

POLISHED STONE TOOLS FROM NEW GUINEA IN THE MUSEUM OF ETHNOGRAPHY, BUDAPEST

(THE COLLECTIONS OF FENICHEL AND BÍRÓ)

A NÉPRAJZI MÚZEUM (BUDAPEST) ÚJ-GUINEAI CSISZOLT KŐESZKÖZEI (FENICHEL ÉS BÍRÓ GYŰJTEMÉNY)

JUDIT ANTONI

1037 Budapest Jablonka u. 84/c

E-mail: c/o alfred.falchetto@hotmail.fr

Abstract

At the end of the 19th century, between 1891 and 1893 the young Hungarian archaeologist Samuel Fenichel collected 315 polished stone implements (42 with wooden handle) in Astrolabe Bay, Northeast New Guinea. Because of his death in 1893, his work and his collection became unfinished. His compatriot, Lajos Bíró decided to carry on with his researches, previously on the same area, after on other parts of the island. He worked in New Guinea from 1896 until 1901. The stone implements disappeared in the meantime, so he didn't collect so many objects as his predecessor, but - while Fenichel hadn't any notices about the objects, he recorded all about the craftsmanship of stone adzes. The two collections together offer a unique opportunity to study the making and use of stone axes and adzes at the moment of their "transformation". The collection was never published: this paper is an attempt to present it.

Kivonat

A 19. század végén, 1891 és 1893 között a fiatal régész és néprajzkutató, Fenichel Sámuel 315 csiszolt kőeszközt (közülük 42 db nyéllel) gyűjtött az Astrolabe öbölben, Északkelet Új-Guineában. 1893-ban bekövetkezett halála miatt munkája és a gyűjtemény összeállítása befejezetlen maradt. Honfitársa, Bíró Lajos szánta el magát kutatásainak folytatására, előbb ugyanazon a területen, majd a sziget más vidékein. 1896-tól 1901-ig dolgozott Új-Guineában. Időközben a kőeszközök eltűntek, így ő már nem tudott annyi tárgyat összegyűjteni, mint elődje, de – míg Fenichel nem készített jegyzeteket a gyűjteményhez, addig Bíró szinte minden adatot feljegyzett a kőeszközökkel kapcsolatos mesterségbeli tudásról. A két gyűjtemény együtt egyedülálló lehetőséget nyújt a kőbalták és kő szalukapák készítéséről és használatáról abban a pillanatban, amikor felváltották őket a fémeszközök. A gyűjtemény máig közöletlen: jelen beszámoló célja az anyag bemutatása.

KEYWORDS: NEW GUINEA, POLISHED STONE AXE/ADZE, ETHNOGRAPHICAL COLLECTION, SÁMUEL FENICHEL, LAJOS BÍRÓ

KULCSSZAVAK: ÚJ-GUINEA, CSISZOLT KŐESZKÖZ, NÉPRAJZI GYŰJTEMÉNY, FENICHEL SÁMUEL, BÍRÓ LAJOS

The Museum of Ethnography in Budapest possesses a relatively large number of polished stone tools from North-East New Guinea collected more than hundred years ago. The material was never studied thoroughly and is unpublished until even today. The aim of this paper is to make experts acquainted with this material.

The story of the collection is as follows: at the end of the 19th century, between 1891 and 1893 young Hungarian archaeologist Samuel Fenichel (1863-1893) succeeded to reach North-East New Guinea, at that time part of the German colonial empire, under the name of Kaiser-Wilhelmsland.

Fenichel participated as preparator in the ornithological expedition organised and financed by a German agronomist, Albert Grubauer, who wanted to collect birds of paradise.

Grubauer, shortly after arriving to New Guinea, became ill, and returned to Germany, leaving Fenichel behind, without any financial assistance. Fenichel decided to stay in New Guinea, and he offered his services to the Hungarian National Museum, Department of Ethnography. The Museum accepted it and asked to turn his attention over the ethnographical material in the region and helped him to stabilise his financial situation, too.

