The Babau of Rabaul

Tolai Fish-traps of Papua New Guinea

By
Brian Mennis 1973
Mary Mennis 2019

With notes by Richard Parkinson 1880s
and Tiolam Wawaga April 2019

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Authors Note.

This publication was a result of a meeting at the Queensland Art Gallery in December 2016 when my husband Brian and I met Ruth McDougall and two visitors from Papua New Guinea or to be more precise two Tolai men from East New Britain. They were Tiolam Wawaga and Gideon Kakabin. Both were interested in the Tolai fish-traps called *babau*. In particular Gideon wanted to collect as much material about them as possible. As Brian had written two articles about the *babau* in the past, he was able to provide material for Gideon.

Sadly, both Brian and Gideon have died since this photograph was taken. However, through Ruth I was able to contact Tiolam Wawaga who was still interested in Brian's material. It was decided that I could return to Rabaul in March 2019 to get an update on the *babau.*

Photograph at the Queensland Art Gallery Tiolam Wawaga, Mary and Brian Mennis and Gideon Kakabin 2016.

It would give me a chance to compare the present situation with Brian's photographs taken in the 1970s. Tiolam offered to help me and this is exactly what happened. I spent two weeks with Tio and his family and learnt so much about the *babau*. Tio took me everywhere and I met some wonderful people both women and men and was able to interview them about their experiences with the *babau* in the past.

I was also able to discover what fishermen like those at Keravia were doing to retain the traditional knowledge of the traps and the *babau* float while at the same time adapting to the present situation using modern materials like the green fish-nets to cover the traps instead of using the thin strips of bamboo which their ancestors had tirelessly plaited in place. Traditionally the Tolai only had materials that they could obtain from the bush or the sea: bamboo, vines, timber, stones, shells and volcanic rocks. These days instead of the thick rope made of rattan canes to keep the anchor in place, the men use an ordinary rope. Instead of the *peo* basked plaited out of bamboo and filled with rocks the men use a heavy metal object and tie this to the rope. But the babau float is still used in the traditional way and the *vup* trap still hangs from it but this also has been changed and is now covered in green netting with the bamboo hoops to keep it in place.

So this book is to honour both Brian's and Gideon's memories and their interest in the Tolai culture particularly in the traditional *babau* fish-traps. I would also like to thank Ruth McDougall for the introduction to Tiolam who facilitated my visit to Rabaul in March 2019 and his wife Ovin who made me so welcome and shared her stories of being a wife and mother in a Tolai village and her work with the United Church as did their friend Josephine Aquila who was my companion during my stay.

Gideon Kakabin.

Gideon Kakabin died on 20 August 2018 and is sadly missed. A Tolai Elder and Rabaul resident, he was strongly involved in the New Guinea Islands Historical Society, and also led historical tours of the region. Gideon had a deep knowledge and understanding of the history and culture of his people, the Tolai of East New Britain, and was passionate about sharing that knowledge with others. In particular, Gideon was interested in the Tolai fish-traps and wanted to chronicle these traps and their construction in detail for future generations. In this short book I hope I have been able to realise some of Gideon's dream about these fish-traps which have played an important role in the culture and survival of the Tolai people over many generations.

Acknowledgements.

In writing this book there are many people I would like to thank for their help

People in Raluana Tiolam Wawaga and his wife Ovin Talisia Wawaga, and their children: Victoria, Allan and Tio Junior. Also their friends Nason, Dessie and her husband Moseley. Tiolam Wawaga needs to be singled out for his assistance in the Babau Project.

My informants: Ebes Vinararang, Mrs Josephine Aquila of Raluana; Melkie Kilala of Kiradui; Mission Bale; Adriana George; Isaac Ion of Duke of York Islands; Mary Mitgal of Kurakete Village, Raluana; Dr Jacob Simet of Matupit; Archbishop Benedict To Varpin of Vunapope

My children John, Paul, Greg & Joanna & grandsons Sean and Joachim

Ruth McDougall of the Queensland Art Gallery for interest in the project. John Evans and Joseph Palimi of the UPNG for their support. Alexandra Steggell of Ovato in Geebung, Brisbane for her help with the setting out and printing this book. Neville Threlfall, writer of the Mangroves, Coconuts and Frangipani, the Story of Rabaul for sending me a copy of his interesting book.

Dedication.

