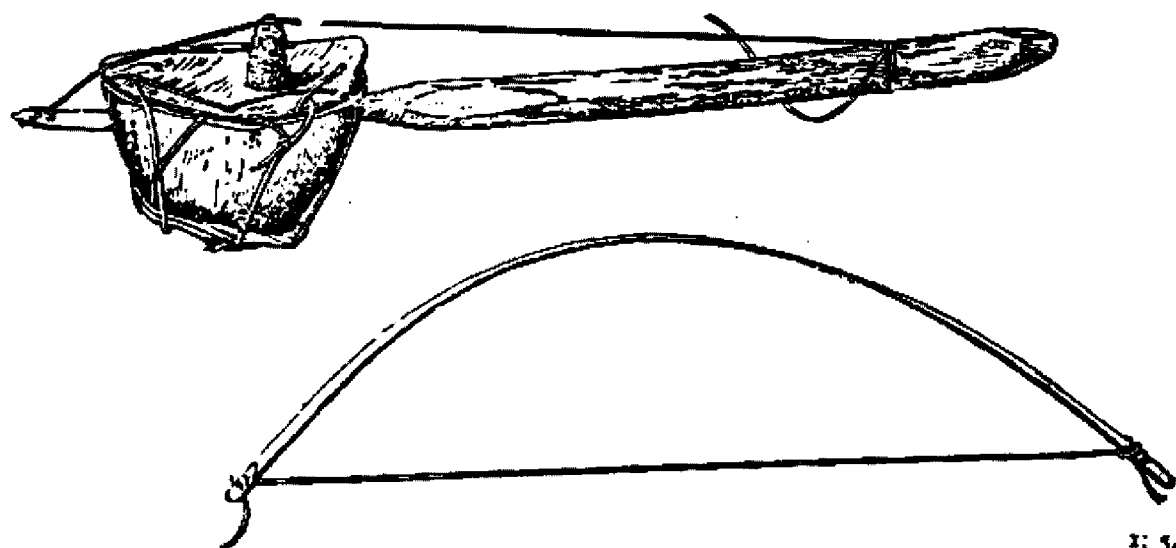


Fig. 92. *Geso geso* from the Tole village of Kilo. N. W. Central Celebes. (Kaudern coll. No. 1970.)

Possibly the *geso geso* may be more common among the Koro Toradja living south and east of Pipikoro. I myself, however, did not see a single specimen in Bada or Behoa when I visited these districts for a short time in 1918, nor do we find any specimens from these localities in the museums.

The Berlin Museum possesses a specimen No. I C 38590 al (Fig. 93 C) acquired by GRUBAUER at Pendolo south of Lake Poso. The To Poeoe mBoto living here probably are a branch of the Koro Toradja, at present being much influenced by their neighbours to the north, the Poso Toradja, (see Vol. II, page 95, map 14) among which occur

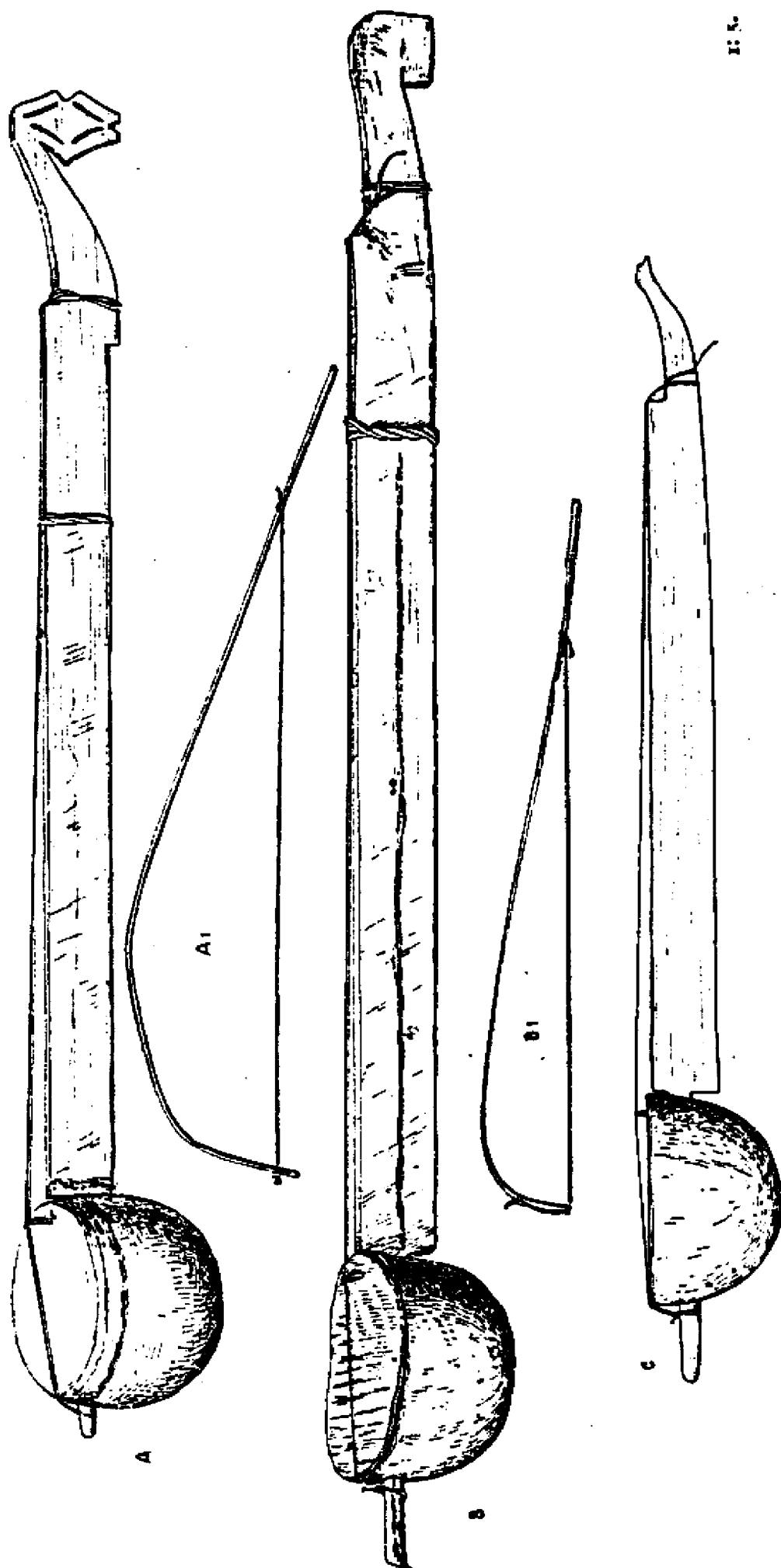


Fig. 93. *Geso geso* from Central Celebes.  
 A from the Poso Toradja, B from Taripa in Oudac, C from Pendolo, south of Lake Poso.  
 (B Kaudern coll. No. 2428 (26. 9. 457); C Berlin Mus. No. I C 38590 nl.)

the *geso geso* as well as the *rebab*. Thus there is the possibility that the instrument in question originally belongs to the Poso Toradja.

According to MEYER and RICHTER some kind of spitted lute is found among the To Napoe, the Koro Toradja tribe living furthest to the north. The two authors write as follows, p. 125 b: »Die gewöhnliche Geigenform von Süd Celebes ist die Geige mit einem hautüberspannten, gerundeten Schallkasten; . . . Dergleichen Instrumente finden sich auch in Mittel Celebes, jedoch nur bei den To Napus. . . Ein solches Stück (als geso-geso und von den To Napus stammend bezeichnet) besitzt das Berliner Museum.»

MEYER and RICHTER refer to a paper by KRUIJT published in »Mededel. Ned. Zend. Genot.» XLI, 44. 1897, to which I have not had access, no Swedish library possessing this publication, nor have I had the opportunity of seeing the Berlin specimen from Napoe. Thus I was unable to ascertain whether this instrument is a real *geso geso*, or perhaps a *rebab*.

At all events I doubt that the lute from Napoe is original to this country. It is quite likely that the To Napoe got it from the Poso Toradja with whom they are most intimately connected, a great number of the inhabitants of Napoe being Poso Toradja slaves.

Among the Poso Toradja the *geso-geso* seems to be a rather common instrument of careful make although not attaining superior finish. In »De Bare'e-Sprekende Toradja's» KRUIJT describes the *geso geso* of the Poso Toradja (Fig. 93 A), not mentioning, however, any special localities, probably meaning that it occurs among all the Poso Toradja tribes.

When I visited the Poso Toradja in 1919 I only got one *geso geso* at the village of Taripa in Ondae (Fig. 93 B). My specimen is similar to the one figured by KRUIJT, only not so well finished as his.

The resonator of my Taripa *geso geso* is half a gourd, the

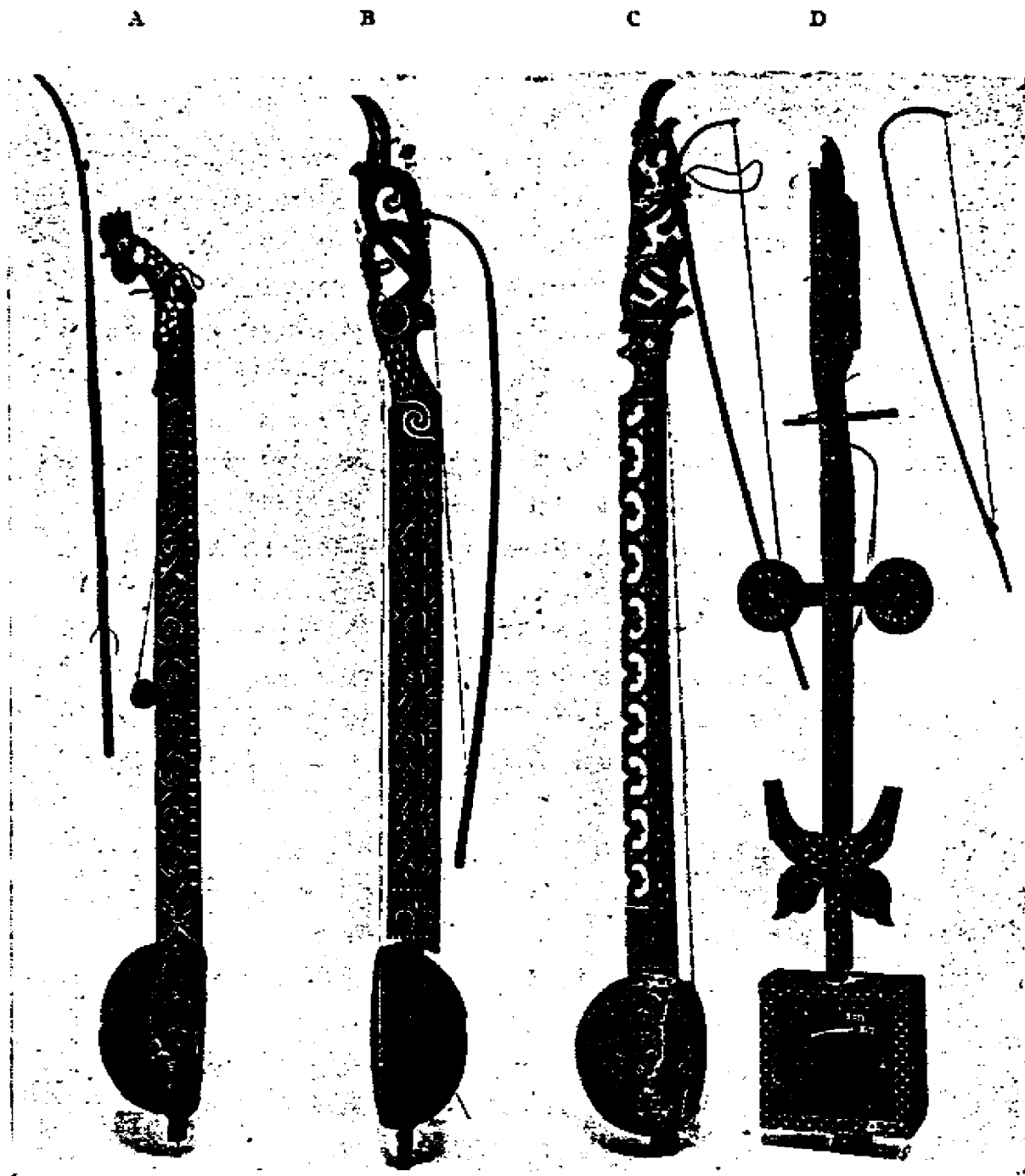


Fig. 94. *Geso geso* from Makale. Leiden Mus. Photo.  
 (A Leiden Mus. No. 2017/8; B id. No. 2017/6; C id. No. 2017/5; D id. No. 2017/7.)

aperture overlaid with the sheath of some palm-leaf. The membrane is not attached to the gourd; it is kept in place only by means of the rattan string passing through a notch in the distal part of the membrane. The bridge is a small piece of wood shaped like a V, the wider part resting on

the membrane. The string is attached to the handle simply by lashing it several times round the rod. It is braced by winding the free end round the string itself. A sliding loop of rattan round the handle and the string increases the tension of the string when pushed toward the gourd resonator altering at the same time the length of it.

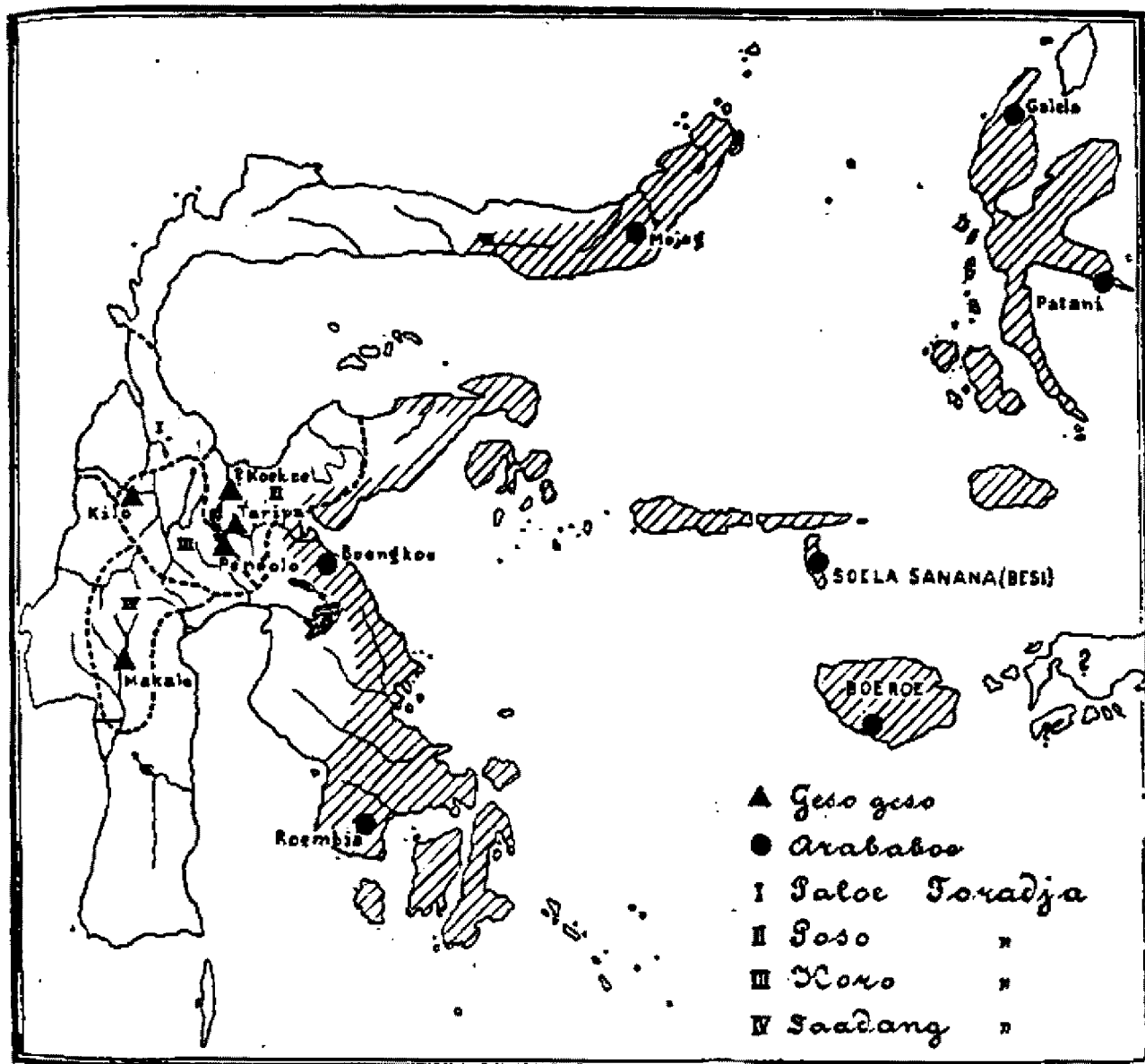
Noteworthy is the fact that the gourd resonator of this instrument is pierced in two places at the bottom, the holes being plugged with wax. The rod is perforated near one end as well as in the centre, making it evident that the instrument originally was a bar-zither that later was altered into a *geso geso*.

Sometimes a *geso geso* is more elaborately made, the coco-nut shell being scraped and polished, the aperture covered with a well braced membrane of skin, the proximal end of the handle adorned with some simple engraved figures and the string attached to a tuning peg. The bow of such a specimen is similar to the one of my Kilo specimen but of much better make.

The museum of Leiden possesses four such specimens of *geso geso* Nos. 2017/5—2017/8, the Colonial Institute of Amsterdam a specimen No. 46/76, procured by WOLVEKAMP. All these specimens were collected among the so called To Saa-dang, natives living in the south-western part of Central Celebes as well as in the northern part of South Celebes. These *geso geso* are more elaborately made than any other instruments of this kind in Celebes, being covered with carved ornaments, painted red, white, blue, and black (Fig. 94).

The construction of all specimens from Leiden save one is almost similar to that of the *geso geso* of Pendolo and Taripa. This specimen No. 2017/7 has a different resonator consisting of a shallow square wooden box (Fig. 94 D). From the handle of this instrument project two pairs of ornamented flanges like some wings or fins. The bow is of the usual very simple construction.

I think we may characterize these three very elaborately ornamented *geso geso* as a native type of instrument with the To Saadang, the ornamentation being the one



Map 8. *Geso geso* and *arataboe* in Celebes and neighbouring islands.

just characteristic of these natives. As to the Leiden specimen with square wooden sounding box I cannot discover any Hindoo features in it, but perhaps it is allied with the Japanese or Chinese *sam-hsin*.

*Celebes rebab.*

Figs 91, 95, 96. Map. 9.

Beside the above described *geso geso* we here and there in Celebes meet with one or two kinds of lute, at least one of which is found in Central Celebes.

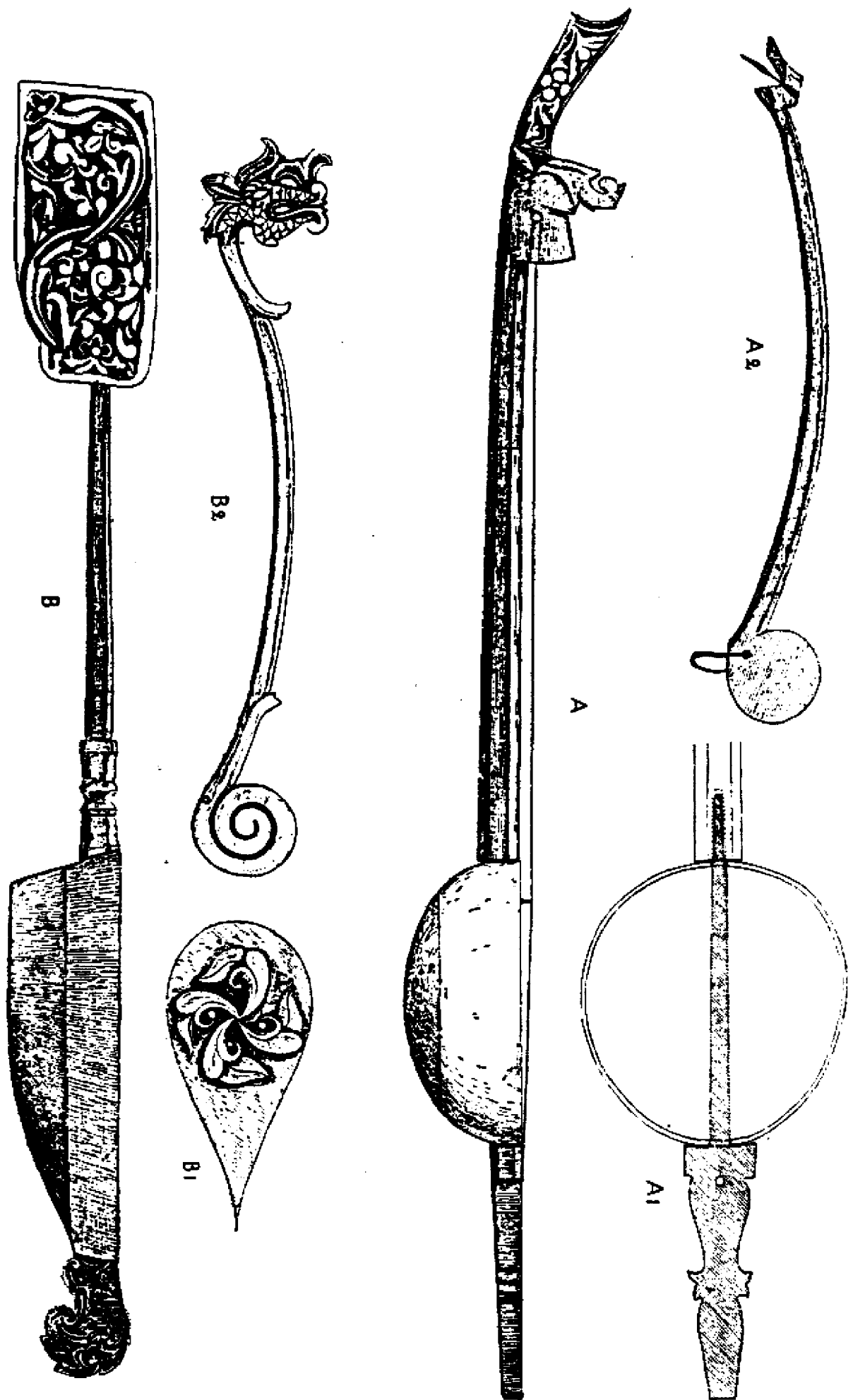
I myself have not seen the lute in question in Celebes but KRUIJT in »De Bare'e-Sprekende Toradja's» figures an instrument that he simply calls a *geso geso*, classing it with the ordinary type of lute. He is, however, aware that this *geso geso* is somewhat different, but is of the opinion that the difference is of minor importance, writing as follows, Vol. II p. 383: »Soms maakt men veel werk van zulk eene viool en versiert haar met allerlei houtsnijwerk.»

If we study the figure of the *geso geso* given by KRUIJT, we shall find that the instrument is different in several respects to the type of *geso geso* that we already know. The figure, however, does not fully explain the construction. I had last summer the opportunity of seeing the instrument in the museum of Leiden where it is registered as No. 1300/6. It consists of a resonator, to which is attached a handle, a string, a tuning-peg, and a bow (Figs 91 F, 95 B).

The resonator is a hollowed out piece of brown wood, flat at the bottom, oval and somewhat pointed, the distal end running out into a discoidal foot. The back of the resonator is adorned with an ornament of leaves, arranged like the blades of a propeller (Fig. 95 B<sup>1</sup>). Each of the four leaves are perforated by a hole. The aperture of the resonator is overlaid with a membrane of thin skin.

The resonator is pierced by the wooden handle passing right through it, the pointed end of the rod fitting in the hollow of the foot. The distal part of the handle is rather long, cylindrical, tapering toward the point. In front of the resonator the handle is thick, cut in the shape of an octagonal prism. Close to the sounding box it is nicely carved. The uppermost part of the handle, the »head», is a broad





1: 5.

Fig. 95. Celebes *rebab*.  
A from Kadomboekoe, Poso district, Central Celebes, B from Toli Toli,  
North Celebes.

(A Leiden Mus. No. 1300/6; B id. No. 1926/4.)

and flat almost rectangular plate, adorned with beautiful carvings. The head is pierced by a tuning-peg to which the single string of the instrument is attached. The string is at present broken and the bridge missing.

The bow is a slender, slightly arched rod of wood the proximal end of which is flat and round. The distal end is carved to represent a nicely finished Naga head (Fig. 95 B<sup>2</sup>). The strings are very loose, being tautened by the fingers of the right hand in playing.

Whether this specimen that KRUIJT acquired at Kadomboekoe east of the Poso River is unique or not, is not quite plain from what he writes of it, but probably it is a particularly nice and well made specimen of a certain type of lute occurring among the Poso Toradja. I think KRUIJT would hardly have said: »Soms maakt men veel werk van zulk eene viool» if this instrument was of a special type, other more or less well made lutes only being ordinary *geso geso*.

It is strange that there is no special name for this instrument, KRUIJT only calling it a *geso geso*, a name that refers to its being played with a bow, *geso* meaning rub or stroke.

The whole instrument is so different to a *geso geso* that it is almost necessary to assume that it did not evolve from this primitive lute that I have called the *geso geso* to distinguish it from other lutes played with a bow. But where to find the pattern of the Kadomboekoe lute? The ornaments, especially the Naga head may be a Hindoo feature. The sounding-board is modelled almost upon the pattern of the Javanese lute called *rebab*, but yet it is no real *rebab*, because a real *rebab* has two strings, its head is not a flat wooden plate, and the sounding-board does not end in a large flat foot. In a genuine *rebab* the distal end of the handle is pushed into a turned socket attached to the resonator.

Several authors among which SACHS do not consider the *rebab* to be of Hindoo origin, thus we should not expect to find a *rebab* with a Naga ornament. SACHS, however,

points out the possibility that the Javanese *rebab* may have some Chinese features, although the name as well as several characteristics indicate the western part of Asia as its native country.

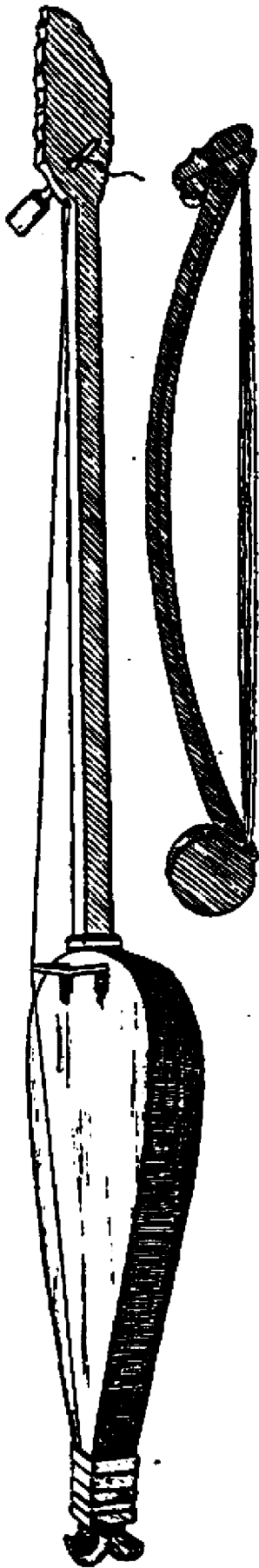
In the museums of Dresden and Leiden I examined some similar lutes from Celebes. Two of these lutes belonging to the Leiden Museum agree rather much with the Kadomboekoe lute, the rest much more resembling the Javanese *rebab*.

Although the two above mentioned Leiden specimens in some respects differ from the Kadomboekoe lute, the single string as well as the discoidal head with carvings seem to be characteristics indicating an origin in common of these three.

The resonator is in both Leiden specimens half a coconut shell that is rather shallow. According to SACHS the resonator of a Javanese *rebab* may also be a coconut shell, the specimens in question in this respect more resembling the Javanese *rebab* than the Kadomboekoe lute. In the specimen No. 804/274 from South Celebes (Fig. 91 D) the resonator, just like a genuine spitted lute is pierced by the handle, tapering toward its pointed free distal end. Over the point is slid a turned or carved socket of wood in the same manner as in the Javanese *rebab*. The instrument is so to say a combination of the Javanese *rebab* and the Kadomboekoe lute.

The resonator of the second Leiden specimen, No. 1926/4 from Toli Toli in North Celebes (Fig. 95 A) is attached to the instrument somewhat differently. Here it is not the handle that passes through the coconut shell but the foot. The portion beyond the resonator is large and flat with carved edges ending in a rather thin round bar, that is passed through the shell. Over the free end is slid the handle of the instrument (Figs 91 E, 95 A<sup>1</sup>).

Thus the resonator is in all three specimens differently attached to the instrument. I do not think, however, that



After WEBER  
Fig. 96. Celebes rebab  
from Loewoe.

W. Kaudern. 12

too much importance should be attributed to this fact. Below we shall see that there is a great variety of method in attaching the resonator to the handle in a lute that I have called the *Javanese rebab* because of its resemblance to the lute found in Java, the native name of which is *rebab*.

The Kadomboekoe lute as well as the two Leiden specimens I should like to call the *Celebes rebab*. I suppose the lute described and figured by WEBER in »Ethn. Not. über Flores und Celebes« (I. A. E. Vol. III, s. 1890, p. 41), to be of this type. His description, however, does not correspond to the figure given (Fig. 96). Possibly WEBER has confounded this lute with other instruments that he saw in Wadjo in South Celebes. He writes as follows of the specimen in question: »Die... abgebildete Violine weicht kaum ab von Violinen, die ich in Süd-Celebes im Fürstenthume Wadjo sah. Der breite Theil ist an seiner, den Saiten zugekehrten Fläche mit einer dünnen Membran (getrocknetes Stück Eingeweide) überzogen. Zwei Saiten aus Kupferdraht laufen über einen beweglichen Steg und können oben durch Spannung straffer angezogen werden. Als Bogen fungiert ein bogig geschnittenes Stück Holz, dessen Sehne durch ein Bündel Pferdehaare gebildet wird, die während des Spielens mit den Fingern straff gespannt werden.«

The specimen in question is from Loewoe on the northern coast of the

Bone Gulf. The instrument is said to have two strings, resembling other fiddles in South Celebes, thus rather much similar to the following type that I have called the *Javanese rebab*. The figure given has, however, only *one* string and *one* tuning-peg, nothing making it likely that the instrument ever had another string and another tuning-peg, at present missing.

The discoidal »head» of the Loewoe fiddle is pierced by the tuning-peg just as in the three *Celebes rebab*. The form of the bow (Fig. 96) more corresponds to the bow of a *Celebes rebab* than to that of the *Javanese rebab*, making it evident that the fiddle figured by WEBER is a genuine *Celebes rebab*.

GRUBAUER on page 424 of his »Unter Kopfjägern» at the end of the chapter treating his journey from Maboengka to Pendolo has a vignette representing a lute that is closely similar to the Toli Toli lute at Leiden. As the author does not mention the instrument in the text, we do not know from which place it is. Possibly he saw it or aquired it for his collection during the journey between the above mentioned places.

*Javanese rebab.*

Figs 91, 97, 98. Map 9.

The museums of Leiden and Dresden possess some specimens of this instrument from Celebes. In Central Celebes I never saw it, nor did I find in the museums any specimens from this part of the island, but possibly it may be found at least on the coast of Central Celebes.

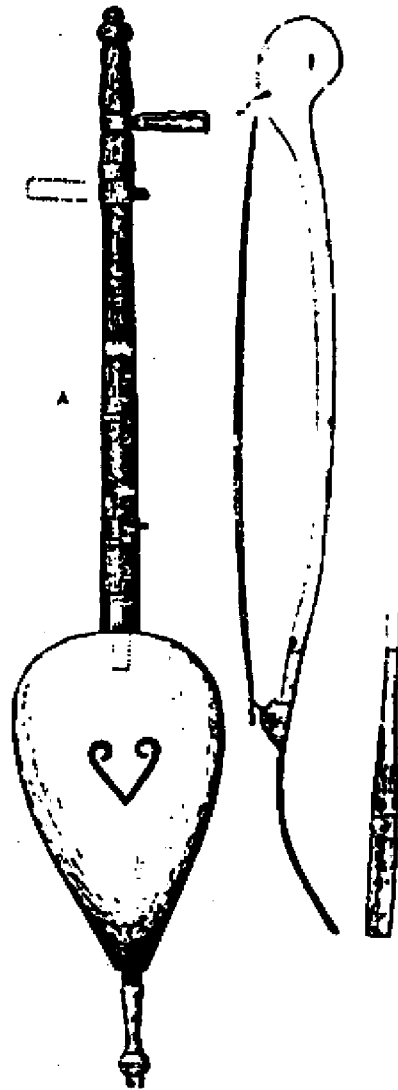
The Leiden Museum has three specimens, all of them from South Celebes. One of the Dresden specimens is also from South Celebes, the other one from North Celebes. Below is given a list of the specimens.

Leiden	No. 37/253	South Celebes
»	No. 654/6	South Celebes, Macassar
»	No. 1009/84	South Celebes, Gowa
Dresden	No. 12893	South Celebes
»	No. 2113	North Celebes, Gorontalo.

SACHS describes the *Javanese rebab* in »Die Musikinstrumente Indiens u. Indonesiens» p. III. His description runs as follows: »Selbst das nächstverwandte javanische Rēbāb, das zwar einen völlig flachen, fast zargigen, herzförmigen Schallkörper (bátoq) aus Kokosnuss-schale oder Holz, einen gedrechselten Holzstiel (vatanan) und einen längeren Stachel (plánkan) hat, besitzt nur zwei Saiten — aus Messingsdraht — und häufig eine angenagelte Büffelhautdecke.»

This description exactly fits in with the five above mentioned specimens, all of them having a shallow resonator of wood, shaped like a pear or a heart. The bottom of the resonator is quite flat or nearly flat with a V shaped slot or some holes in it. In the specimen No. 37/253 of Leiden there are seven holes. The Leiden specimen No. 1009/84 has a V shaped slot (Fig. 97). Presumably the same originally was the case of the specimen No. 2113 of Dresden, but in this instrument the slot partly has been plugged with wax, leaving only three round holes forming the points of a triangle. In the Dresden specimen No. 12893 there is a primitive carving to represent a human face, the mouth of which is a rectangular opening into the resonator. The eyes form with the mouth a triangle reminding us of the three holes of No. 2113. The eyes are here not represented by holes but are fragments of inset glass.

As far as I am aware the resonator is attached to the



1: 3.

Fig. 97. Javanese rebab from Gowa, South Celebes. (Leiden Mus. No. 1009/84.)

handle differently in all five specimens. The schematic figure 91 makes the difference clear. We notice that there is only one specimen, No. 12893 of Dresden that can claim the name of a real spitted lute. Even in this instrument the handle does not pass right through the resonator, the foot being a separate part piercing the distal opening of the resonator and meeting the handle inside the sounding-board. In two of the Leiden specimens, Nos. 37/253 and 1009/84 the handle does not pass through the resonator but is attached to it only by means of a tap entering into the box at the proximal end. The former specimen had a foot fastened to the distal end of the resonator, the point being at present broken and missing. I could not fully ascertain whether the foot of the latter specimen was a separate part or not, but I rather think the box and the foot were one piece, both being made of the same light redbrown wood. The handle is of black wood (Figs 91 J, 97).

The Leiden specimen No. 654/6 has a small rod with pointed ends passing through the resonator to which are attached the handle as well as the foot, the pointed ends of the rod fitting in corresponding bores in the handle as well as the foot (Figs 91 L, 98).

If the Dresden specimen No. 2113 is the same I was unable to ascertain. It seems, however, to me as if the foot passes through the resonator and the handle is slid over the pointed end of the foot, in which case the construction would be the same as in the Toli Toli specimen belonging to the lute type that I have called the *Celebes rebab* (Fig. 91 K).

The bow of the *Javanese rebab* is in some respects different to that of the *Celebes rebab*, the former being more slender and flexible. The distal end as a rule runs out into a long slightly arched point, having the shape of a narrow blade (Fig. 97 B, 98 B). No specimen has such a point as the bow of the Kadomboekoe lute.

The bow of the Dresden specimen No. 12893 is broken at the top. It is, however, evident that it originally was

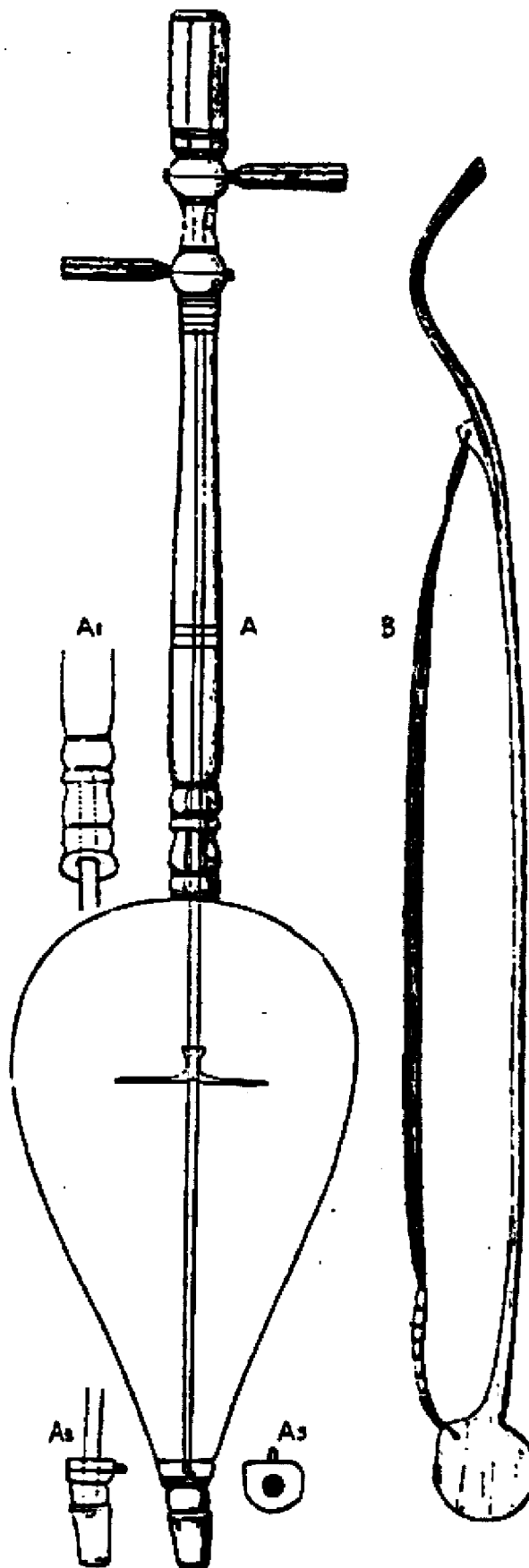


Fig. 98. Javanese rebab from Macassar.  
(Leiden Mus. No. 654/6.)

prolonged into some kind of point. This bow is of ruder make than the other ones.

We thus notice a certain variety of construction in this so called *Javanese rebab* as well as a certain similarity with the previous lute-type, the *Celebes rebab*.

The shape of the handle, the number of the strings, as well as the construction of the bow seem, however, to justify its classing as a special type, different to the previous one.