Fenichel's working area was the Astrolabe Bay, where he collected more than 2000 ethnographical objects in the last 15 months of his life; among them, 315 polished and partly hafted (42 pieces) stone tools, too.

By this work he saved the stone tools used by the local people in the very last minute before the steel tools reached the coast.

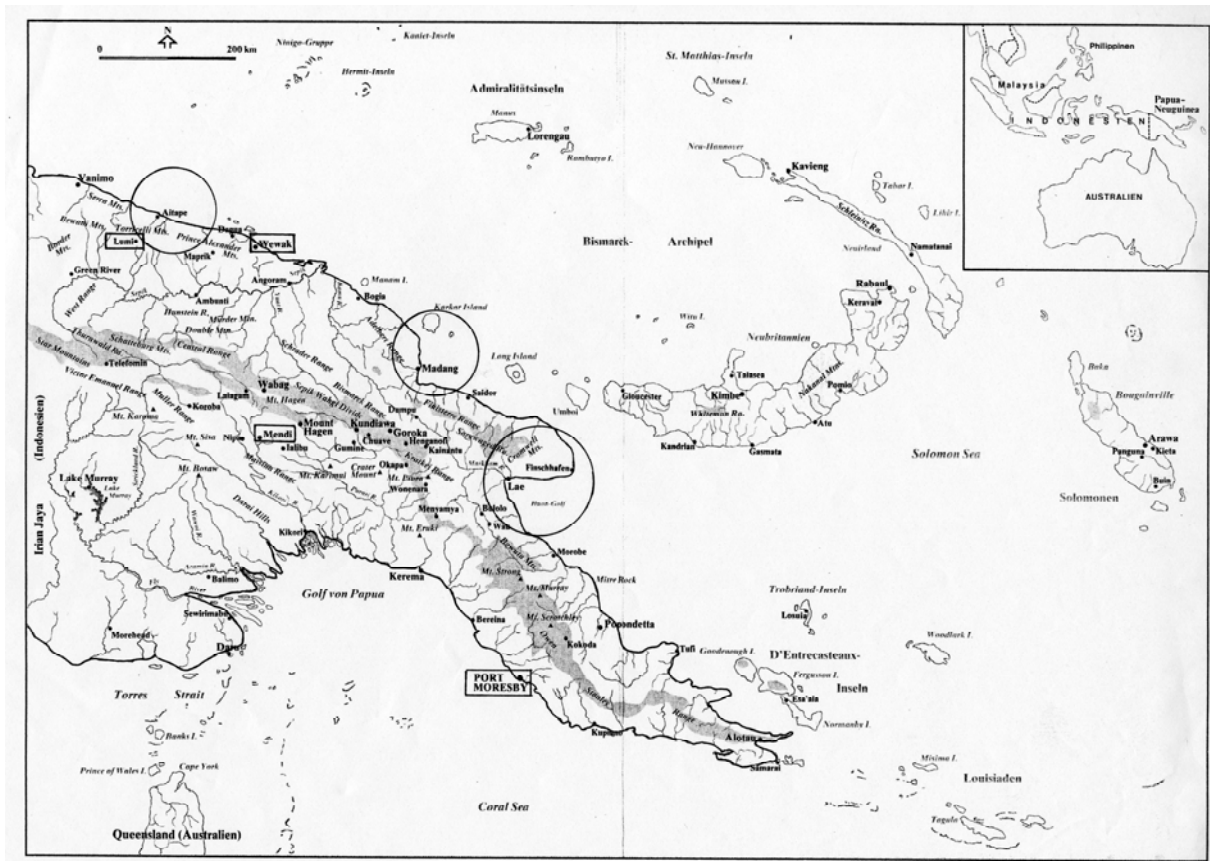


Fig. 1.: Research areas of Samuel Fenichel and Lajos Bíró, New Guinea, North-eastern coast

1. ábra: Fenichel Sámuel és Bíró Lajos gyűjtési területei, ÉK-Új-Guinea partvidékén

After his death the Hungarian scholar, Lajos Bíró (1856-1931), who was mainly interested in natural history (entomology) undertook Fenichel's mission. He arrived in the Astrolabe Bay in 1896 and he worked in several parts of New Guinea until 1901.