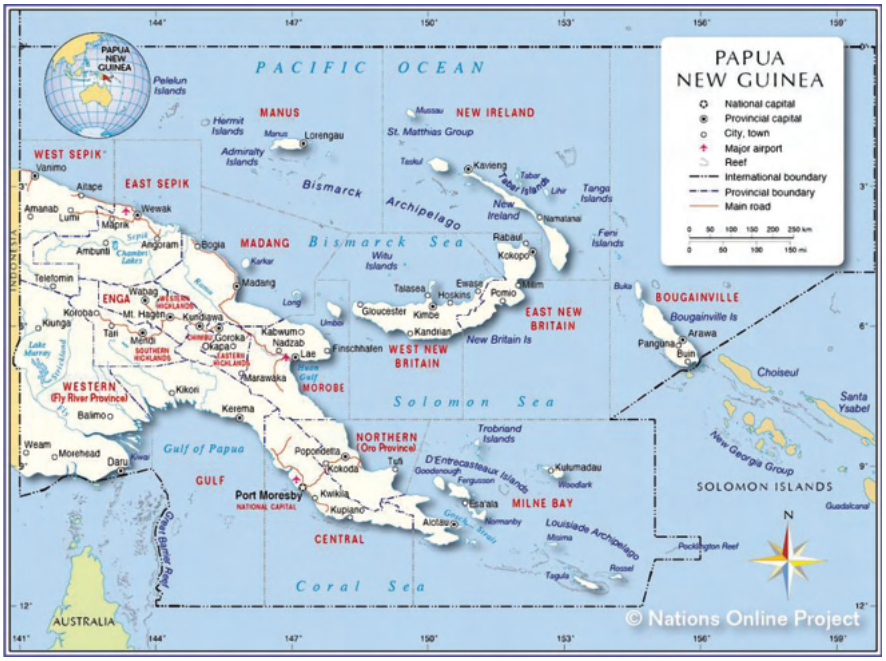
I dedicate this book to the memory of my husband, Brian Mennis (1934 – 2018) who devoted so much of his life to the people of Papua New Guinea through his work as a surveyor rising to be acting Surveyor General of the country for a number of years. During this time, he was also an ardent photographer of the people, places and culture of the country. His memory will live on in the wonderful series of photographs and articles he wrote about the **Babau of Rabaul.**

– *Mary Mennis 2019.*

Tavurvur Volcano, Rabaul still smoking in 2008

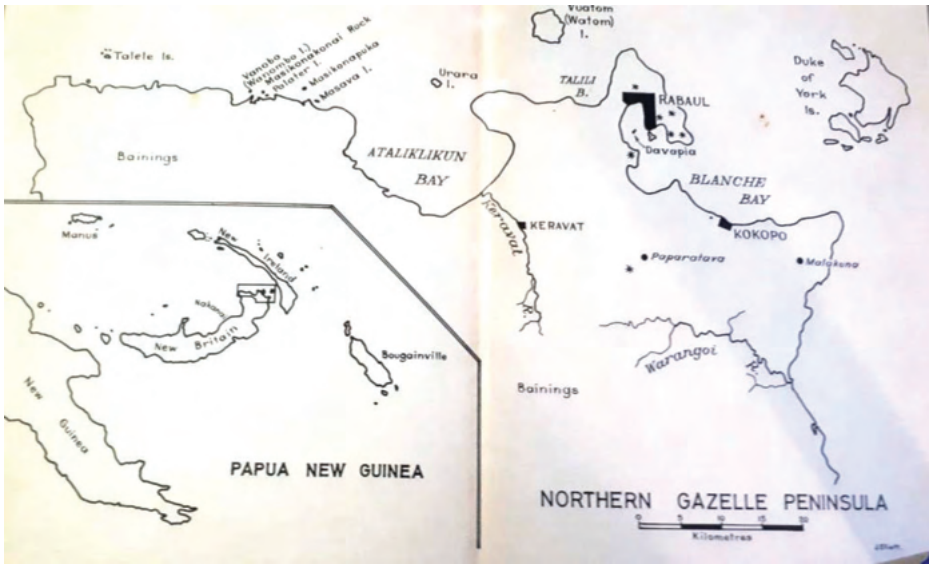
Contents

Chapter One: Introduction.



Map of Papua New Guinea showing position of Rabaul in East New Britain. Map for educational purposes.