We do not know for certain from where Celebes got these two kinds of *rebab*. Presumably they first appeared in the south-western part of the island from where they dispersed toward the north along the coast of the Macassar Strait as well as along the Bone Gulf toward Loewoe. From Loewoe at least the monochord lute, the *Celebes rebab*, found its way to the Poso Toradja, who from olden times had much intercourse with Loewoe.

But if SACHS is right saying the *rebab* is not of



Hindoo origin but from western Asia, brought to the East with Mohammedanism, then the instrument cannot be very old in Celebes, at the most some centuries. The geographical distribution in Celebes of the two-stringed *Javanese rebab* perhaps speaks in favour of the presumption that it was introduced into the country with Islam.

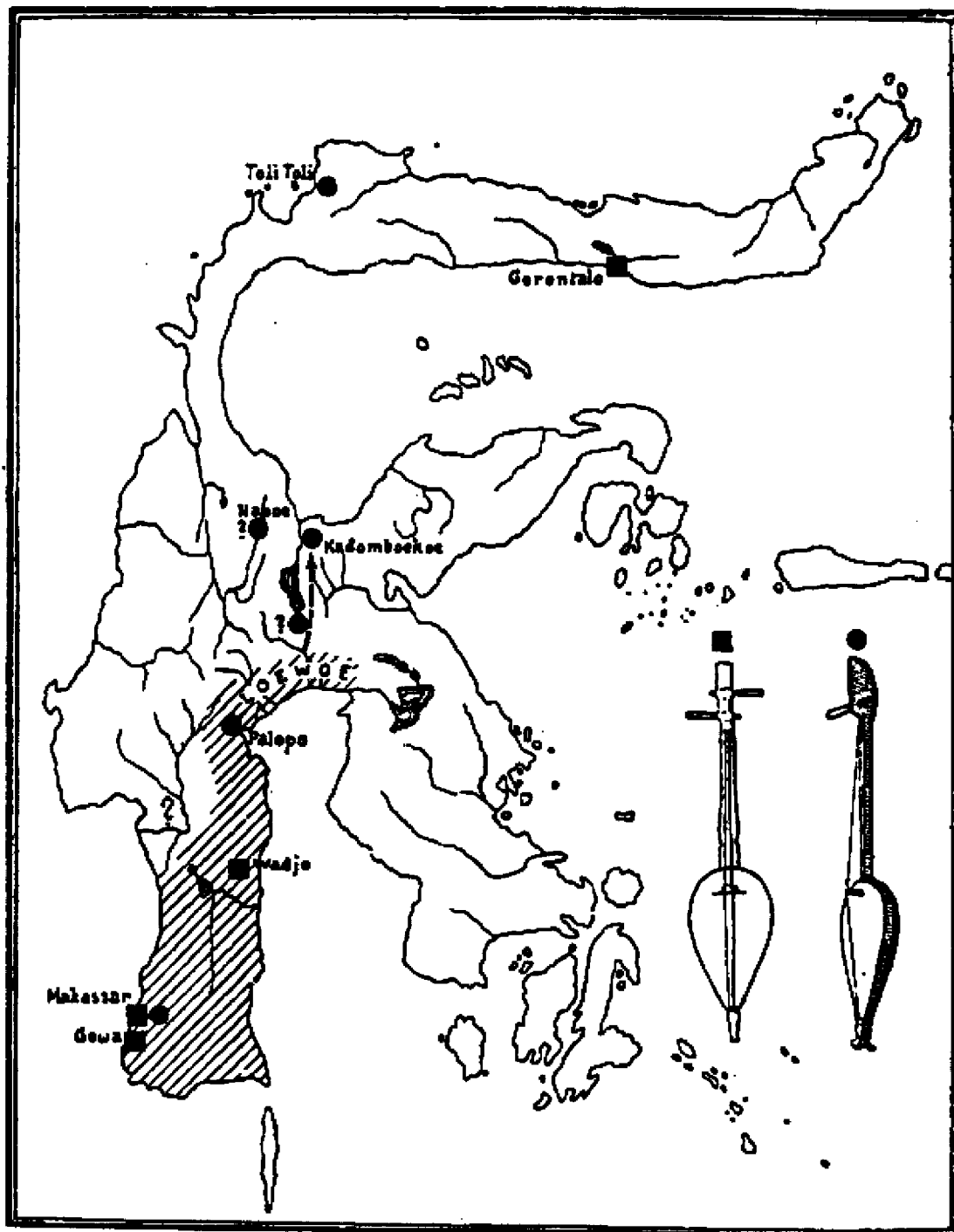
SACHS also suggests Chinese features in the *Javanese rebab*, writing as follows: »Wird man also auf der einen Seite eine unmittelbare Einfuhr vom asiatischen Westen her in Anschluss an die islamitischen Eroberungen annehmen müssen. . . . so ist doch auf der anderen die Möglichkeit chinesischer Einflüsse in Rechnung zu ziehen.« (M. I. u. I. p. 110).

Where to find the prototype of the Kadomboekoe lute is a question almost impossible to settle before getting a wider range of material. The geographical distribution of the *Celebes rebab* partly seems to be the same as that of the *Javanese rebab*, the former type occurring, however, at places where the latter seems to be missing.

Conceivably the *Celebes rebab* might be a *Javanese rebab*, that in some respects is less complicated having only one string, in other respects of higher finish having a broad beautifully carved head. It is strange that the Kadomboekoe lute is adorned with a genuine Hindoo ornament, the Naga head, or possibly the Chinese dragon motive. In any case the motive is no Mohammedan one, and in no other *rebab* I met with this kind of ornament.

This may mean that the *Celebes rebab* is an old type, perhaps in some respects older than the *Javanese rebab*, the wooden resonator of the former, resembling that of a *Javanese rebab*, being added in later times.

In conclusion I beg to observe that the map in which I have tried to figure the geographical distribution of the two kinds of *rebab* in Celebes (Map 9, p. 183), by no means claims to be satisfactory. Later on, no doubt new localities will be added, perhaps making it possible to trace more closely the lines of dispersal of these lutes.



Map 9. *Rebab* in Celebes.

*Arababoe.*

Figs 91, 99, 100. Map 8.

In the Moluccas the natives according to SACHS have a peculiar kind of spitted lute that in Soela Sanana (Besi) and Boeroe is called *erbábi*, in Halmahera *arababoe*.

The Leiden Museum possesses a specimen No. 621/42

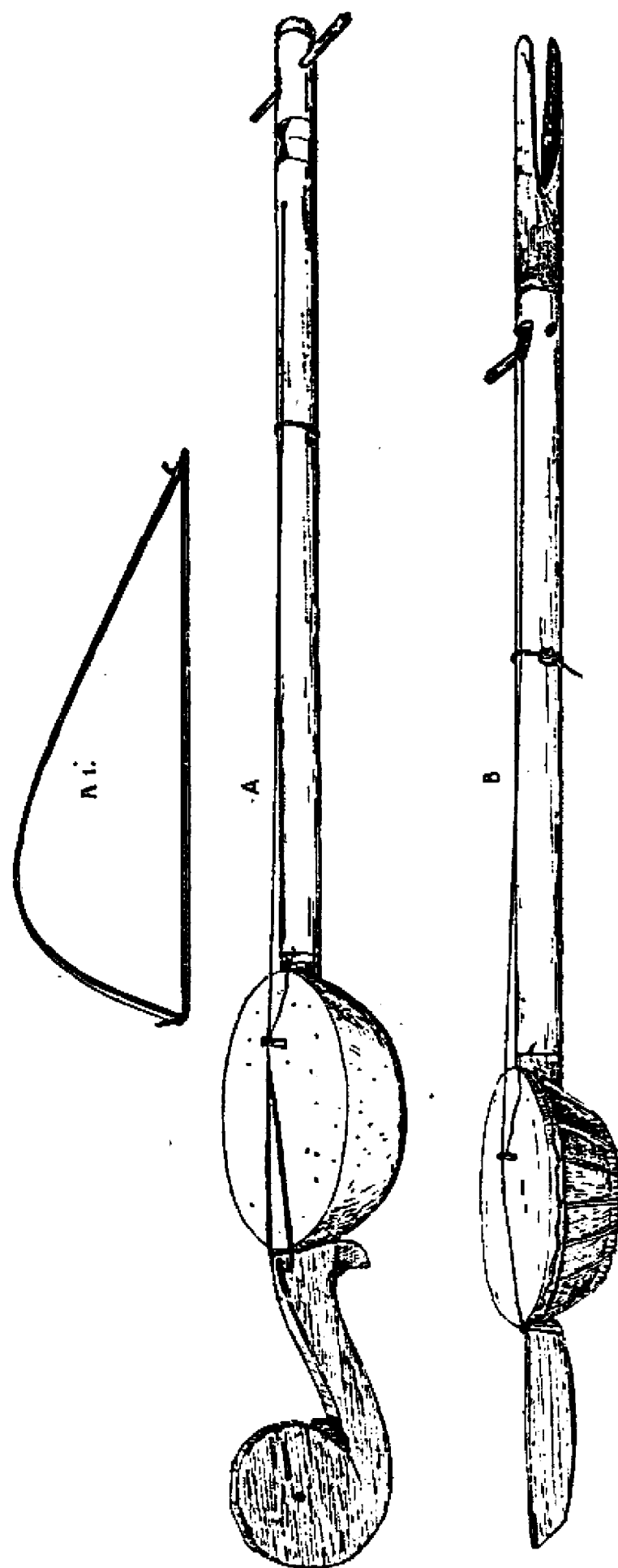


Fig. 99. *Arababae*. A from South Boengkoe, south-eastern part of Central Celebes; B from Mojag, North Celebes.  
(A Kandern coll. No. 2578; B id No. 705.)

from Galela in Halmahera, and another No. 1900/344 from Soela Sanana. The Berlin Museum has two specimens from the latter locality Nos. I C 22801 and I C 22802, as well a specimen No. I C 22611 from Boeroe. KÜKENTHAL in his »Forschungsreise in den Molukken» figures as specimen from Petani in Halmahera. In the following I am going to call these instruments *arababoe*, this name being used by SACHS when figuring a specimen of this lute from Halmahera in »Die Musikinstrumente Indiens u. Indonesiens» (Fig. 77).

This instrument, apparently common to the Moluccas, will be treated here because we sometimes find it, now here now there in Celebes, especially in the part of the island facing the Moluccas. I obtained a good specimen from the

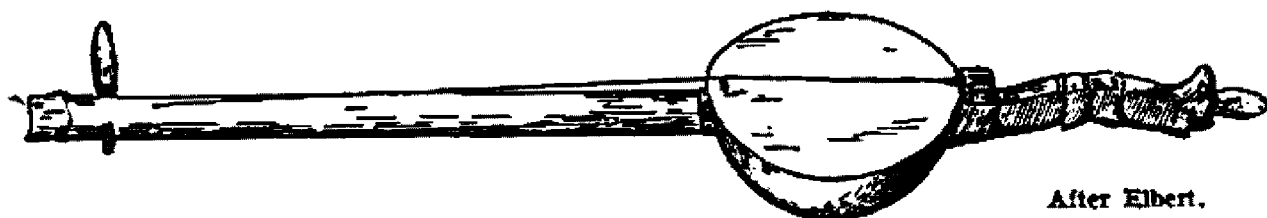


Fig. 100. *Arababoe* from Roembia. South-East Celebes.

district of South Boengkoe in the eastern part of Central Celebes on the border of South-East Celebes (Fig. 99 A).

According to ELBERT the instrument is also known among the To Maronene in the district of Roembia in the southern part of South-East Celebes. He writes as follows in »Die Sunda-Expedition» I, p. 268: »Die Maronene begleiten diesen Gesang noch ausserdem auf geigenartigen Instrumenten mit Saiten aus Messingdraht». He figures the instrument saying the natives call it *óreh* (Fig. 100).

I have a specimen of this lute from Bolaang Mongondou (Fig. 99 B), from which district the Rotterdam Museum possesses another specimen, No. 202972, closely similar to ELBERT'S specimen. From the Toradja in Central Celebes this instrument is not yet recorded, but it is not unlikely that it will be found among the Poso Toradja living in the eastern districts, such as Todjo, Pada, and Ondae. In his

great work »De Bare'e-Sprekende Toradja's» KRUIJT, however, does not mention this instrument, making it likely that it does not belong to the musical equipment of the Bare-e speaking tribes.

The *arababoe* is a genuine spitted lute, similar to the *geso geso*, the sound-board being half a coco-nut shell, as a rule overlaid with membrane (buffalo bladder). In some specimens the bottom of the resonator is pierced by several small holes, which is the case for instance in a specimen No. 16/687 from Ceram, belonging to the Leiden Museum. The handle is a slender rod of bamboo. In some specimens it is passed through the proximal opening of the resonator so as to reach the distal opening which it does not pierce. Here it meets the proximal end of the foot, made of wood, fitting in with the bamboo (Fig. 91 M). In other specimens the bamboo handle passes right through the resonator. The foot is in some specimens discoidal (Fig. 99 A), adorned with carvings.

The *arababoe* has only one string made of vegetable fibre, in my Mongondou specimen it is common cotton. Either the string is attached directly to the foot or it is knotted to a loop passed through the perforated foot (Fig. 99). The other end of the string is attached to a plain wooden tuning-peg piercing the upper part of the bamboo handle. As a rule the handle is perforated in front, the string being passed through the hole and tied to the tuning-peg inside the cavity of the bamboo (Fig. 99 A). The bridge generally is a small piece of wood like a V, the string resting in the notched out point. The string is bound against the handle with a tiny ring of fibre, allowing the player to change the length of the string by pushing the loop up or down the handle in the same manner as in a *geso geso*, only with the difference that in the latter instrument there is no tuning-peg to brace the string. The *rebab* on the other hand has only a tuning-peg to brace the string, no ring to alter the length of it.

When the instrument is played with a bow this seems to be of almost the same very simple construction as the bow of a *geso geso*. This is, at least, the case of my specimen from South Boengkoe. Here the bow is a slip of bamboo with a bunch of strings of vegetable fibre, in Malay called *idjoek*, black fibres obtained from the sheath of the leaves of the sugar-palm. The strings of the bow are rubbed in with resin by passing them over a lump of this stuff which is applied to the foot of the instrument (Fig. 99 A).

The *arababoe* may also be played without a bow. My Mongondou specimen for instance has no bow. It was played in the same manner as a bar-zither in twanging the string with the fingers.

In the island of Gorong (Goram) occurs a spitted lute called *marbab*, but I do not know if this is the same instrument as the *arababoe*. From Ceram just west of Gorong the Leiden Museum possesses a spitted lute No. 16/687, but as mentioned before this instrument is rather like the ordinary *geso geso*, although with two strings and a corresponding number of tuning-pegs.

#### *Boat-lute.*

(Bootlaute v. H. and S.)

Fig. 101. Map 10.

In the western part of Central Celebes we meet with a neck-lute that SACHS calls the boat-lute, a very good name, I think, for this instrument considering its shape. It is rather different from the above described lutes, the handle, the sound-board as well as the foot and the bridge being cut from one piece of wood. The resonator is here altogether of wood being closed at the back by means of a lid fitting in the box and perforated by several big holes. According to SACHS the lid of old instruments is a plate of iron.

The same author says that the boat-lute is an instrument of East and South Celebes as well as of the island of Soemba. In the map No. 10 I have tried to make clear the

geographical distribution of this lute as well as the probable lines along which it dispersed to the western part of Central Celebes, standing on the statements of literature on the subject, specimens found in the museums, my own experiences in Celebes, as well as on the communication of the missionary MIDTBØ who worked for two years in Kantewoe.

As far as I am aware, the boat-lute seems to be unknown among the Bare-e speaking Toiadjia, the instrument not being recorded from the eastern part of Central Celebes by KRUIJT or any other author. I myself did not see it when in 1919 I walked from Poso on the southern coast of the Tomini Gulf to Kolonodale on the Tomori Bay.

In Koelawi I saw two specimens, one of which was acquired for my collection (Fig. 101 B). According to Mr. MIDTBØ the boat-lute is not seldom seen in Kantewoe. He said the natives used to buy these instruments in Pada south of Kantewoe. Pada is the same as Sekopada, the northern part of the district occupied by the To Saadang.

KRUIJT in »Mededel. Ned. Zendl. Gen». XLII, 1890 as well as P. and F. SARASIN (MEYER and RICHTER, p. 125) record the boat-lute from Palopo.

In south and South-West Celebes the boat-lute seems to be rather common. The Leiden Museum for instance, possesses a boat-lute No. 802/8 from South Celebes. The label of this instrument states the following: »Dit instrument is alleen aangetroffen in Wadjo, Sopeng en Sidenreng.» But no doubt the instrument is found at many more places. In the Rotterdam Museum there is a specimen No. 13996 from Bonthain, a place furthest to the south in South Celebes. At Stockholm a private person possesses a small but fine specimen from Macassar (Fig. 101 A).

Probably the boat-lute also occurs in Loewoe north of the Bone Gulf, GRUBAUER having recorded it from Malili east of Loewoe, writing as follows in »Unter Kopfsjägern», p. 169. »Meine Sammlungen konnte ich in Pongkeru nur um einige wenige Stücke vermehren. Das Beste darunter

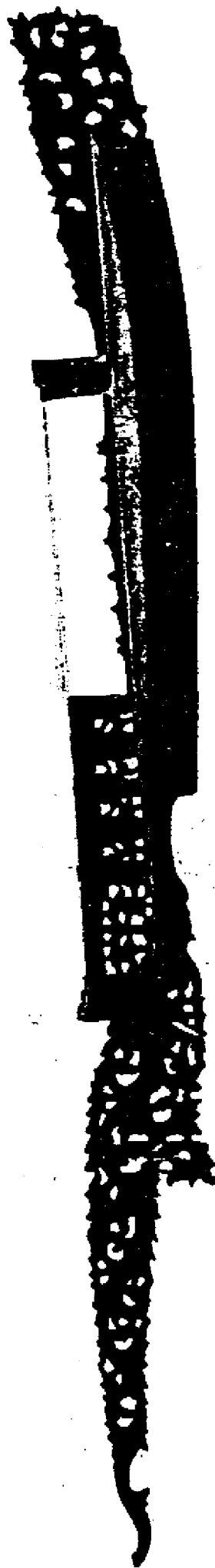
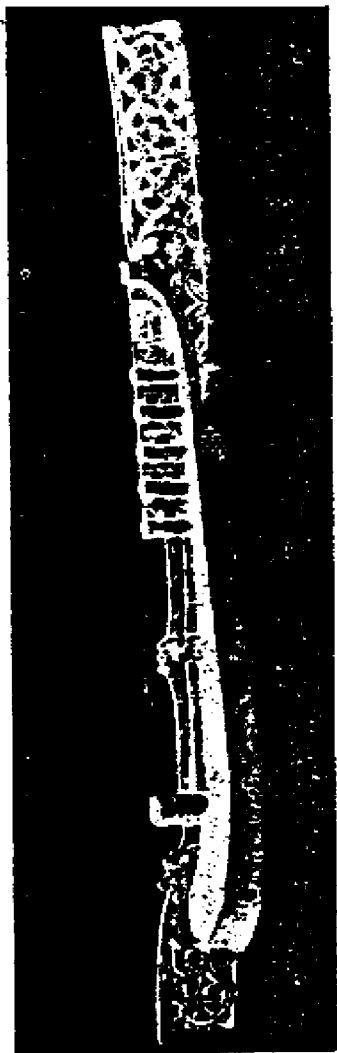


Fig. 101. Ront-lutes from Celebes.

A from Macassar, B from Koelawi, N. W. Central Celebes. (A in private possession at Stockholm, B Kanderu coll. No. 3035)



war eine sehr hübsch gearbeitete Ketjapi. Es ist dies eine in buginesischer Frauenform geschnitzte Guitarre. Dieses Instrument ist an und für sich zwar nicht selten, aber fast nie zu erlangen, weil eben nur für den persönlichen Gebrauch angefertigt».

According to SACHS the boat-lute is also found in East Celebes. Here it is no doubt more scarce than in South Celebes. In North-East Celebes, *i. e.* in Lojnanang, Loewoek, and Lamala I never saw any such instrument, nor has it been recorded from this part of Celebes by other authors. In South-East Celebes the boat lute may be more common to judge from what ELBERT writes of his journey through Roembia in the southern part. In the museum of Berlin is a boat-lute from Tomboekoe, a place on the East coast of the south-eastern peninsula, and in all probability the instrument occurs at several other places in South-East Celebes. We also can expect to find it in the island of Boeton just east of the peninsula, from where it is not yet recorded, however. Be this as it may, the boat-lute in all probability from the tracts of the Bone Gulf dispersed to the Toradja of Central Celebes who do not yet make such instruments themselves, buying them from their neighbours.

Of the origin of the boat-lute MEYER and RICHTER page 125 b. write as follows: »Ein eigenartiges Stück von augenscheinlich chinesischem Modell«, but at the same time they say that the name of the instrument, *katjapi*, *kĕtjaping* is derived from the Sanscrit. SACHS also states that the native names *kasápi*, *katjápin*, and *kĕtjápi* emanate from the Sanscrit words *kačĕhapa*, *kačĕhapi vînâ*.

To judge from the Hindoo origin of the name it seems most likely that the so called boat-lute is a Hindoo instrument. Noteworthy is the fact that in Java as well as in Sumatra and Borneo there are several rather different stringed instruments although to a certain extent similar that have names reminding of those of the boat-lute.

In Java a zither is called *ketjapi*. Of this instrument

SACHS in his »Reallexikon der Musikinstrumente« first edition, p. 209 a writes: »*Ketjapi*. Auf Java führt den namen ein mit der Linken wie eine Guitarre zu haltendes Holzsalterium in Form eines Baumkahns mit offenem Kiel und 2—16 Drahtsaiten, die im Innern des Körpers an einseitig herausragenden Wirbeln befestigt sind.« In »Die Musikinstrumente Indiens u. Indonesiens« p. 105, the same author writes of this instrument: »Die ältere Form, mit der noch die alten Heldenerzählungen begleitet werden. . . hat nur in der Regel 6—8 Saiten aus Kupfer. Ihr Name *kētjāpi* kommt von sanskr. *kačchapa* und ist offenbar auf die zeit der Hindüherrschaft zurückzuführen. Wir werden noch öfter Entlehnungen des gleichen Wortes im Archipel begegnen«.

As to the boat-lute of Sumatra SACHS in his Musical Dictionary writes as follows, p. 209 a: »Auf Sumatra versteht man unter *Ketjapi*, *Biola* oder *Mijne Mijne* ein fast halbmeterlanges Lauteninstrument mit schlankem, kahnförmigem, unten spitz zulaufenden Holzkorpus, zwei Wirbeln und zwei Saiten.« In »Die Musikinstrumente Indiens u. Indon.« p. 133, SACHS writes: »Bei den Batak auf Sumâtra (*kapétan*, *husāpi*, malaiisch *kētjapi*, von sanskr. *kačchapa*, *kačchapi vînā*) ist der Körper gewöhnlich oval, mit einem grossen, geschweiften, griffartigen Fortsatz am Unterende. Die beiden Saiten, aus den Fasern des *Sagurus Rumphii*, werden mit einem Holzplektrum gezupft.«

Also Borneo has its lutes. One type is similar to the boat-lute of Celebes. Sachs writes in the above mentioned book, p. 134: »Auf Borneo haben diese zweisaitigen, hier mit den Fingern gezupften Lauten etwa Bootsform; unten ist der Körper glatt abgeschnitten, und oben geht er in eleganter Kurve — die hier und da vielleicht chinesisch beeinflusst ist — in den Hals über. Die Bekrönung hat gewöhnlich Tierform, Bünde kommen auch hier manchmal vor, und die Rötansaiten sind bei neueren Stücken gelegentlich durch Draht ersetzt. Die beiden borneotischen Völker, die sich

ihrer bedienen, bauen sie ein wenig verschieden: die Däyakform (*blinkan*) hat die Schalenöffnung vorn und eine dünne Holzdecke darüber; die Kayanform (*sase*, *djimpai*, im Südosten *kasápi*, *sapek*, in Lonvia *impai*) lässt die Schalenöffnung nach hinten weisen, ohne sie zu verschliessen.»

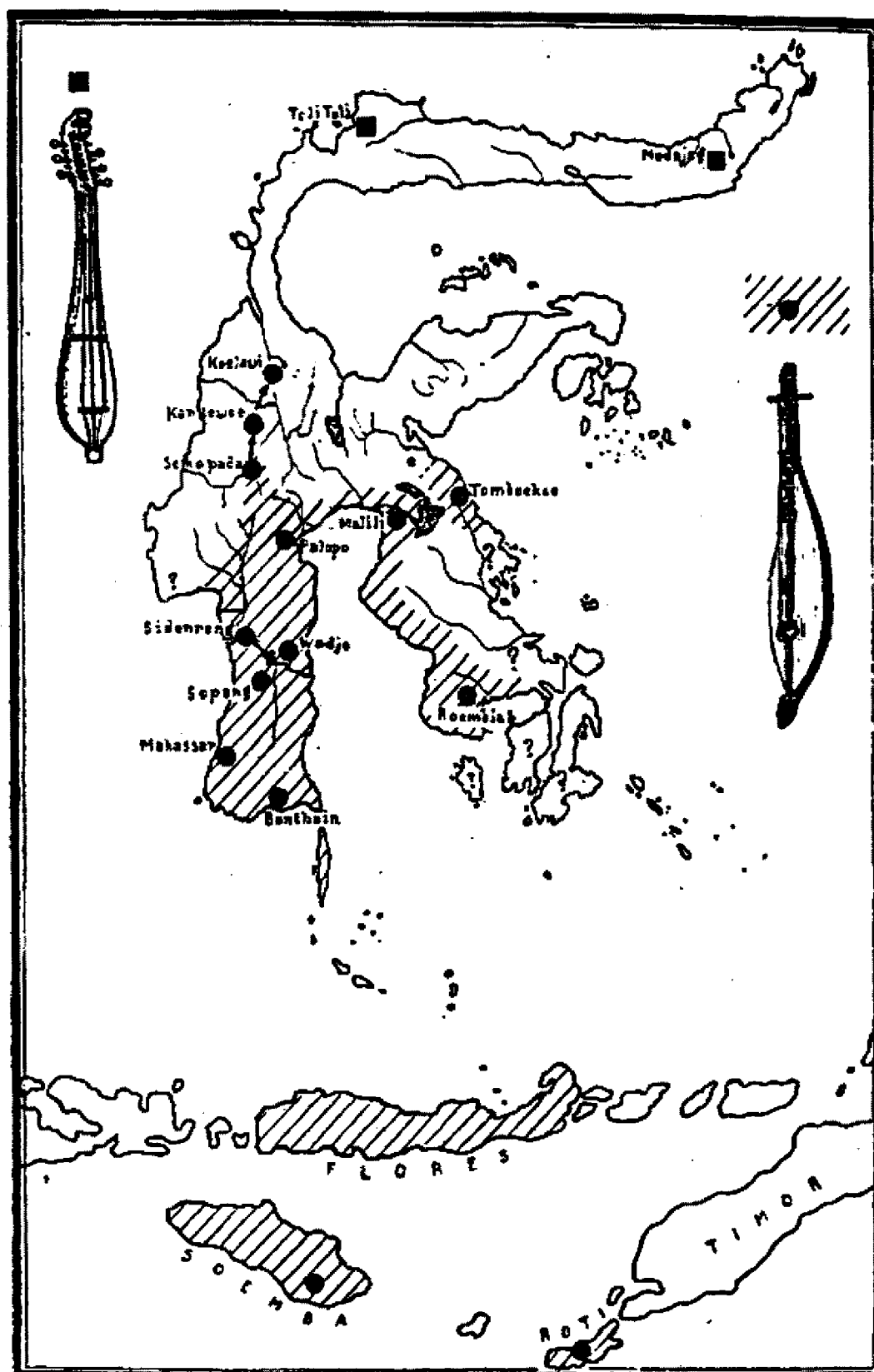
According to LING ROTH the boat-lute is also found in North Borneo. In his book »Natives of Sarawak» (1896) II p. 612 he mentions and figures this instrument.

We thus have seen that in the Malayan Archipelago occur stringed instruments more or less shaped like a boat, having as a rule two strings that are braced by means of a corresponding number of tuning-pegs. All of them have one characteristic in common: they are not played with a bow, the strings being twanged with the fingers or with a plectrum.

The names of all these instruments being derived from the same Sanscrit word point to an origin in common. The presumed Hindoo prototype must have been a rather simple instrument, evolving under foreign influence into a variety of forms. This prototype very likely appeared in the Malayan region during the Hindoo period, thus before 1400. Noteworthy is the fact that the geographical distribution of the *ketjapi* instruments almost is the same as that of the Madjapahit dominion, a fact that confirms the presumed Hindoo origin of these instruments. (Maps 10 and 11).

The differentiation, that most likely took place in the Malayan Archipelago, seems, to judge from literature on the subject, in some tracts to have been influenced by the Chinese culture. SACHS, for instance, is of the opinion that this was the case at several places in Borneo, MEYER and RICHTER state the same to be the case of the boat-lute of Celebes.

It is not very likely, that the differentiation of the *ketjapi* took place in Celebes. Possibly this happened in the Small Soenda Islands, and from there the instrument in its present form may have come to Celebes, the former



Map 10. Boat-lute and gambues in Celebes.

islands seeming to have come under the Madjapahit dominion before the southern part of Celebes.

In FRUIN MEES's «Geschiedenis van Java» Vol. I p. 77 is stated that during the reign of GADJA MADA was taken Dampo in the island of Soemba under the command of NALA. Then Bali was conquered in 1334. This island ruled a great dominion of which Madjapahit claimed to be the lord having conquered Bali. This dominion was: Kangean, part of Soembawa, the eastern part of Java, as well as the southern part of Celebes (Boegis, Boni, Mandar, and Badjo).

According to FRUIN MEES (p. 82) Madjapahit took possession of most of the Small Soenda Island as well as of Loewoe and South Celebes and the islands of Saleyer and Boeton south and south-east of Celebes.

In Borneo we find several kind of neck-lutes but only the type occurring in the south-eastern part, the one facing the south-western part of Celebes, is called *kasapi* or *sapeh*. The instrument is similar to the *ketjapi* of Celebes, but the sounding box is here open at the back, whereas the Celebes *ketjapi* is closed by a lid.

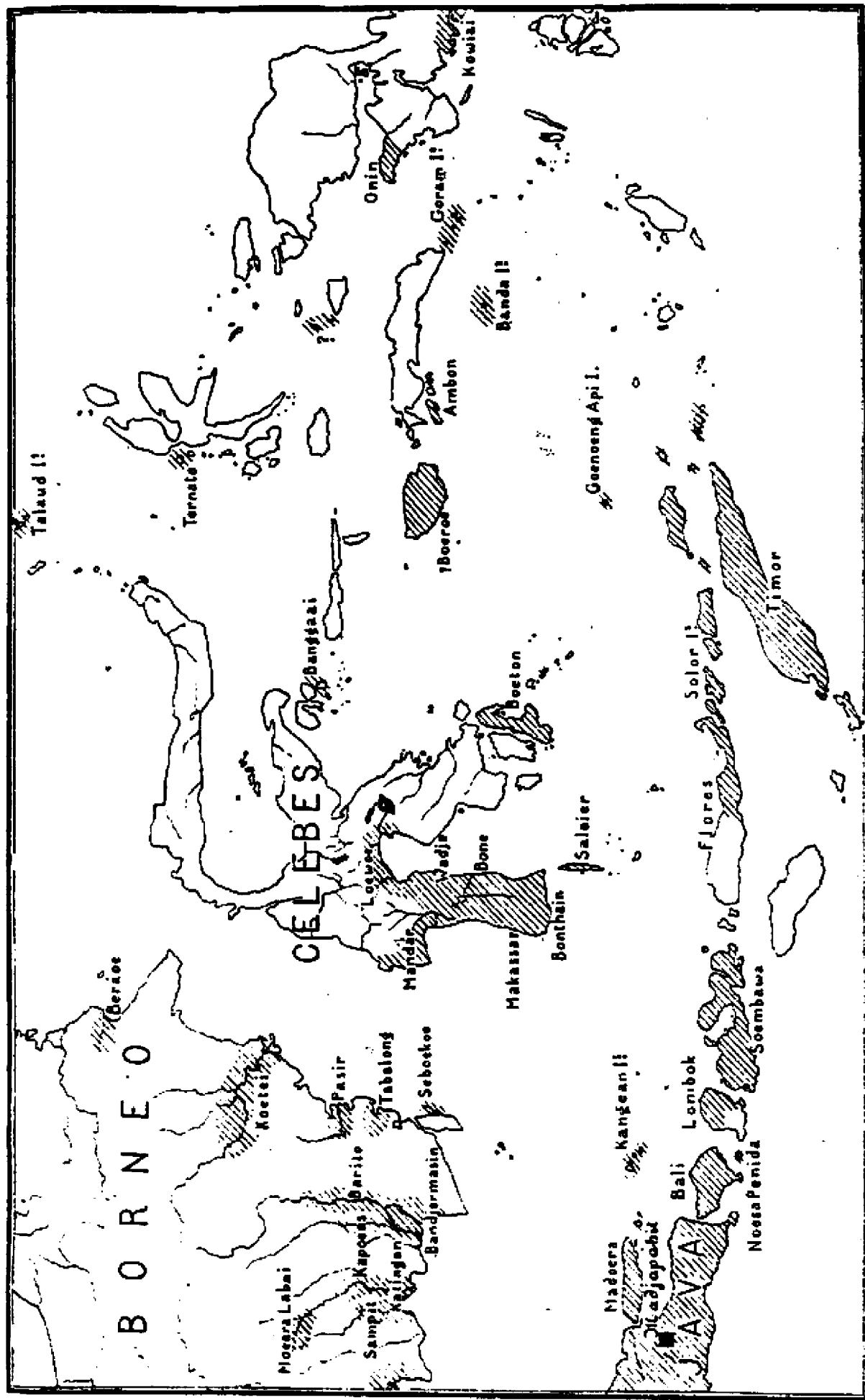
### *Gamboes.*

Fig. 102. Map 10.

In Celebes we meet beside the boat-lute another neck-lute also played by twanging the strings with the fingers, no doubt of Arabic origin.

This lute seems to be scarce in Celebes. I obtained a single specimen in Bolaang Mongondou in North Celebes (Fig. 102 A), and the Leiden Museum possesses a specimen No. 1926/3 from Toli Toli, also a place situated in North Celebes (Map 10).

The instrument probably is rare in the Malayan Islands, SACHS writing in «Die Musikinstrumente Indiens u. Indonesiens» p. 138 as follows: «Ganz isoliert steht ein



Map 11. Majapahit dominion in the Malayan Islands according to PRIN-MUES.

flach-birnförmiges Lauteninstrument von Westborneo mit sechs oder drei Kattunsaiten unter dem Namen Gambus.»

According to JUYNBOLL the instrument seems to indicate Arabic influence, and SACHS shows that no doubt the name of *gamboes* is connected with the name of the Turkish instrument *quopuz*. SACHS describes the *gamboes* as follows: . . .

»die geteilte Deckung — Holz über den schmaleren und Pergament über der breiteren Hälfte — und die häufig in der Holzdecke angebrachte Rose oder der sie gelegentlich ersetzende Spiegel erinnern in der Tat deutlich an das heutige Rebab von Nordwestafrika. . . . Das allein ist aber für die Geschichte des Instrumentes nicht ausreichend. Vor allem wird das chinesische P'i p'a herangezogen werden müssen; von ihm kommt die flache Birnform, von ihm der elegant rück- und vorwärtsgeschwungene Wirbelkasten mit seiner Schnitzbekrönung, von ihm auch die beträchtliche Länge eines Meters. Kleine Exemplare haben sogar die typischen vier Saiten des P'i p'a.» (Musikinstr. Ind. u. Indon. p. 138.) Thus it seems as if the *gamboes* should have been rather strongly influenced by the Chinese P'i p'a.

In this connection I want to mention that lutes of almost exactly the same construction as the specimens from Mongondou and Toli Toli occur on the north-western coast of Madagascar (Fig. 102 B). The size of the Madagascar lute is the same as that of the instruments from Celebes, or possibly the former are somewhat bigger. The shape of the instrument, the wooden cover of the neck, the hide covering the wider distal part of the instrument, all is just the same. The strings of the Madagascar *gamboes* are, contrary to the Celebes *gamboes* only four. In Madagascar this lute was generally considered to be of Arabic origin. In the north-western part of Madagascar where I found it, live from olden time a number of Arabs, having come from East Africa to Madagascar. I never saw this lute on the east coast of the island where a great number of Chinese have settled. Thus in Madagascar the instrument does not seem to have

been subject to any Chinese influence. It would indeed be strange if the two lutes from North Celebes that in form and size corresponds to the Madagascar lute, should be influenced

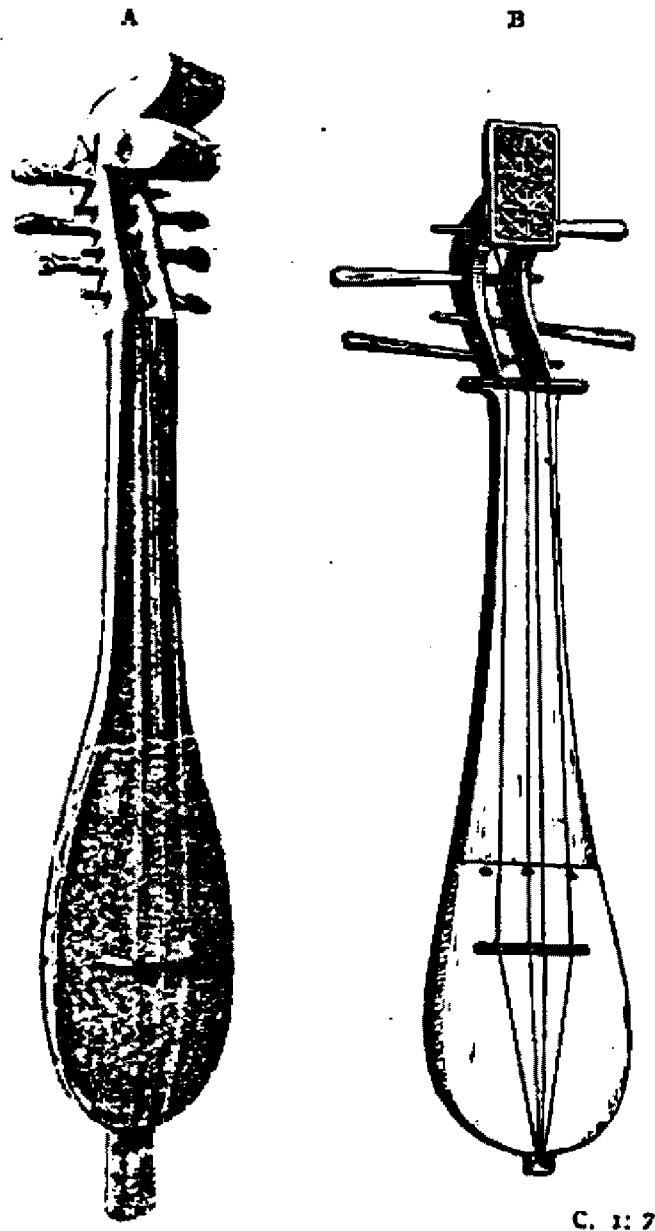


Fig. 102. *Gamboes*.