In his extensive collection of ethnographical pieces (somewhat more than 5500 objects) there were only 30 polished stone tools (21 of them hafted) - because of the extremely rapid change from stone to steel. (**Fig. 1.**)

In contrast to Fenichel, who had very few notes about the objects, Bíró accompanied every type of objects and often some individual or special pieces with the most detailed descriptions ever made in this time in ethnography. His remarks, his inquiries about the manufacturing and using the stone tools can guide us to study the material of Fenichel, too.

The investigated area – Astrolabe Bay and the coastal region around it – is one of the earliest parts of New Guinea contacted by Europeans.

After the discovery of the island and the mapping of the coast between the 16th and 19th centuries, the colonization was started by different peoples. The first person who was interested in native population of North-East New Guinea is the

Russian Nicholai Nicholaievich Mikluho-Maklay. He used to spend fifteen months there, between 1871 and 1876, mainly in the Astrolabe Bay and nearby. The German zoologist, Otto Finsch (1839-1917) was the next to visit the area, between 1884 and 1885: his publications helped Bíró in his researches.

At the time of the stay of Fenichel the stone tools were still in use, but three years later, when Bíró arrived, they were already out of use. He wrote: „I have not had the opportunity to see anyone using a stone axe. There are not any axes to be bought in Friedrich Wilhelmshafen or its vicinity. In Berlinhafen, similarly, there are not any.” (Molnár-Bagley, E., 1993: 146)

The first polished stone blade he succeeded to collect at Bogadjim only after 8 months.

Beside the cultural and technological changes the lack of stone tools was due, as Bíró saw the situation, to the collectors (museum and private people) too, who, recognizing the importance of the ethnographical objects, as witnesses of the disappearing local culture, made every effort to collect them in large quantities. Bíró remarked the new trend, and he tells us, that around the Astrolabe Bay they can find no more stone tools because the

people gathered all pieces to put on the market being much in demand by the Europeans.

Bíró could not collect any relevant information about the origin of the stone blades the local people had no longer any idea of them. They said to him, that the stone blades came from somewhere in the inland and they reached the coast by trading routes. As Bíró supposed, after the different types of rocks, the raw material must have been originated from different sources.

The interior of the island was discovered successively only after the visit of Fenichel and Bíró: the peoples living in the Highlands began to be in contact with the white people from the middle of the 1930s onwards.

From the Astrolabe Bay coast towards the inland we can find mainly volcanic and sedimentary rock types. The Highlands became known after the first patrol reports (1930: J. Taylor and M. Leahy, , 1939: L. G. Vial, Patrol Officer and L. C. Noakes, geologist, , 1943: J. A. Costelloe, Patrol Officer,) or by systematic investigations of scholars, studying this subject, like B. Blackwood, 1936-37 and J. Chappell, 1963-65 among others.

In the area of the Mount Hagen on the West, the Mount Michael on the East as well as between the Purari River on the South and the Ramu River on the North there are some important stone quarries known today.

Beside the smaller ones, the main quarries like Ganz-Tsenga, Dom, Abiamp or Kafetu supplied the mentioned area with raw material and stone blades which arrived by trade routes with all probability to the Astrolabe Bay as well.

Ian Hughes wrote in his work of capital importance about New Guinea Stone Age trade: „...polished stone blades of Central Highlands type appear in the early collections made around Astrolabe Bay.” (Hughes, I., 1977, Vol.II.: 73.)