Rabaul is a township in the East New Britain province of Papua New Guinea. The town was planned and built around Simpson Harbour within Blanche Bay. It became the capital of the Australian Mandated Territory of New Guinea until 1937 when it was first destroyed by a volcano. There were plans afoot to shift the capital to Lae but World War II intervened. Later it was the capital of the Province until 1994.



Left: Map of Papua New Guinea showing East New Britain Province.

Rabaul is situated on the Gazelle Peninsula of New Britain. Until 1994, it was a bustling town with two main roads: Mango Avenue and Malaguna road meeting at a T-junction. Malaguna Road had the markets, the Catholic Cathedral and many trade stores. Mango Avenue had the shopping centre, the cinema, swimming pool, Lands Department and Malay town with its many small Chinese stores. There were hotels and the Yacht Club as well. Down near the golf club was the airport where planes manoeuvered between the volcanoes to land abruptly. A road once led around the airstrip to Matupit Island joined to the mainland by a causeway.

The town is surrounded by volcanoes which have erupted at various times over the centuries. The Mother volcano (Kombiu); the South Daughter and the North Daughter as well as Rabalanakaia and Tavurvur, then across the bay is Vulcan which became a volcano in the 1937 eruption and erupted again in 1994 in conjunction with Tavurvur volcano.

Until this happened, Rabaul was the provincial capital and most important settlement in the province. The falling ash ruined the town centre and most of the houses as far as Malaguna road. The people fled the town which was engulfed with ash and pumice as the great clouds of volcanic clouds rose above the scene. In the ensuing days the Mango Avenue end of the town was wrecked with houses sagging under the weight of the ash: our old houses, where we had lived at various times were lost. The capital was shifted to Kokopo down the other end of the peninsula.

Photograph taken in 2008 fourteen years after the major eruption of 1994. Tavurvur was still erupting every now and then with puffs of smoke and ash as seen here, but not as devastatingly (Photograph Brian Mennis).

During our visit in 2008, we saw mounds of ash and pumice which had landed on Mango Avenue fourteen years previously. The steps to the cinema are all that remain of it. The once proud New Guinea Club is now a small museum and the sign pointing to Colonel Yamomoto's bunker directs one between the mounds of pumice to this tourist site.

However, the Tolai people have not given up on Rabaul. It is their home and the town is coming back life. The main port is still thriving. The tourist ships anchor there and the cargo ships arrive with produce for the whole province. The Yacht Club will celebrate an anniversary this year (2019) and the Rabaul Hotel is beautifully kept. Malaguna road is alive again and the Pro-cathedral, has been revived. There is a new market and the shopping centre has moved to Malaguna Road with banks, tradestores and houses.