A from Modajag in Bolaang Mongondou, North Celebes. B from N. W. Madagascar.

(A Kaudern coll. No. 38; B Ethn. Mus. Stockholm.)

by the Chinese culture. The similarity of the Madagascar lute with that of Mongondou is seen in Fig. 102.

To my mind it seems most likely that the *gamboes* is of Arabic origin, and that it came with Islam to the Malayan Islands.



To judge from the label of the Toli Toli lute, this specimen should be a two-stringed instrument. It runs as follows: »GUITAAR (*gamboes*), van bruin hout, de hals half cirkelvormig omgebogen en breed convex uitlopend, met twee stemschroeven, de zijkant met bladranken en relief verzierd. In het midden een ronde, gedeeltelijk met glas bedekte opening. De klankkist met dierenhuid overtrokken eenigzinds peervormig. L. 97 cM. br. 20 cM.»

If we examine the specimen in question we shall find that the instrument originally must have had six tuning-pegs, having six holes into the head. At present two of the pegs are missing, two are broken, the piece still left in the head, only two pegs being left in their original state. Thus this lute had evidently six strings, presumably arranged in the same manner as in my Mongondou specimen, *i. e.* in pairs.

The ternary number is characteristic of the strings, being three or six, according to SACHS the former being the original number. Whether this is a Chinese feature or not, I do not know, three strings evidently occurring in China as well as in Western Asia. In »Die Musikinstrumente Indiens u. Indonesiens» p. 109 SACHS writes, when speaking of the spitted-lute: »... das dreisaitige, schlangenhautgedeckte *Cai-tam* der Annamiten, das dem chinesischen San-hsien entspricht», but at the same time he mentions other spitted lutes of Persian origin with three strings. Thus the number of the strings of the *gamboes* do not help to throw a light upon its origin.

There is nothing that makes it likely that the *gamboes* was introduced into Celebes by the Chinese, on the contrary all speaks in favour of the presumption that it came with Islam. This religion prevails in Toli Toli as well as in Mongondou. The *gamboes* that I acquired belonged to a Mohammedan.

That this lute should be a native instrument of Celebes is almost impossible considering the fact that, as yet, only

two specimens are known from this island, one from the coast and another from a place near and easily communicating with the coast, the instrument, as far as I am aware, not occurring among the primitive tribes of the interior of the island.

## D. AEROPHONES.

In Celebes we meet with a multitude of representatives of the three forms of wind instruments that we call *flutes*, *shawms*, and *trumpets*. Besides there are some instruments in which a current of air is put in motion mechanically, such as humming-tops, as well as so called explosion aerophones. Especially in the flutes we notice a great variety of forms. Among the Toradja we find all three kinds of aerophones, but here the number of forms is not so very great.

### Free aerophones.

(Freie Aerophonen v. H. and S.)

This name v. HORNBOSTEL and SACHS have given to various kinds of wind instruments that are not sounded with the breath of man. This group includes such instruments as the buzzing-nut, the humming-top etc. As a subdivision v. H. and S. class different instruments in which a detonation is achieved by means of a sudden expansion of compressed air or gas.

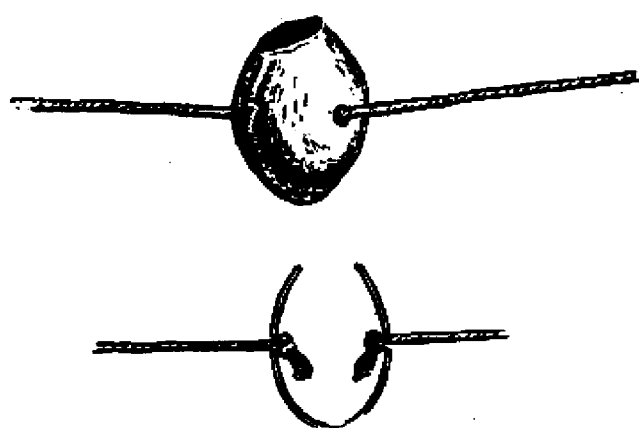
#### *Buzzing nutshell.*

Fig. 103.

At Kantewoe in Central Celebes I met with a toy of this kind. It consists of a scraped nutshell with two lateral perforations through which are knotted two strings (Fig. 103). The top of the shell is cut away. In playing, the child takes the strings in his hands, whirling the shell round in order to twist the strings. Then he alternately stretches and slackens the strings, which makes the shell revolve backwards and forewards, giving a buzzing sound.

I never saw this toy at any other place in Central Celebes, and KRUYT does not mention it in his books, but presumably it is known at many places, having as yet been overlooked by researchers. It can hardly be a genuine Kantewoe invention, since similar objects occur among a great number of natives at widely separated places.

In Leiden there is according to the Museum Catalogue (Vol. VIII p. 120) a similar toy from Sumatra. The catalogue says: »1680/2 Spielzeug: Abschnitt einer Pinangnuss, einer-



1: 2

Fig. 103. Buzzing nutshell from Kantewoe. Central Celebes.  
(Kaudern coll. No. 1926.)

seits mit einem, an der anderen mit zwei Löchern, durch welche ein Paariger Faden gezogen ist. Der Ausschnitt wird gedreht; durch das Anziehen und Enspannen der Fäden wird ein summendes Geräusch verursacht. BUKIT KARO. Nuss L. 2,5, Br. 2 cm.»

According to BUSCHAN the buzzing nutshell occurs in the Gazell Peninsula far east of Celebes. He writes in »Ill. Völkerkunde» Vol. II p. 127 the following: »Sodann gibt es. . . eine durchbohrte Nuss (einer Cycadee), die beim Rotieren um zwei durchgezogene und umeinander gewickelte Schnüre ein summendes Geräusch von sich gibt.»

Although we have, as yet, only these few references, it can hardly be doubted that the buzzing nutshell has a rather wide range in the Malayan Islands and in the region east of it.

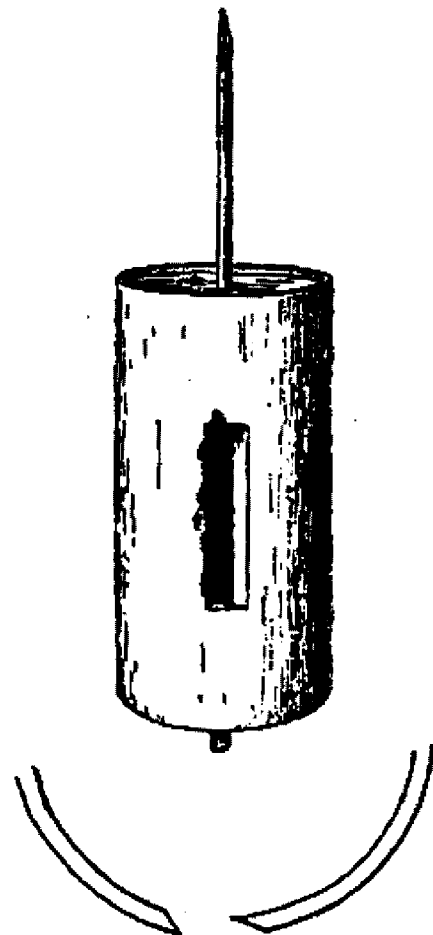
*Humming-top.*

Fig. 104.

Another humming or buzzing toy is a bamboo top occurring now here, now there in the Malayan Islands. From Celebes it does not seem to be recorded as yet. Traveling in this island I met with this toy only at the village of Pinapoean in the district of Lojnang, North-East Celebes.

The top, no. 2694 (Fig. 104) is made of a section of bamboo, 15,3 cm. in length with a diameter of 7,5 cm. The openings are closed by two plates of wood, the chinks being filled with wax. A stick, 26 cm. long, is passed through the bamboo cylinder, which has a lateral slot, 6,4 cm. long and 1,4 cm. wide. The long sides of this slot are beveled as will be seen in the figure. By means of a string, wound several times round the bamboo cylinder the top is wound up. In revolving, it emits a soft humming sound.

No doubt this top has found its way to Lojnang from the coast in the north where the Bugis culture prevails. Presumably the toy is known at more than one place on the coast of Celebes. According to the statements of the Leiden catalogue the same humming-top occurs in Java as well as in Bali, which makes it likely that it came to Celebes from Java, very likely first to South Celebes, Boeton, and Banggai, places where the Javanese influence is strongly felt. Especially in South Celebes I expect the humming-top to be found.



1: 4.

Fig. 104. Humming-top  
from Pinapoean in Lojnang.  
North-East Celebes.  
(Kaudern coll. No. 2694.)

## Explosion aerophones.

In Celebes I have seen three different kinds of aerophone that should be referred to this group: the water-pounder, the air-gun, and the petroleum cannon.

### *Water-pounder.*

Fig. 105.

The water-pounder is made of a section of stout bamboo comprising two internodes with a node between. The greater part of the upper internode is removed, only a spur being left, about 25 cm. in length and 3 cm. wide. The lower part of the pounder is about 20 cm. long with a diameter of 5—7 cm. To the spur is lashed firmly with a slip of rattan a slender rod of bamboo about three meters in length. This implement was used by the few natives who lived on the shore of Lake Danau in North Celebes when they were fishing the *kosa* (Anabas). This fish that is rather common here is caught in a long drift-net. At night the natives go out in their canoes, and the fish is conducted toward the net by means of torches. In one of the boats the men try to chase the fish in the desired direction with their water-pounders, repeatedly thrusting the inverted bamboo cylinder into the water at which a klucking sound is heard.

I never saw the natives using this implement at any other place than on Lake Danau.

### *Air-gun.*

This toy v. HORNBOSTEL and SACHS class with musical instruments, but being only used as a mere toy it will be treated in detail later on in this series in connection with the toys occurring in Celebes. As a rule it is made of a section of bamboo open at



C. 11: 20.

Fig. 105.  
Water-pounder.  
Lake Danau,  
Mongondou.  
North Celebes.

both ends. As stoppers serve various small fruits or pieces of betle-pepper. The air-gun seems to occur in Celebes as well as in several islands of the Malayan Archipelago.

### *Petroleum cannon.*

A petroleum cannon I only saw at the village of Pinapoean in Lojnang, North-East Celebes, where the Ambonese teacher celebrated Christmas-day with a salute from a petroleum cannon.

It was made of very stout thick-walled bamboo. All nodes but one were removed. Near the closed end was a rather big almost square touch-hole. Some petroleum was poured into the cylinder that was placed horizontally on the ground, the oil was lit, and when the cylinder was warm the fire was put out. Then a schoolboy puffed with short quick breaths air into the cannon through the touch-hole. Another boy was standing by, ready to put a burning stick into the cannon as soon as the first boy had finished puffing, at which the petroleum gas mixed with air exploded with a loud detonation.

This plain but clever invention was not of native origin in Celebes. The schoolboys at Pinapoean had learnt to make the cannon from their teacher who told me that it was customary in Ambon to salute with these cannons.

### **Flutes.**

Although this group of wind instruments has a very great number of representatives in Celebes, the plain Pan-pipe seems to be unknown here, as far as I am aware. I myself never saw it, and I have no references from other authors. This is rather strange, the Pan-pipe being known from the Philippines, from Timor, and from Java. In the island of Taliaboe we meet a kind of plain pipe made of a piece of bamboo, but even this simple instrument does not seem to be known in Celebes.

The flutes occurring in Celebes may conveniently be divided into the following three groups: *flutes without an air duct*, *flutes with external air duct* and *flutes with internal air duct*. In the latter two groups the forms and the varieties are so numerous that I judged it necessary to make the difference of these instruments clear in the following table.

A. *Flutes without an air duct* (Flöten ohne Kernspalte v. H. and S.)

- I. long bamboo flute; no sound-orifice in front of the plug of the proximal end    Type I
- II. transverse bamboo flute, one end closed by a node or with a plug of wood.....    Type II

B. *Flutes with external air duct* (Aussenspaltflöte, v. H. and S.)

- I. long bamboo flutes, closed at one end by a node, fitted with a ring of palm-leaf round the sound-orifice:

a. blown with the mouth

1. single pipe

\* 4 stops in front.....    Type III a

\*\* 6 stops in front in two groups of 3 stops in each

a with a bell-mouth,

† bell-mouth of bamboo ...    Type III b

†† bell-mouth of wood or horn    Type III c

β no bell-mouth, distal end bevelled off .....    Type III d

\*\*\* flute short, 6 equidistant stops in front, one stop at the back    Type IV

2. two pipes, one pipe longer than the other .....    Type V

b. blown with the nostrils.....    Type VI

- II. long bamboo flute, closed with a plug of wood, sound-orifice close the proximal end, a slip of palm-leaf inserted behind the sound-orifice making an external air duct .....    Type VII

**C. *Flutes with internal air duct* (Binnenspaltflöte v. H. and S.)**

- I. long bamboo flutes, sound-orifice in front of the plug of the proximal end
  1. four stops in front, one at the back opposite to the uppermost one of those in front ..... Type VIIIa
  2. five or six stops in front, one at the back just between the two uppermost stops of the front row ..... Type VIIIb
  3. six stops in front, none at the back Type VIIIc
- II. long bamboo flute; sound orifice double Type IX

Several of these flutes bearing a close resemblance to one another, and not knowing the native names of the different types — if there are such names — I have simply given to each type a number, that is found in the table.

The four kinds of flute with external air duct which are blown with the mouth I have comprehended in one type, since in many respects they closely resemble one another, type III b, c, and d presumably only being varieties of type III a, to which question I shall come back later. The same may be the case of the types IV, V, and VI and even of type VII. Here the difference, however, is so great that from a practical point of view I judged it better to class them as four different types.

**Flutes without an air duct.**

*Long flute.*

Type I.

Fig. 106.

In the Dresden Museum there is a single specimen of a peculiar kind of wind instrument that must be acknowledged as a flute of a special type. Of this specimen the number of which is 4145 the label says: »Kindertrompete. Zur Zeit der Ernte gebraucht. Dr. Czurda Makassar».



The instrument is a bamboo cylinder, 25 cm. long, the diameter of which is nearly 1 cm. It is fitted with a bell-mouth made of the leaves of a Pandanus (Fig. 106 A, B). The outside of the proximal end of the tube is bevelled off. In the mouth-piece is inserted a long plano-convex wooden plug leaving a narrow air duct between the tube and the plane surface of the plug.

In this respect the instrument resembles the plain pipe of the flutes with internal air duct, but yet I do not think it is such a flute since there is no sound-orifice in front of the air duct. Thus the air blown through this instrument does not impinge on a sounding edge or «voice» from within.

No doubt this flute is a single representative of a really primitive flute. In blowing I suppose that the breath should be guided against the edge of the mouth-piece by the lips of the performer so as to split in two, one portion passing through the tube, the other remaining outside.

Although I have not seen a native blowing this flute, I think the bevelled off mouth-piece as well as the air duct being at the back of the flute, speaks in favour

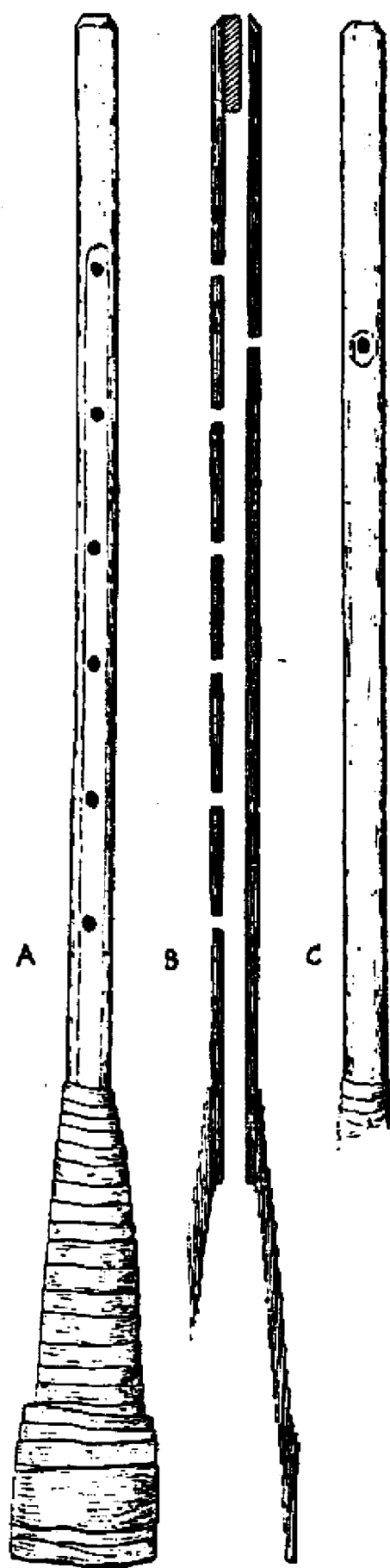


Fig. 106. Primitive long flute from Macassar. Toy.  
(Dresden Mus. No. 4145.)

of the presumption that the air is guided against the sharp edge of the mouth-piece. If this flute is held obliquely to the mouth as is the custom when blowing a primitive flute, the edge of the mouth-piece will serve as a »voice«.

In this respect the flute in question is exactly similar to the flutes that I saw in the north-western part of Madagascar among the Sacalava. The Madagascar flutes, however, have no plug in the proximal end, the plug not being absolutely necessary. In the Dresden specimen the plug allows only a small portion of air to enter into the tube, which makes me think that the air duct must be at the back of the instrument, or hardly any breath at all would enter it. Besides, the stops no doubt indicate this side as the front side.

The six equidistant stops are burnt into a bevelled portion of the tube. At the back there is another burnt stop opposite to those in front, placed between the uppermost stop and the one next to it. (Fig. 106 B, C).

The label of the Dresden flute tells, as mentioned before, that it should only be used at harvest time. Whether such flutes as this were used also in other parts of Celebes in connection with harvest is not known.

At present, at this time of the year it is customary to make an instrument of a paddy straw fitted with a big bell-mouth of Pandanus leaves. I am later coming back to this instrument when speaking of the shawms.

The Dresden flute with its plug inserted into the proximal end of the tube is not an altogether primitive instrument. Where to find the home of this type we do not know for certain, but to judge from the statements of SACHS in »Die Musikinstr. Indiens u. Indonesiens« p. 144, the plug may be a Chinese feature. SACHS points out that flutes open at both ends, may be improved upon in different manners, finally by closing the proximal end of the instrument. He writes as follows: »Die nächste Etappe, das Verschliessen der Oberöffnung durch den Wachstumsknoten des Bambus.

also die Verabschiedung des Lippenverschlusses, kommt auf indischem Boden nicht mehr vor. Sie ist für China charakteristisch.» Of the Malayan Islands SACHS says, p. 144: »Im Gegensatz zu Hinterindien hat der Malaiische Archipel der Längsflöte eine grosse Bedeutung gelassen. Ausser der überall verbreiteten, im einzelnen nicht erwähnenswerten Rohrflöte, auf deren hinduistische Abkunft der vom Sanskrit hergeleitete Name *bañsi* deutet, . . . .»

To judge from this, the home of the latter flute type should be India, that of the former, the proximal end of which is closed by a node, possibly China. In order to trace the origin of the type represented by the Dresden specimen, it would be of great interest to know its native name in Celebes as well its eventual geographical distribution outside this island.

### *Transverse flute.*

#### Type II.

#### Fig. 107.

Nowadays we meet nearly all over Celebes the common transverse flute. It seems chiefly to be played by young people, and it surely is no native instrument of Celebes.

As to the occurrence of this flute in Minahassa MEYER and RICHTER only write the following p. 125 a: »Flöten mit ein-gebrannten Löchern aus *Bambusa longinodis* Miq. . . . werden in der Minahassa in der Schule gespielt. Das Flötenspiel ist hier nichts echt Heimisches.»

They refer to GRAAFLAND, »De Minahassa», Vol. I, S. D. VAN DE VELDE VAN CAPELLEN in »Mededeel. Ned. Zend. Gen.» Vol. I, as well as to a paper of the same publication, the name of the author not given, however. Unfortunately no Swedish library possesses these works, thus I was unable to go through them.

In Minahassa I was told that the transverse flute with six stops was introduced by the Ambonese missionary

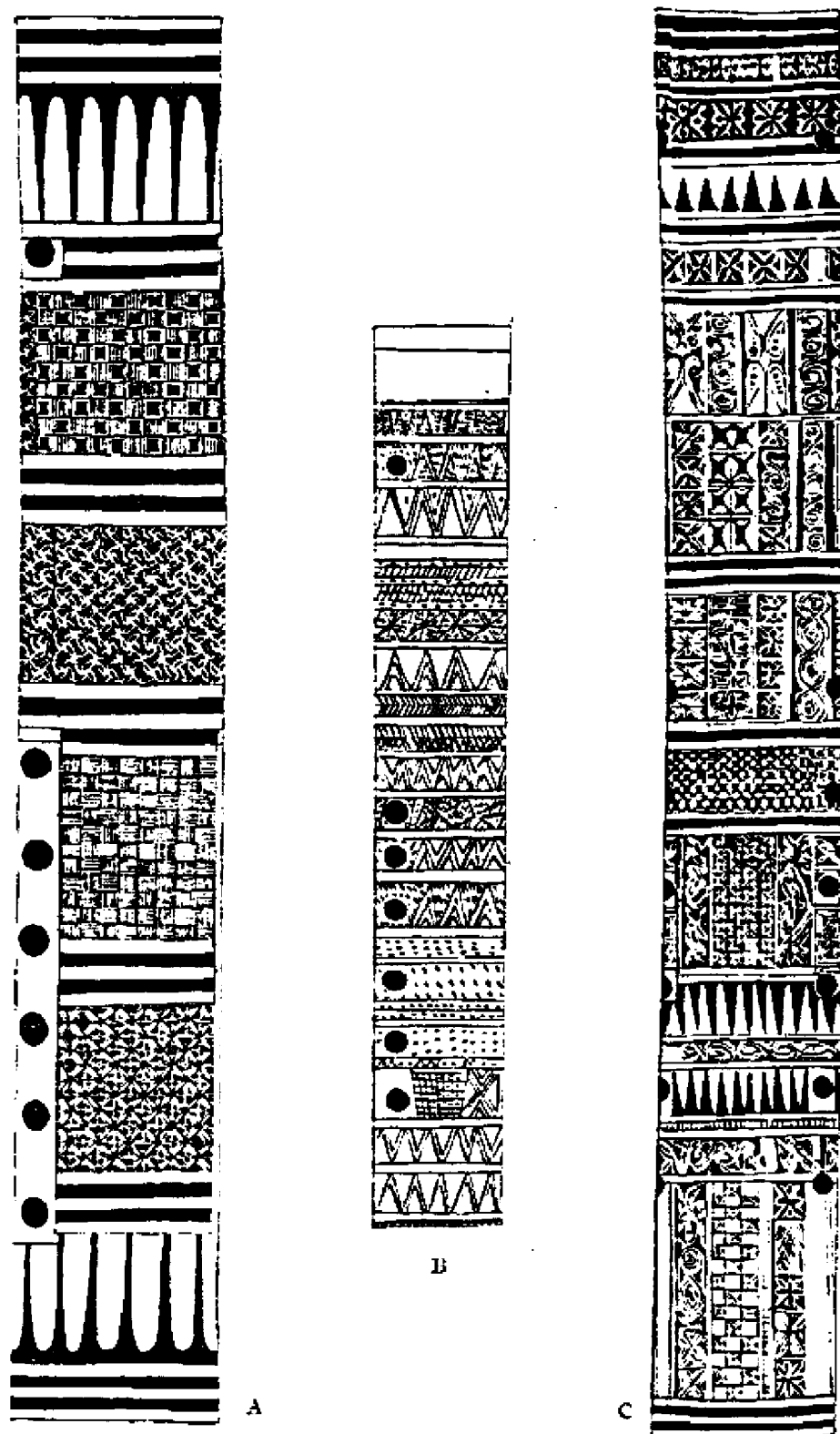


Fig. 107. Transverse flutes spread out so as to see the engraved designs all round the instruments.

A from Kelei, B and C from Koelawi. Central Celebes.  
(A Kaudern coll. No. 2588 b; B id. No. 1363; C Rotterdam Mus. No. 91/45.)

schoolmasters, who began their work in this part of Celebes during the first part of the nineteenth century.

In Lamala and Lojnang in North-East Celebes, where mission is of rather late date, the majority of the schoolmasters, working at the same time as missionaries, are Ambonese who have here introduced into the schools the above mentioned transverse flute.

Among the Toradja of Central Celebes the transverse flute also seems to be an acquisition of later date. The Menadonese teachers told me that they had taught their pupils how to make these bamboo flutes and how to play them. All over Central Celebes the transverse flute at present is used in the music lessons, and every school has its own flute band (Figs. 74, 75).

In the mountain districts of the North-West, it was chiefly boys who knew how to play a flute, very likely owing to the fact that girls at the time of my sojourn (1918) in Koelawi and adjacent districts as a rule did not attend school.

Among the Poso Toradja as well as the Koro Toradja living in the eastern and south-eastern mountain districts, boys as well as girls attended school, all learning to play the flute. In the district of Bada the girls even seemed to be more clever players than the boys, and in the village of Kageroa I was told that only girls learnt to play the flute, the boys playing other instruments.

The most clever flute band that I met with in Celebes was no doubt that of Lindoe, the members of which were all boys.

In Koelawi, Lindoe, Kantewoe, and Bada all children played in unison, in Lamala the band played in parts. Consequently the flutes were not quite the same in Lamala and in Central Celebes. At the former place the bands used flutes of rather different sizes (Fig. 108). The biggest of these instruments that I acquired for my collection measures 58 cm. from the sound-orifice to the distal end of the tube. The diameter is 3 cm. The corresponding measurements of the

smallest of my instruments is 23 cm. and 1 cm. Two flutes of intermediate size measure 44 cm. in length with a diameter of 1,8 cm., and 45 cm. in length with a diameter of only 1,4 cm. — No flutes from North-East Celebes are ornamented.

Among the Poso Toradja it seems to be customary to adorn the flutes with engraved or burnt ornaments. At the



W. Kaudern Photo.

Fig. 108. School band of Molino, Lamala. N. E. Celebes.

village of Kelei in Ondae where boys as well as girls played the flute, the instruments of the latter were beautifully ornamented with engraved designs (Fig. 107 A) whereas those of the boys were plain.

The Rotterdam Museum has some flutes from Koekoe, a village situated between the village of Poso and Lake Poso, which are decorated with lines and dots burnt into the bamboo in designs that bear a close resemblance to the ornamentation of bamboo flutes as well as other objects in

the southern Moluccas. This makes me think that the ornamentation of the bamboo flutes was introduced among the Poso Toradja by the Ambonese teachers.

In Koelawi I obtained a flute No. 1363 covered with plain ornaments in the shape of lines and dots engraved into the bamboo (Fig. 107 B). This ornamentation very likely is of Koelawi origin. At Rotterdam there is a beautifully ornamented flute No. 91/45 from Koelawi (Fig. 107 C), similar to the flutes from Kelei, the ornaments presumably not being of Koelawi design. The instrument has a total length of 56 cm. and a diameter of 1,5 cm. In a following volume of this series I am to come back to this flute when treating the ornamentation of the Toradja.

The transverse flute as a rule is made of a section of bamboo without a natural node. There is in my collection only one specimen from Koelawi that is closed by a node, all the rest have a plug of wood or pith inserted into the proximal opening of the tube.

I was unable to get authentic information as to the general rule for making the stops of a transverse flute. A Menadonese teacher told me the distance between the stops should be the same as the diameter of the tube, but this does not correspond to the actual state of matters.

Below are given the notes obtained with some of my transverse flutes, the lowest note when all stops are covered, the next one by uncovering the distal hole, and so on. The flutes were sounded to a piano, and do not always quite correspond to the notes of this instrument, for instance in the flutes No. 2588 b and 2588 c.

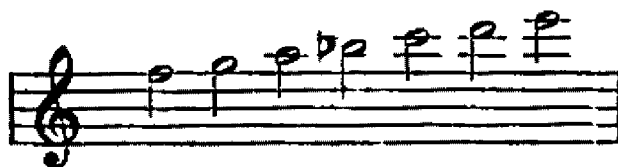
Flute No. 2633  
from Lamala.



Flute No. 2635  
from Lamala.



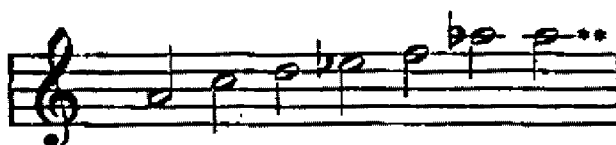
Flute No. 2637  
from Lamala.



Flute No. 2588 b  
from Kelei.



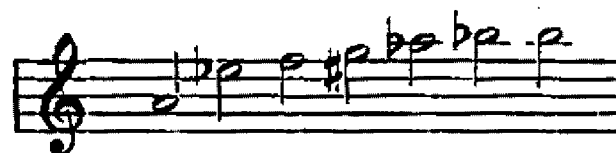
Flute No. 2588 c  
from Kelei.



Flute No. 2588 d  
from Kelei.



Flute No. 1363  
from Koelawi.



### Flute with external air duct.

Figs. 109—115. Map 12.

Among the great multitude of these flutes, type III and its allies undoubtedly are the most common ones in Celebes. Wherever I met with this type it was blown upon with the breath of the mouth, but KRUYT in »De Bare'e-Sprekende Toradja's» records a flute almost similar to the flutes of type III sounded with the breath from the nostrils. To this nose-flute, which I have classed as a special type, I am coming back further on.

\* Not pure.

\*\* Should be raised a little.



*Long flute with external air duct.*

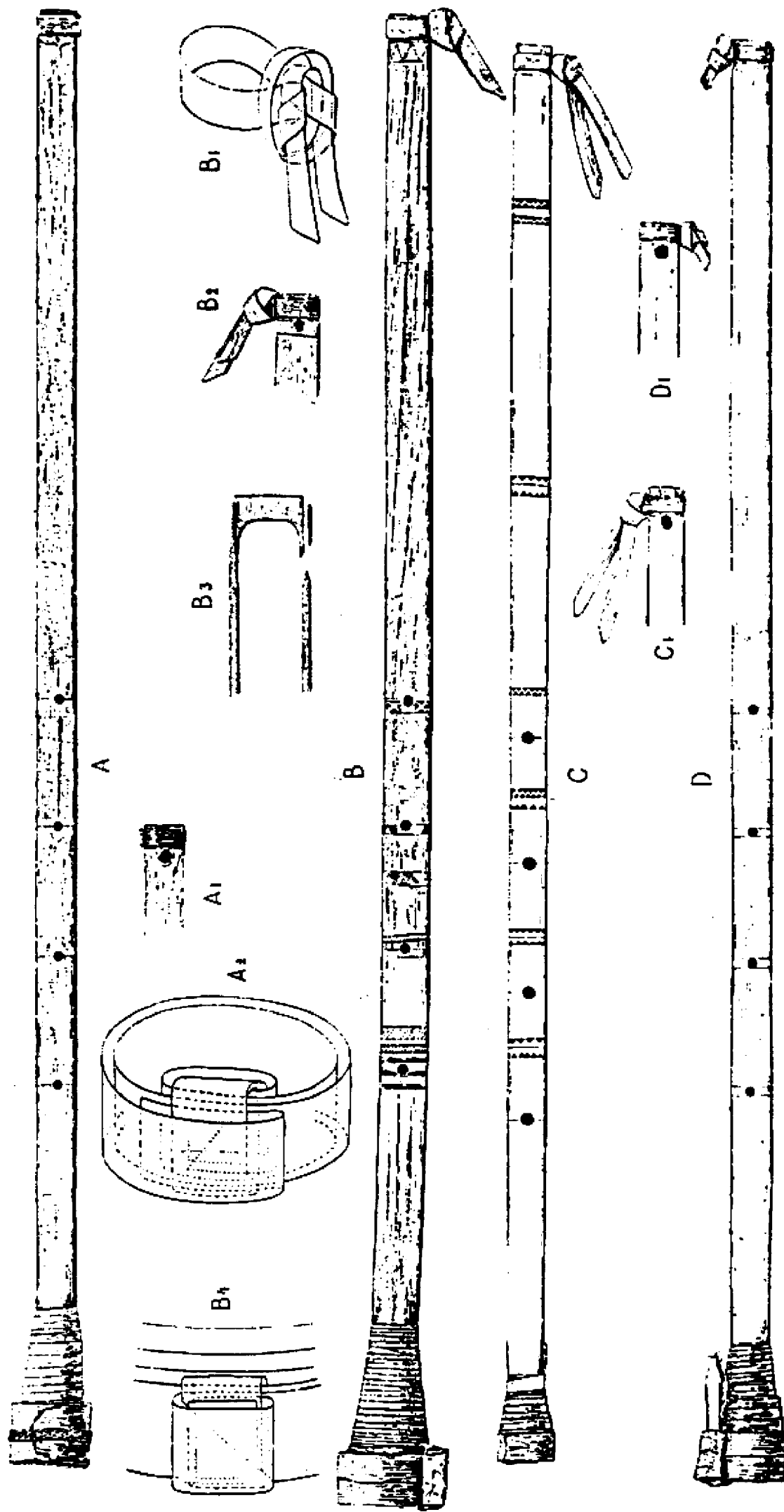
## Type III a.

Figs 109—III.

This is the native flute in Celebes that I know best of all, having collected a rather good material from different localities. In the table below we find some measurements of the flutes of my collection as well as the number of the instruments from my own catalogue.

Locality	No.	length in cm.	diameter in mm.
Koelawi .....	1033	64,5	17
	1034	57,3	15
	1035	64,5	17
	1084	72	23
	1449	69,8	17
Kantewoe.....	1302	68,9	15,5
	1303	67,6	19
	1304	70,2	24,5
	1800	63,3	17,5
Mopahi .....	1225	68,4	23,5
Pangana .....	1894 a	67,8	21
Benahoe .....	1869 b	57	15,5
Doda in Behoa .....	2184	56	14
Kalibambang .....	2638	51,7	14
Molino .....	2660	44,5	12

As will be seen from this table the length of this flute is about 50 to 70 cm., the width about 1,5 to 2 cm. One end is open, the other closed by a natural node cut so as to make almost a plain surface. This end is slightly shouldered, the outer layer of the bamboo being removed. In front of this neck, that is about one centimeter broad, there is a small plane surface through which a sound-orifice is burnt, slanting into the cavity of the tube (Fig. 109 B<sup>3</sup>). Round the



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Fig. 109. Flutes with external air duct.

A from Pangana, B from Mopahi, C from Koelawi, D from Kantewoe. N. W. Central Celebes.  
(A Kaudern coll. No. 1894 u; B id. No. 1225; C id. No. 1449 [26. 9. 351]; D id. No. 1303 [26. 9. 410].)

proximal end is knotted a strip of Pandanus leaf or of rattan, leaving an air duct between the leaf and the small plane surface pierced by a hole (Fig. 109, 110). In playing the instrument, the node is pressed against the upper lip, the underlip slightly touching the ring knotted round the flute just above the sound-orifice. The ring guides the breath of the performer on to the lower sharp edge of the sound-orifice through which it partially enters the tube.

In the north-western part of Central Celebes this flute is always fitted with a bell-mouth of Pandanus leaves, coiled up like a spiral (Fig. 109). In front there are always four stops that should be closed with the index and the ring-finger, while the middle-finger rests on the instrument.

The volume of the sound produced is rather small, but it is melodious. Below I have given a range of notes of some of these flutes obtained in sounding them to the piano. The first note, the lowest one, is obtained when all four stops are covered, the next one by uncovering the distal stop, and so on until all four stops are open.

Flute No. 1034 from  
Koelawi.



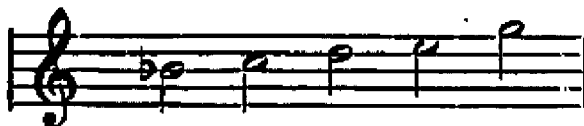
Flute No. 1035 (26. 9.  
352) from Koelawi.



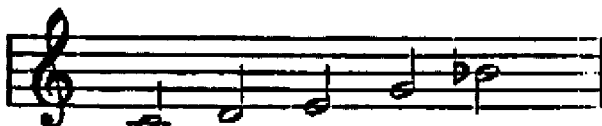
Flute No. 1449 (26. 9.  
351) from Koelawi.



Flute No. 1304 from  
Kantewoe.



Flute No. 1800 from  
Kantewoe.



Flute No. 1225  
from Mopahi.



Flute No. 1894 a  
from Pangana



Flute No. 1869 b  
from Benahoe.



Flute No. 2660  
from Molino.



All these places are situated in the north-western part of Central Celebes and all, save Koelawi, are inhabited by tribes that I have called Koro Toradja. The To Koelawi are natives belonging to the group that I call Paloe Toradja.

Although I myself chiefly know this flute with four stops from the mountain districts of the north-western part of Central Celebes, there are some records from other places in the island, and presumably the instrument also occurs at other places in the Malayan Archipelago.

From the SARASIN collection MEYER and RICHTER described a flute acquired at Boengi on the coast of the Mandar Bay, no doubt exactly similar to my flute type III a, although the Pandanus ring is lost as well as the bell-mouth. The two above mentioned authors do not seem to be aware of the fact that a ring is missing in the instrument. They write as follows in a note at the foot of the page 124 b:

»Die Art, wie die Flöte gespielt wird, ist eine sehr feine. Sie wird mit der geraden Fläche des geschlossenen Endes frei an die Oberlippe gelegt, und dann wird gegen die rechteckige Öffnung geblasen. Die Flöte wird also nicht in den Mund genommen.»

I think, however, that this is a mistake, since the description of the proximal end of the flute makes it evident that the SARASIN flute in this respect is exactly of the same construction as my flutes from Koelawi, Kantewoe, etc. MEYER and RICHTER write as follows: »Am letzteren abgesetzt ringsum in schmalen Streifen etwas verdünnt und auf einer Seite abgeflacht.«\*)

The slightly shouldered end would be meaningless if it was not meant to hold a band or ring. Besides, it seems almost impossible to play the flute when the ring is lost. It is to be noticed that KRUIJER does not mention any kind of flute without a ring. I myself never saw this flute being used without a ring made of a strip of Pandanus leaf.

Last summer I saw the SARASIN flute in the Dresden Museum (No. 18498) and ascertained that it is exactly of the same kind as my flute type III a, having lost its ring as well as its bell-mouth.

I frequently among the natives met with old flutes having lost their ring, that easily may be dropped not being firmly attached to the instrument. In my collection there are some specimens which have lost their ring.

\* The italics are mine.