Chappell (1966) described the Central Highlands stone quarries and analysed their petrographical differences also. Because of the lack of any petrographical analyses in the material from Astrolabe Bay collected by Fenichel and Bíró until today, we had the possibility to establish only typological series – which is by far not enough for an appropriate study.

One of the aims of this paper is to find enthusiastic experts interested in different modern analyses on our pieces.

After the types of stone blades coming from different stone quarries it is very possible that about 60 blades originated from Central Highlands – mainly from Abiamp and Ganz-Tsenga, but, naturally, we cannot take it for certain on typological basis alone.

The blades in Fenichel's collection are in almost every case complete pieces – so we can study them after their formal characteristics and measures.

The length of the smallest ones (32 pieces) are between 4 and 6 cm, their width is between 3.4 – 5.2 cm. The medium size (258 pieces) is 6 – 14 cm x 3.6 – 7.2 cm, and the big ones (21 pieces) measures 14 – 22 cm x 5.9 – 7.8 cm. The biggest (1 piece) is 30 cm in length and 9.8 cm wide. (Width measured by the edge).

Their thickness alters between 0.7 – 3.4 cm as extreme data (0.7 – 0.9 cm for the smallest and 3.2 – 3.4 cm for the medium (biggest). For all the others vary between 1 – 2 cm, respectively, 2 – 3 cm sharing in proportion.

The blades, after their forms can be range into 9 clearly separate types, but from them, 4 types are represented only by 1 -1 examples. We can assign about 60 blades into 3 – 4 types: they are polished all over their surfaces, including their edges and traces of use are visible only on a few pieces.

The surfaces of the other blades are mainly polished only on the working edges, but in a small degree, only where it was really necessary, they aspire to make disappear the uneven parts of the blade.

I chose for a random test 70 blades to examine by magnifying glass (30x): on 32 pieces there were traces or rests of light brown, red or yellowish brown soil paint. On the surface of 3 blades I found resin-like material and some rests of fibres in four cases: they were with one exception together on the same object.

As Bíró wrote about his collection from Berlinhafen, the red paint or colour which can be observed mainly on the objects of wood, carvings and stone axes served probably protect them against insects and against crack. (Bíró, L. 1899: 34)

Because of the usefulness of the blade depends on its stability in the hafting, so they put a piece of *tapa* (bark-cloth) in the blade-holding socket or/and stick soil into it around the stone blade. (Bíró, L. & 1899: 36)

The collection consists of 42 hafted tools. In two examples there are shell blades and in two instances steel blades inserted instead of stone. In one case we have only the wooden socket, in five more, only the handle. All items represent the 2nd type of Crosby's hafting traditions: T-shaped haft with split sockets lashed to the head of the haft. (Crosby, E., 1977).

It is an important aspect for analysis what is the orientation of the blade or, more exactly, if the edge of the stone blade is parallel to the handle (axe) or perpendicular to it (adze).