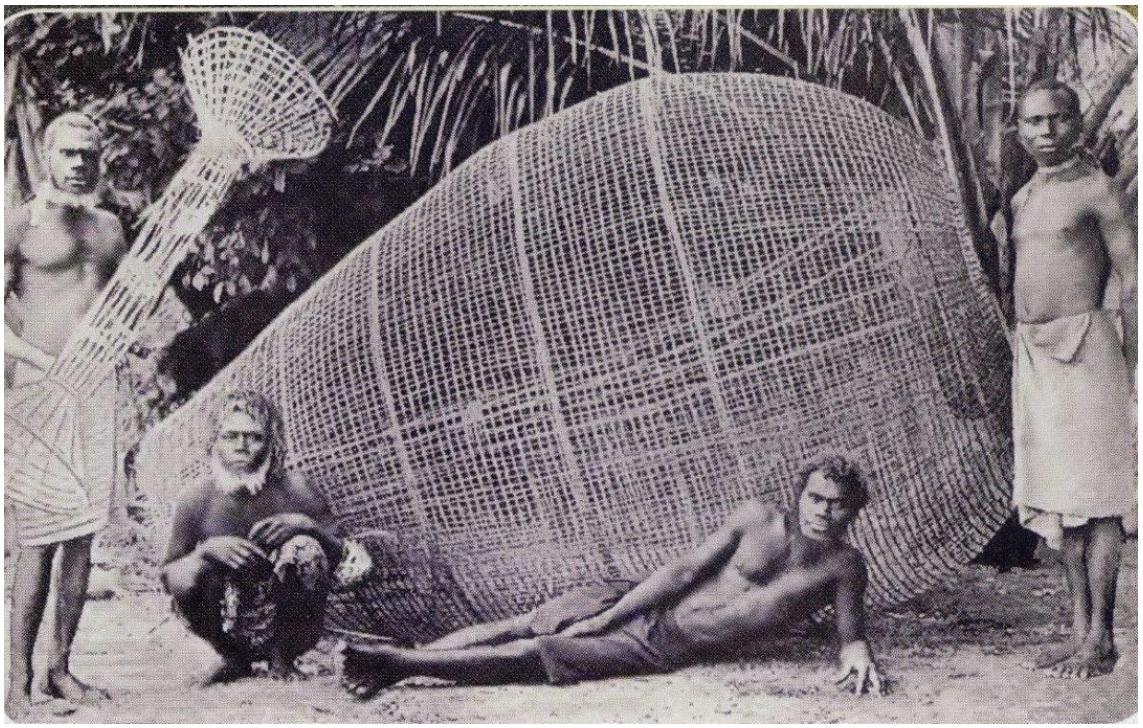
The Tolai people have always adapted to the changes in their history. For centuries they were self-sufficient growing their food and catching fish off the coast. The fish were caught in large *vup* fish-traps hanging from a *babau* raft and anchored with a *peo* basket filled with large stones lowered one hundred fathoms or more to the base of the harbour. The men made these traps in the *matanoi* a special place near the beach. Women were forbidden all access to these areas. The women were not even allowed to touch the *babau* as this would bring bad luck and sexual activity was also forbidden while the men worked on these fish-traps. The Tolai women respected these rules and abided by them. Until the 1994 eruption one could see *babau* floats dotted along the harbour shore, but all this changed with this event.

The eruption had a big effect on the fishing methods of the Tolai and on the large *babau* fish-traps they once made. The *babau* traps that had been set before the eruption were destroyed, and the falling ash killed many fish in Blanche Bay. Although the major eruption was in 1994, there were continual bursts from the Tavurvur volcano for years afterwards and it took a long time for life to get back to normal and the village people to return home.

Photograph: A large vup trap and tika leaning against a post in a matanoi at Raluana in 1973. They are not made like this any longer. (Brian Mennis).

The earliest accounts of these *babau* are found in the writings of Rev. George Brown who arrived in New Britain in 1875 to work amongst the Tolai people. He was well known for his work in describing tribal life and culture and wrote *Melanesians and Polynesians*.

During his years there George Brown photographed the large *babau* fish traps made from split bamboo. The *babau* is the name of the platform but is also the general name for the *vup* trap and the *peo* basket.



The vup trap and a tika inner part. (Photograph. George Brown 1910; facing 322).

Richard Parkinson wrote about these *vup* traps and the fish caught in them.

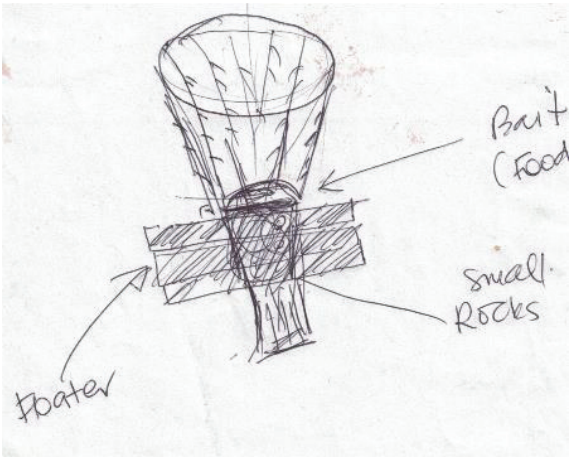
The *vup* in its completed form has the shape of a large balloon and is somewhat wider at one end than the other. The manufacture requires considerable skill, and great patience and time. First of all mature bamboo canes are cut in a suitable place in the forest, split into long strips about 4 to 5 millimetres wide and 2.5 to 3 metres long, and the edges and insides carefully scraped and smoothed (see appendix for more details).

The traps float on the surface, firmly anchored to the sea floor. The v*up* are used exclusively for catching a certain fish, *urup*, which periodically appear in great schools on the surface, and is highly prized as a delicacy by the natives. It must not be missing from a feast; those who can, buy the fish as a particularly fancied food, and willingly pay a price that must be regarded as relatively high by natives, since for a full-grown specimen it generally amounts to one Mark [German currency]. On the table of the settlers the *urup* is a welcome course.