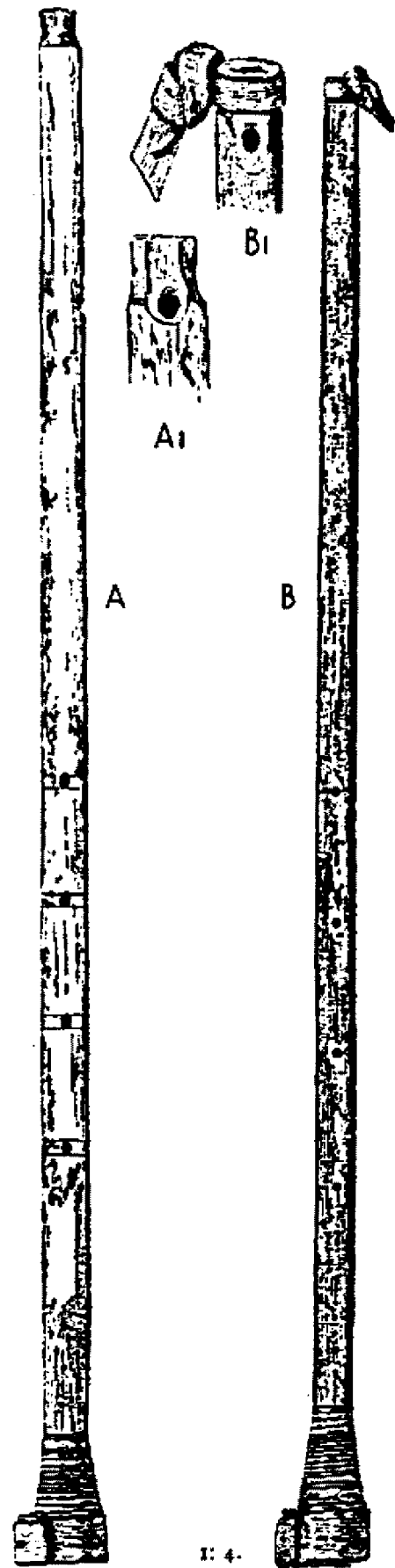


Fig. 110. Flutes with external air duct. A from Behoa, B from Benahoe. Central Celebes.  
(A Kaudern coll. No. 2184;  
B id. No. 1869 b.)

KRUIJT has acquired a flute of this type somewhere in Central Celebes, but unfortunately MEYER and RICHTER do not seem to know from which locality it is, only writing as follows p. 125 a: »Von Mittel Celebes besitzt das Leipziger Museum eine Flöte (Verz. 1899, 3 Kruijt E [Spielzeug] 3); am Knotenende geschlossen und seitlich ein Loch, am andern offen und vier Löcher.» This specimen is of course of very little value for the study of the geographical distribution of the flute-type III a.

As far as I am aware, this type, as yet, has not been recorded from the Poso Toradja. I myself never saw it in the eastern part of Central Celebes, nor have I found any specimens in the museums of the Continent that I have visited. The Leiden Museum has a specimen No. 776/40 from Poso, but this flute is no flute of type III a but of type III b with six stops (Fig. 112 A).

Strange to say KRUIJT in his great work »De Bare'e-Sprekende Toradja's» has very little to tell of flutes blown with the mouth. Mention is made of such a flute with the remark that it is closely similar to the nose-flute, the volume of the sound of the former being bigger than that of the nose-flute which is the flute usually occurring among the Poso Toradja.

In Koelawi the mouth flute is called *toelali* (accent on *a*, first *l* palatal, approaching an *r*). According to KRUIJT the name of this flute among the Bare-e speaking Toradja is *lolowe*, *toejali*, or *bantji bantji*, *toejali* apparently being the same word as *toelali*. Possibly this flute is identic with the mouth-flute of the Koro and Paloe Toradja. As KRUIJT does not refer the three native names of the mouth-flute to special localities, we do not know whether these names really are synonyms, or they are names of flutes of different construction. Besides there is the possibility of *toejali* not being a real Bare-e word. It may be borrowed from another language taken over with this special type of flute. There is also the possibility of *toejali* and *toelali* being so old

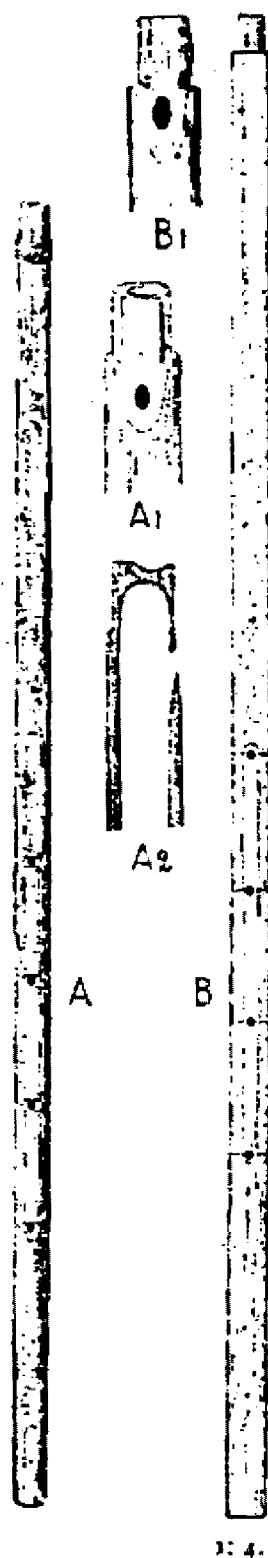


Fig. 111.

Flutes with external air duct. A from Molino, B from Kalibambang. North-East Celebes. (A Kaudern coll. No. 2660; B id. No. 2638.)

names that they at present are used as a collective noun for flutes of various types. This seems to be the case at Kantewoe and Peana in Pipikoro.

Outside Central Celebes I met with a flute in North-East Celebes similar to the above described type III a. At the villages of Molino and Kalibambang in Lamala were acquired two flutes with four stops for the fingers just as in the flutes of type III a, but in these flutes the bell-mouth of *Pandanus* leaves is omitted. The holes are burnt in a narrow plane surface as will be seen in Fig. 111.

In books are given a lot of statements of flutes from Celebes, but many a time they are so vague that it is almost impossible to know whether it is the above described mouth-flute, or the nose-flute mentioned by KRUIJT, or possibly some altogether other kind of flute.

No doubt bamboo flutes with four stops occur at more than one place in the Malayan Islands, but if they are exactly similar to this instrument such as we meet it in the north-western part of Central Celebes seems doubtful. To judge from the catalogue of the Leiden Museum there occur in the south-eastern part of Borneo bamboo flutes with four stops, having the proximal end closed by a natural node. Contrary to the Celebes flutes of type III a, the Borneo flutes have the sound-orifice in front. They seem to have a ring round the proximal opening although the Leiden catalogue does not mention it. Sachs in his

»Real-Lexikon der Musikinstrumente«, page 364 a writes as follows of a flute No 761/193 of the Leiden Museum:

»*Suling ketjil*, kleine Längsflöte von S.-O.-Borneo aus Bambus mit 4 Grifflöchern. Das Windloch auf der nach oben abgeschrägten Wand *mit dem darüberliegenden* — hier fehlenden — *Bambusring\** bilden eine Art Schnabelmundstück.»

It is, however, possible that the missing ring was attached to the flute in question in the same manner as in the flutes of type III b and III c, which will be described below, because a closely similar method of attaching the ring is used in the so called *kroto* flute from Borneo (see SACHS's dictionary p. 233).

I have not seen any flute from localities outside Celebes that is identically similar to the one from the north-western part of Central Celebes.

*Long flute with external air duct.*

Type III b.

Fig. 112 A.

In Central Celebes as well as in South Celebes we meet with a great many flutes, in some respects similar to type III a, in other respects differing from this type: in the number of stops, the construction of the ring round the proximal end, the bell-mouth etc. These flutes, however, differ so much that I do not think they could very well be classed in one group, especially as the small deviating features seem to be more or less bound to certain localities.

I never saw in Celebes any flute of the type that I have called III b. The only good specimen of this kind that I know is a flute No. 776/40 in the museum of Leiden, procured at Poso. This flute has six stops in two groups of three holes. In the bamboo tube are engraved four equidistant rings, each ring holding a stop (Fig. 112 A). Between the first

\* The italics are mine.



and the second ring as well as between the third and the fourth ring two smaller holes are burnt into the bamboo.

The ring round the proximal end is made of split rattan. One end is wound round the tube about 15 cm. from the proximal end in order to prevent the ring from being lost. The knot is rather complicated as will be seen in Fig. 112 A<sup>2</sup>. This flute has a bell-mouth, although not of the same kind as type III a. Over the distal end of the flute is slid a bamboo tube, somewhat stouter than the flute itself. Round this socket is braced a small plaiting of rattan, presumably meant to prevent it from cracking.

As long as we have but the Leiden specimen, it is impossible to say whether this flute is a mere casual occurrence, or it belongs to a type that perhaps occurs in some part of Celebes, for instance among the Poso Toradja. Here our chief authority on these natives leaves us in the lurch, Dr. KRUIJT not describing their mouth-flutes in »De Bare'e-Sprekende Toradja's.»

*Long flute with external air duct.*

Type III C.

Fig. 112 D.

There is no representative of this flute type in my collection from Celebes, but the Leiden Museum has a very good specimen No. 1009/83 from Gowa, and MEYER and RICHTER record a specimen No. 515 in the SARASIN collection, evidently similar to the Leiden specimen although in some respects slightly different.

The bell-mouth of this type is not a coiled up Pandanus leaf as in type III a. In the SARASIN specimen it is made from a buffalo's horn, in the Leiden specimen of some kind of wood, possibly the root of rattan (Fig. 112 D). In both specimens the shape of the bell-mouth is similar

The ring round the proximal opening is in the Leiden specimen made of a strip of rattan. In order to prevent

its being lost it is secured by means of a string wound round the bamboo cylinder at some distance from the proximal end. In front of the sound-orifice there is a winding of thin cotton. The ring of the SARASIN specimen is missing.

The Leiden flute has six stops in front, arranged in the same manner as in the Poso specimen of type III b. The SARASIN specimen has only five stops, corresponding to the stops Nos 1, 2, 3, 4, and 6 of the Leiden flute.

The Leiden flute has no ornaments at all, the SARASIN one some engraved designs. The length of the former is about 74.5 cm, of which nearly 12 cm are occupied by the bell-mouth; the width is 2.5 cm.

Of the SARASIN specimen MEYER and RICHTER write as follows, p. 124 b: »*Flöte* (515) von den *Makassaren* in *Loka* am *Pik* von Bantaëng. . . . . Der *Bambus* ist 67 cm. lang und 2.1 cm. dick. Zwischen dem innersten und dem auf dieses folgenden Loch ist ein fünftes eingeschoben. Das innerste und dieses letztere liegen inmitten zweier hier um den *Bambus* laufenden Ornamentbänder aus dunkeln, eingebrannten, dreieckigen Zacken. Die Zackenbänder sind von schmalen, schrägestrichelten Streifen begrenzt. Über das offene Ende der Flöte ist ein Schalltrichter aus braunem Büffelhorne geschoben. . . . . Der Schalltrichter ist 11 cm. l., etwas gekrümmt, von ovalem Durchschnitt und nach dem Ende zu bis zu dem Durchmesser 4.5×6 cm. erweitert. Auf der konkaven Seite der Krümmung ein flacher Streifen, der auf ungefähr quadratische Felder verteilte Gravierungen trägt, darunter auch Quadrate mit Diagonalen und z. T. ausserdem noch mit kleinen Dreiecken dazwischen, deren Spitze nach der Mitte des Quadrates gerichtet ist. . . . . Von dem flachen Streifen gehen seitlich an drei Stellen schräge, nach innen gerichtete Linien aus, die an ihren Enden mehrere (verschieden viele) Haken haben. Diese letztere Art erinnert an mittel-celebische Ornamentik. Am innern Ende des Trichters umlaufend ein erhobener Streifen mit eingravierten Querstrichen.»

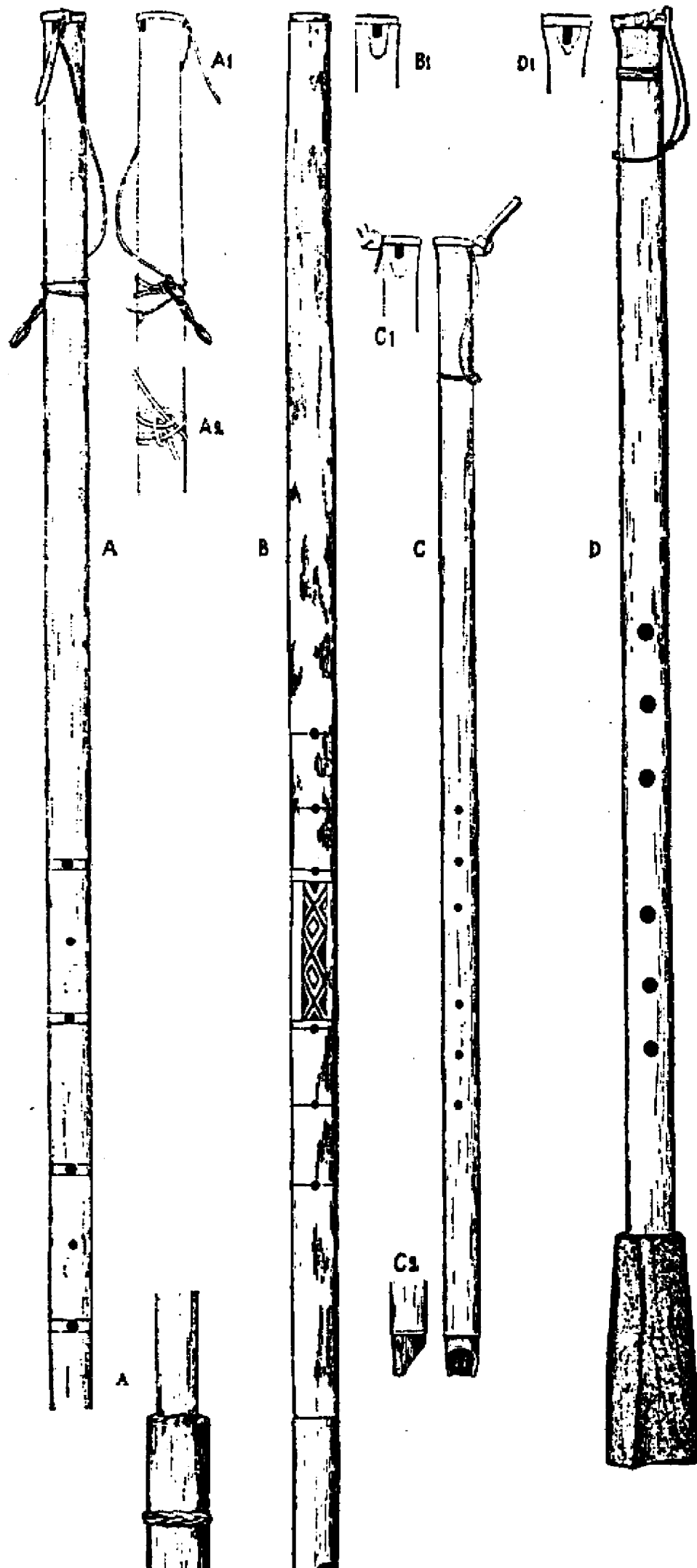


Fig. 112. Flutes with external air duct. I: 4.  
A from Poso, B from Ranteapoe, C from Gowa, D from the To Saadang. (A Leiden Mus. No. 776/40; B Amsterdam 2777-26-1911 (H 1816); C id. 46/70; D Leiden Mus. 1009/83.)

Although there is a strong resemblance between these two flutes and the Poso flute of type III b I think that the difference of the bell-mouth as well as of the ring round the proximal opening will justify their being classed as a special type, as yet only known from the southern part of the Macassar Peninsula, Loka as well as Gowa being found in this part of Celebes.

Flutes from the northern part of the Macassar Peninsula are of another pattern that will be described below under the heading »Type III d».

I do not know if the flute type III c is found at any other place in the Malayan Islands, having no references and having seen no such specimen in the museums that I have visited. MEYER and RICHTER, in speaking of the strange bell-mouth of the SARASIN specimen refer to CZURDA's Catalogue of his private collections, 1883, Nos. 456 and 457, which may mean that there are two more such flutes found in the CZURDA collection. Unfortunately it was impossible to obtain the catalogue in question in our Swedish libraries.

*Long flute with external air duct.*

Type III d.

Fig. 112 B, C.

In the Colonial Museum of Amsterdam there are two specimens of a flute that I have called type III d. One of these specimens No. 2777-26-1911 (H. 1816) is from Rantepaoe, the other, No. 46/70, collected by WOLVEKAMP, in all probability is from the To Saadang in the northern part of South Celebes.

These flutes are similar to type III b and III c but lack a real bell-mouth. The distal end of the instrument is in both specimens bevelled off (Fig. 112 B, C). The outer layer of the tube is here cut away. The Rantepaoe flute is made in two pieces, the distal part being slid over the bevelled off

edge of the proximal tube. The distal part, being almost of the same width as the proximal one, cannot claim the name of a bell-mouth.

Both flutes have six stops, arranged in groups of three holes, almost in the same manner as in the Poso flute of type III b. In the Rantepaoe flute the distances are not so well adjusted as in the other flute, the distance between the third and the fourth stop being biggest, that between the first and the third smallest (Fig. 112 B).

The ring round the proximal end, missing in the Rantepaoe flute, is in the specimen No 46/70, secured to the instrument almost in the same manner as in the flute from Gowa described above. (Fig. 112 C).

The specimen No. 46/70 is not ornamented. The Rantepaoe flute has some simple ornaments engraved in front between the third and the fourth stop (Fig. 112 B).

Although this type does not deviate very much from the Poso flute of type III b, I think the bevelled off distal end is a feature that justifies its being classed as a special type. This feature may be a characteristic of the flutes of the To Saadang. I never noticed it in any other part of Celebes. Besides we meet it again in the double flute of the To Saadang that I have called type V, a type that seems to occur only among these natives (Fig. 114).

In conclusion I want to mention some flutes from South Celebes that I have seen in the museums and that hardly can be grouped with any of the flutes described in the foregoing. In Leiden there is a specimen No. 697/39 from Macassar, as well as another specimen No. 37/254, no special locality given. Both are much the same, not being fitted with a bell-mouth. There are six stops placed in the usual manner in two groups of three holes. The ring round the proximal end is missing. Possibly these flutes are of type III c, or perhaps III b, having had a bell-mouth that is lost.

In Dresden there are a couple of similar flutes from South Celebes (Fig. 113), but these flutes no doubt never had a bell-mouth. MEYER and RICHTER (p. 124 b) write as follows: »Doch befinden sich im Dresdner Museum solche Flöten von Süd Celebes, die nie einen Schalltrichter besessen zu haben scheinen, 12814 (mit  $3 \times 4$  Löchern), 12815 (mit  $3 \times 2$  offenen und 2 zugestopften Löchern) und 5146 (mit  $3 \times 3$  Löchern und einem 7. Loch auf der Seite der Mundöffnung, einige Zentimeter von dieser entfernt).»

The latter flute, No. 5146, with six equidistant stops in front and a seventh stop at the back seems to be a hybrid form, having borrowed the feature of a stop at the back from the common flute with internal air duct. I have called this flute type IV.

The other two Dresden specimens Nos. 12814 and 12815 seem to be the representatives of a special type without a bell-mouth, having seven stops in front, none at the back. Not knowing where they were procured I could not mark them as a type characteristic of a certain locality.

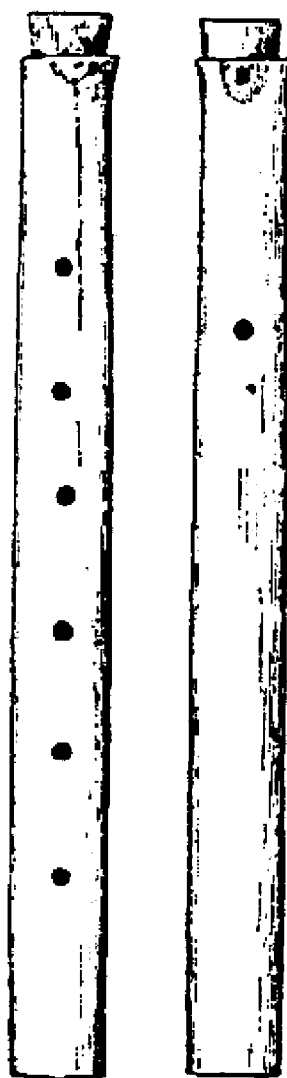
*Long flute with external air duct.*

Type IV.

Fig. 113.

I do not know of more than one specimen of this type, i. e. the above mentioned flute No. 5146 from Macassar at Dresden. In some respects — the sound-orifice and the ring round the proximal end — it resembles the flute types already described. All these flutes are comparatively long, this one, however, is rather short, measuring only 18,7 cm. by 1,7 cm. As mentioned above, this small flute has six stops in front and one at the back, the latter being placed between the uppermost stop and the one next to it of the row in front (Fig. 113). The instrument is apparently an imitation of such flutes with internal air duct as the Leiden specimen No. 697/40 (Fig. 117 B), and the Basel specimen No.

II c. 622 (Fig. 117 A), the former from Macassar, the latter from Palopo. The sound-orifice is that of a common flute with external air duct of type III, the length that of a small flute with internal air duct, the number of the stops being the same as in some of these flutes.



1: 2.

Fig. 113. Flute with external air duct. Macassar. (Dresden Mus. No. 5146.)

I am aware of the fact that objections may be raised against the idea of calling this hybrid form a special type, but it is difficult to know where to place it in the table. It cannot very well be classed with any other form of flute. I think it may be regarded as a native attempt to make an instrument of the usual material in another method than the usual one, *i. e.* it may be an invention of a new instrument in Celebes.

*Long flute with external air duct.*

Type V.

Double flute. Fig. 114.

I have only seen four specimens of this flute in museums, three of them in the Colonial Institute of Amsterdam, one in the Rotterdam Museum. Of the Amsterdam specimens Nos. 46/73, 46/72, and 46/71, the catalogue only says: »Dubbele fluit, afkomstig Midden Celebes, Toradjalanden.» I was informed that these instruments were collected by WOLVEKAMP, a fact of importance when wanting to find out at what place they were procured. The Rotterdam specimen also is collected by WOLVEKAMP, and here the locality is given, being Mamasa, a village situated on the Mamasa, a westerly tributary of the Saadang River.

Evidently these double flutes occur among the To

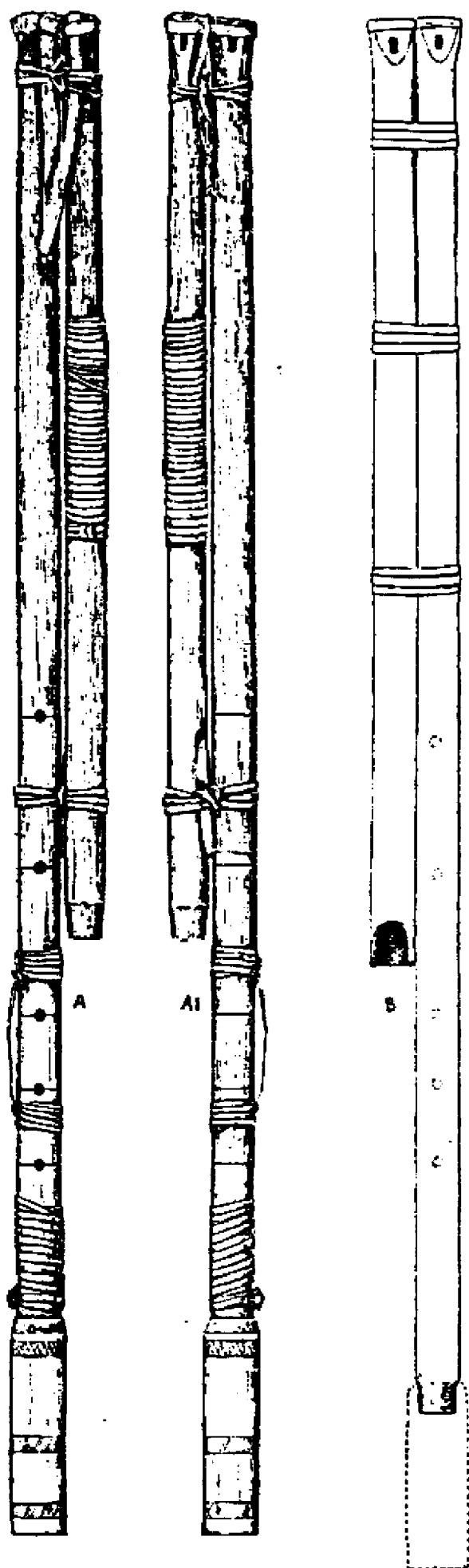


Fig. 114. Double flutes from S. W. Central Celebes.  
 (A Amsterdam Col. Mus. No. 46/73; B id. No. 46/72.)



Saadang, a tribe that was called »Toradja» (=highlanders) by the natives living on the coast of the Bone Gulf. The flutes show several points of variation in details, which may be local variations.

The flute in question (Fig. 114) consists of two bamboo flutes with external air duct, bound together very firmly. The right tube is much longer than the left one, the former having five stops, the latter none, giving only one note when blown through.

The five stops evidently are placed so that the first, the second, the third, and the fifth stop correspond to the four stops of a flute with external air duct of type III a. The fourth stop is added later between the third and the fifth stop. It is rather strange that there is no extra stop added between the first and the second stop, which seems to be customary in the flutes of the Poso district as well as of the Macassar Peninsula.

There is no real bell-mouth in these flutes, but the edge of the distal end of both tubes is in the Amsterdam specimens bevelled off (Fig. 114 A), the big tube fitted with a socket of bamboo, slid over the bevelled off portion of the tube. Presumably the short tube originally had a similar socket, at present missing. This socket, however, cannot claim the name of a bell-mouth, being but slightly wider than the tube itself and possibly only meant to reinforce the tube. The pipes are wound with tiny strips of rattan as will be seen in the figures.

The shorter tube of the specimen No. 46/72 is bevelled off at the distal end in the same manner as the flute that I have called III d (p. 225). The outer layer of the lower end of the long tube is cut away, probably in order to make this end fit in a socket of bamboo, at present, however, missing (Fig. 114 B).

The specimens No. 46/73 and No. 46/72 seem to have been long in use, No. 46/71 looks as if it was newly made and seems less thrustworthy than the former two specimens.

The long tube with its socket, in the Amsterdam specimen No. 46/73 is 50,7 cm. long. The short pipe, that presumably has lost its socket, is 30,8 cm. The tubes of the specimen No. 46/72 are 46,7 cm. and 31,5 cm.

It is also to be noticed that the proximal end of the shorter pipe is not at a level with that of the long pipe but a little lower.

This double flute does not seem, as yet, to be known from any other locality in the Malayan Islands. SACHS does not mention any such instrument in his »Musikinstr. Indiens u. Indonesiens«. It would, however, be precipitate to consider this flute as a native invention of the To Saadang.

Double flutes and double clarinets were known long ago in the Old World. We meet these instruments already in the early Antiquity. Even flutes with two pipes of different length are known from this period, which makes it likely that the double flute occurring among the To Saadang is an altogether foreign cultural element, or it is an imitation of a musical instrument once imported from some foreign country. It is to be remembered that the To Saadang no doubt in many respects have been influenced by foreign culture.

It would be rather strange if this double flute should not occur elsewhere in India, or in the Malayan Islands. If it is a foreign element with the To Saadang, its home may be found in southern or south-western Asia, where double flutes were in use long before the Christian era.

Possibly there is a similar wind-instrument in Central Asia, VON HORNBOSTEL and SACHS saying on page 586 of their »Systemat. der Musikinstr.« that a double flute with external air duct occurs in Tibet. I have not been able to find out how this flute is made, but it seems quite likely that the double flute from Tibet has the same origin as that of the To Saadang, presumably being some place in the southern or south-western part of Asia.

*Long flute with external air duct.*

## Type VI.

## Nose-flute.

The nose-flute is recorded from Celebes as well as from other places in the Malayan Islands. I myself, however, never met with this instrument in Celebes; nor have I seen a real nose-flute from this island in any museum. The catalogue of the Ethnographical Museum of Leipzig registers a specimen, No. SAs. 6093, of nose-flute. We read as follows: »Nasenflöte, Hinterland von Poso, Länge 65 cm. KRUIJT.»

According to MEYER and RICHTER, p. 125, there is in Berlin a nose-flute from To Rano, *i. e.* the natives living north of Lake Poso.

In »Die Musikinstr. Indiens u. Indonesiens«, p. 146, SACHS writes as follows of the nose-flute: »Eine besondere Abart der Längsflöte ist darauf eingerichtet, nicht mit dem Munde, sondern mit der Nase angeblasen zu werden. Wie anderwärts, in Polynesien namentlich, sind auch in Indien derartige Flöten so eingerichtet, dass das Oberende durch den Wachstumsknoten verschlossen und in diesen ein kleines Loch gebohrt ist, gegen dessen scharfen Rand der Nasenatem gerichtet wird. Als Verbreitungsgebiet scheinen der ganze Archipel und Maläka in Frage zu kommen.»

Thus, according to SACHS, we could expect to find the above described nose-flute also in Celebes. This nose-flute, however, has no air duct, being an instrument of more primitive construction. The nose-flute described by KRUIJT in »De Bare'e-Sprekende Toradja's« is quite differently constructed, almost exactly similar to the flutes with external air duct that I have called type III. Having not seen such a nose-flute myself I quote below KRUIJT's description of it, Vol. II p. 382:

»De neusfluit, *sanggon*, is gemaakt van eene geleding dunne bamboe, waaraan men aan ééne zijde het tussenschot

heeft heel gelaten, zoodat het stuk bamboe daar afgesloten is. Half in dit tusschenschot, half in den wand van den bamboe is schuin een gat gebrand, en daaromheen een pandanblad gelegd, zoodat hierdoor een stemspleet is gevormd. Aan het uiteinde van dezen bamboe is een geluidstrechter aangebracht van opgerold pandan-blad. Drie gaten in den bamboe wand moeten dienen om verschillende tonen voort te bengen. Het gedeelte van den bamboe, waaraan de stemspleet is gemaakt, wordt losjes in het neusgat gestoken; door den neus blaast men in het instrument, en ontlokt daaraan klagelijke, maar niet onwelluidende tonen, afgewisseld met tal van trillers.

Alléén jongelingen bespelen de neusfluit.»

This description makes it evident that in Central Celebes the mouth-flute with external air duct originally is the same instrument as the nose-flute of this island, a flute type stated by SACHS (p. 151 of *Die Musikinstr. Indiens u. Indonesiens*) to be the primitive flute with air duct that is common from the Bramaputra in India to the islands of the South Pacific.

The nose-flute described by KRUIJT seems closely to correspond to the type that I have called III a, having a bell-mouth made from Pandanus leaves and being fitted with a ring round the proximal end. The chief difference seems to be that there are only three stops in a nose-flute, the mouth-flute having four.

As to the range of the nose-flute in Celebes we know, as yet, very little. To judge from what KRUIJT writes, it may be common among most Poso Toradja tribes. In the north-western part of Central Celebes it seems to be missing. As mentioned above, I never in these tracts heard or saw a nose-flute. On my inquiries in Koelawi I got the answer that the nose-flute was not used in these districts but might sometimes be found in Napoe, Behoa and Bada. Its home was said to be the districts inhabited by the Poso Toradja.

Why do the natives of the north-western part of Central Celebes only use the mouth-flute, and why do the natives in the eastern part use the mouth-flute as well as the nose-flute? This is a question difficult to answer. It may be that the instruments and the method of sounding them originally was the same all over Central Celebes, the old method at present having in one part of Central Celebes been ousted by another. In the eastern part of Central Celebes where the nose-flute seems to be the common flute type, this type then would have ousted the mouth-flute, provided that the latter is the earlier type of the two which by no means is proved as yet. For certain reasons we rather could expect the nose-flute to be of earlier date than the mouth-flute.

If the nose-flute is the older type of the two, it may in the north-western part of Central Celebes have been changed into a flute blown with the mouth. Of course this is a mere suggestion that I cannot prove, but I want to mention that it is quite easy to blow the present mouth-flute of Koelawi with the breath from the nostrils, although the natives in these districts do not do it.

Whether the flute with external air duct is used as a nose-flute at other places or not in the Malayan Islands I do not know. Nose-flutes are recorded from several places, but all these instruments seem to be of less complicated construction, having no external air duct.

MEYER and SCHADENBERG record from the Philippines a nose-flute with three stops that possibly is a genuine flute with external air duct, in which case it seems to be almost identically similar to the nose-flute of the Poso Toradja. The above mentioned authors in »Publicationen K. Ethn. Mus. Dresden» VIII, figure this nose-flute (Plate XVII, Fig. 13), but their description of it is too short to give an exact idea of the construction of the instrument. They write, p. 21 a: »Nasenflöte der Tingianen. Von Bambus, vorn drei Löcher, hinten eins, mit dem Eisen eingebrannt, 80 cm. l., 2,5 D. Meist mit dem linken Nasenloch geblasen. . . »

Where the odd stop at the back of the flute is placed is not said, and cannot be seen in the figure. Mention not being made of any hole through which the instrument is blown, it seems likely to me that the hole at the back is found near the closed proximal end, just as in the common flute with external air duct. The indispensable ring round the proximal end is not found in MEYER's and SCHADENBERG's figure, but it can hardly be doubted that their flute originally had such a ring, the uppermost part of the pipe having a neck evidently meant to hold a ring just as in all flutes with external air duct. That this ring is missing in the Philippine flute is not astonishing, being often the case of this kind of flute.

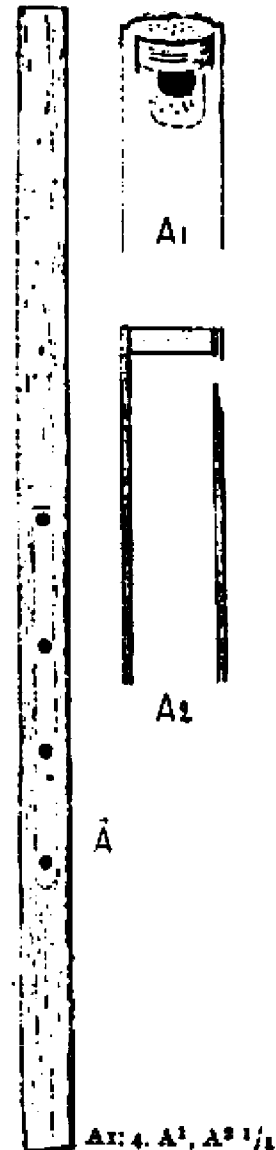
*Long flute with external air duct.*

### Type VII.

**Fig. 115.**

In Bolaang Mongondou I never saw any flute with external air duct of exactly the same construction as that of the flutes described above. At the village of Modajag were procured for my collection a couple of flutes with external air duct, having four stops (Fig. 115). The sound-orifice is in this flute different to that of the types already described.

The flute in question is made of a section of bamboo about 40 cm. long and 1,7 cm. wide, one end being closed with a tap, in front of which is burnt a hole into the bamboo in a flattened portion of the surface. The proximal end has no neck in this flute, nor is there any ring round it. A tiny piece of Pandanus or palm-leaf is attached close to the proximal end, being jammed in an incision on either side of the tube (Fig. 115 A<sup>1</sup>) making an external air duct.





Flute No. 730  
from Modajag.



Notes obtained with the flute No. 730 in the same manner as with the flutes of type II.

### Flutes with internal air duct.

Figs 116—118. Map 13.

Beside the flutes with external air duct, we sometimes in Celebes meet with flutes having an internal air duct. The proximal end of such a flute does not cut through a node. It is always artificially closed with a plug, flattened at one side, leaving a passage that is plano-convex in transverse section.

Although these flutes are rather scarce in Celebes, there seem to be several varieties. I know of two different kinds of long flutes but no transverse flute.

The most common one is a long flute, a simple pipe, the mouth-end of which is slightly bevelled off.

Not knowing any native name of this flute I am going to call it the bamboo pipe, or type No. VIII. The flutes of this type vary a good deal especially in the number of stops and their disposal in front and at the back of the instrument. If allowance also was to be made for different features in the construction of the mouth-piece the number of the variants of this type would be still greater. My material being only a small one, in all eight specimens from Celebes, I have distributed into three groups, not very distinctly separated from one another. Of these specimens only a single flute from Kante-woe in Central Celebes belongs to my own collection, the rest being in the museums of Basel, Berlin, and Leiden.

#### *Long flute with internal air duct.*

Type VIII a.

Bamboo pipe. Fig. 116.

The characteristic of this flute is the number of four stops in front and one at the back just opposite to the upper-



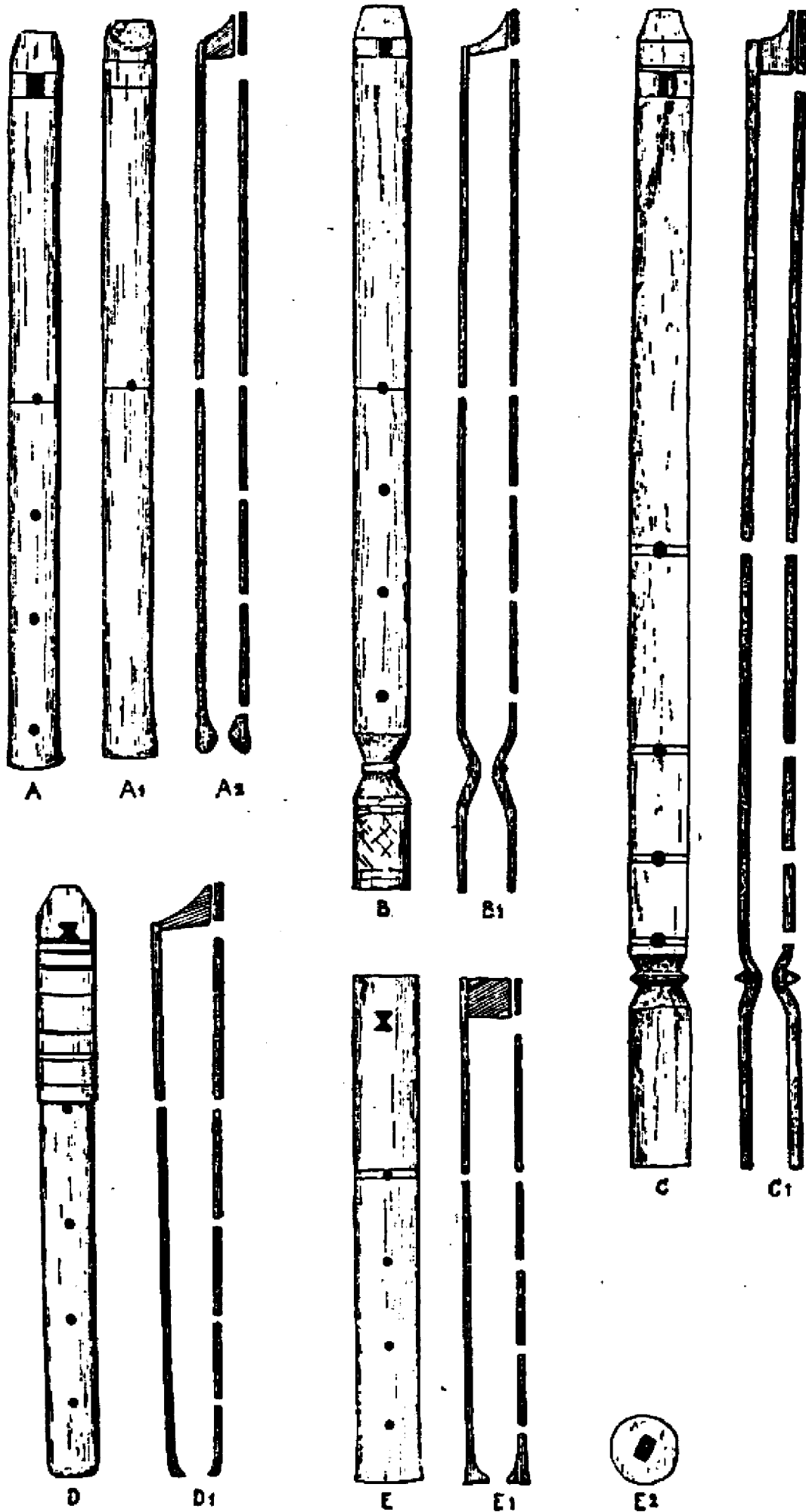


Fig. 116. Flutes with internal air duct.  
 A, D, E from S. W. Central Celebes, B from Joewoe, C from Kantewoe. (A Berlin Mus. No. 1 c 38506; B id. No. 1 c 38491; B Leiden Mus. No. 1456/56; D Amsterdam Col. Inst. No. 46/74.)

most hole in front. As a rule the distance is equal between the stops (Fig. 116 A, B, F). My flute from Kantewoe (Fig. 116 C) deviates in this respect from the rest, the stops not being equidistant, if by chance or not is difficult to say. The distance between the first and the second stop is about the same as between the second and the fourth. The third stop is not just between number two and number four, but it may be that it was meant to be so, the maker of the instrument failing when trying to place it just between.