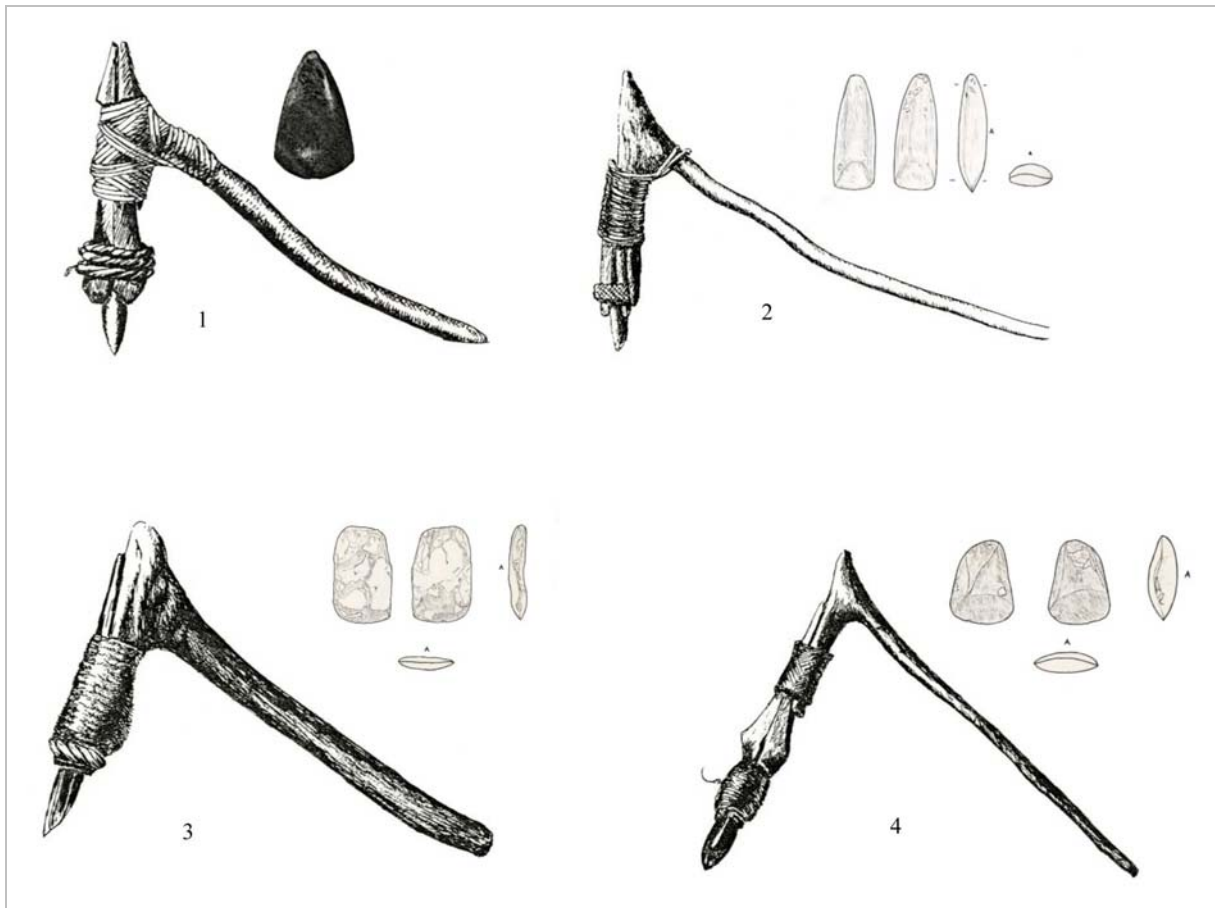


Fig. 2.: Stone headed adzes and stone blades from the collection of Bíró (1) and Fenichel (2-4) Archive drawings in the Ethnographical Museum (hafted adzes) and J. Antoni (blades)

2. ábra: Nyelezett szalukapák és kőpengék Bíró (1) és Fenichel (2-4) gyűjtéséből. Eredeti rajzok a Néprajzi Múzeum leíró kartonjairól (nyelezett eszközök) és a pengékről (Antoni J. rajzai)

In the collection of Fenichel one can determine the situation with certainty only in 26 cases. They are preserved in their original condition, while the others are partially damaged: their blades fell out, sometimes lost, or their blades were set in by someone in the Museum during the last 100 years. **(Fig. 2.)**

The axe of the blade-edge was never parallel with the axe of the haft, but in 14 cases they were perpendicular to it and in 12 cases they stood obliquely. This latter is not by chance: in the collection of Bíró from Berlinhafen all the three possibilities occur and the local people had separate name for each position. **(Figs. 3-4.)**

The hafts are carved mainly from hard wood and their head, with the blade in the socket forms angles with the hafts of between 80-90 degrees.

The length of the haft is in general 55 cm, twice the length of the head. The measurements of the smallest tools are: length of the haft: 25 cm, length

of the head: 15 cm while for the biggest are: haft: 87 cm, head: 32 cm.