Below the coils of rattan cane used to attach the peo anchor to the babau float. (Photograph Rev George Brown 1910: facing page 324)

Photograph of the peo basket by Rev George Brown. (1910: facing p. 326).

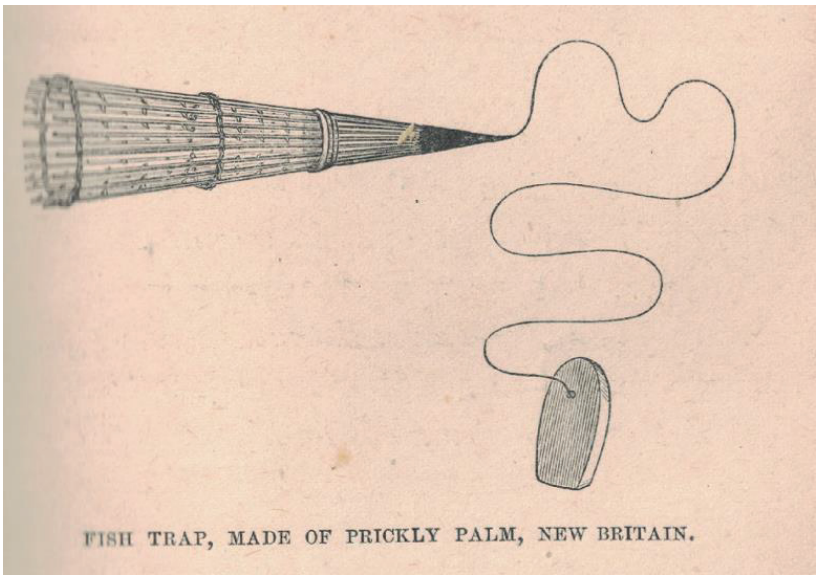
Rev. George Brown wrote: "When the trap was finished a very heavy anchor was made. This consisted of strong vines made into a large conical shaped basket, whch was filled with heavy stones. A very strong rope was then made securely fast to the anchor. The anchor and cable were taken out to sea, the anchor was dropped and the upper end was bouyed."



Above: Illustration is by Tiolam Wawaga of the small aungmuton trap (2019)
Right: Nason holding two of the aungmuton traps to show size.

In 1883, Wilfred Powell wrote: "Another mode of catching fish is with a number of prickly palm branches which are all tied together at one end and worked round with fibre so as to form a cone with the hooked thorns pointing inwards towards the apex where a piece of bait is fixed. A bit of light wood is fastened to the trap with a long string. With this trap, the native dives and places it on the edge of a reef, putting a stone on a string near it so that the wood will float on the water whilst the trap remains below.

The fish seeing the bait makes a rush for it and gets his head into the trap without any difficulty but, when he tries to back out, he finds himself hooked on all sides and, in his frantic endeavours to get clear, pulls the string from under the stone and the fisherman seeing the piece of wood moving, jumps into the water and tows it to shore.


FISH TRAP, MADE OF PRICKLY PALM, NEW BRITAIN.

Above: Illustration of Fish trap, Page 177. Wilfred Powell, 1883.


NEW BRITAIN CANOE, GAZELLE PENINSULA.

Left: Illustration of a Tolai canoe, Page 168. Wilfred Powell, 1883.

Powell mentioned that when a chief wanted to go on a trading voyage on one of these canoes, "He generally first consults one of these wind-makers, and pays him to make the weather fine.—They are sharp clever men these wind-makers, indeed were they not they would soon lose their custom. When pretending to make the wind blow in the right direction, they take burnt lime in their hands, and throw it up in the air singing a sort of chant all the time."

He wrote, "These people use beautifully made fish-traps – which are moored with a rope made of cane twisted together and attached to a stone. This kind of fishing is practiced sometimes in very great depths of water, even as much as one hundred fathoms. This fish-trap is made of plaited cane, very neatly worked in pattern. It is oblong in form, open at both ends."