There is a close resemblance between the Kantewoe pipe and a specimen No. 1456/56 from Loewoe in the Leiden Museum (Fig. 116 B). Like all flutes with internal air duct of type VIII there is in front of the four stops a natural node with a perforation, which as a rule is a small round hole. In most specimens the pipe is cut off just in front of this node; in the Kantewoe and the Loewoe specimens a portion of the distal internode is kept, making a kind of bell-mouth (Fig. B, C). The similarity of these two pipes is so strong that they make a type of their own, the geographical distribution of which I do not know, having seen no more than these two flutes from the Malayan Islands.

In Berlin there is, however, a flute or pipe with seven stops, No. I c 303736 from Luzon (Fig. 117 C), the distal end of which to a certain extent resembles that of the two pipes mentioned above. The specimen No. I c 38506 of the same museum resembles the Loewoe pipe, the disposal of the stops as well as of the rectangular sound-orifice being similar in both flutes. The distal portion of the Berlin flute, however, is not prolonged into a bell-mouth. The Berlin specimen is collected by GRUBATER in the so called »Toradja-landen» *i.e.* the districts northwest of Palopo, inhabited by the To Saadang and the To Rongkong etc.

The Colonial Institute of Amsterdam has another specimen, No. 46/74, from the To Saadang similar to the Berlin specimen but shorter. The uppermost stop is in this pipe at a rather short distance from the sound-orifice, that has

the shape of an hour-glass (Fig. 116 D). The outer layer of the bamboo is cut off from the portion where the stops are found, making the walls of this portion of the pipe thinner than the proximal end.

In Berlin there is, finally, a specimen No. Ic 38491 from the Saadang district, similar to the Amsterdam pipe as to the disposal of the stops and the shape of the sound-orifice. The mouth-piece of this specimen is contrary to the Amsterdam flute cut straight (Fig. 116 E). The perforation through the node is here rectangular instead of round.

*Long flute with internal air duct.*

Type VIII b.

Fig. 117 A.

In the Basel Museum there is a flute No II c 622 from Palopo, collected by P. and F. SARASIN. The specimen (Fig. 117 A) is described by MEYER and RICHTER who write as follows, p. 115 b: »Pfeife, aus Bambus, 15.9 cm. l, 1.5 d, am untern Ende offen, am obern, wie unsre Pfeifen, schräg abgeschnitten, mit einem Stücke Holz, das nur einen schmalen, flachen Durchgang lässt, geschlossen und 10 mm hinter der Mundöffnung mit einer dreieckigen Öffnung versehen. . . . und in der unteren Hälfte befinden sich auf derselben Seite wie die dreieckige Öffnung hintereinander fünf eingebrannte Löcher. Auf der gegenständigen Seite in der Mitte ein solches Loch.»

This pipe, although similar to the previous type, differs from it in some respects, the sound-orifice having the shape of a triangle, the number of the stops being five. Besides, the odd stop at the back, that in the flutes of type VIII a is just opposite to the uppermost stop of the row in front, is in the SARASIN flute found lower down, just between the two upper stops. No doubt this is not a mere casualty, since we meet with this feature also in other pipes.

Having seen but one specimen of this type and having no references at present, I do not know anything of its geographical distribution.

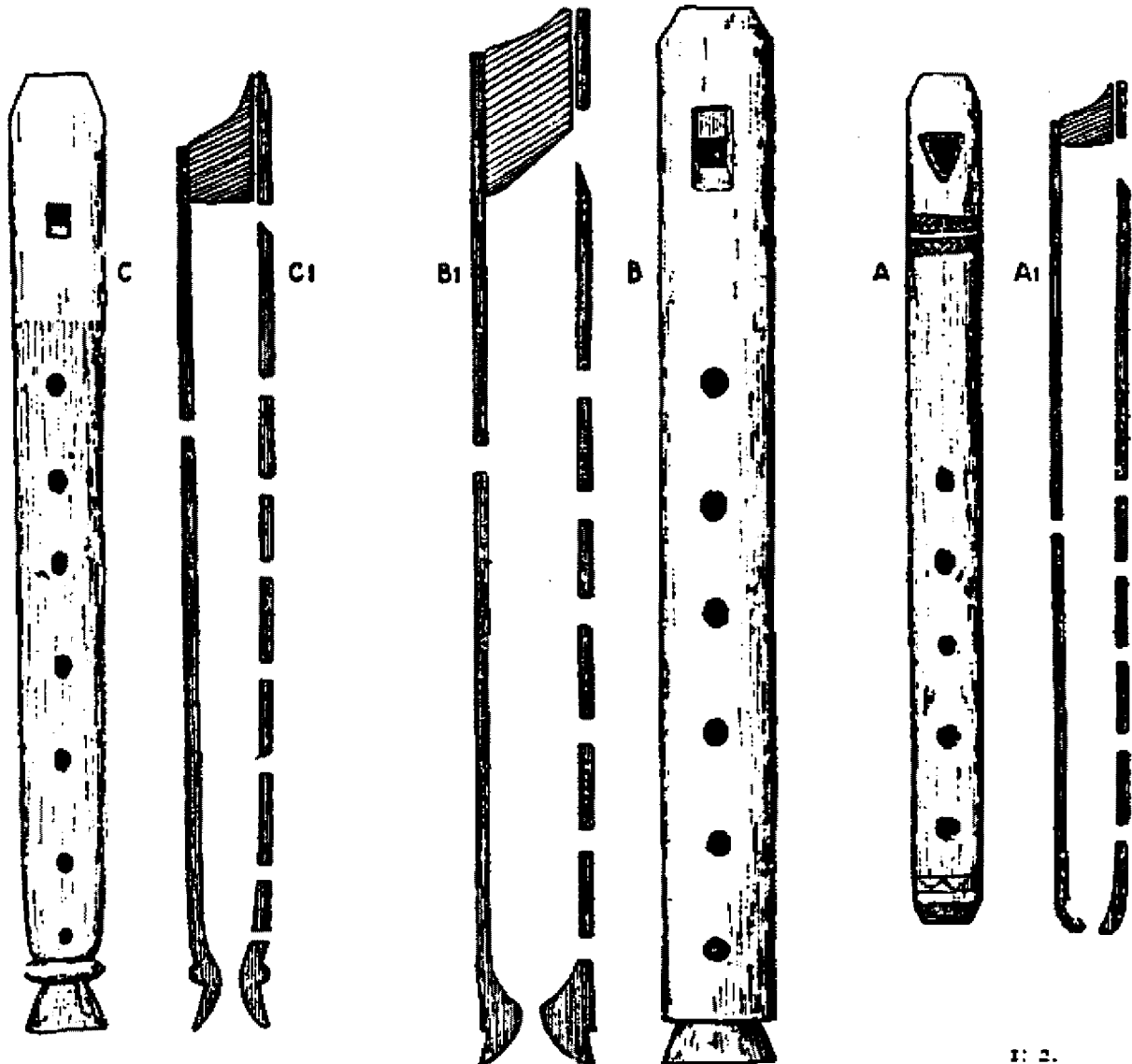


Fig. 117. Flutes with internal air duct.

A from Palopo, B from Macassar, C from Luzon.

(A Basel Mus. No. II c 622; B Leiden Mus. No. 697/40; C Berlin Mus. No. I c 303736.)

*Long flute with internal air duct.*

Type VIII c.

Fig. 117 B, C.

In Leiden there is a pipe No. 697/40 from Macassar similar to the above described SARASIN flute as to the disposal of the odd stop at the back. The Leiden pipe, however, has

six stops in front. The plug partially closing the proximal end is rather long (Fig. 117 B<sup>1</sup>), making a long narrow air duct. The sound-orifice is rectangular. Contrary to the pipes already described the sounding edge is in this flute bevelled. The distal end of the pipe has the shape of a low cone with the top inward.

I do not know of any more specimens of this type from Celebes, but closely similar pipes seem to be found at other places in the Malayan Islands.

In Berlin there is a specimen from Luzon, No. I c 303736 (Fig. 117 C) resembling the Macassar pipe. The chief difference between the two seems to be that the Luzon pipe has seven stops in front.

If we take all these pipes as a single type of flute we find that all specimens that I have seen originate from the Macassar Peninsula or adjacent districts of Central Celebes. An exception is the pipe from Kantewoe. But it can hardly be doubted that it was imported from the districts south of Kantewoe, an almost identically similar specimen having been procured in Loewoe. It is not likely that the Kantewoe pipe came from the north or the east, since these pipes do not seem to occur neither among the Paloe nor among the Poso Toradja. Among the easterly and south-easterly branches of the Koro Toradja we may, however, expect to find this pipe, the intercourse between these tribes and Loewoe and Palopo from olden times being rather brisk.

To my mind it seems most likely that the Kantewoe pipe came from Palopo to the so called »Toradjalanden«, inhabited by the To Saadang, To Rongkong, To Galoempang, and To Sekopada. With the latter, the district of which in Kantewoe simply is called Pada, the To Kantewoe came in close contact, whereas they had very little communication with the Koro Toradja tribes in the south-east, making it unlikely that the pipe came to Kantewoe from this quarter.

Presumably the pipe came to Kantewoe the same way as the boat-lute although the two do not have the same origin.

The name of the boat-lute, *ketjapi*, being Sanscrit, points to India as its home as mentioned before. As to the pipe I do not know of any native name of it that could be referred to Sanscrit. The specimen procured by GRUBAUER at Awang is according to the label called »suke kaju», meaning flute of wood (suke = flute, kaju = wood). According to LING ROTH the name of the bamboo pipe is in Borneo *gueling* which seems to be the same as the Malay *soeling*, flute.

In conclusion I want to mention that the pipe in question may also occur in South-East Celebes, an opinion held by MEYER and RICHTER. They stand on a statement made by SCHMIDTMÜLLER in »Ausland» XXII 1849. p. 338 b. where he, speaking of native oracles in the south-eastern part of South-East Celebes, writes as follows: »Sie fragen bei allen ihren Unternehmungen gewisse Vögel um Rath, welche sie zu diesem Zwecke durch *eine kleine bambusene Pfeife\** anrufen und aus dem Geschrei oder Flug derselben berechnen sie, ob ihr Vornehmen einen guten oder schlechten Ausgang haben werde, wonach sie ihre Massregeln nehmen.»

Surely the instrument in question is a pipe or flute with internal air duct, but there is the possibility that it does not correspond to the bamboo pipes from South Celebes described above but to the pipe such as we find it in the Soela Islands further to the east, just as another musical instrument from the Moluccas, the *arababoe*, that has some features in common with the lute from the eastern and south-eastern part of Celebes.

*Long flute with double sound-orifice.*

Type IX.

Fig. 118.

In Dresden there is a flute No. 11799 from Gorontalo in North Celebes. In 1903 this flute was described by MEYER and RICHTER (p. 125 a). Their short description runs as fol-

\* The italics are mine.

lows: »Von Gorontalo befindet sich eine Bambusflöte (*tulali*, mit  $5 \times 2$  Löchern, am einen Ende künstlich geschlossen) im Dresdner Museum (11799)».

Having myself not seen this kind of flute in Celebes, I here figure the Dresden specimen in question (Fig. 118). It is made of a section of bamboo not closed by a node, 31,7 cm. long and 1,3 cm. wide. For half its length the bamboo cylinder at one side is flattened, and here we find five equidistant burnt stops. At the opposite side, 1,5 cm. from the proximal end in a flattened portion of the pipe two small holes are burnt (Fig. 118 C). A small plug of wood is inserted into the bore just between the two holes, leaving a little plano-convex duct between the wall of the cylinder and the plug (Fig. 118 B), just as in a common pipe.

How this flute is to be played I do not know, but considering the similarity with the flutes having an internal air duct I have referred it to this group of instruments.

In all probability the flute is not a native instrument of Celebes but casually brought to Gorontalo, since, according to SACHS, similar flutes seem to be found at other places in the Malayan Islands. In »Die Musikinstr. Indiens u. Indonesiens.» p. 151 he writes of such flutes from Timor, Flores, and Goron:

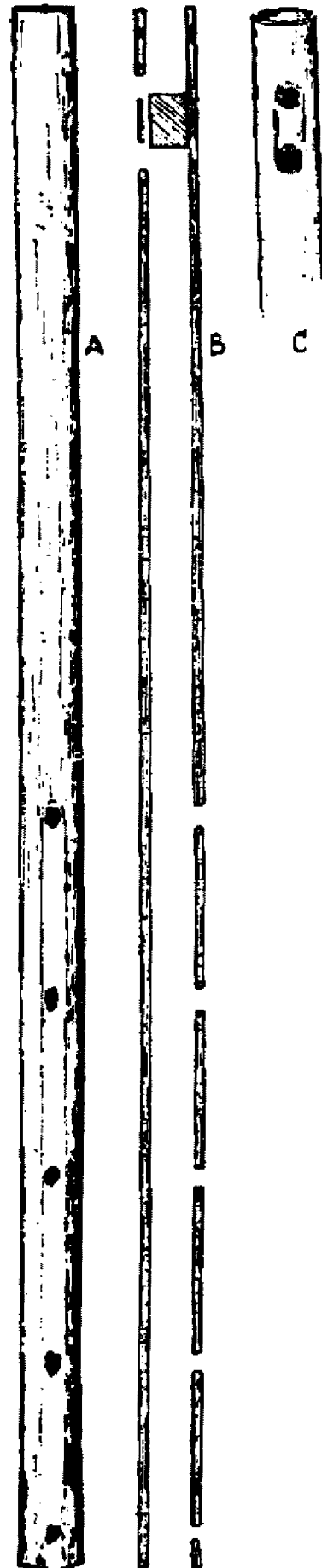


Fig. 118. Flute with internal air duct, sound-orifice double. Gorontalo. (Dresden Mus. No. 5146.)

»Die Flöte endet oben nicht mit dem Wachstumsknoten; ein Stück der Fortsetzung bleibt stehen. Diesseits und jenseits des Nodiums ist nun je ein Loch eingebohrt und die Wand zwischen ihnen ebengeschabt. Bedeckt ein Blattring das obere Loch und die Wandabschabung, so kann der Bläser mit aller Sicherheit den Atem in das offene Oberende schicken; der Wind muss an dem Teilungsknoten Halt machen, einen Answeg durch das—obere—Seitenloch suchen und sich durch die Rinne zwischen Ring und Wand dem zweiten, als Aufschnitt dienenden Loch zutreiben lassen.«

SACHS also records a similar type from the Asiatic continent writing on the same page:

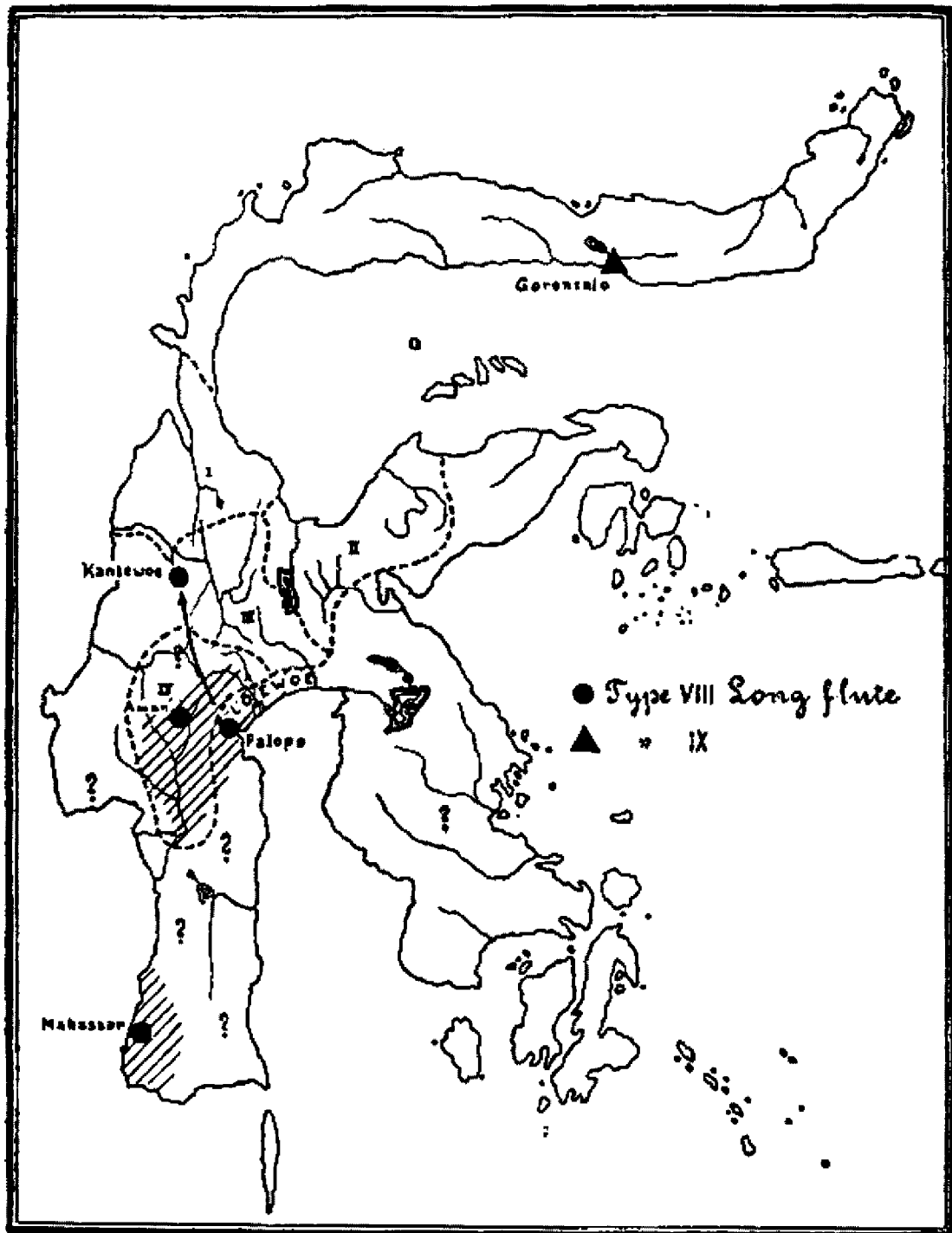
»In Birma (*pu-lve*), den angrenzenden Teilen Ostbengalens und auf den Nikobaren herrscht das gleiche System in etwas künstlicherer, aber einfacher Durchführung. Das Rohr wird so geschnitten, dass ein Knoten überhaupt nicht mitkommt. An seiner Stelle ist eine Scheidewand aus Wachs eingeführt. An der gleichen Stelle wird die Wand wie bei der Querflöte geöffnet, in der Weise, dass die eine Lochhälfte auf diese, die andere auf jene Seite der Scheidewand trifft. Beim Überstreifen des Ringes entsteht genau die Form der Flötenpfeife in der europäischen Orgel: durch die 'Kernspalte' zwischen dem dreieckigen 'Kern' und dem 'Vorschlag' strömt der Wind gegen den Aufschnitt.«

The chief difference between these flutes from Asia and the Dresden flute from Gorontalo seems to be the construction of the air duct, the Asiatic flutes having an external air duct, the Gorontalo flute being fitted also with an internal air duct.

Flutes, the construction of which is similar to that of the Gorontalo pipe, seem to occur also at other places. In »Instrumente einiger asiatischer Völker« BAGLIONI (in Zeitschr. f. Eth. 1914. n. IV, V) figures two flutes from India in the Rome Museum, having near one end two holes close to one another, as well as some equidistant stops. Contrary to the



Gorontalo flute all holes are here at one side of the pipe. The author does not know from which place in India they



Map. 13. Flutes with internal air duct in Celebes.  
I Paloe, II Poso, III Koro, IV Saadang Toradja.

are, nor does he give any particulars as to the construction of the instruments in question.

In the catalogue of the Leiden Museum, Vol. XVIII p. 108 another similar flute from Flores is registered. We

read as follows: »Wie oben, (*i. e.* flute) aus Bambus, mit sechs runden Schallöchern und zwei Blaselöchern an derselben Seite. Larantuka. L. 38,5, Dm. 1,5 cm.

## Shawms.

Figs 119—125. Map. 14.

In the shawms the air column is vibrated by means of sounding reeds. Their prototype is the little grass pipe with a split mouth-piece that our children make for pleasure.

We meet with the following four kinds of shawms in Celebes, two of which occur among the Toradja of Central Celebes:

1. paddy pipe,
2. oboe,
3. clarinet with a single pipe,
4. double clarinet.

### *Paddy pipe.*

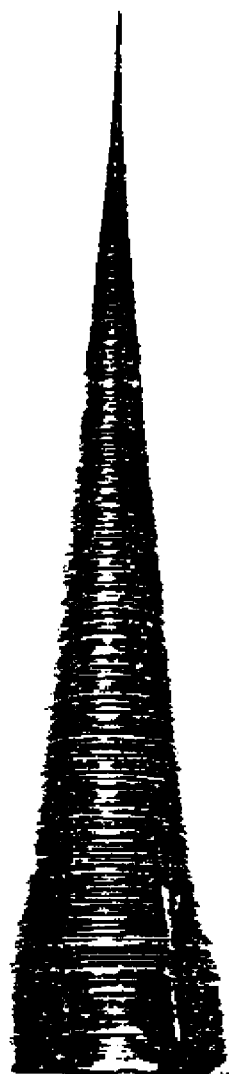
Fig. 119.

This simple instrument is similar to the grass pipe. The paddy pipe of Central Celebes is a paddy straw, 5—7 cm. long cut off so as to be closed by a node at one end. The open end is fitted with a bell-mouth of coiled up Pandanus leaves just as in the flutes with external air duct. At the proximal end there are one or two longitudinal incisions. The performer thrusts the instrument rather far into his mouth, his breath alternately opening and shutting the slits in the straw, making the air inside vibrate.

This paddy pipe I saw in Koelawi as well as in Kante-woe. It was said to be used all over the north-western part of Central Celebes at the time when the paddy was

ripening. In Koelawi it was especially heard at harvest time.

In Koelawi the instrument is called *poe pai*. KRCIJT in »De Baré'e-Sprekende Toradja's» describes the paddy pipe of the Poso Toradja writing as follows: »de lele'o of lolodio, een fluitje uit een rijststengel gesneden, dien men met een reep palmblad, als een hoorn gedraaid, heeft verlengd. Dit instrumentje geeft een scherp, vroolijk geluid, iets als voortgebracht wordt door het blazen op een grashalm. Ook op de lele'o mag men alleen blazen, wanneer de oogst begonnen is; dan hoort men zijn geluid ook allerwegen in de velden. Den naam ervan uit te spreken voordat de oogst is begonnen, is zelfs verboden. Door de geluidsschelp van palmblad gedeeltelijk met de hand te sluiten, kan men de hoogte van den toon verschillend maken.» (Vol. II p. 382.)



1: 6.

Fig. 119  
Paddy pipe  
from Lamala,  
N. E. Celebes.  
(Kaudern  
coll. No.  
2639)

Outside Central Celebes I found the paddy pipe in North-East Celebes at the village of Kalibambang in the district of Lamala. Here it is called *leleo* (accent on the second *e*, both *e*'s pronounced as the French *è*). It is made in three sizes. The bell-mouth of Pandanus leaves, measures with the biggest kind of *leleo* 50 cm. in length with a diameter of 10 cm. in front (Fig. 119).

In Mongondou in North Celebes I never saw the paddy pipe, possibly owing to the fact that here the cultivation of paddy was of little importance, the paddy pipe naturally being closely connected with the cultivation of paddy in Celebes.

As yet we do not know when the Toradja of Central Celebes learnt the cultivation of paddy. Even if we knew

when they began to cultivate it in wet fields, this would not help us, since no doubt this cultivation was preceded by the more primitive method of cultivating paddy in dry fields cleared with fire.

*Oboe.*

Figs 120 B, 121.

I never saw this kind of instrument in Celebes, but it occurs nevertheless in this island, the Leiden Museum possessing three specimens from South Celebes. A good specimen is No. 1009/85 from Gowa (Fig. 121), another specimen, No. 654/5 is from Macassar. The label of the third instrument, No. 37/252, does not give any special locality, but presumably it is from the Macassar Peninsula, the label referring to MATTHES, »Makassaarsch-Hollandsch Woordenboek» page 137 a, the word *pocwi*, which is to be compared with his atlas Pl. VIII, Fig. 20. This figure, however, is so roughly made that it is difficult to decide whether the instrument is an oboe or not. According to the dictionary it is a clarinet, but I think this is a mistake, MATTHES in this case meaning an oboe (Fig. 120 B).

The specimen No. 1009/85 is well preserved. It is made of four slender tubes of bamboo, one slid over the other like the tubes of a telescope (Fig. 121). The proximal end of the two middle tubes are re-inforced with ferruls of brass. Apparently the proximal end of the distal tube as well as the distal end of the tube next to it originally were

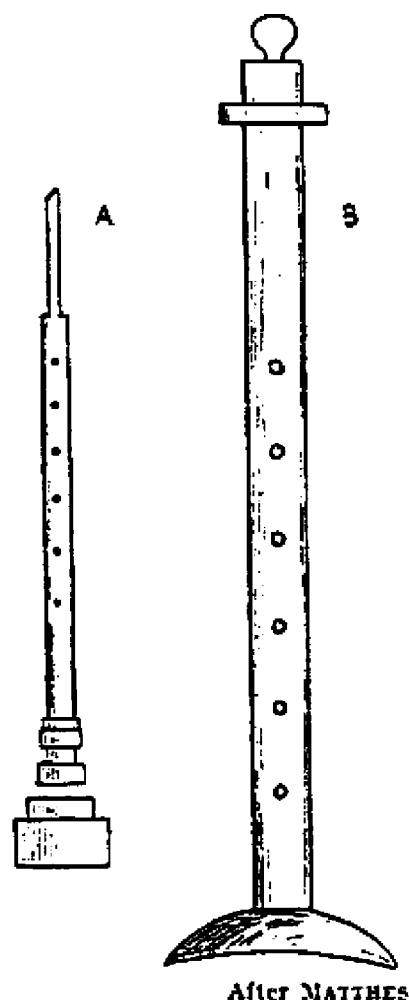


Fig. 120. A a clarinet (acc. to MATTHES a paddy pipe), B an oboe (acc. to MATTHES a kind of clarinet) from South Celebes.

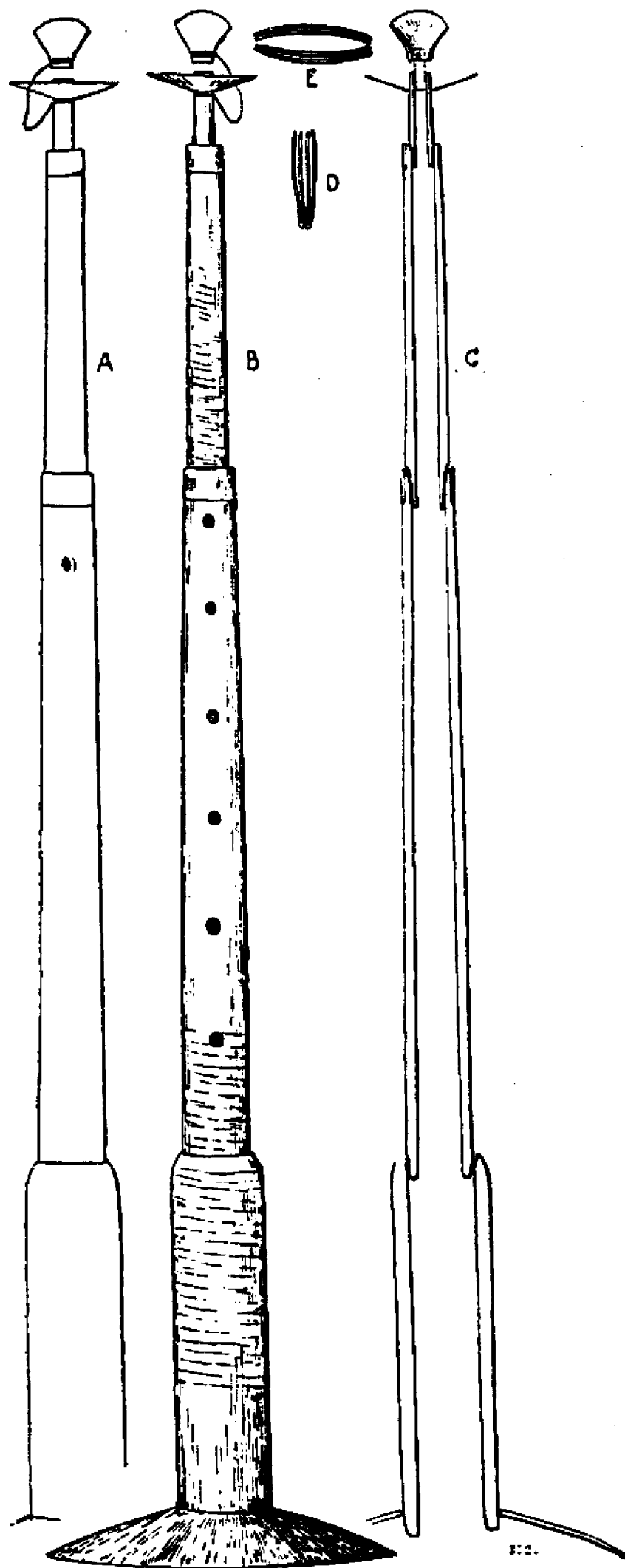


Fig. 121. Oboe from Gowa. South Celebes.  
(Leiden Mus. No. 1009/85.)

lined with a strip of split rattan, at present missing, having left in the bamboo a pale spiral line.

The instrument is fitted with a wide bell-mouth made of a thin piece of a coconut shell. In the long tube next to the one carrying the bell-mouth there are six nearly equidistant stops in front and one at the back, the latter placed between the two uppermost ones of the row in front, just as in a great number of flutes with internal air duct, contrary to the Indian oboe which has seven stops in front.

To the reed-carrier is attached a small lip-rest of metal. The sounding-reed is made of double layers of a palm or a Pandanus leaf, secured to the reed-carrier by means of a little thread. Presumably in this specimen a little tube is missing, connecting the sounding-reed with the reed-carrier.

The other two Leiden specimens are similar to the one described above. No. 654/5 has a tin bell-mouth instead of a coconut shell.

This oboe is evidently an instrument of rather late date in Celebes, occurring chiefly in the Macassar Peninsula. The most northerly place from which we have a reference is Loewoe on the northern coast of the Bone Gulf, GRUBAUER in his »Unter Kopffjägern in Central Celebes« figuring what he calls the »Reichsinsignien von Luwu«, among which we notice an oboe (GRUBAUER'S Fig. 170 No. 18).

The oboe from South Celebes is almost identically similar to the oboe that we meet with at several places in the Dutch East Indies from Sumatra in the west to Lombok in the east. In Borneo there is also an oboe although not made of bamboo. Thus it seems likely that Celebes got the oboe from the islands in the south, Java or Bali, during their Hindoo period.

According to Sachs the oboe came to the Malayan Islands from the west. On page 156 of »Die Musikinstr. Indiens u. Indonesiens« he writes: »Auch der westliche Archipel hat seine Oboen von Westen her erhalten. Die Gruppe (atjeh *srune*,atak. *sarune*,javan. *sruni*,dāyak.

*sērūnai*) is eine entartete Familie von Stamme des Zurnā, mit schlankem Bambus- oder Jacqueiraholzkörper und ängstlich magerem Holzschallstück. »

The oboe no doubt first reached Sumatra and Java coming from India during the Hindoo period of the Malayan Islands. The above mentioned names: *srunc*, *sarune*, *sruni*, and *serunai* evidently are the same as the Hindi word *surūnā*, and the Pendjab *surūnāī*, the name of the oboe in certain parts of India. Possibly the origin of these words is Arabic, SACHS in his »Reallexikon der Musikinstr.« p. 333a writing as follows: »*Sarune*, *Scrūnai*, malay. Schalmei mit Rohr. Jav. *Sruni*; durch Metathesis aus arab. *Zurna*? »

The names used in Celebes for the oboe apparently are not related to these words. This may indicate another origin of the Celebes oboe, possibly a Chinese one, China also having an oboe.

*Pocwi pocwi*, the name of the oboe in South Celebes, does not seem to be of Chinese origin however. MATTHES in his Macassar dictionary does not mention anything of the derivation of this word only writing as follows on page 137a: »*Pōewi-pōewi*, bep. *pōewi-pōewika*, soort van houten muzijk-instrument, Clarinet. Boeg. idem.»

Possibly *pocwi pocwi* is a genuine native word related to the Koelawi word *poe pai*, the name of the plain pipe of paddy straw. According to KRUIJT (»De Bare'e-Sprekende Toradja's« Vol. I p. 365) there is a bird called *pōwiri*, the notes of which are carefully watched by the priestesses at certain religious feasts. Conceivably we have here the same stem as in *pocwi pocwi* and *poe pai*, and the note of the bird may resemble those of the instrument in question.

#### *Clarinet.*

Figs 122, 123.

At widely separated places in the Malayan Islands occurs among the natives a clarinet, an instrument, according to SACHS unknown in Farther India. I shall quote

SACHS's description of the clarinet of the Malayan Islands. In »Die Musikinstr. Indiens u. Indonesiens» he writes as follows, p. 161:

» . . . . . ein kurzer und magerer Körper aus geschältem Bambus, gewöhnlich drei oder vier kleine Grifflöcher in der abgeplatteten Vorderseite, die schmale Zunge in einem besonderen Einsteckröhrchen, und der ganze Apparat auf einem unverhältnismässig grossen Schallbecher aus spiralig zusammengerollten Pandanus- oder Lontarablättern. »

According to SACHS (p. 161) the clarinet is recorded from Nias, Sumatra, Flores, and Central Celebes. As to the latter locality he refers to »Encyclopaedie van Nederlandsch Indië» II, p. 635. On this page, however, I found an article on Madoera, but on p. 831 are enumerated the musical instruments of Celebes. There is, however, no clarinet mentioned from Central Celebes. We read as follows: »*N. Celebes*: een fluit van 75 cm. lengte met een mooi, diep geluid. *Z. Celebes*: een soeling met 2 groepen ieder van 3 gaten; een *poewi* of *fluit met 6 gaten*,<sup>1)</sup> een tjikoenroe, een kinderfluitje eveneens met 6 gaten, gemaakt van een padi-stengel, waarvan het uiteinde trechtervormig omwonden is met het blad van de pandan katinting. Daarboven heeft Celebes een dubbele fluit en een hobo met dubbele tong van een saamengevouwen blad. *Muziek der Bare'e-sprekende Toradja's*: een trompet tambolo, de schelptrompet, de reeree, de lele'o, een fluitje van een rijststengel gemaakt met een trechtervormig einde, de sanggona, een neusfluit. Met den mond blaast men de fluit lolowe geheeten ».

Being a German SACHS possibly translated *Z. Celebes* with »Zentral» Celebes which, of course, is a mistake, *Z. Celebes* in Dutch meaning Zuid (South) Celebes.

The *poewi-poewi* is according to MATTHES's Macassar Dictionary a clarinet, but, as mentioned before, the figure given in his Ethnographical Atlas seems to represent an oboe.

<sup>1)</sup> The italics are mine.



Strange to say KRUIJT in »De Bare'e-Sprekende Toradja's» does not mention the clarinet among the musical instruments of the Toradja. Possibly a flute that he speaks of, is no flute but a clarinet, since the sound is said to be shrill. KRUIJT writes as follows, p. 382, Vol. II: »De tweede soort fluit, *lolowe*, *toejali* of *bantji bantji* geheten, is mede van bamboe gemaakt en wordt met den mond geblazen. Het geluid van dit instrument is veel scheller dan dat van de neusfluit; deze fluit wordt ook veel minder gebruikt dan de neusfluit.»

Thus there is no definite proof of the clarinet occurring in Central Celebes, but from South Celebes a specimen is figured, and in Leiden there is a specimen from this part of the island.

In Plate VIII, Fig. 21 of his »Ethnographical Atlas», MATTHES figures a wind instrument that no doubt is a clarinet although the text says something else. We read as follows: »*Tjikôenroe nibâlaba*; een paddihalm, aan het eene uiteinde omwonden met een groot blad.» But if we compare the figure (Fig. 120A) with this text they do not correspond to one another. No doubt the author has made a mistake, and in all probability in the middle of the nineteenth century when MATTHES lived, a paddy pipe as well as a clarinet with a bell-mouth made of a coiled up leaf occurred among the natives of Macassar.

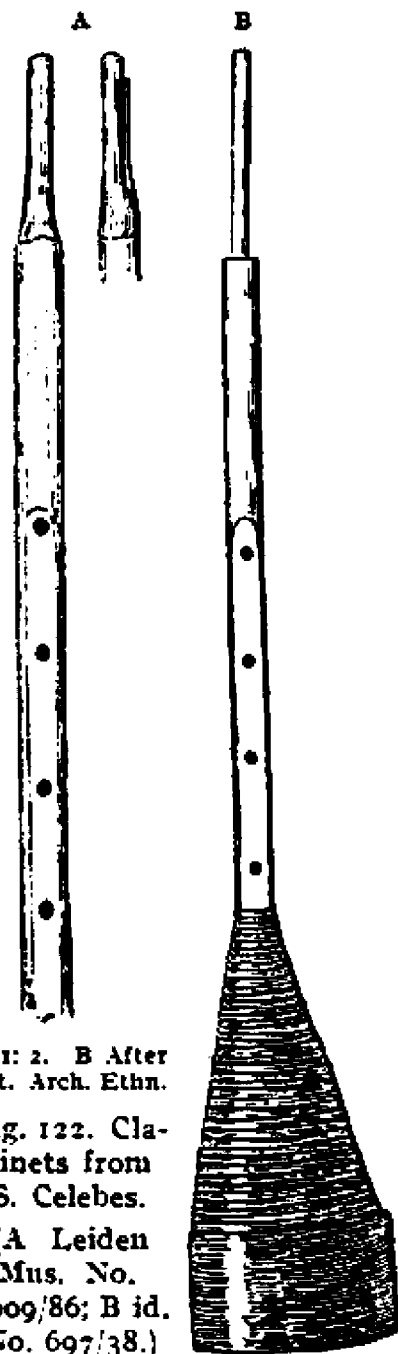
In Leiden there is a clarinet No. 1009/86 from Gowa. As will be seen in Fig. 122A it is made of slender bamboo, closed at one end by a natural node, open at the other end. The outer layer of the bamboo cylinder has been chipped off at the proximal end, making this end somewhat narrower. Here we find the sounding-reed with its free end toward the mouth-end. Through the flattened portion of the other end of the tube four stops are burnt. Originally this clarinet seems to have been somewhat longer, at the distal end part of a fifth stop being found. Possibly this originally was a clarinet with six stops and a bell-mouth of coiled up Pandanus leaves, just as the clarinet figured in MATTHES's atlas.