We can observe red colour on the surface of the hafts, too.

Bíró arrived in the last minute, when he still had the possibility to interrogate the old people about the names of different parts of stone tools. He collected all local words for craftsmanship in every village wherever he visited the area with all explications given by the people about their meaning.

He could not observe the manufacturing of the stone tools any more, but he had the chance to learn some information about the subject. The situation was similar although somewhat better in the case of the use of stone tools.

Bíró mentioned that they are different types of stone tools according to different use. He wrote:

„The natives... differentiate among the various kinds of stone axes by giving them different names. Different parts of the axes also have specific names.

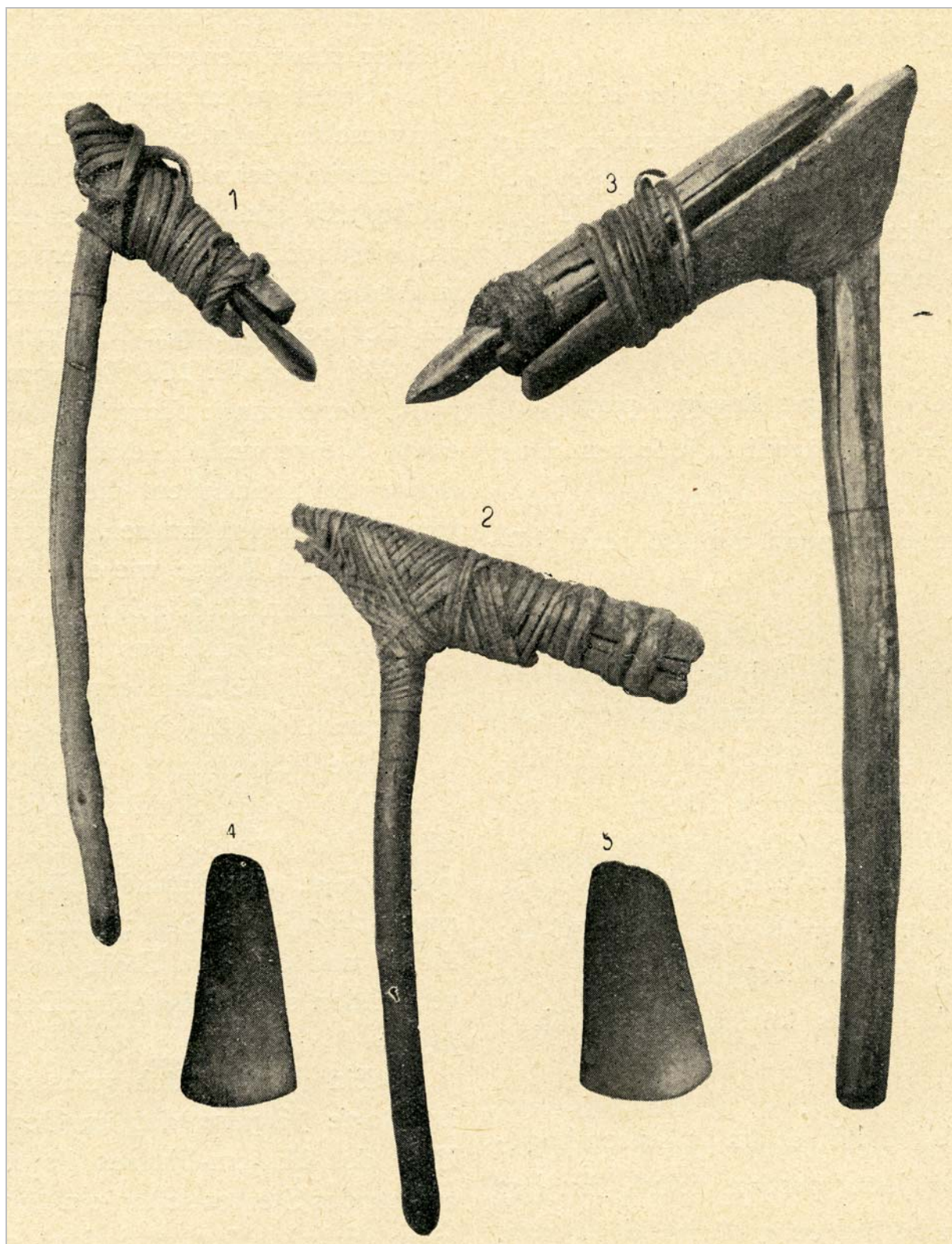


Fig. 3.: Polished stone blades, hafted blades (as adzes) and wooden haft. Collection Biró. Astrolabe Bay. Drawings by I. Nécsey (in: Biró, 1901, p. 82, Fig.40.)

3.:ábra: Csiszolt kőpengék, nyelezett pengék és fa nyél Biró L. gyűjtéséből az Astrolabe-öbölből. Nécsey I. rajzai (Biró, 1901, p. 82, Fig.40.)



Fig. 4.: Stone-headed axes and adzes, shell-headed adze (4) and wooden socket with shell blade (7) from the collection of Bíró, Berlinhafen. Drawings by A. Richter (in: Bíró, 1899, Plate VIII.)

4. ábra: Kőpengével ellátott balták és szalukapák, kagylópengés szalukapa (4) és fa foglalat kagylópengével (7) Bíró L. gyűjtéséből (Berlinhafen). Richter A. rajzai (Bíró, 1899, VIII. tábla)

The types of axes are differentiated not so much on the basis of the type of stone or size of stone, the differentiation is based primarily on the stone's sharpness and positioning. This is certainly because these are things that determine the tools' use." (Molnár-Bagley, E., 1993: 146).

He remarked also that the stone tools in general were useful for all kinds of work, like the penknife: it was not a rarity to see someone trimming his finger-nails with them.

He organised a competition to know how much time was necessary to cut a tree using stone and steel tool: with stone bladed tool needed approximately three-times more than with a steel axe.