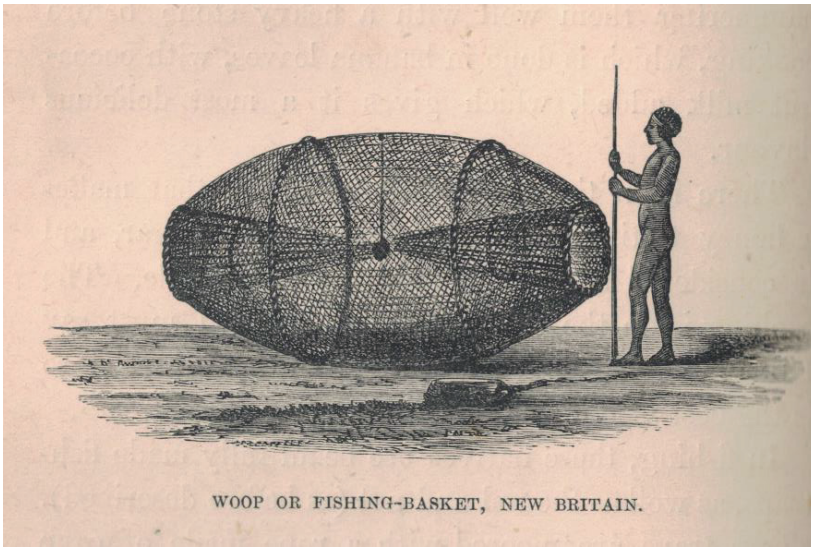

WOOP OR FISHING-BASKET, NEW BRITAIN.

Illustration of a Woop, Page 175. Wilfred Powell, 1883.

In the early days Rev. George Brown was constantly in danger of losing his life, as he worked amongst the fierce tribal people who often fought among themselves. He brought peace between the Matupit clans and the Kininigunans who lived on either side of Blanche Bay.

Left: Village house in New Britain.
Photo: Rev. George Brown (1910:26).

Above: Illustration of New Britain Village, Gazelle Peninsula, Page 178.
Wilfred Powell, 1883

Powell wrote in 1883:
The houses of these people are as a general rule not of a very high order, being often only small huts made of bamboo and thatched with either grass or sugar cane leaves. For each village two large houses are built, one for the men, the other for the women. No man is allowed in the woman's house, and nor is any woman allowed in the men's house; the latter is generally used for a council house. These houses are generally built in the form of an ellipse, the eaves of the thatch coming down to within three feet of the ground, but inside the walls are six feet high, over which the roof arches to about eighteen feet. The inside is carefully blackened with the smoke of coco-nut shells. --- The outside enclosure is planted with variegated plants and the ground is kept beautifully clean; the whole being enclosed with a bamboo fence.

Queen Emma, with Phebe and Richard Parkinson.

The sisters Emma Forsyth Coe (1850 – 1913) and Phebe Parkinson (1863 – 1944) were born of a Samoan mother and Jonas Coe, an American. Because they were of royal Samoan stock, Emma saw herself as a princess and later became known as Queen Emma. After Emma left Samoa in 1878, she traded with partner Farrell, a New Zealander, and set up a trading post at Mioko on the Duke of York islands. Farrell left and died soon after in Sydney and Phebe and husband Richard Parkinson arrived to help Emma. They spent most of the rest of their lives in the Gazelle Peninsula near present-day Kokopo. They set up plantations and traded copra with the local population for beads, tobacco and knives. Phebe and Richard built a house at Kuradui Plantation near Raluana. In 1890 Queen Emma's centre at Ralum was attacked by hostile villagers, upset at the loss of land and their lack of access to their *matanoi* on the beaches. Richard Parkinson retaliated by razing some villages. In the peace agreement that followed the Tolai were given access to the shores and to their *matanoi*. Parkinson was a surveyor but also a scientist and ethnographer and described the *vup* traps, the *babau* rafts and the *peo* anchors in detail in the 1880s (See appendix).

Above: The smaller vup traps at Raluana Point, by Richard Parkinson.

Parkinson wrote of these smaller traps "The sunken traps, --- are called *a wup na tatakia*, all kinds of reef fishes that live at the bottom of the sea or on the coral reefs are caught; the bright, varied contents of these smaller fish-traps are, as a rule, the delight of ichthyologists, and also supply the kitchen with many valuable contributions."