According to the label this instrument is called *basing-basing*. Of this word MATTHES on page 226 b of his dictionary says: »Bâsiñg-bâsiñg, eene *tjikôenroe* met openingen even als eene fluit.» He mentions that there is the same word in the Bugis language and refers to the word *tjikôenroe*. On page 384 a he says: »*Tjikôenroe*, bep. *tjikôenrôewa* = *sikoenroe*, *paddie-halm*, ook wel als fluit gebezigd. — *Tkjiôenroenibalábá*, een *tjikôenroe*, die omwonden is aan één der beide uiteinden met het groote blad der *pandañgkatintiñg*.»

This means, I think, that the name of the paddy pipe should be *tjikoenroe*, that of a clarinet *basing-basing*, but then the instrument that is represented in Fig. 21 of Plate VIII is no *tjikoenroe* but a *basing-basing*, a clarinet.

Presumably the clarinet was introduced into Celebes from Java or from the Small Soenda Islands which have some musical instruments in common with Celebes such as for instance the boat-lute. From South Celebes the clarinet dispersed northward to Loewoe and possibly further on to the Poso Toradja.

Noteworthy is the fact that the clarinet No. 1009/86 from Gowa in the museum of Leiden is of another construction than the one according to SACHS commonly found in the Malayan Islands. As mentioned before, SACHS says that this clarinet consists of two tubes, one of which is fitted with stops, the other serving as a mouth-piece, being



A 1: 2. B After  
Int. Arch. Ethn.

Fig. 122. Clarinets from S. Celebes. (A Leiden Mus. No. 1009/86; B id. No. 697/38.)

inserted into the upper end of the former. As will be seen in Fig. 122 A the Gowa clarinet is a single bamboo tube, the proximal end with the sounding-reed being slightly thinner than the distal portion of the instrument. In this respect the Gowa clarinet exactly resembles a double clarinet from Borneo described by SCHADEE in »Int. Arch. Ethn.» IX p. 63. He calls it, however, a double flute. The figure given (Fig. 123) makes it evident that the instrument is a clarinet.

The instrument figured by MATTHES seems to be exactly of the same type, with a separate mouth-piece, as a specimen No. 697/38 in Leiden from South Celebes figured in »Int. Arch. f. Ethn.» XI p. 90 (Fig. 122 B).

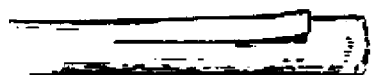


Fig. 123. Mouth piece of a double clarinet from Borneo (Acc. to SCHADEE a double flute, Int. Arch. Ethn. IX, p. 63).

It therefore seems likely that two different clarinet types occur in Celebes as well as in the other Malayan Islands, although both types in catalogues and other books are called *basing-basing*, which perhaps is the same word as *bañsi*, the native name of the clarinet in Flores.

The native names of this instrument do not seem to give any hints as to its origin. According to SACHS it is called *mots* in Timor, *pupui* in Sumatra. The latter name has so striking a resemblance with the Koelawi word *poe pai* (*pupai* in German spelling), the name of the paddy pipe, that one is tempted to think that in the present case there is a misprint.

From the Leiden catalogue Vol. X p. 178, we learn that the construction of the Sumatra clarinet is another than the one according to SACHS commonly used in the Malayan Islands. The Leiden clarinet in question, No. 268/278, is figured in »Int. Arch. f. Ethn.» XI p. 90. We read as follows in the catalogue: »Trompeten (puput<sup>1</sup>) 2 Ex. von einem Stück Bambus um dessen einen Ende ein eingerolltes, mit

<sup>1</sup>) Presumably a misprint for *pupui* (? *pupai*).

einem Dorn befestigtes Stück Pandanblatt; das andere Ende ist zugeschnitzt und mit einer kleinen, rechteckigen Zunge versehen; der mittlere Teil des Rohres ist abgeflacht und zeigt drei quadratische Löcher. — Auch von einem einzigen *Padi*-stengel werden bisweilen Trompeten angefertigt. *Sungai Pagu*. L. 17 und 20, gr. Dm. 1,7 und 2,2 cm.»

*Double clarinet.*

Figs 124, 125.

Travelling in Central Celebes I twice met with a small double clarinet. One specimen was procured at Gimpoe, another at Kantewoe. In both cases the instruments were said to be made by the To Tole, a tribe living in a mountain district situated between Gimpoe and Kantewoe. This seems quite plausible, the Dutch Government having removed a number of To Tole from their villages in the mountains to Gimpoe as well as to Kantewoe, the inhabitants of both districts being closely related to the To Tole (Figs 124 A, B).

The double clarinet is made of two small slender bamboo pipes bound together, in my Gimpoe specimen with two bindings of string, in the Kantewoe clarinet with plaitings of split rattan. In order to fix the tubes firmly, a small wooden lath is placed between them. Each pipe has four stops. In the Kantewoe specimen the distance between the stops number two and three is much bigger than between these stops and the stops number one and four. The same is also the case of the other specimen, but here the difference is so small, that it may be that the person who manufactured the instrument intended to make the distances between the stops equal.

Each pipe has a mouth-piece inserted into its upper end. This is a very narrow bamboo tube, at the proximal end closed by a node, close to which is found the sounding-reed in a flattened portion of the mouth-piece (Fig. 124 A, B)

with its free end toward the pipe. The mouth-piece is fitted with a tiny ring allowing the performer to change at will the length of the free end of the tongue.

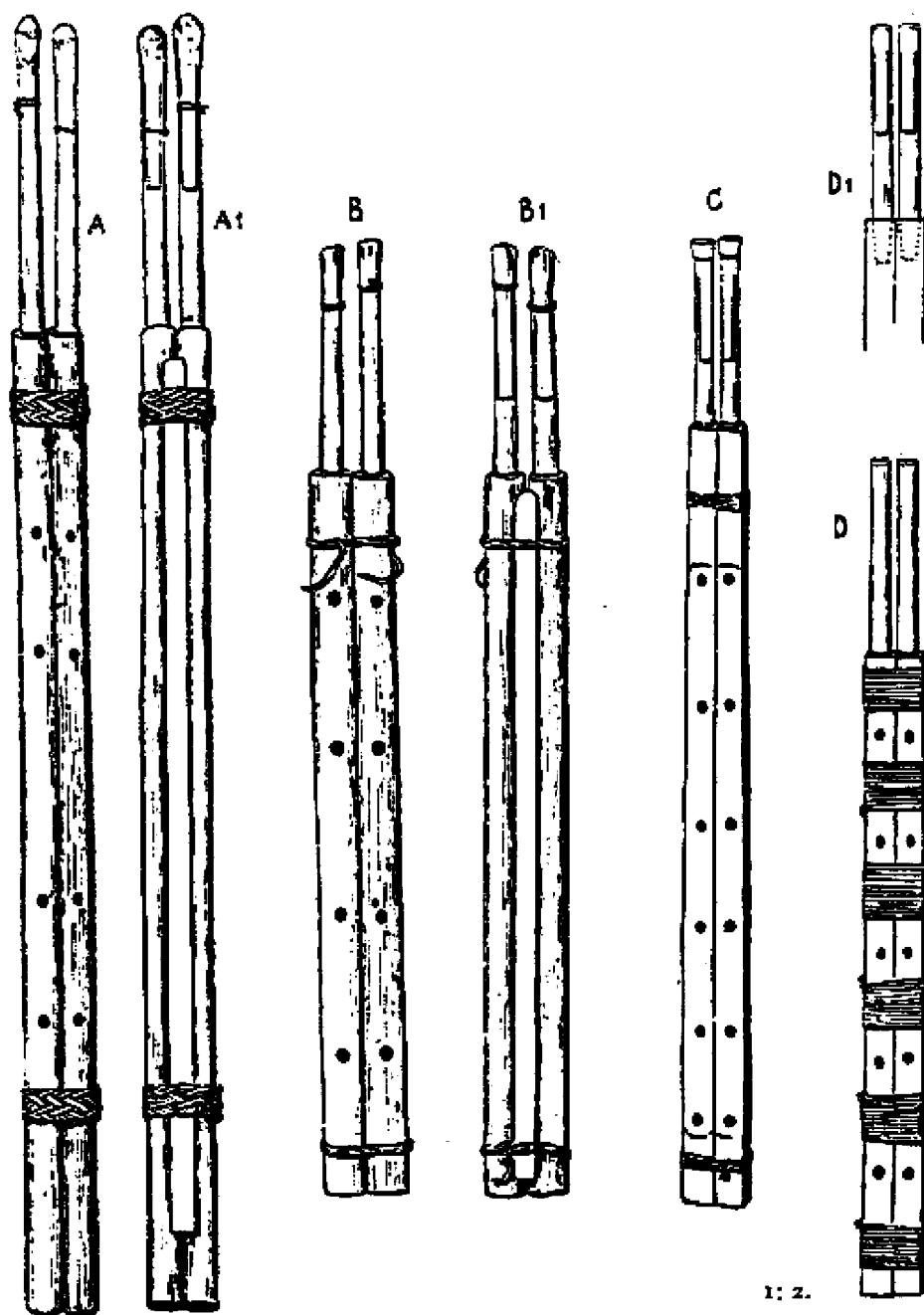


Fig. 124. Double clarinets. A, B from N. W. Central Celebes, C, D, from the island of Boeton.  
(A Kaudern coll. No. 1887 b; B id. No. 1027 [26. 9. 552]; C id. No. 2806 a; D id. No. 2805.)

When a native is going to play the double clarinet he takes one mouth-piece out from its pipe, puts it into his mouth, tuning it by means of the ring, in order to get the

note desired. The second mouth-piece is treated in the same manner, but it must not give the same note as the first one. I think the step between the notes is an octave. When both mouth-pieces are in order they are tried both together, and finally they are placed in their pipes, and the instrument is ready for performance.

As to the occurrence of the double clarinet among the tribes in Celebes as yet very little is known. KRUIJT does not mention it from the Bare-e speaking Toradja which makes it likely that it is not known among these tribes.

In Koelawi as well as in Lindoe the natives never use the double clarinet. The To Kantewoe knew it, but they said that it was a Tole instrument. It is, however, not an instrument invented by the To Tole, because we find double clarinets of identical construction at widely separated places in North Africa, South Asia, and the Malayan Islands, even in islands not far from Celebes.

In Leiden there are two small double clarinets from South Celebes. The label of the specimen No. 1551/1 gives as locality South Celebes, that of the other specimen, No. 697/42, says it was collected by Dr. B. F. MATTHES at Macassar. Strange to say MATTHES does not figure this instrument in his atlas.

Just as my Tole specimens, the clarinet No. 697/42 is made of two narrow bamboo tubes, at the proximal end bound together with a string. The distal end, however, is here inserted into a transverse bamboo cylinder, open at both ends. The chink between the pipes and the cylinder is stopped up with wax. The proximal end of the mouth-piece — one is lost — is closed by a natural node, the other end inserted into the pipe in the same manner as in the Tole specimens. The free end of the sounding-reed in this double clarinet is toward the upper end of the instrument. There is no ring to regulate the length of the reed. Through a flattened portion of the pipes four equidistant stops are burnt (Fig. 125 A).

The pipes of the specimen No. 1551/1 are for nearly their whole length square (Fig. 125 B), the distal end being inserted into a big rectangular bell-mouth of wood. There are in each pipe four equidistant stops. This specimen has also

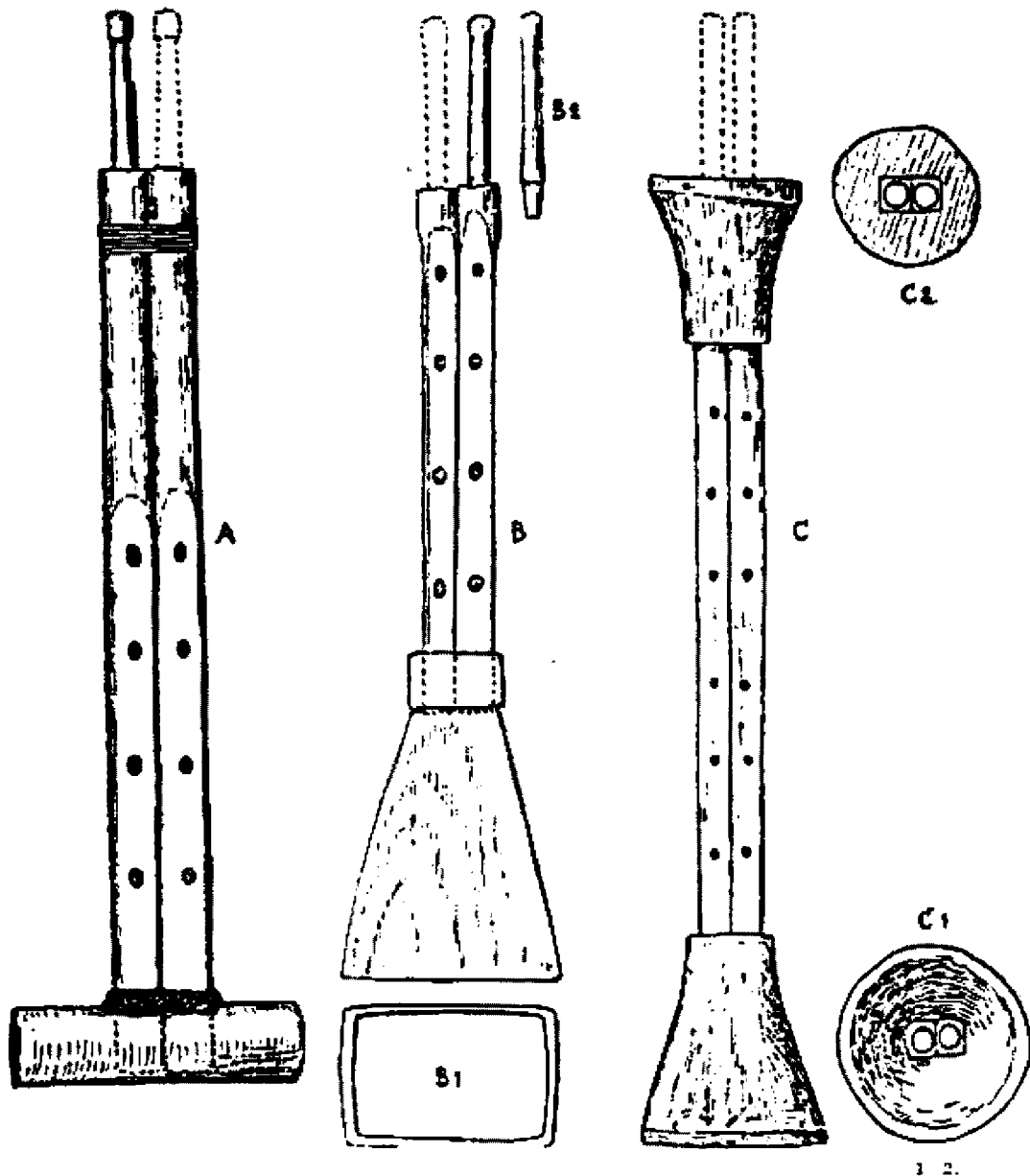


Fig. 125. Double clarinets.

A, B from South Celebes, C from the island of Saleier.  
(A Leiden Mus. No. 697/42; B id. No. 1551/1; C id. No. 1895/43.)

lost one mouth-piece. The one that is left is exactly similar to that of the previous clarinet.

There is at Leiden another double clarinet, No. 1895/43, procured in the island of Saleier just south of the Macassar Peninsula. The two square pipes of this instrument are

inserted into two wooden cones (Fig. 125 C). The cone of what I suppose to be the proximal end has a flat base, that of the opposite end is slightly hollowed out like a funnel. Each pipe has six stops, disposed in groups of three holes. The mouth-pieces are missing.

In the island of Boeton south-east of Celebes I obtained three double clarinets at the village of Bae Bae. They were said to have come from the interior of the Moena Island, situated between Boeton and South-East Celebes. All three specimens, Nos. 2805, 2806a, 2806 b (Fig. 124 C, D), are similar to the Tole double clarinets. The chief difference is that the Boeton specimens lack a ring round the sounding-reed and that the pipes are square. The stops of No. 2805 are five in number in each pipe, those of the other two specimens six. All stops are at equal distances from one another. In No. 2806 a and b the pipes are kept together by two bands, one at each end (Fig. 124 C). In the specimen No. 2805 there are six strong lashings (Fig. 124 D). The mouth-pieces of the former two clarinets are contrary to No. 2805 a little thicker at the upper end. In all these specimens from Boeton the free part of the sounding-reed faces the proximal end of the instrument just as in the Tole double clarinet. Possibly the Bae Bae clarinets did not come from the same place, being rather different in details.

The double clarinet does not seem to be recorded from other places in Celebes, or adjacent islands, but I suppose it to be known at several places in the Malayan Islands although I have no references at present.

In the Ethnographical Museum of Weltevreden in Java I remember having seen two or three specimens, but I do not think from Celebes. In Leiden there is a double clarinet from Borneo. This specimen is a little different to the Celebes examples, being bigger than those and more simple in its construction. The mouth-piece is here not a separate piece inserted into a cylinder of bamboo but cut out from this cylinder. This specimen SCHADEE describes in »Int. Arch. f.



Ethn. Vol. IX p. 73, giving a figure of the mouth-piece in which is seen the tongue, the free part of which faces the proximal end of the instrument (Fig. 123). According to the above mentioned author double clarinets occur at more than one place in Borneo. He says: »Sendioe, dubbele fluit.<sup>1)</sup> Van eene riet-soort, *boeloeh tikoës*, vervaardigd; twee met een touwtje aan elkaar verbonden, de eene met een, de andere met vijf galmgaten. De schil van het riet aan het boven-einde over een eindweegs verwijderd, en hier is, aan dezelfde zijde waar de galmgaten ingebrand zijn, de lip om de fluit te bespelen, ingesneden. Lang 42,5—44,5; dik 0,8 cM. Inv. No. 1059/16. Padang-Dajaks, Boven-Padeh-gebied; Landak. Bij de Soeti-Dajaks heet een dergelijke fluit 'sapanei' ».

In the table below are seen the different constructions of the double clarinets from the Malayan Islands as well as the length of these instruments. As will be noticed, the Borneo specimen is more than twice as long as the Celebes clarinets.

Locality	Tole		Boeton			South Celebes		Saleier	Borneo
No. ....	1027	1887 b	2805	2806 a	2806 b	697 42	1551 1	1895 43	1059/16
total length.....	17	23	14.7	16.7	17.1	19.5	17.6	20.5	42.5 44.5
mouth-piece separate .....	+	+	+	+	+	+	+	+	○
free end of reed distal .....	—	+	+	+	+	—	—	—	—
free end of reed proximal.....	—	—	—	—	—	—	—	—	—

In all probability the double clarinet came to the Malayan Islands from the west, since it occurs in India and far westward through the northern part of Africa. The question is only this: did it come from India, or was it brought

<sup>1)</sup> The Leiden catalogue also calls this instrument a flute which, of course, is an error.

to the Malayan Islands by the Arabs? As the Indian double-clarinete is fitted with a gourd, enclosing the proximal tubes with the sounding-reeds, and the Celebes double clarinet lacks such a gourd just as the Arabic clarinet, there is the possibility that the instrument was introduced into the Malayan Archipelago by the Arabs.

The Arabic double clarinet, however, as a rule is much bigger than the Celebes examples. Besides, each half consists of three tubes like a telescope, contrary to the Celebes clarinet which has only two tubes.

The Indian double clarinet seems, to judge from SACHS's statements, to be exactly similar to the Celebes instrument but for the gourd, which is not an original feature in the Indian clarinet. In »Die Musikinstr. Indiens u. Indonesiens» p. 159 SACHS writes: »Zwei spannenlange Bambusröhrchen sind aneinandergeklebt oder -gebunden; in jede ist oben ein dünneres Röhrchen mit der Zunge gesteckt.»

To my mind it seems likely that the double clarinet of Celebes is the Indian clarinet that over Java has found its way to Celebes during the Hindoo period of Java. It would be of great interest to know what the Indian double clarinet was like during the thirteenth and the fourteenth century, the time when the Hindoo culture reached South Celebes.

The number of the stops as well as the disposal of the sounding-reeds seem to be characteristics of minor importance, varying not only in Celebes but also in Arabian and Indian double clarinets.

If the double clarinet came to South and South-East Celebes from Java, perhaps at the time of the Madjapahit Realm, it no doubt dispersed toward the north as far as to the district of Tole presumably along the same line as the boat-lute.

Noteworthy is the fact that the clarinets I obtained at Baœ Baœ in Boeton were said to be from the island of Moena. This may indicate that the clarinet is not a Mohammedan instrument, Baœ Baœ being a place where the Mohammedan



## Trumpets.

This wind instrument is of little consequence in Celebes where I saw only three different kinds. From the Toradja in Central Celebes KRUIJT mentions the Triton trumpet as well as a plain bamboo trumpet. In North Celebes I saw a buffalo's horn used as a trumpet.

### *Triton trumpet.*

Fig. 126.

The Poso Toradja, according to KRUIJT, call the Triton trumpet *ntoea-ntoeangi*. It is not quite clear from what he says whether the hole through which it is blown is in the top of the shell, or at the side close to the top. KRUIJT says: »In het smalle gedeelte van de schelp was een rond gat gebikt, waarop men blies als op een trompet.» Presumably the hole was at the side, as is the case in the Triton trumpets used on the coast of Celebes.

KRUIJT says the natives were allowed to blow such a Triton trumpet only to warn neighbouring villages in case of danger. They were also permitted to use it when the wood that had been cut down to give place to fields, was to be burnt. The notes of the Triton trumpet were believed to call the wind.

On the coasts of Celebes it is customary to use a Triton trumpet on the boats to summon the wind spirits in case of calm. In all specimens from the Malayan Archipelago that I have seen, the hole is lateral, which is also the case of these trumpets in the islands of the South Pacific.

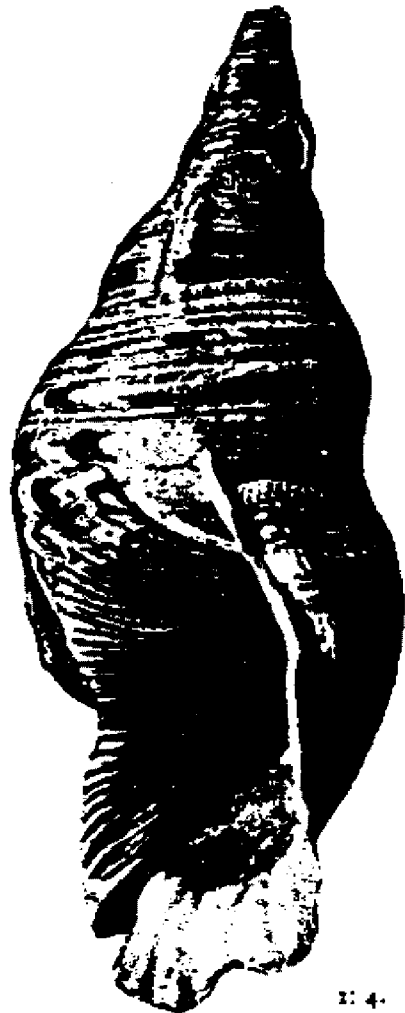


Fig. 126. Triton shell trumpet from Goeroepahi. North Celebes. (Kaudern coll. No. 804.)

*Bamboo trumpet.*

Fig. 127.



1: 6.

Fig. 127. Bamboo trumpet used by the school bands in Lamala, N. E. Celebes, but of Ambonese pattern. (Kaudern coll. No. 2633.)

KRUIJT records a plain bamboo trumpet occurring among the Poso Toradja. I never saw any trumpets in the western part of Central Celebes.

According to KRUIJT the trumpet in question is a section of bamboo about 30 cm. long, which is blown like an ordinary trumpet. The instrument should only be blown at special occasions, and was fixed in the roof of the temple when not used. A troop of men returning from the warpath were welcomed by the notes of the trumpet. At the end of the mourning of a widow, the leader of the troop blew the trumpet seven times over her head. The natives also were allowed to use it when clearing a field with fire.

In Lamala in North-East Celebes I obtained a trumpet, 64 cm long that, in blowing, was pushed into a bamboo socket of the thickness of a man's arm, closed at the bottom by a node (Fig. 127).

In moving the bamboo socket backwards and forewards the sound of the trumpet was modified. This trumpet was used by the school bands as a humming instrument. It was introduced from Ambon by the Ambonese teacher who said that these trumpets were used in his native island. In Lamala the trumpet was called *bonto*.

MARTIN in his »Reisen in den Molukken« p. 62 records and on Plate VII, Fig. 3 figures a similar trumpet from Saparoea and Noesalaoet east of Ambon, writing as follows: »Höchst eigenthümlich ist ferner ein Instrument aus Bambus . . . welches auf Saparua und Nusalaut gespielt wird und dessen Erfindung, laut mir gegebener Versicherung, erst in der allerjüngsten Zeit daselbst gemacht ist. Es besteht aus einem weiten, unten geschlossenen Rohrstücke, in das ein zweites, viel dünneres und etwas längeres Bambusrohr frei hineingesteckt wird. Letzteres ist 72—73 cm. lang, an beiden enden offen und unten mit einem seitlichen Ausschnitte versehen. In dies dünne Rohr bläst der Musiker, welcher die verschiedenem Töne nicht nur durch die Art des Anblasens, sondern auch dadurch erzeugt, dass er jenes mit der rechten Hand langsam in dem weiteren Köcher auf und ab bewegt.«

Strange to say, the trumpet according to KRUIJT is called *tambolo* among the Poso Toradja. This name can hardly be a genuine Toradja word. Presumably it is borrowed from the Spanish or Portuguese languages like many other words, especially in the Malay language (kedjo = cheese, mentega = butter, sepatoe = shoe etc.) But how to explain that the Spanish *tombol* or the Portuguese *tambor* meaning drum, in Celebes has become the name of a wind instrument? Is it perhaps a confusion of names?

When the Spaniards and the Portuguese in the sixteenth century contended for the power of the Malayan Archipelago, the natives got acquainted with their military music, the chief instruments of which were drums and signal trumpets. The most important of these instruments no doubt was the drum which may have induced the natives to give the name of *tambolo* to the instrument that was new to them, *i. e.* the trumpet, drums no doubt being used in Celebes long before the Spaniards and the Portuguese appeared here. If my theory should prove to be correct, the trumpet is not of earlier date in Celebes than from the sixteenth century.

*Buffalo horn trumpet.*

Fig. 128.

In Bolaang Mongondou in North Celebes the natives seem to use a buffalo's horn as a trumpet. A specimen



1:4.

Fig. 128. Buffalo horn trumpet from Mojag, Bolaang Mongondou, North Celebes. (Kaudern coll. No. 816.)

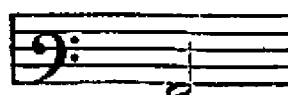
that I got at the village of Mojag is 44 cm. long (Fig. 128). The top of the horn is cut off, leaving a plane surface round the oval cavity of the horn. In blowing it just like a trum-

pet, a loud note is obtained. In Mojag the horn was used to scare away the wild boars from the fields of the natives.

In books that I have consulted there is no record of a horn used as a trumpet in Celebes. Evidently the custom is not original in the island, since the buffalo is a domesticated animal brought to Celebes by man, at present at many places running wild.

The small straight horns of the dwarf buffalo Anoa do not seem to be used for trumpets, probably being too small for this purpose.

Buffalo horn trumpet (No. 816)  
from Mojag.



## SUMMARY AND COMPARISONS.

### Origin of the instruments.

In the foregoing, when describing the different musical instruments, I have tried to throw a light upon their geographical distribution not only in Celebes but also in the Malayan region, in order to trace the origin of these instruments as well as the lines along which they dispersed to Celebes. As to their origin we have the following four alternatives:

- 1) the instruments originated in Celebes, *i. e.* they are autoctone in this island, not as a rule occurring at other places;
- 2) the instruments are common all over, or nearly all over the Malayan Islands, and originated in these islands, or they are of Austronesian origin;
- 3) the instruments are so common, and have so wide a range that they must be very old, their origin being at present almost impossible to trace;



4) the instruments, are strangers not only in Celebes but in the Malayan Islands in general, having dispersed over this region with certain foreign cultures, either the Hindoo culture, the Chinese culture, the Arabian-Mohammedan culture, or the European culture. The Hindoo culture appeared in the Malayan Islands during the first centuries after Christ, and it lasted more than one thousand years. The Chinese culture, which came later than the Hindoo culture, still makes itself felt to a certain extent, a great number of Chinese merchants having settled on the coasts of the islands, spreading among the natives Chinese articles. The Arabian-Mohammedan culture, which came to Sumatra as early as in the thirteenth century, in all probability reached Celebes much later, and here it still prevails along the coasts as well as in the interior of the Macassar Peninsula, and in certain parts of North Celebes. As to the European culture in the Malayan Islands I think there are two different periods: an early one when the natives for the first time came in contact with Europeans during the sixteenth and the seventeenth century, and a later one that reached them with Christian Mission at the beginning of our century.

It is often very difficult to decide to which culture a musical instrument belongs, since some instruments, originally connected with a certain culture, later have borrowed some features from other cultures. If we want to find out if there are some instruments of really native origin in the Malayan Islands, we first have to separate from the lot those of Hindoo, Chinese, Arabian-Mohammedan, and European origin. Among the rest we may find some instruments which are characteristic for Celebes, and possibly even autoctone in this island.

Instruments made of copper or brass, and very likely also those of iron, such as percussion staffs from S. Celebes, originally were not manufactured in Celebes, the natives not knowing the art of founding brass and copper. This art, however, no doubt later found its way from India over

Java to Celebes, but such instruments as gongs and cymbals do not seem to have been manufactured in Celebes, as were the globular pellet-bells and the clapper-bells.

In the lists below I have tried to group the instruments according to their supposed origin, but the lists by no means claim to be complete, the material at my disposal being much too small to allow a definite answer to the question of the origin of certain instruments.

*Musical instruments of Hindoo, or Javanese-Hindoo origin:*

Bells,	boat-lute,
gongs,	flute with internal air duct,
percussion plates,	clarinet,
bamboo gong,	? oboe,
conical drum,	paddy pipe,
? hour-glass shaped drum,	? buzzing nut-shell,
? geso geso,	? air gun.
rebab,	

*Musical instruments from China or E. Asia:*

Clapper-bell (N. Celebes),	barrel-shaped drum,
pellet-bells,	geso geso with square sound-board.

*Arabian-Mohammedan instruments:*

Frame drum, <i>rabana</i> ,	<i>gamboes</i> ,
? <i>arababoe</i> ,	? rattling clogs.

*Instruments of European origin:*

Some double-membranè cylinder drums,  
common transverse bamboo flute.

*Other instruments which are strangers in Celebes:*

Spring-clapper of rattan,	? bar-zither,
rattling bars in the looms,	flute with internal air duct
idiophones stirred by the	and double sound-orifice,
wind,	bamboo trumpet of Lamala,
bamboo zither with resona-	buffalo horn trumpet.
tor,	

*Possibly native instruments in Celebes.*

The remaining instruments, chiefly idiophones and membranophones, then possibly would be native in Celebes, *i. e.* they were known by the natives already at the time when they came to Celebes, or they possibly originated in this island. Such instruments are:

Rattling temple floor-planks,	short double-membrane
xylophone with three keys,	wooden drum,
<i>rcrc</i> ,	? long double-membrane
jew's-harp,	wooden drum,
rattles of shells of seeds or	egg-cup shaped drum, <i>kāra-</i>
stringed pegs,	<i>loc</i> ,
single-membrane bamboo	bamboo zither,
drum,	? bar-zither,
single-membrane wooden	flute with external air duct,
drum,	? Triton trumpet,
	? bamboo trumpet (Poso
	Toradja).

Of all these only the rattling temple floor-planks may be autoctone in Celebes, all the rest which can claim the name of real musical instruments seem to be common to the whole Malayan region and not characteristic for Celebes, although they may have developed along a special line in this island, which very likely also is the case of some musical instruments not of Indonesian origin such as pellet-bells, multitone bamboo gong, and *rebab*.

The musical instruments of Indonesian origin as enu-

merated above are presumably not all of the same age. Although my material is not a big one, I think it shows that some instruments must be old such as the *rere*, whereas the bar-zither, if it is an Indonesian instrument, is of later date, at least the form that we meet with in Celebes.

The most primitive instruments we can expect to find among the tribes of the interior who until lately being politically independent have kept their old culture. Such tribes are the Koro Toradja, the southerly tribes of the Paloe Toradja, certain tribes in the mountains west and east of the Paloe Valley, and the Toala in the Macassar Peninsula. The same may be the case of the tribes living in the interior of the north-eastern peninsula which as yet are very little known as the above mentioned tribes in the mountains bordering the Paloe Valley.

As to the Toala the SARASINS have very little to tell of their musical instruments. They only mention a primitive xylophone as used by these natives (Fig. 34, p. 70).

Among the Toradja of the north-western part of Central Celebes, who were subdued by the Dutch at the beginning of our century, occur some few instruments that can be said to be really native. These are the same as those given on page 272 under the heading »Possibly native instruments in Celebes», except the bar-zither, the Triton trumpet, and the bamboo trumpet, none of which are found among the natives in these districts. The majority of their really native instruments are made of bamboo, and they do not seem to have any prototypes made of other material. Their bamboo instruments are:

bamboo gong,  
*rere*,  
jew's-harp,

bamboo-zither,  
flute with external air duct,  
small single-membrane bam-  
boo drum.

As mentioned before, some of these instruments very likely have been subject to a certain specialisation in Celebes

The *rere* rather seems to have been a favoured instrument, certain specimens from Celebes being of higher finish than any other *rere* from localities outside this island.

The multitone bamboo gong which may have originated in Celebes, is perhaps no really old instrument.

The jew's-harp as a rule is an instrument of very careful make in Celebes, especially with some Toradja tribes.

The long flute with external air duct seems to be a rather primitive instrument, used by the Poso Toradja as a nose-flute with three stops, by the Paloe and Koro Toradja as a mouth-flute with four stops.

The small bamboo cylinder drum most likely is a mere toy which may be a degenerated relict form.

Although some of the instruments found among the Toradja are well made, their technical skill in making musical instruments cannot be said to have risen above a rather primitive Malayan cultural stage, which may be taken to indicate that they knew nearly all the above given instruments when they came to Celebes.

## Geographical distribution of the instruments in Celebes.

In the foregoing I have pointed out that the musical instruments found in Celebes are of various origin. Under these circumstances we cannot expect to find them all over the island but naturally first of all in the part of the country where they first appeared. My researches give to understand that different instruments have a rather different range in the island. In order to make this clear, I have made five big maps, each of which consists of six small maps. On Map 15 is given the geographical distribution of six musical instruments with a wide range in Celebes, occurring nearly all over the island. On Map 16 we find six instruments chiefly occurring in the southern and south-western part, the one near Java and the small Soenda Islands, on Map 17 six instru-

ments chiefly used in the eastern part of the island, the one facing the Moluccas, on Map 18 are given six instruments which only are found in the northern peninsula, which faces the Philippine Islands, and on Map 19 six instruments only occurring in Central Celebes.

## Map 15 I.

### *Rere.*

This instrument seems to occur, or to have occurred not long ago all over Celebes where we find the following five variants, each of which very likely is confined to a special part of the island.

- A. South Celebes: instrument rather big, no stops.
- B. North-West Central Celebes: instrument slender, two triangular stops, opening between the tongues shaped like a U.
- C. East and South-East Central Celebes: instrument slender, two triangular stops, an odd stop, usually round; opening between the tongues shaped like a U<sup>1)</sup>.
- D. North-East Celebes: instrument slender, two round stops, the opening between the tongues straight.
- E. North Celebes: instrument comparatively short, of rude make, two elliptical stops the long axis of which is at right angles to the long axis of the instrument.

## Map 15 II.

### *Jew's-harp.*

This instrument also seems to be found all over Celebes, and no doubt there are local variants. A richer material than the one at my disposal very likely would show that there are at least three such variants: one in North Celebes, one in N. E. Celebes, and one in Central Celebes.

<sup>1)</sup> Possibly the *rere* of S. E. Celebes is of this type.

### Map 15 III.

#### *Single-membrane wooden cylinder drum.*

Among the Toradja of Central Celebes this drum is kept as a temple drum. Along the coasts it is found outside the mosques, and in N. Celebes it may occur as a toy (Mongondou).

### Map 15 IV.

#### *Polychord bamboo zither.*

This is an instrument found nearly all over Celebes, presumably varying in the number of the strings as occurring with different tribes. My material, however, was too small to allow a study of the range in Celebes of the different types.