Bíró remarked that the stone blade was not in circulation with sharpened edge: their owners sharpened them themselves and therefore they had everywhere a little grinding-stone in their bag.

About the secondary use of stone blades Bíró mentioned that the blades, being used up or because

of the continuous grinding became too small or damaged – useless in their original form – could survive as reamer, hammerstone or anvil, for example to produce little shell-discs or pearls, as we can see on some pieces collected by him.

The contacts with traders, missionaries, discoverers, colonizers and representatives of all sorts of sciences resulted in the successive disappearing of the ancient culture. In Papua New Guinea, which was born from former colonies as independent state, we cannot find any more people using stone age technology. Today the old traditions, objects of everyday life or objects of tribal art serve as attractions for tourists. However, in the western half of the island, actually part of Indonesia (Irian Jaya) about 30 years ago the scholars had the real chance to observe some people in manufacturing and using stone tools.

The Central Highlands of Irian Jaya remained relatively less frequented and the peoples living here had no direct contacts with strangers before 1961 or some groups even only 10-20 years later.

The publications of ethnologists or archaeologists, who came to study the region and its peoples – with few exceptions – concentrated primarily on questions of sociology or art and less on technology.

After the first visits of Fenichel and Bíró on the eastern part and other scholars on the western part of New Guinea it was a great deal – not hundreds but several thousands – of stone tools exported from the island to museums (less in number) and to private people (much more pieces) all over the world. As Bíró bitterly remarked : „Objects are transported to museums but they lose the spirit which gives them life.” (Molnár-Bagley, 1993, p.177: translated from Bodrogi, 1987, p.178). For the pieces taken away by private people the situation is even worse: they are probably lost for ever.