Richard Parkinson would have seen these traps in operation on Raluana Beach near his plantation. He did not know the Tolai language *Kuanua* very well but relied on his wife, Phebe who was very fluent in that language. Often, she would sit and translate while Richard interviewed the men on the beach or in the village about their many customs. Richard's description is included in this booklet for future generations of Tolai who might once again learn to make these wonderful traps using the bamboo slates on the outside.

Fishing with nets

According to Richard Parkinson, "The *pakapakat* is a net about 1.5 metres deep, provided with floats on the upper edge and sinkers along the lower edge; the vinot consists of two, crossed-over bamboo canes that form a wide angle. Inside this angle a triangular net is spread. If a school of *karua* appears in the shallows, men go into the water with the *pakapakat* and place it so that the fishes' way of retreat to the open sea is cut off.

Those carrying the *vinot* then position themselves in knee-deep water, one *vinot* always abutting its neighbours, thus forming a broad arc. At a given signal, the men with the *pakapakat* make a noise and the terrified fish jump, describing broad arcs above the surface, into the *vinot* held before them." (Richard Parkinson).

Left: Illustration of a fish-net float with a tabaran design. The tabaran was supposed to frighten the fish into the trap. (Tolai Myths of Origin 1973: Page 83).

The Tolai myths describe two brothers, To Kabinana and to Purgo who were always arguing. To Kabinana was the bright one who created all the good things whereas To Purgo was the spoiler who created chaos. One myth describes how To Kabinana went fishing with the *tabaran* spirits. First, he had to pass the test of having his head pressed to identify him. He had prepared for this by covering his head with a dried wild taro leaf. He passed the test and went fishing with the spirits. They caught many fish and that afternoon, To Kabinana carried a basket full of fish along the beach where he met his brother. To Purgo, seeing all the fish, then wanted to go fishing with the spirits.

To Kabinana explained what he had to do to approach the *tabaran* sprits so they would accept him and take him fishing. However poor To Purgo got it all wrong as usual. When the *tabarans* pressed his head, they poked a hole in the wild taro leaf as he had omitted to dry it out over the fire. The spirits were angry with him.

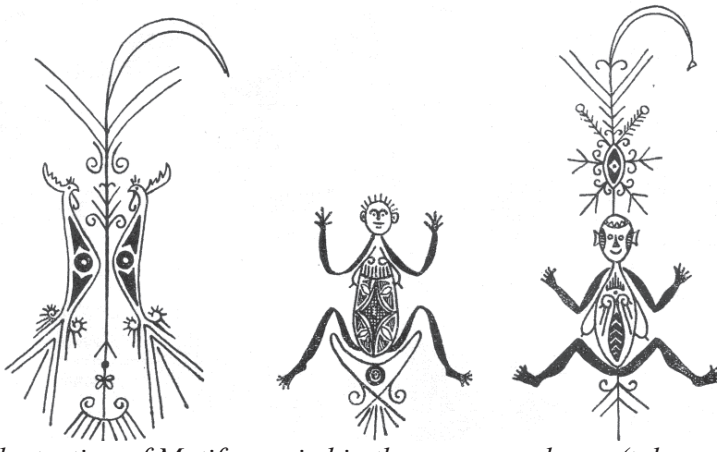
"O wretched creature," the *tabaran* spirits cried! You are acting the fool with us and you want to run off with all our fish!" They ran after him and he shouted frantically. "Help! Help my brother, blow the conch shell, beat the *garamut*, and hammer the *kudu* drum!"
"Stop shouting" ordered To Kabinana as he blew on the conch shell, beat the *garamut* and hammered on the *kudu* drum with this had. After the *tabarans* ran away, To Kabinana asked his brother what he had done. "Well I wrapped a wild taro leaf around my head," answered To Purgo. "It was a fresh green leaf. They poked a hole in it when they pressed my head."

"That's just like you! You senseless creature!" ranted To Kabinana. "You should have dried it out over the fire first. Because of you, people will fight over fish. Our descendants will help themselves to the fish in other people's nets and they will be punished for it." *(Tolai Myths of Origin 1973: 83).*

Many of these origin myths feature these two brothers. To Kabinina and To Purgo: the one being the good brother and the other being the protagonist. They are a study of the good and evil. Some of the myths are relevant today.

For example, To Kabinina explained that death is necessary. He said "We must all die. If everybody lived forever, we would be sitting like stones on the beach with no room to move or grow food."