### Map 15 V.

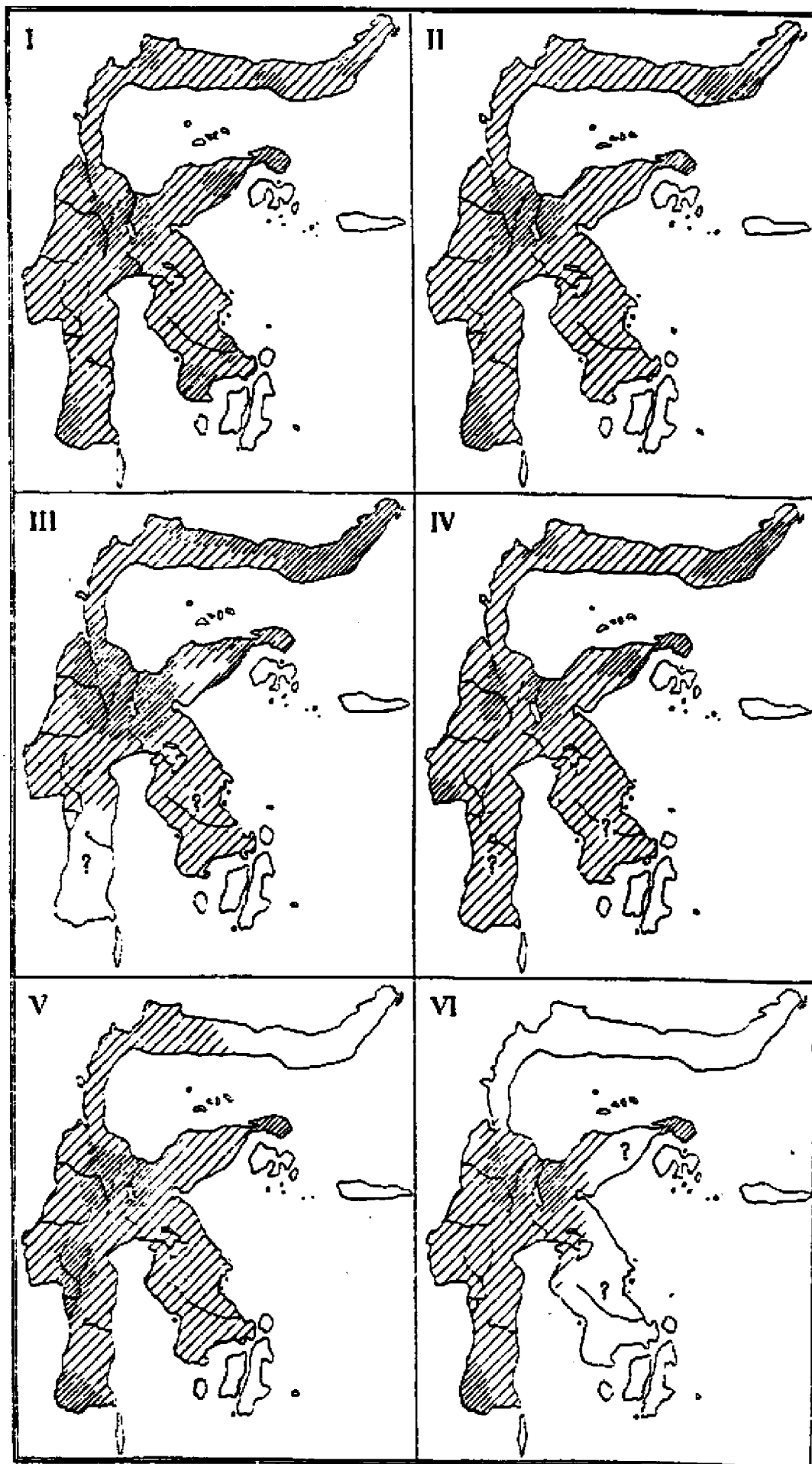
#### *Common flute with external air duct.*

This flute, the mouth end of which is fitted with a ring of palm leaf or rattan, seems to be very common in the Malayan Islands. It occurs in all probability all over Celebes except in the most northerly part where it is replaced by another kind of flute with external air duct (compare Fig. 115 page 235). There are several variants of this type the range of which I cannot give, the material at my disposal being too small.

### Map 15 VI.

#### *Paddy pipe.*

This instrument evidently has a wide range in Celebes, although it may not be found all over the island. It seems most likely that it occurs only in those parts where the natives cultivate paddy. This cultivation in all probability from Java first was carried on to the south-western part of Celebes from where it dispersed toward the northern and



Map 15.  
Musical instruments with a wide range in Celebes. I *vare*, II jew's-harp, III single-membrane wooden cylinder drum, IV polychord bamboo zither, V flute with external air duct and a ring of palm leaf, VI paddy pipe.



the north-eastern districts, where the paddy pipe frequently is met with.

The instrument also is common to the eastern part of N. E. Celebes where the natives cultivate their paddy only on dry fields cleared with fire. To this district the cultivation of paddy very likely found its way along another line than the one above mentioned, since this part of Celebes formerly was a dependency of Banggaai, where the Javanese influence was felt already at the time of the Madjapahit period.

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Other instruments, not given on Map 15, with a wide range in Celebes are gongs, clapper-bells, and pellet-bells.

### Map 16 I.

#### *Boat-lute.*

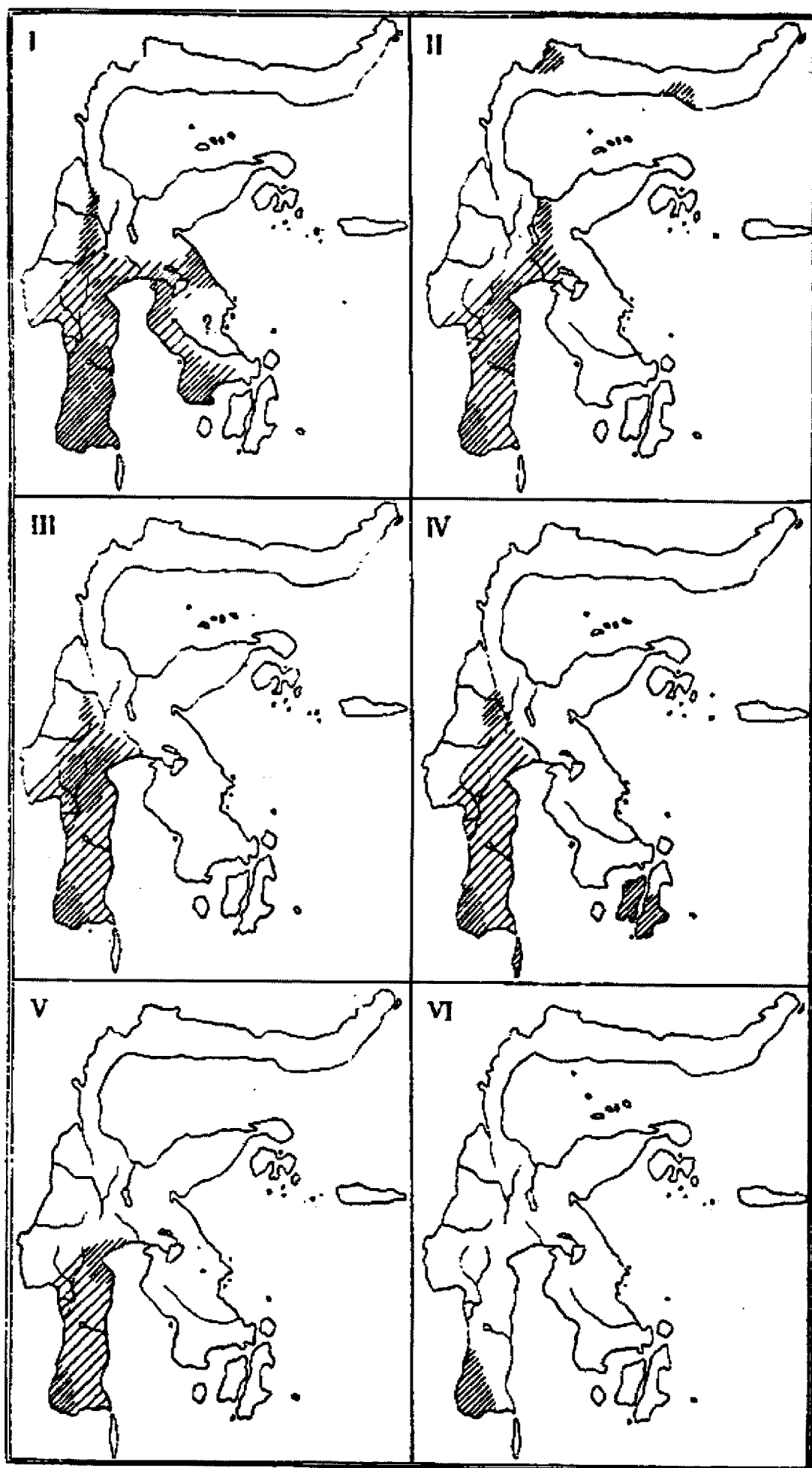
As mentioned in the foregoing this stringed instrument seems to have appeared in the Malayan Islands during the Hindoo period. It occurs at present chiefly in the southwestern part of Celebes from where it has been dispersed to the most northerly tribes of the Saadang Toradja, and to Kantewoe and Koelawi. The boat-lute also dispersed eastward to the tracts of Lake Matano and Lake Towoeti as far as to Boengkoe west of the Tolo Bay.

It is difficult to say if the boat-lute found in the southern part of S. E. Celebes came from Loewoe in the north or from the island of Boeton in the south-east, which island also was a dependency of Madjapahit.

### Map 16 II.

#### *Rebab.*

The two closely allied forms of *rebab* occurring in Celebes seem like the boat-lute to have come to the Macassar Peninsula from Java. They dispersed toward the north to



Map 16.  
Musical instruments confined to S. and S. W. Celebes. I Boat-lute, II rebab, III bamboo pipe, IV double clarinet, V oboe, VI clarinet.]

Loewoe from where they followed an easterly line to the districts of the Poso Toradja. They seem to be missing in the west and the north-west among the Saadang Toradja, the Koro and the Paloe Toradja. How some stray specimens have found their way to N. Celebes I do not know.

### Map 16 III.

*Long flute with internal air duct.*

This instrument which I have called the bamboo pipe has almost the same range in Celebes as the boat-lute. Perhaps it is not found so far eastward as this instrument. In the rather small material at my disposal we notice a number of variants, possibly confined to special localities.

### Map 16 IV.

*Double clarinet.*

The range of this small but rather complicated instrument makes it likely that it came to Celebes, Saleier, and Boeton during the Madjapahit period. From the Macassar Peninsula it very likely dispersed toward the north as far as to the district of Tole. As yet we have no records, however, from the northern part of the Macassar Peninsula, or from the districts north of it, but a close investigation would no doubt prove that the instrument in question occurs among the natives living in these districts.

### Map 16 V.

*Oboe.*

This instrument seems to be confined to the Macassar Peninsula, being in all probability imported from Java, perhaps during the Madjapahit period.

## Map 16 VI.

*Clarinet.*

As long as there are only some few examples recorded from the tracts of Macassar, it is difficult to say from where the instrument came to Celebes, but I suppose that it was brought from Java like many other musical instruments, possibly during the Madjapahit era.

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To this group of instruments, although not given in Map 16, should also be referred the following, most of which are known from Macassar:

<i>bóelo síya-síya,</i>	<i>appo,</i>
<i>bóelo láē-láē,</i>	conical drum braced in Indian manner,
percussion staffs,	small bamboo spring-clapper,
brass cymbals	xylophone with three keys.

Very likely most of these instruments are found, or they were so formerly, in the greater part of the Macassar Peninsula, and possibly also in Loewoe.

The xylophone with three keys, however, seems only to be recorded from the rather primitive Toala in the interior of the southern part of the Macassar Peninsula. Contrary to the other instruments given in the list above, I think this xylophone should be regarded as a relict form from an earlier cultural period. A similar xylophone is recorded from the primitive Poenan tribe in Borneo, in which island it also is found among the Dayak. Noteworthy seems the fact that this simple xylophone with three keys occurs in Nias, where we also meet with such a primitive instrument as the *rere*. East of Celebes is found a xylophone with only two keys. Of the geographical distribution in the Indonesian region of the xylophone with three keys BUSCHAN in »Ill. Völkerkunde«, Vol. II p. 889, writes as follows:

»So sind die prächtigen Xylophone der Javanen, Birmanen, Khmer u. s. w. aus den Klanghölzern entstanden,

wie wir sie noch heute bei Dayak, Punan, Toala, Niassern usw. in Gebrauch finden. Meist verwendet man deren drei verschieden abgetönte, die der Spieler auf der Erde sitzend über die auseinander gespreizten Beine legt. Auf Nias streckt man die Beine zu diesem Zweck über eine in die Erde gegrabene Grube aus, die als Resonansboden dient.»

Of the Melanesian xylophone with two keys the same author on p. 127 writes.:

»Dazu kommen weiter zwei Schlagwerkzeuge; das eine besteht aus 2 m langen flachen, elliptischen Holzleisten, die quer über die Beine des Spielers gelegt und durch Schläge mit zwei kleinen hölzernen Klöppeln zum Tönen gebracht werden.»

The way in which this xylophone is played is the same as that of the Toala, the xylophone of whom may be one of the earliest musical instruments in Celebes.

## Map 17 I.

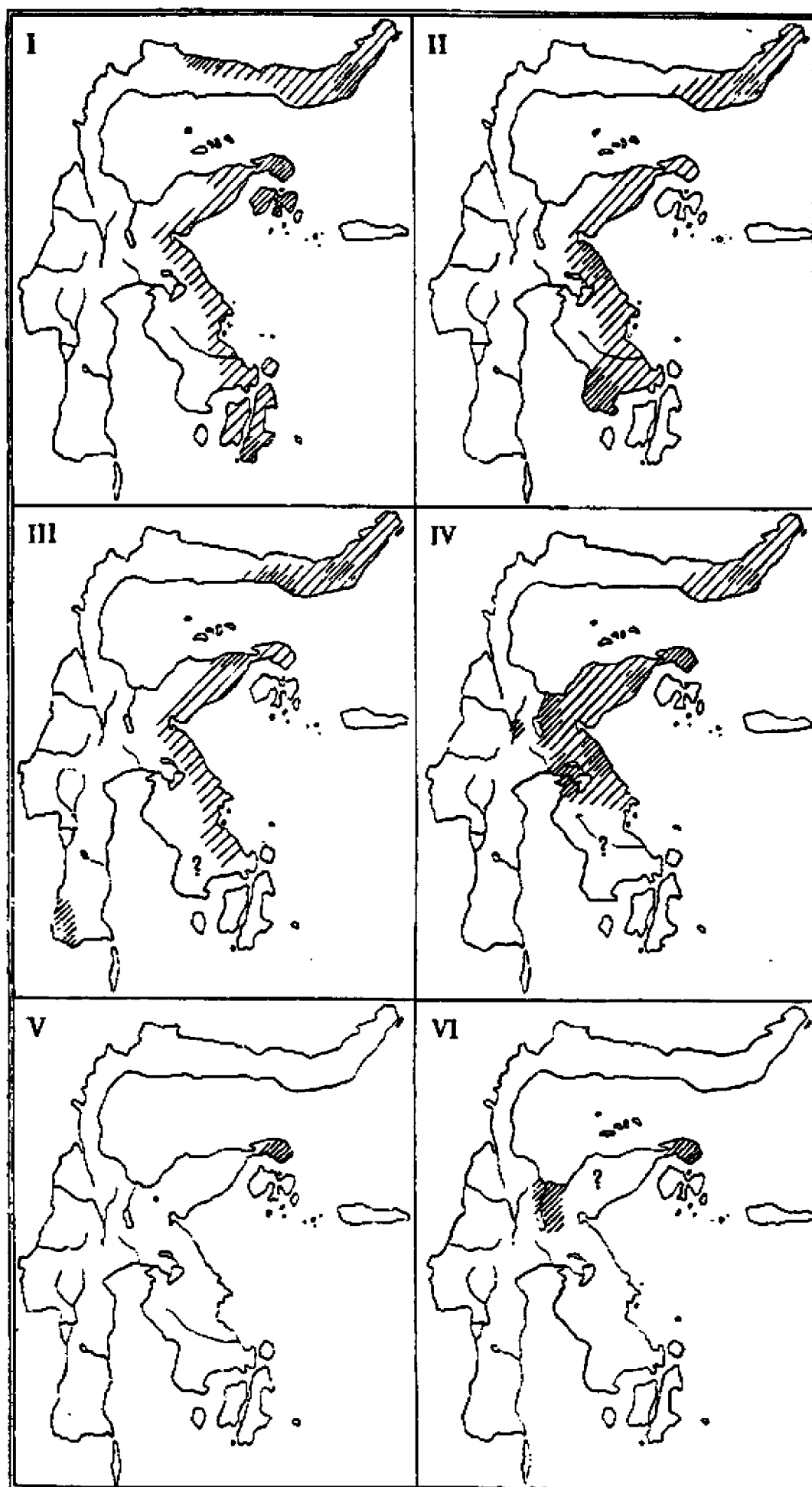
### *Idiophones stirred by the wind.*

These instruments all of which are sounded by the wind, are of different construction. The crab-claw rattle is a kind of clapper-bell, the *pong pong* a bamboo gong, and the jingle of shells a set of percussion plates. It is rather strange that these wind idiophones seem only to occur in the easterly parts of Celebes as well as in the islands off the east coast. I do not think they all have the same origin. Possibly the crab-claw rattle and the *pong pong* came from the Philippines, the jingle of shells from the Moluccas.

## Map 17 II.

### *Arababoe.*

This instrument, which like the wind idiophones mentioned above is recorded only from the easterly parts of Celebes, no doubt was introduced into Celebes from the Moluccas where it seems to be very common.



Map. 17.  
Musical instruments chiefly known from the eastern part of Celebes.  
I Wind idiophones, II *arababoe*, III *rabana*, IV bar-zither, V bamboo cylinder  
serving as a drum, VI bamboo trumpet.

### Map 17 III.

#### *Frame drum, rabana.*

This drum which I suppose to have appeared in Celebes in connection with Mohammedanism, we can expect to find on the coast at such places where the natives have embraced this religion. Although there are no records as yet, I think it occurs on the coasts of S. E. Celebes, for which reason I shaded this part on my map. Perhaps it will prove to be known all round the Bone Gulf. Noteworthy seems, however, the fact that it has not been recorded from Loewoe. The *rabana* that I saw at Pagimana on the north coast of N. E. Celebes very likely had found its way to this place from Banggai.

Outside Celebes the *rabana* seems to occur in the islands east and south-east of Celebes, similar drums also occurring at other places in the Malayan Islands.

### Map 17 IV.

#### *Bar-zither.*

The bar-zither with a resonator made from a coco-nut shell or a gourd seems only to be known from the easterly parts of Celebes, but it may be missing in S. E. Celebes, ELBERT not mentioning it when speaking of the musical instruments occurring in Roembia.

In Celebes we meet with at least three kinds of bar-zither. One of these seems to be confined to the districts round Lake Towoeti and Lake Matano. Another is found in the eastern part of N. E. Celebes. The rest of the bar-zithers in all probability do not represent a single type, but my material is too small to allow any conclusions to be depended upon.

### Map 17 V.

#### *Bamboo cylinder serving as a drum.*

As mentioned in the foregoing this instrument is not native in Celebes. It was introduced from the southern

Moluccas by Ambonese schoolmasters; and it may be of Melanesian origin.

### Map 17 VI.

#### *Bamboo trumpet.*

In Lamala, *i. e.* the eastern part of N. E. Celebes, as well as among the Poso Toradja occurs a bamboo trumpet. I was unable to ascertain if these instruments are the same, but I rather think they cannot be so, since the trumpet used in Lamala lately was introduced by the Ambonese teachers from their native island. Possibly this trumpet is of Melanesian origin, a similar instrument being recorded from some small islands to the south of Ceram. Also in N. E. New Guinea this trumpet seems to be found. The bamboo trumpet of the Poso Toradja may be a local invention.

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Beside the instruments found on Map 17, there is such an instrument as the humming-top, as yet only recorded from Pinapoean in Lojnang. This toy, however, has so wide a range in the Malayan Islands that we can expect to find it at many places on the coasts of Celebes.

### Map 18 I.

#### *Big spring-clapper of bamboo.*

This strange rattling sowing implement as yet is only recorded in Celebes from Mongondou. As mentioned before the construction of the rattling top is the same as that of the small spring-clapper of bamboo from South Celebes, figured on page 15. A similar sowing implement being found in the Philippines, it seems rather likely that the big spring-clapper of Mongondou came to Celebes from this quarter, the same presumably being the case of the natives in this part of Celebes.



## Map 18 II.

*Spear bell.*

This bell I only know from Mongondou in Celebes, but very likely it formerly occurred also in Minahassa. I suppose it to have come to Celebes from the north.

## Map 18 III.

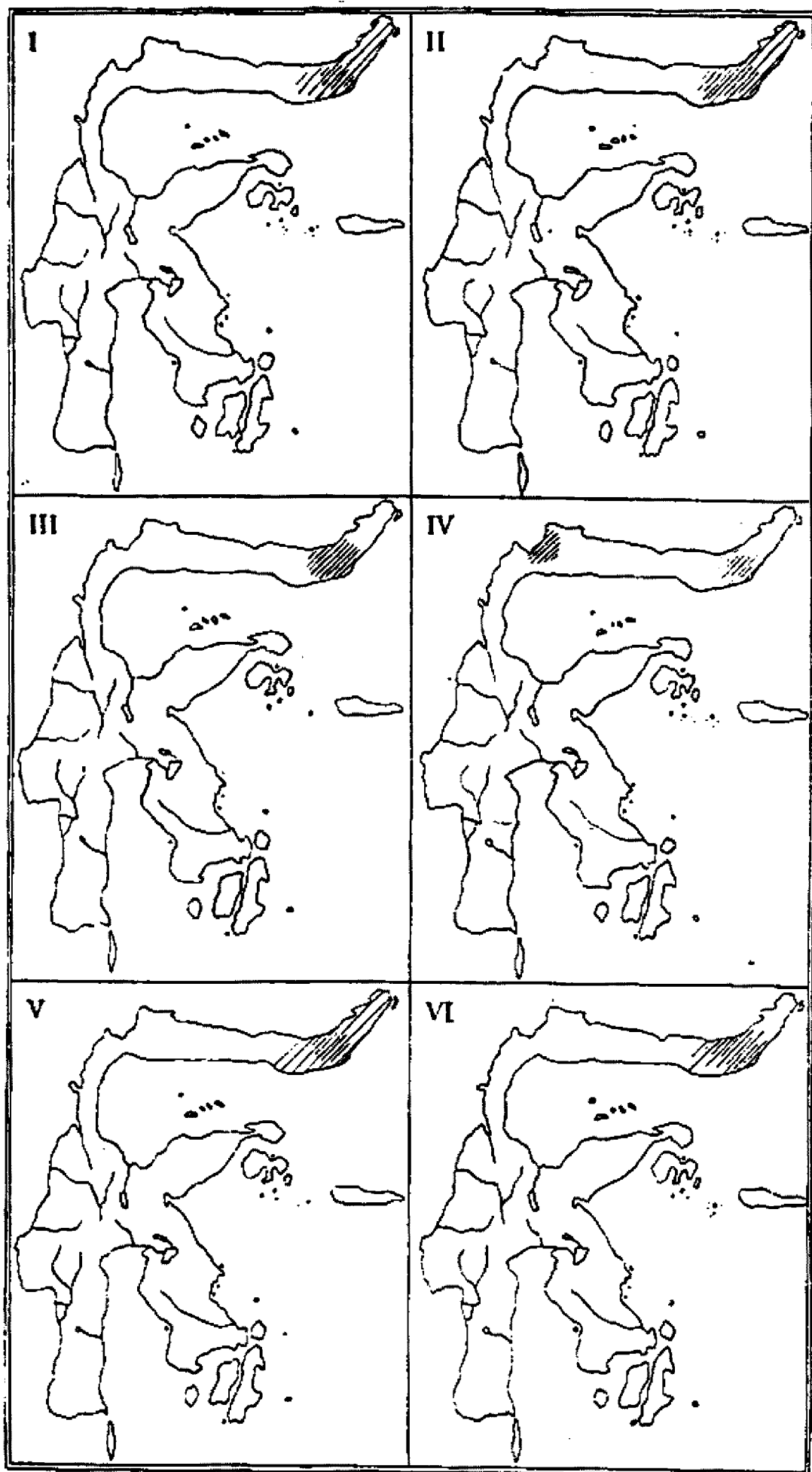
*Long double-membrane cylinder drum.*

This drum, as yet only recorded from Mongondou in Celebes, does not seem to be known in the other Malayan Islands.

Noteworthy seems the fact that rather similar drums are common to Africa. From this continent they can hardly be supposed to have found their way to N. Celebes. Rather I should say they came to Africa from the East, if the drums really are related to one another. I have no other proof of the justness of this theory than that a Malayan people has migrated westward to Madagascar, and that some writers are of the opinion that austronesian cultural elements dispersed even to the continent of Africa.

In 1912 when I stayed at the village of Betsina south of Lake Kinkony in Madagascar I witnessed some strange boxing performances at night when the moon was full. They began with the beating of a double-membrane drum, depending slantingly from a branch in a tree that was cut off standing in the centre of the market place. A native beat the upper membrane with *one* drum-stick, at the same time modifying the sound with his left hand. Another native, who was seated on the ground, beat the lower membrane with *two* drum-sticks. (See KAUDERN, *På Madagaskar*, Stockholm 1913, p. 271.)

The similarity of the method used in playing the drum from Mongondou and those at Betsina is so striking that it may be more than a mere coincidence.



Map 18.

Musical instruments confined to N. Celebes. I Big spring-clapper of bamboo, II spear bell, III long double-membrane cylinder drum, IV *gamboes*, V flute with external air duct and lamella, VI buffalo horn trumpet.

### Map 18 IV.

#### *Gamboes.*

This instrument that seems to occur sporadically in the Malayan Islands is a stranger, presumably of Arabic origin. Although as yet only two specimens are known from Celebes, I think we can expect to find it at several places, especially on the coasts.

### Map 18 V.

#### *Bamboo flute with external air duct and lamella.*

This flute which in Celebes only is recorded from Mongondou also seems to occur in Maikoor, one of the Aroe Islands. Possibly this type also occurs at other places in the Malayan Islands, because we can hardly presume it to have come from the Aroe Islands to Mongondou or vice versa.

### Map 18 VI.

#### *Buffalo horn trumpet.*

This plain trumpet, a specimen of which I found in Mongondou, seems, strange to say, to be altogether missing in those parts of Celebes where the buffalo is much more common than in North Celebes, such as Bada and Koelawi in Central Celebes.

In »Die Musikinstr. Ind. u. Indon.» SACHS does not record the buffalo horn trumpet from the Malayan Islands, but he says (p. 170) that in India a cow-horn is used as a trumpet. BUSCHAN (Ill. Völkerkunde Vol. II, p. 891) states the buffalo horn to be used as a trumpet in certain districts of Farther India. He writes as follows: »Die Garo, Naga, Karen und Moi besitzen Hörner aus Büffelhorn». Thus it may be that the buffalo horn trumpet in some way or other has come to Mongondou from Farther India.

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Beside the instruments given in Map 18, there are some more, as yet only known from North Celebes. These are:

spring-clapper of rattan,	water-pounder,
xylophone with five keys,	flute with internal air duct
bamboo zither with resonator,	and double sound-orifice.

Of these, the bamboo zither is a stranger, which came by chance to Celebes which may also be the case of the xylophone with five keys and the flute. If the spring-clapper of rattan is native in Celebes seems uncertain. The water-pounder I am more inclined to regard as a really native implement in Celebes, but as long as it is known only from Lake Danau, it is difficult to pronounce an opinion on its origin.

### Map 19 I.

#### *Multitone bamboo gong.*

Strange enough this kind of gong that no doubt evolved from the common bamboo gong does not seem to be known outside Central Celebes.

### Map 19 II.

#### *Rattling stringed pegs.*

These stringed pegs as yet are only recorded from Koe-lawi, where they adorn the boys' toy shields and the head-gear that they wear when helping to prepare the fields where the paddy is to be planted. The use of these rattling stringed pegs may be old, and a close investigation no doubt would prove them to be known also at other places, at least in the central part of Celebes.

### Map 19 III.

#### *Karatoe.*

Although this drum as yet only is known from Central Celebes, it is of a type which has so wide a range in the Ma-

layan region, that we can expect it formerly to have been found perhaps all over Celebes, at present kept as a sacred drum only among the natives in the interior of the island, who until lately were independant.

### Map 19 IV.

#### *Geso geso.*

This plain instrument of which there are three types representing different stages, seems only to occur in Central Celebes. In the north-western part I got a *geso geso* of very primitive make. In the east there is an instrument of much better make, and in the south-west we find a *geso geso* which is very nicely finished and fitted with a tuning-peg. As to the range in Celebes of the *geso geso* and the closely allied forms, the *rebab* and the *arababoe*, each seems to be confined to a certain part of the country, nearly bordering to one another. Only the *rebab* seems to occur at some places where the *geso geso* is the common stringed instrument.

In some districts the *geso geso* is likely to have borrowed some features from the *rebab*. It seems for instance rather likely that the tuning-peg of the *geso geso* of the Saadang Toradja is a loan from the *rebab* occurring in the more civilized districts in the south and the south-east. In the same manner the instrument which I have called the *Celebes rebab* may be a simplified *Javanese rebab*, having only one string.

### Map 19 V.

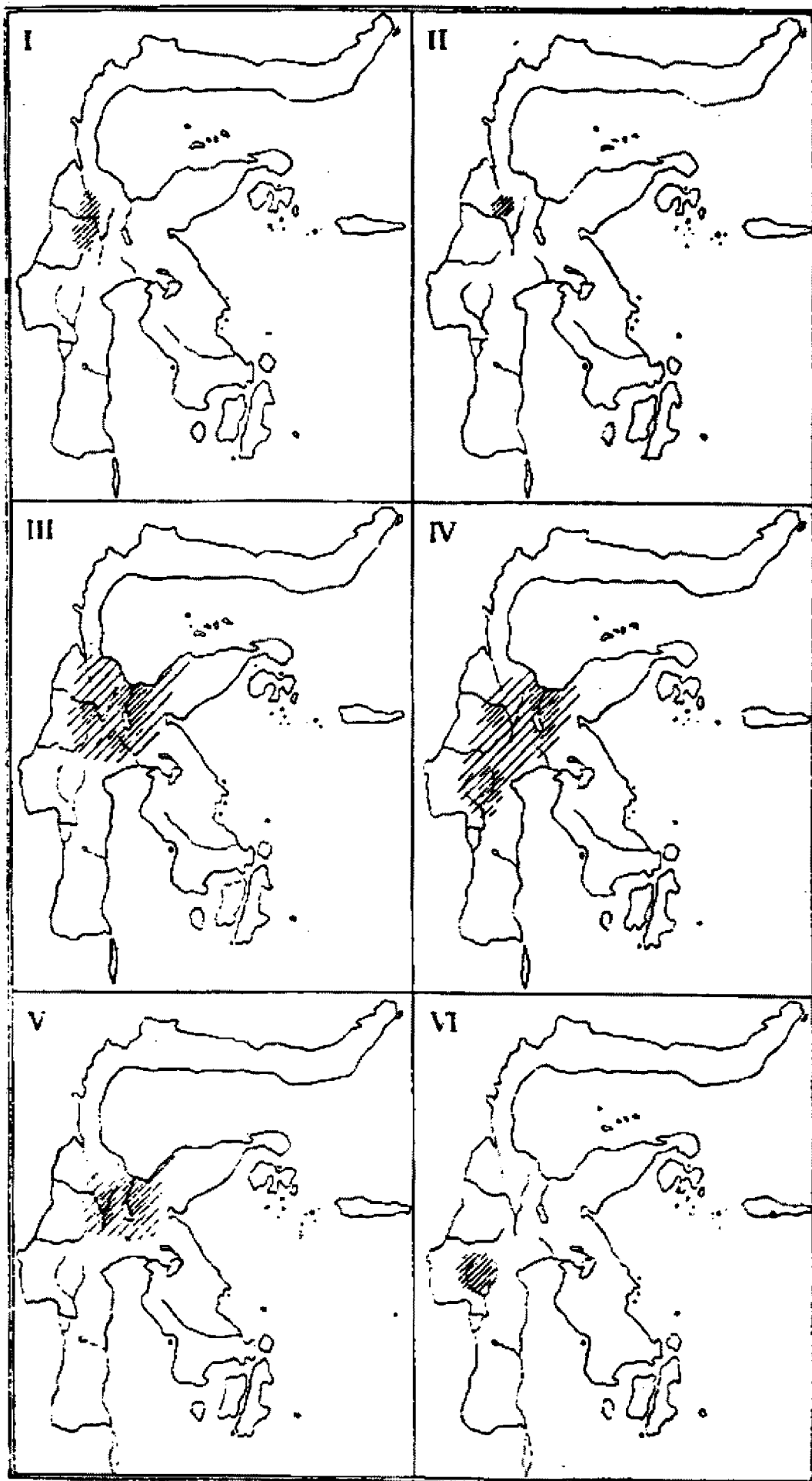
#### *Nose-flute.*

Strange to say this instrument seems in Celebes only to occur among the so called Poso Toradja.

### Map 19 VI.

#### *Double flute.*

This instrument which in the Malayan Islands only is recorded from a single locality in the south-western part



Map 19.  
Musical instruments confined to C. Celebes. I Multitone bamboo gong, II rattling stringed pegs, III *karatoo*, IV *geso geso*, V nose-flute, VI double flute.

of Central Celebes no doubt is not native in this island. Presumably it was introduced from S. E. Asia, although as far as I am aware no such flutes are described from this part of the big continent, but a small feature in the construction of these flutes, as well as in some plain flutes with external air duct, we meet again in S. E. Asia. At both places the distal end of the pipe is bevelled off in a special manner (Fig. 112 B, C, Fig. 114 B). RATZEL in his »Völkerkunde» Vol. III p. 421 figures a clarinet from India the pipe of which is bevelled in the same manner as in the Celebes flutes in question.

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Beside the instruments the range of which is given on Map 19, rattling temple floor-planks, as well as a buzzing nut-shell seem only to be known from the central part of Celebes.

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As a result of this investigation we find that in Celebes there are at least four different regions in which occur different kinds of musical instruments: 1) a southerly and south-westerly region, 2) an easterly region, 3) a northerly region, and 4) a central region. In these regions the characteristic instruments as a rule are strangers, having come to Celebes from different quarters. This must at least be the case of the instruments of the first, the second and the third region, of which the first one was strongly influenced by the Javanese during the Hindoo period as well as during the Mohammedan era. The second region has in more than one respect been influenced by the Moluccas, and the third region by the Philippines.

How it is in the fourth region is not so clear, since some instruments such as the double flute, the multitone bamboo gong and the *geso geso* possibly were imported from the south, and others such as rattling temple floor-planks and rattling stringed pegs may be of native origin. The *karatoc*, a type which has a very wide range not only in the Malayan

Islands, and the nose-flute which points to the Philippines, perhaps should be considered as relict forms in Central Celebes from a period when they had a wider range in Celebes than nowadays.

## Evolution and make of the musical instruments.

Although not a single musical instrument may be really autoctone in Celebes a great number of the instruments no doubt have assumed new features in Celebes, a fact to which I have drawn the attention for instance when speaking of the *rere*. Here I am going to dilate upon the differentiation of the bar-zither as well as upon the scales of the flutes.

In Fig. 129 I have tried to illustrate the evolution of the different types of bar-zither from the simple musical bow. In this figure I have also included the bar-zither of Madagascar-Africa. My scheme, however, by no means claims to be altogether satisfactory. Further researches based on a richer material no doubt will correct it and fill it out. My idea only was to show the possible lines along which a plain instrument may be changed into a more specialized one; in some cases we notice a declination or degeneration. All figures are placed so as to correspond to one another in order to make a comparison easy to the reader.

*A* (from BALFOUR »Nat. Hist. Mus. Bow» p. 55, Fig. 40) in Fig. 129 shows the simplest kind of musical bow made of a piece of arched wood and a string. The bow may either be round or semi-circular in transverse section. From this plain form at least two different types may have emerged.

*B* (from BALFOUR, Fig. 17 p. 23,) represents a bow one end of which is somewhat thicker than the other. Toward the thick end is a gourd resonator attached to intensify the note of the string. This kind of musical bow has a great number of variants occurring at widely separated places. The step from this form to the one represented in

*C* (from SACHS »Die Musikinstr. Ind. u. Indon. p. 85) is rather big but not insuperable. The most remarkable



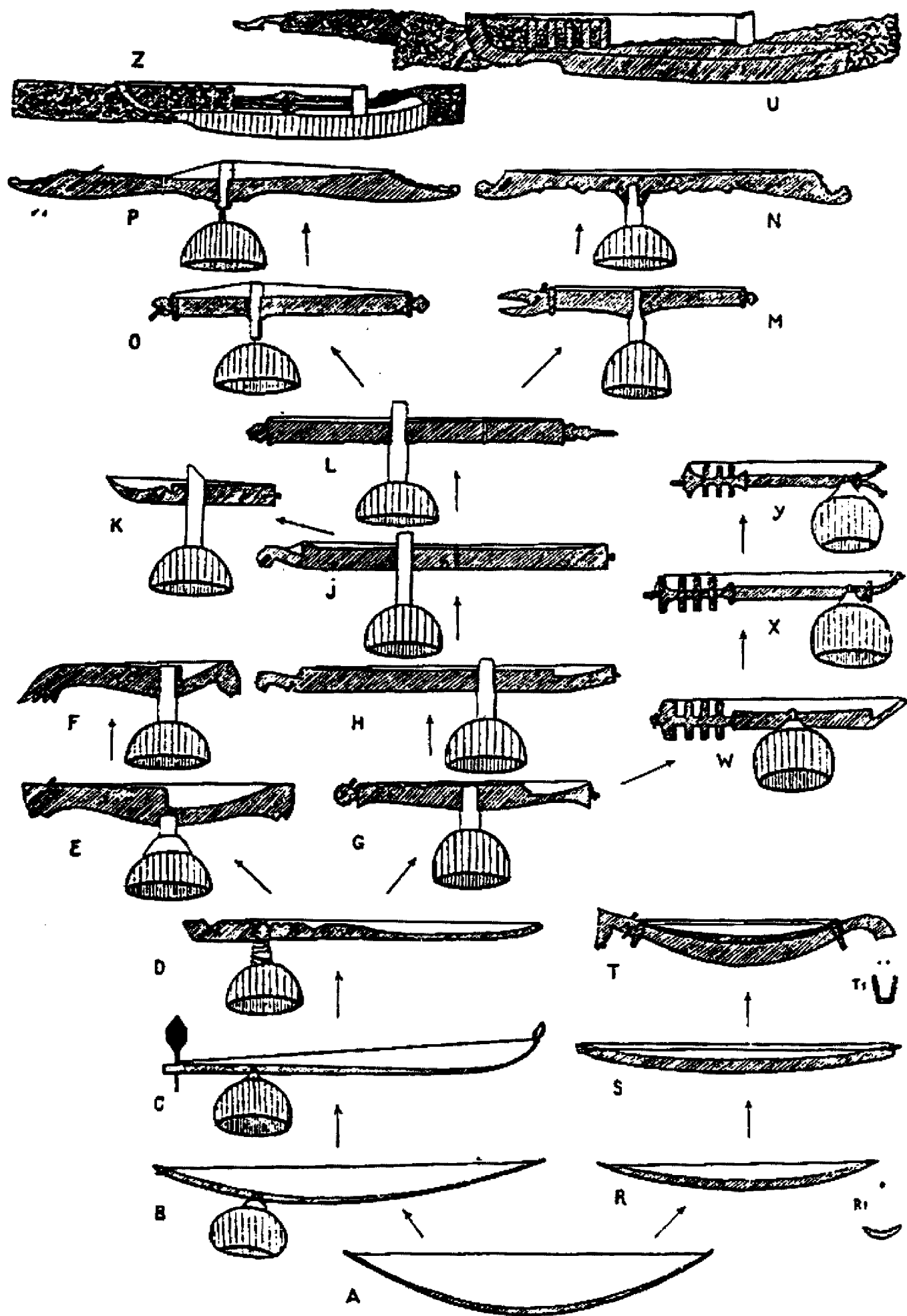


Fig. 129. Scheme showing the presumed evolution of the bar-zithers from the musical bow.

difference is that the instrument has been fitted with a tuning-peg, allowing the performer to brace the string at will. The bow is here a rod, flexible toward one end, which is bent so as to keep the string free from the wood. This instrument which hails from Kambodja, has lost the character of a musical bow. SACHS for this reason calls it a »Stab-zither».