Pierre and Anne-Marie Pétrequin studied the stone tools first in their complexity, embedded in their natural environment and social context, following the steps of manufacturing technology „from the rock to the stone axe”.

In their fundamental work (Pétrequin. P., - Pétrequin, A.-M., 1993) they succeeded to realize what was the most important for Bíró and for me, too: to give life to the „dead” objects...

I hope, with the help of experts in geology and petroarchaeology we can arrive at that point in our museum collection material also.

Acknowledgement

I am very grateful for my former and actual colleagues in the Museum of Ethnography, Budapest, who kindly helped me and thanks for the Directory of the Museum for the permission (No. 39-30/2013) to publish the material.

References

BÍRÓ, L. (1899): *Bíró Lajos német-új-guineai (berlinhafeni) néprajzi gyűjtéseinek leíró jegyzéke. Beschreibender Catalog der ethnographischen Sammlung Ludwig Bíró's aus Deutsch-Neu-Guinea (Berlinhafen)*. (ed. by János Jankó). A Magyar Nemzeti Múzeum Néprajzi Gyűjteményei. I. Hornyánszky, Budapest, 1–100, Pl. I–XXIII.

BÍRÓ, L. (1901): *Bíró Lajos német-új-guineai (Astrolabe öböl) néprajzi gyűjtéseinek leíró jegyzéke. Beschreibender Catalog der ethnographischen Sammlung Ludwig Bíró's aus Deutsch-Neu-Guinea (Astrolabe-Bai)*. (ed. by

Willibald Semayer) A Magyar Nemzeti Múzeum Néprajzi Gyűjteményei. III. Hornyánszky, Budapest, 1–199.

BÍRÓ, L. (1987): *Hat év Új-Guineában. Válogatott írások*. (Six years in New Guinea. Selected writings). Selected and edited by Tibor Bodrogi. A magyar néprajz klasszikusai. Gondolat, Budapest, 1–356.

BLACKWOOD, B. (1950): *The Technology of a Modern Stone Age People in New Guinea*. Pitt Rivers Museum Occasional Papers in Technology, 3. Oxford, Oxford University Press.

BODROGI, T. (1954): Fenichel Sámuel. *Ethnographia* **65/3-4** 567–580.

CHAPPELL, J. (1966): Stone Axe Factories in the Highlands of East New Guinea. *Proceedings of the Prehistoric Society* **NS XXXII/5** 96–121.

CROSBY, E. (1977): An archaeologically oriented classification of ethnographical material culture. In: WRIGHT, R.V.S. (ed.) *Stone Tools as Cultural Markers: Change, Evolution and Complexity*. Australian Institute of Aboriginal Studies, Canberra, 83–96.

HUGHES, I. (1977): New Guinea Stone Age Trade. *Terra Australis* **3** Canberra, Dept. of Prehistory, Research School of Pacific Studies, Australian National University 1–247.

MOLNÁR-BAGLEY, E. (1993): Lajos Bíró and his contributions to early New Guinea contact history. M.A. thesis, University of Papua New Guinea, Port Moresby.

PÉTREQUIN, P., & PÉTREQUIN, A.-M. (1993): *Écologie d'un outil: la hache de pierre polie en Irian Jaya (Indonésie)*. Monographies du CRA, 12, Paris, CNRS éditions.

STRATHERN, M. (1965): Axe types and quarries: a note on the classification of stone axe blades from the Hagen area, New Guinea. *Journal of the Polynesian Society* **74** 182–191.

TOWNSEND, W. H. (1969): Stone and Steel Tool Use in a New Guinea Society. *Ethnology* **8** 199–205.

VIAL, L. G. (1940): Stone axes of Mount Hagen, New Guinea. *Oceania* **11** 158–163.

ZÖLLER, H. (1891): *Deutsch-Neu-Guinea und meine Ersteigung des Finisterre-Gebirges*. Union Deutsche Verlagsgesellschaft, Stuttgart, Berlin, Leipzig.