*D* is a genuine bar-zither from Soemba (compare Fig. 84 of this book) and may have emanated from a bar-zither similar to the one called *C* in my figure. The bow is no longer a flexible rod. It has been substituted for a rigid bar of wood, the shape of which closely corresponds to the bar of the previous zither with the difference that in *D* the broader end is laterally flattened and notched out, enabling the performer to change the length of the string easily. The bar being laterally flattened, the tuning-peg could not very well be placed in front of the zither but had to move to the side of the bar.

This instrument, or a similar one very well could be the prototype of all the bar-zithers of Celebes, of the Moluccas as well as of the bar-zithers in Madagascar-Africa.

*E* (compare Figs 81 and 82 of this book) is a type as yet only recorded from N. E. Celebes. Here the bar has been considerably shortened, and the ends are almost symmetrical, but yet it corresponds to the bar of the Soemba zither. The wide part, however, in the Celebes example does not gradually taper but is toward the centre of the bar square. The notches are only five, differently to the Soemba instrument which has six deep notches into the bar. The resonator of coco-nut shell is in the Celebes zither in question more carefully attached to the bar than in the previous zithers, and has been moved to the middle of the bar.

*F* (Fig. 80 A of this book) is a type found in the south-eastern part of Central Celebes. In this instrument the differentiation which began in the zither *E* has in some respects continued. The narrow portion of the bar is short-

er, and the end is carved to represent the head of an animal.

The piece interposed between the resonator and the bar, here is less complicated than in the previous example being only a cylinder of bamboo, forked at one end to hold the bar. This method of attaching the resonator seems to be the only one used in zithers from Central and North Celebes.

*G* (Fig. 78 C) is a zither which also may have emanated from an instrument similar to the Soemba example *D*. The resonator has been moved to the centre of the bar and attached in front of the four notches. The narrow end of the bar has been fitted with a peg to which is fixed one end of the string. The other end is attached to a round discoidal »head». From the zither *G* it seems possible to derive all other forms in Celebes and Halmahera as well as the zithers of Madagascar-Africa, although they have developed along different lines.

*H* (Fig. 78 A) is much bigger than *G*, but in most respects of simpler construction, and of less careful make. There are no notches, and the bar is but slightly narrowed at one end, the narrow portion being comparatively short. The »head» holding the tuning-peg, is here much longer than that of the previous zither, and possibly it is cut so as to make the bar to a certain degree symmetrical.

*J* (Fig. 78 B) is a still simpler form, the bar being of nearly the same width all over, slightly arched in front to keep the string away from the wood. The »head» is similar to that of the zither *H*, but the tuning-peg has moved to the left close to the end of the bar. The peg to which is attached the other end of the string is not so small as in *H*, but the forked bamboo cylinder is very long, the legs projecting far beyond the bar.

*K* (Fig. 78 D) is a bar-zither figured by KRUIJT. I have placed it near the zither *J* in spite of the fact that it is rather different in shape. To my mind it seems most

likely that *K* is a degenerated or abortive zither of type *J*. As far as I am aware it is the only bar-zither from Celebes which has not a tuning-peg. The straight portion of the bar closely corresponds to that of the zither *J*, only it is much shorter. The opposite end of the bar is different from all zithers that I know of. Possibly it originally was an instrument of type *J*. If the end with the tuning-peg happened to be broken, this end may have been altered and cut in the shape of a spur to which could be attached the string.

*L* (Fig. 78 E) is a zither closely similar to the zither *J*. The «head», however, is a round, discoidal plate as in the zithers *G* and *O*. The peg at the right end of the instrument to which one end of the string is attached, is in this instrument rather long. The resonator is found almost in the middle of the bar. The string is in this example as well as in the zither *J* bound against the bar with a ring of vegetable fibre. Closely allied to this zither no doubt are the following two instruments which I have called.

*O* and *M* (*O* from BALFOUR «Nat. Hist. Musical bow», p. 71; *M* = Fig. 79 of this book). Both zithers are a little shorter than *L*, and the bar of *O* is rather symmetrical. From the square ends, which in both zithers are fitted with a flange, project the «head» with the tuning-peg and a rather big peg to which is attached the other end of the string. The bar is not straight at the back, the portion to which the resonator is fixed being slightly wider than the ends. The bamboo cylinder interposed between the bar and the resonator is shorter than in the zithers *H*, *J*, and *L*.

The method in which the forked bamboo cylinder of the zither *O* is attached to the bar seems to be another than the one used in all bar-zithers which I have examined. The zither *P* from Halmahera (Vienna Mus. No. 13813, collected by H. G. CAMPEN 1881) figured by BALFOUR, in this respect is similar to the zither *O*. On page 70 of «The natural history of the musical bow», BALFOUR writes as follows of the zither *P*:

»This, called the *suleppe*, is used by the Alfuros of Gilolo... To its centre is loosely suspended by a number of strings a half cocoa-nut, to act as a resonator. A single string of brass wire is fixed towards one end of the bar, and is attached towards the other end to a tuning-peg of wood. The wire is bridged up at the centre by a little bamboo bridge, which is forked below, like a clothes-peg, so as to fit closely 'astride' of the bar, or 'bow', as I would still like to call it. Between the tuning-peg and the bridge the string is drawn closely down to the 'bow' by a little string bracing. . . . In playing (Fig. 51), the hemispherical resonator is pressed against the breast; the string is twanged with the fingers of the left hand, and the note varied by fingering with the right hand. Campen's original sketch. . . . shows the manner of holding the *suleppe*.»

In this sketch we notice, however, that there is a piece, possibly of bamboo, interposed between the resonator and the bar, but no bridge is seen, the instrument being in this respect closely similar to the Halmahera zither *N* in Fig. 129, a specimen No. 1828/3 in the Leiden Museum (Fig. S3 A), that I examined last summer, evidently a near relative to the zither *P*.

If the zither *O* is to be played in the same manner as *P*, and the resonator pressed against the breast, the long legs of the bamboo bridge must fit very closely indeed to the bar, or the bridge will raise the string, perhaps even make it burst.

The shape of the bar is very characteristic in the Halmahera zithers *P* and *N*, being almost symmetrical with the resonator attached to the wide centre part. The shape of the bar has changed so much, however, that it cannot be immediately derived from the Molucca zither *O*. Presumably there are, or were several intermediate forms between these two.

*W, X, Y.* As mentioned before, the bar-zithers of Mada-

gascar-Africa can very well be derived from types occurring in the Malayan Islands.

If we compare the zither *G* in Fig. 129 with the example *W* from Wamakonde in E. Africa (BUSCHAN »Ill. Völkerkunde» Vol. I, Plate XV, Fig. 3) we shall find that almost every part of one instrument corresponds to a similar part in the other. In both zithers the bar is wider towards centre where the resonator is attached, the piece interposed between the bar and the resonator being in the African zither a gourd, in the Malayan one a bamboo cylinder. One end tapers into a curved spur, fitted with a tiny peg to attach the string. The other end of the bar has three cogs or teeth to facilitate the fingering of the string. In the Celebes zither these teeth, which only are found in front of the bar are very small, in the African zither they are big, occurring as well at the back of the bar, presumably meant as a decoration. In the African zither the portion of the bar that is beyond the three cogs possibly corresponds to the head, which is pierced by the tuning peg of the zither *G*. The African example has no such peg to brace the string.

As will be seen in the figure, the bar-zithers *X* and *Y*, which I have collected in Madagascar (Ethn. Mus. Stockholm), are closely similar to the zither *W*, with the slight difference that the gourd resonator is attached near the pointed end, which in *Y* ends in two spurs, one in front, another at the back. This zither has three strings, the other one only two.

Although this kind of bar-zither occurs in Africa as well as in Madagascar, it may be that it did not originate in the African quarter of the world. True enough, there are musical bows with a gourd resonator in Africa as well as in Madagascar, but at least in the latter island I never saw any forms of zither representing intermediate stages between the musical bow and the present bar-zither. Either these intermediate forms have disappeared, or they did not evolve in

Africa but possibly in the Malayan region. A dispersal from the east to the west is not excluded, the native tribes is Madagascar being related to the races found in the Malayan Islands and in Melanesia.

*R, S, T.* Finally there is the zither *T.* from Madjene (Fig. 85), which presumably is a derivative of the simple musical bow, that evolved along another line than the common bar-zither of the Malayan Islands. Although I was unable to establish a really good series, beginning with the musical bow, the instruments *A, R,* and *S* give a hint, I think, of the origin and evolution of the Madjene zither *T.*

In Melanesia and Polynesia the evolution of the musical bow into a more specialized instrument seems to have been another than in Indonesia, where the bow was fitted with a gourd or coco-nut resonator and finally substituted for a rigid bar with a tuning-peg to brace the string. In Melanesia and Polynesia the bow itself had to serve more or less as a resonator, being broad and slightly scooped out (Fig. 129 *R*<sup>1</sup>), the width of the bow allowing the use of two or three strings.

*R* is a small musical bow from the Santa Cruz Islands to the north of the New Hebrids (from BALFOUR »Nat. Hist. Mus. Bow«, Fig. 59, p. 79). The rather broad slightly curved bow having a concavo-convex transverse section, is fitted with a single string.

*S* is a musical bow from New Georgia, Solomon Islands (BALFOUR »Mus. Bow« Fig. 57, p. 77), closely similar to the bow *R*, but adapted for two strings. The gap between such forms as these and the Madjene zither is big, but I think not impossible to bridge over. If the scooping out of the bow which began in such an instrument as *R* is carried on, we shall get a bow more or less shaped like a canoe, with two strings just as the Madjene zither. The difficulty is how to explain such a feature as tuning-pegs, which, as far as I know, never are found in the musical bows in Melanesia and Polynesia.

If this kind of instrument is indigenous in the Melane-

sio-Polynesian region, we are in Celebes near the western border of this region, and here it possibly was influenced by other stringed instruments, from which it may have borrowed such a feature as tuning-pegs. The carved ends of the Madjene zither, very much resembling other carvings in the western part of Central Celebes, may be another feature which the Melanesio-Polynesian musical bow assumed in the western part of the region.

The bar-zithers of Soemba, Celebes, and the Moluccas I suppose to be derived from the musical bow of India.

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Finally I want to call the attention to the possibility of the boat-lute being a strict relative of the bar-zither, a suggestion made by LEHMANN in his »Beiträge zur Musikinstrumenten-Forschung». He writes on page 122 as follows of the boat-lute: »...es ist aber seiner Art nach mehr eine Zither und steht vielleicht der Stabzither nicht so fern als es seine Form anzunehmen erlaubt».

Although the ornamentation of the boat-lute in Celebes varies a good deal, making the instruments look rather different at first sight, I think all essential parts of the instrument itself have their parallels in a bar-zither. The boat-shaped body of the lute *U* in Fig. 129 with a curved spur at one end, may correspond to the bar and the resonator of a bar-zither. The five teeth for fingering the strings have their parallels in the teeth of such a zither as *G*. The big, hollow cylinder on top of the sound-board to which is attached one end of the strings, in all probability corresponds to the forked bamboo cylinder, interposed between the bar and the resonator in bar-zithers such as *O* and *P*. The chief difference is that the zithers consist of three pieces, whereas in the boat-lute, which is entirely of wood, the whole is a single piece, which no doubt was a great improvement of the instrument.

In some boat-lutes from S. E. Borneo the sound-board still is open at the back like the gourd or coco-nut resonator



of a bar-zither, in the Celebes examples it always seems to be closed with a lid at the back.

In Fig. 129 Z is given a slightly different, and perhaps a still better interpretation of the different parts of the boat-lute. In this instrument the ornamental medial flange on top of the sound-board as well as the beautifully ornamented ends represent the bar of a zither, the sound-board here corresponding to the gourd or coco-nut resonator.

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The only musical instruments of my collection which allow a study of the range of notes obtainable from the instruments are the flutes, of which my material is comparatively good.

It would have been of interest also to analyze the clarinets, but in these the reeds at present have lost their elasticity, the same being the case of the slits in the mouth-piece of the paddy pipes.

I have also left out the common transverse flute with six stops, which is not native in Celebes, and lately introduced into the native schools by the teachers, and thus of no interest to the study of the native methods in Celebes used in making a flute. The same very likely also may be the case of the long flute with internal air duct.

The common long flute with external air duct is in all probability old enough in Celebes to be regarded as a really native flute. In order to analyze the method used when making the stops of such a flute I have measured a number of instruments from different parts of the island. Most of these have four stops, only a few examples have five or six. Fig. 130 I illustrates the method of measuring, and in Table I are given the measurements.

A + C: length of the bamboo tube;

A: length of the tube from the proximal end to the centre of the proximal stop;

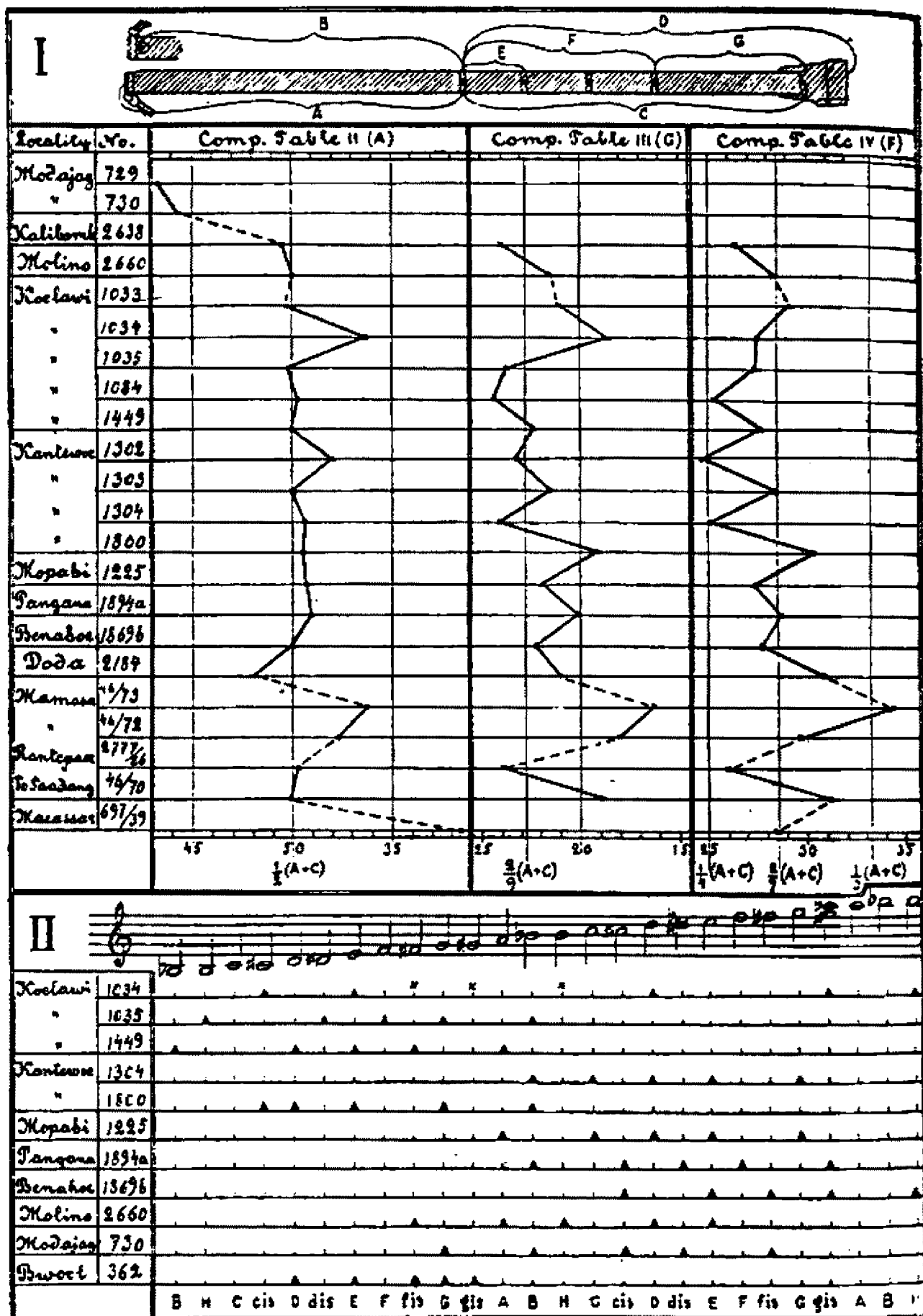


Fig. 130. I: shows the disposal of the stops in a flute with external air duct; II: notes obtained from ten flutes and a xylophone.

B: distance from the centre of the sound-orifice to the centre of the proximal stop;

C: distance from the centre of the uppermost stop to the distal end of the tube;

D: distance from the centre of the uppermost stop to the front of the bell-mouth;

E: distance from the centre of the uppermost stop to the centre of the second stop (in flutes with four stops);

F: distance from the centre of the uppermost stop to the distal stop (stop No. 4 in flutes with four stops);

G: distance from the centre of the distal stop to the end of the tube.

In all probability the proximal and the distal holes are those made first, and then the distance between these two is divided into three parts for the stops number two and three of a flute with four stops. We thus want to find out how to place the proximal and the distal stop.

As to the proximal stop it seems as a rule to be placed almost in the middle of the tube.

In order to make this clear I have made the length of the flute to a constant, which I call 100, and given A and B in relation to this constant (Table II and Fig. 130 I).

These tables show that nearly all flutes with four stops from N. W. Central Celebes have the proximal stop very nearly in the middle of the tube. The deviations in the flute No. 1302 from Kantewoe and No. 2184 from Doda in all probability should be attributed to an unskilled maker. The same may be the case of the Koelawi example No. 1034, although the deviation here is still bigger. The stops of this flute are not very well adjusted in general.

Also in the flutes from N. E. Celebes and in the common flutes with external air duct of the To Saadang, the proximal stop seems to be in the middle of the instrument. Even the two double flutes from Mamasa in S. W. Central Celebes may be the same, although the stop is rather much toward the distal end.

Table I.

Locality	Coll. No.	A + C	A	B	C	D	E	F	G
Modajag	Kand. (26/9 612) 729	38,8	16,8	16	22	—	4,8	13	7
"	id. 730	40,2	17,8	17,2	22,4	—	4,6	12,3	10,1
Kalibambang	id. 2638	51,7	25,6	23,7	26,1	—	4,6	13,7	12,4
Molino	id. 2660	44,6	22,3	20,7	22,3	—	4,1	12,7	9,6
Koelawi	id. 1033	64,4	32	31,2	32,4	35,2	6,3	18,8	13,6
"	id. 1034	57,5	30,9	29,2	26,6	29,7	5,1	15,8	10,7
"	id. (26/9 352) 1035	64,5	31,5	29,8	33	35,75	5,8	17,7	15,3
"	id. 1084	72	36,2	34,8	35,8	—	6	18,2	17,0
"	id. (26/9 351) 1449	70	35	33,2	35	37,8	6,3	19,4	15,6
Kantewoe	id. 1302	59	30,7	29,4	28,3	31,2	4,7	14,6	13,7
"	id. (26/9 410) 1303	67,9	33,9	32,5	34	38,5	6,2	19,3	14,7
"	id. 1304	70,4	35,7	34	34,7	—	6	17,7	17
"	id. 1800	63,4	32	30,4	31,4	37,3	6,4	19,3	12,1
Mopahi	id. 1225	68,4	34,7	33,2	33,7	39	6,2	18,7	15
Pangana	id. 1894 a	67,8	34,6	33	33,2	38,7	6,4	19,5	13,7
Benahoe	id. 1869 b	57	28,5	27,3	28,5	32,2	5,2	15,8	12,7
Doda	id. 2184	56	26,9	25,1	29,1	—	5,6	17,3	11,8
Mamasa	Amsterd. 46/73	43,3	23,3	22,4	22	27,2	5	14,9	7,1
"	id. 46/72	46,5	24,3	23,4	22,2	—	4,9	13,8	8,4
Rantepaoe	id. 2777/26	58,7	29,5	28,7	29,2	—	5	15,2	14
To Saadang	id. 46/70	74,6	37,2	36,3	37,4	45,7	7	23,3	14,1
Poso	Leiden 770/40	—	44,2	43,4	—	44,5	7,0	23,7	—
Macassar	id. 697/30	60,4	35,3	34,5	25,1	—	5,4	17,2	7,9
Gowa	id. 1009/83	—	31,8	30,6	—	42,5	7,5	21,3	7

Table II.

Locality	Coll. No.	A + C	A	C	A + C	A	C
Modajag	Kaudern 729	38.8	16.8	22	100	43.3	56.70
"	id. 730	40.2	17.8	22.4	100	44.28	55.72
Kalibambang	id. 2638	51.7	25.6	26.1	100	49.51	50.49
Molino	id. 2660	44.6	22.3	22.3	100	50	50
Koelawi	id. 1033	64.4	32	32.4	100	49.69	50.31
"	id. 1034	57.5	30.9	26.5	100	53.74	46.26
"	id. 1035	64.5	31.5	33	100	48.84	51.16
"	id. 1084	72	36.2	35.8	100	50.28	49.72
"	id. 1449	70	35	35	100	50	50
Kantewoe	id. 1302	59	30.7	28.3	100	52.03	47.97
"	id. 1303	67.9	33.9	34	100	49.93	50.07
"	id. 1304	70.4	35.7	34.7	100	50.71	49.29
"	id. 1800	63.4	32	31.4	100	50.47	49.53
Mopahi	id. 1225	68.4	34.7	33.7	100	50.73	49.27
Pangana	id. 1894 a	67.8	34.6	33.2	100	51.03	48.97
Benahoe	id. 1869 b	57	28.5	28.5	100	50	50
Doda	id. 2184	56	26.9	29.1	100	48.04	51.96
Mamasa	Amsterd. 46/73	43.3	23.3	22	100	53.81	46.19
"	id. 46/72	46.5	24.3	22.2	100	52.26	47.74
Rantepaoe	id. 2777/26	58.7	29.5	29.2	100	50.26	49.74
To Saadang	id. 46/70	74.6	37.2	37.4	100	49.87	50.13
Macassar	Leiden 697/39	60.4	35.3	25.1	100	58.44	41.56

In the Leiden specimen No. 697/39 from Macassar the proximal stop deviates so much from the centre of the instrument that it can hardly be attributed to careless make. The same is the case of the two flutes from Mongondou in N. Celebes.

In order to find out where the distal stop is placed, I have compared the distance G, the one from the centre of the distal stop to the distal opening of the flute, with A+B (Table III), as well as with the distance C, in the latter case with an altogether negative result.

Table III.

Locality	Coll. No.	A+C	G	A+C	G	$\frac{A+C}{G}$
Kalibambang	Kaudern 2638	51.7	12.4	100	24.0	4.2
Molino	id. 2660	44.6	9.6	100	21.5	4.6
Koelawi	id. 1033	64.4	13.6	100	21.1	4.7
"	id. 1034	57.5	10.7	100	18.6	5.3
"	id. 1035	64.5	15.3	100	23.7	4.2
"	id. 1084	72	17.6	100	24.4	4.1
"	id. 1449	70	15.6	100	22.3	4.5
Kantewoe	id. 1302	59	13.7	100	23.2	4.3
"	id. 1303	67.9	14.7	100	21.6	4.6
"	id. 1304	70.4	17	100	24.1	4.1
"	id. 1800	63.4	12.1	100	19.1	5.2
Mopahi	id. 1225	68.4	15	100	21.9	4.6
Pangana	id. 1894 a	67.8	13.7	100	20.2	4.9
Benahoe	id. 1869 b	57	12.7	100	22.3	4.5
Doda	id. 2184	56	11.8	100	21.1	4.7
Mamasa	Amsterd. 26/73	43.3	7.1	100	16.4	6.1
"	id. 46/72	46.5	8.4	100	18.1	5.5
Rantepaoe	id. 2777/26	58.7	14	100	23.9	4.2
To Saadang	id. 46/70	74.6	14.1	100	18.9	5.3

In this table I have made A+C to the constant 100, and given the value of G in proportion to the constant. In the last column is given the quotient of  $\frac{A+C}{G}$ .

From the table is seen that the distal stop varies a good deal, but not nearly so much in N. W. Central Celebes and N. E. Celebes where the flutes have four stops, as in S. W. Central Celebes among the To Saadang.

As to the specimen No. 46/73 from the Saadang district, G may possibly be one-sixth of the length of the instrument. In No. 46/72 it is exactly two-elevenths of A+C, and in 46/70 almost the same, but this fraction seems to be too complicated to have been used by the native maker of the

instrument. In No. 2777/26, G does not seem to have any special relation to  $A+C$ , if it was not meant to be one-fourth of this distance.

Even in the flutes with four stops the variation is so big that it seems rather uncertain that G was placed so as to have a special relation to the length of the flute. Although in most flutes the distal stop is at a distance from the end of the flute that is nearly two-ninths of the length of the pipe, it is not likely that the natives would use so complicated a method in making a flute. Besides, the flutes No. 1034 from Koelawi and 1800 from Kantewoe deviate so much from two-ninths, as will be seen in Fig. 130 I, that we can hardly presume that the distance from the distal stop to the end of the tube was meant to be two-ninths of the length of the instrument. I have tried the relation between G and several other distances but without any success.

Under these circumstances I investigated the relation of the portion occupied by the stops (F) to the length of the flute. In table IV is given the value of F when  $A+C$  is 100, and in the last column the quotient of  $\frac{A+C}{F}$ .

In the table is seen that the flutes from the Saadang district vary so much, that the distance F can hardly have been taken into consideration when such a flute was made. In the common flutes with four stops the variation is not so great, F in most of these flutes being about two-sevenths of the length of the instrument. An exception are the flutes Nos 1084, 1302 and 1304, in which F is so nearly one-fourth of the length, that the maker of the instrument in all probability intended it to be so. Of these the former specimen is from Koelawi, the latter two from Kantewoe, but possibly the Koelawi example originates from Kantewoe, in which case all three instruments may have been made by the same person. The average of the remaining twelve flutes is 28,36, which is very near the product of  $2/7 \times 100$ ; i. e. 28,57.

Table IV.

Locality	Coll. No.	A + C	F	A + C	F	$\frac{A + C}{F}$
Kalibambang	Kaudern 2638	51,7	13,7	100	26,5	3,8
Molino	id. 2660	44,6	12,7	100	28,5	3,5
Koelawi	id. 1033	64,4	18,8	100	29,2	3,5
"	id. 1034	57,5	15,8	100	27,5	3,6
"	id. 1035	64,5	17,7	100	27,4	3,6
"	id. 1084	72	18,2	100	25,3	3,95
"	id. 1449	70	19,4	100	27,7	3,6
Kantewoe	id. 1302	59	14,6	100	24,7	4,0
"	id. 1303	67,9	19,3	100	28,4	3,5
"	id. 1304	70,4	17,7	100	25,1	4,00
"	id. 1800	63,4	19,3	100	30,4	3,3
Mopahi	id. 1225	68,4	18,7	100	27,3	3,7
Pangana	id. 1894 a	67,8	19,5	100	28,8	3,5
Benahoe	id. 1869 b	57	15,8	100	27,7	3,6
Doda	id. 2184	56	17,3	100	30,9	3,2
Mamasa	Amsterd. 46/73	43,3	14,9	100	34,4	2,9
"	id. 46/72	46,5	13,8	100	29,7	3,4
Rantepaoe	id. 2777/26	58,7	15,2	100	25,9	3,9
To Saadang	id. 46/70	74,6	23,3	100	31,2	3,2
Macassar	Leiden 697/39	60,4	17,2	100	28,5	3,5

Nevertheless I am not convinced that the native flute maker, after having burnt the proximal stop in the middle of the bamboo tube, divided the tube in seven equal parts, making the distal hole at a distance of two such parts from the first stop. This seems far too complicated to be the method used by these natives.

The flutes with five or six stops no doubt are of the same type as those with four stops very often having four big holes, between which are interposed one or two smaller holes (Fig. 112 A). In the latter case we get two groups of three



holes. Flutes with five or six stops seem to occur chiefly in S. Celebes and adjacent districts, making it likely that these flutes came from Java, where this kind of flute seems to be common, a number of flutes with external air duct, from Java in the Ethn. Museum at Stockholm having six stops in two groups of three stops in each.

In order to investigate the relation of the stops to the range of notes obtainable from the flutes I have sounded some of them to the piano. The range of notes obtained from ten flutes are given in the foregoing (p. 216 and 217). Naturally the notes are different in the different instruments, but the intervals to a certain degree correspond to one another, as will be seen in Fig. 130 II and Table V, in which the intervals are given in semitones, beginning with the lowest note to the left.

Table V.

Locality	No.	Intervals in semitones between the notes:			
		1—2	2—3	3—4	4—5
Koelawi	1034	3	10	6	3
	1035	4	2	2	3
	1449	4	2	2	3
Kantewoe	1304	2	2	2	3
	1800	1	2	3	3
Mopahi	1225	3	2	2	3
Pangana	1894 a	3	2	2	3
Benahoe	1869 b	3	2	2	3
Molino	2660	3	2	3	2

From this table we learn that the interval between 4 and 5 is three semitones, between 3 and 4 two semitones and between 2 and 3 also two semitones.

The notes obtained from the flute No. 1034 deviate much from the other flutes; the scale in this case no doubt

is false, the fourth and the fifth note being in a higher octave than the first two notes. It is, however, a matter of fact that, in blowing some flutes, it is almost impossible to prevent them from passing into a higher octave. If in the flute in question the two highest notes were in the lower octave (compare Fig. 130 II), the intervals instead of being 3—10—6, would have been 3—2—2, much better corresponding to the other scales.

The interval between the lowest note and the one next to it seems to vary much more than the rest of the intervals. In the flute No. 1800 the interval between the first and the second note is only one semitone, which seems rather strange. Perhaps this, as well as the anomaly between 3 and 4, is owing to the construction of this flute, the distance F being bigger than in any flute that I have sounded (Table IV and Fig. 130 I). At the same time G is comparatively small (Table III and Fig. 130 I).

If we leave the flute No. 1800 out of consideration, the interval between the notes 1 and 2 is in *one* flute two semitones, in *five* flutes three semitones, and in *two* flutes four semitones. It is, however, to be noticed that the flute having two semitones is not fitted with a bell-mouth as are all the rest save one flute from Molino. Experiments which I have made, show that the addition of a bell-mouth reduces the lowest note one semitone.

Thus it seems as if the first interval should be two semitones in flutes without bell-mouth. If the instruments are fitted with a bell-mouth, the interval is three semitones, the lowest note being lowered one semitone. The normal scale of this flute would then be 3—2—2—3.

The flute with four stops no doubt being an old type, it would be of interest to know whether or no there are any other instruments in Celebes also having five notes. In the table below are given the various kinds of musical instruments occurring in Celebes and the number of notes obtainable from each instrument.

- One note: most idiophones and membranophones, bar-zithers in general, *geso geso*, monochord bamboo zither, paddy pipe, Triton trumpet, buffalo horn trumpet;
- two notes: *rere*, bamboo gong, bamboo zither;
- three notes: xylophone (Toala), *gamboes*, bamboo zither;
- four notes: bamboo gong, bar-zither G in Fig. 129, nose-flute;
- five notes: xylophone (Bwool), bar-zithers from N. E. Celebes, flute with external air duct, clarinet, double clarinet, bamboo pipe;
- six notes: boat-lute, double flute, double clarinet, bamboo pipe;
- seven notes: transverse flute, flute with external air duct from S. Celebes, bamboo pipe, double clarinet, oboe;
- several notes: bamboo zither from Timor.

As mentioned before most of these are not native in Celebes. This is the case of most instruments having more than two notes, and especially of those with more than five notes.

The only instruments which may be called into question are the xylophone from Bwool and the flute No. 730 from Mongondou. None of these have, however, a scale corresponding to that of the flutes with four stops. The intervals in the flute are 3-3-2-3, those of the xylophone 2-2-1-1.

### Use of musical instruments.

Investigating the origin of the musical instruments in Celebes, it would be of importance to know under which conditions they are used by the natives. As mentioned before, it is at present difficult, sometimes perhaps impossible, to trace the old native customs which at many places have changed a good deal and even are forgotten. In many cases the growing-up generation has no idea of the customs in

olden times. This is especially the case in N. Celebes, N. E. Celebes, and S. Celebes.

In the following table I have brought together some instruments chiefly used by the Toradja in Central Celebes. The letter C indicates that the use of an instrument is associated with religion, being used only at a certain time of the year. P means that an instrument is used by certain persons in connection with religious performances, and E indicates that the instrument may be used by anybody at any time of the year.

Musical instrument	Paloe Toradja	Poso Toradja	Koro Toradja	General notes on the use of the instruments
<b>Idiophones:</b>				
rattling temple floor-planks	C	C	C	At Macassar used by the priests. In N. Celebes a toy. In N. E. Celebes allowed to anybody.
<i>rcrc</i>	?	C	?	
multitone bamboo gong	C	—	C	
brass gong	C	C	C	On the coasts used by anybody at any time of the year.
clapper-bells	P	P	P	At present commonly used as adornment, among the Koro Toradja in connection with magical performances.
pellet-bell, single	E	E	E	
pellet-bells, bunch	C	?	?	
set of pellet-bells	P	—	—	
rattling strings	E	?	E	
rattling staves	E, C	?	?	
jew's-harp	E	E	E	
<b>Membranophones:</b>				
single-membrane cylinder				
drum of bamboo (toy)	?	?	E	
id. of wood, temple drum	C	C	C	

Musical instrument	Paloe Toradja	Poso Toradja	Koro Toradja	General notes on the use of the instruments
<b>Membranophones:</b>				
double-membr. temple drum	C	C	C	
id. barrel-shaped	C	—	—	
cup-shaped drum, <i>karatoo</i>	C	C	C	
<b>Chordophones:</b>				
bar-zither	?	E	?	The same is the case at other places.
bamboo zither	E	E	E	id.
<i>geso geso</i>	?	E	E	Presumably the same with the To Saadang.
<i>rebab</i>	—	E	?	
boat-lute	E	?	E	
<b>Aerophones:</b>				
buzzing nut-shell (toy)	?	?	E	
transverse flute (type II)	E	E	E	Used in all native schools.
flute with ext. air duct (III a)	E	E	E	
nose-flute (type VI)	—	E	(E)	
flute with int. air duct (VIII a)	—	—	E	Used by the To Saadang and in the Macassar Pen. by anybody.
paddy pipe	C	C	C	In N. E. Celebes presumably only used at harvest time.
double clarinet	—	—	E	Used in Boeton at any time of the year.
Triton trumpet	—	C	?	Used on the coast to call favourable wind.
bamboo trumpet	—	C	—	In Lamala, N. E. Celebes, lately a bamboo trumpet was introduced into the schools.

In this table we notice that most of the old, native instruments of the Toradja are allowed to be used only at a certain time of the year, or on certain occasions and by certain persons, in connection with the natives' religious ideas.

Among the idiophones and the membranophones only toys and those used as adornment are allowed the whole year round. This is also the case of the jew's-harp.

As to the chordophones there seems to be no restrictions in the use of them, the same being the case of the great majority of the aerophones. Among the aerophones, the use of which is confined to special occasions, we notice the Triton trumpet, the bamboo trumpet, and the paddy pipe, the latter being intimately connected with the cultivation of paddy.

Restrictions in the use of musical instruments no doubt originally were spread all over Celebes. At some places they may still be traced. Such instruments are the jingle of shells and the crab-claw rattle in the eastern parts of the island, being only used in a house where there is a baby, and rattling clogs, worn by young Mongondou girls after having had their foreteeth filed.

In the following table I have ventured to make clear as far as it was possible, which persons play the different instruments. Although there is no rule in this respect, it seems to be a matter of fact that all persons do not play the different kinds of instruments. In the table an instrument used by a priest has mP appended, instruments for priestesses fP, instruments for men and big boys M, instruments for women and young girls W, instruments for children Y, instruments used by anybody E.

Although this table is very incomplete, it shows, I think, that the great majority of the musical instruments are reserved for men. Instruments only for women seem to be very rare, but I dare say the *rere* is such an instrument.

Musical instrument	Paloe Toradja	Poso Toradja	Koro Toradja	General notes on the use of the instruments
<b>Idiophones:</b>				
rattling temple floor-planks	M W	M (?W)	M (?W)	It may not be prohibited for a man to play the <i>rere</i> , but a man would seldom concern himself about the <i>rere</i> . Among the Paloe and the Koro Toradja I never saw a man playing a <i>rere</i> . As a rule young men.
<i>rere</i>	W Y	W Y	W Y	
multitone bamboo gong	M	—	M	
brass gong	M	M	M	
clapper-bells	m P	M	m P	Sometimes a man will be seen using a woman's beetle bag.
pellet-bell, single	W Y	?	W Y	
pellet-bells, bunch	W	M W	W	
pellet-bells, set	W	—	—	
rattling { eardrops	W	?	W	
strings { hats	W	?	?	
{ beetle bags	W	?	W	
rattling { head-gear	M	—	—	
staves   shield	Y	—	—	
jew's-harp	M ?W	M ?W	M ?W	
<b>Membranophones:</b>				
single-membrane bamboo drum, toy	—	—	Y	
id. of wood, temple drum	M	M	M	
double-membr. temple drum	M	M	M	
id. barrel-shaped	M	—	—	
cup-shaped drum, <i>karatoe</i>	W	W	W	

Musical instrument	Paloe Toradja	Poso Toradja	Koro Toradja	General notes on the use of the instruments
<b>Chordophones:</b>				
bar-zither	—	M	?M	There seems to be no rule, but generally the stringed instruments are played by men.
bamboo zither	M W Y	M W Y	M W Y	
<i>goso goso</i>	—	M	M	
<i>rehab</i>	—	?M	—	
boat-lute	M	?	M	
<b>Aerophones:</b>				
buzzing nut-shell (toy)	—	—	Y	School flute.
transverse flute (type II)	M W	M W	M W	
flute with ext. air duct (type III a)	M	M	M	I have only seen men perform upon this flute.
nose-flute (type VI)	—	M	?	Acc. to KRUJIT only for men
flute with int. air duct (VIII a)	—	—	?M	
paddy pipe	M	?	?	As a rule used by boys among the Paloe Toradja.
double clarinet	—	—	M	
Triton trumpet	—	M	—	
bamboo trumpet	—	M	—	

In the north-western part of Central Celebes pellet-bells seem to be reserved for women (and children), whereas those bells in the eastern part of Central Celebes are used by both sexes. All drums suspended in the temples are played by men (boys). The egg-cup shaped drum called *karatoe* seems all over Central Celebes to be the drum of the priestesses. This may possibly be taken to indicate that the two kinds of drum belong to different cultural layers, the *karatoe* perhaps to a culture with matriarchy, the other drums to a culture with patriarchy.



*Addendum.*

The shells used for jingles in N. E. Celebes and adjacent islands are according to Doctor N. ODHNER of Stockholm the following:

Kaudern coll. No. 2797 from Boeton contains fourteen shells of *Placuna placenta* LIN.

Id. No. 2752 from Peling contains four old shells of *Placuna cella* LAMARCK, two shells of *Cardium rugosum*, and one shell of *Corbes fimbriata* LIN.

Jingle, private possession, contains seven young shells of *Placuna cella* LAMARCK as well as a pearl-nautilus, *Nautilus pompilius*.

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*Erratum.*

Page 224 Fig. 112 read C from the To Saadang, D from Gowa  
for C from Gowa, D from the To Saadang.

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