Archbishop Herman To Paivu, a Tolai said. **"**The Tolai people had religion. Some belonged to a secret Ingiet society and made gods out of wood or stone. They believed in various higher beings. The members of the Ingiet secret society were forbidden to eat pig and that is the reason for the lack of pigs in this district even today. The chiefs sought to obtain as much *tabu*, shell money, as possible in order become higher beings in the spirit world. To obtain *tabu*, they traded in taro, fish, coconuts and women for marriage. They had the idea of sacrifice as they would place well-cooked food in the bush to be eaten by the departed spirits. Every Tubuan is supposed to have a stone, a *paluat*, which is to enrich the clan (M. Mennis 2007: 2)



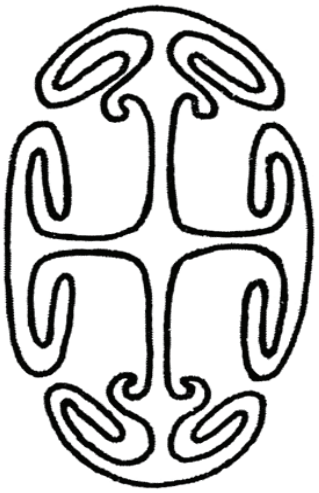
Above: Illustration of Motifs carried in the perapere dance (tabaran dance). These decorations symbolize spirits of the dead which are invoked for love, magic, or fertility ceremonies. In the early days they were once used only by members of the Ingiet society. Both To Kabinana and To Purgo belonged to the Ingiet society in their roles as sun and moon (Tolai Myths of Origin. 1973).

The Two Brothers (told by To Kanini of Paparatava).

The Kaia was still alone. He lived in deep darkness.
To Kabinana and To Purgo had not come yet.
There was deep darkness: only deep darkness.
To Kabinana and To Purgo came and with them the sun.

Both said: It is still night, but tomorrow the sun will shine.
So there will be time of day and time of night."
Both created these areas. Both made the gardens.
The two parted. To Kabinana went up to Reimber
and To Purgo came here to Paparatava.

To Kabinana made the land over there. It is all flat and there are no rivers. To Purgo made all the gorges here.
They came together again
To Kabinana asked To Purgo 'What have you done?"
To Purgo answered, "I made all the gorges."
To Kabinana said, 'You spoiled this area with those gorges, but I have made that other area well."



Right: Illustration one of the many figures, which the Tolai drew in the wet sand. The designs are part of a game called, "Where did I begin?" in which people had to guess where the drawing was begun. Such a game is typical of the Tolai cultural concerns with origins.

The Tubuan

An important part of the Tolai culture is the tubuan (Brian Mennis 1967). They have their own sacred place called taraiu. Young boys can be intitiated by paying many fathoms of shell money. They are beaten and then taught the rules of society.

As the leaves hide the man's body and the mask hides his face, the only way you can tell who is the *tubuan*, is by his legs. In the traditional culture, the *tubuan* acted as judge and jury on people's behaviour in the village. They would visit couples who were quarreling and fine them *tabu*. If people neglected their children the same happened. People paid up, afraid of sorcery worked against them. At funeral services, the *tubuan* took part in the distribution of the *tabu* shell-money... For a fee they would dance at ceremonies and are now very much a part of the Tolai culture. The society became very strong on the Duke of York Islands.

Right: Photograph Matupit Island tubuan. 1960s (B. Mennis),

Epstein wrote in the 1960's about the connection between the *tabu* and the *tubuans*.

"But an account of *tabu* purely as a commercial institution would give a very inadequate understanding of its significance for the Tolai, and of its function in their society. *Tabu* in fact permeated the entire culture and, as Danks observed, there was not a custom connected with life or death in which this money did not play a great and leading part" (1887: 316).

Photograph Brian Mennis.
Big men and their tabu coils in the 1960s

Epstein continued:
For present purposes, however, it was the importance of *tabu* as a source of influence and power which needs to be noted. Within the village there were usually one or two persons marked out by their possession of large stocks

of shell-money who were known as ‘big men’ (*ngala*). Such men served as bankers to the group and were able to bind their supporters to them by maintaining an elaborate series of debt relationships. Through their command of wealth, which also gave them control of the male cult of *tubuan* and *dukduk*, the ‘big men’ also had an important role in the maintenance of law and order. In the same way, the ‘big men’ also mediated relationships between different parishes.

Having access to large resources of *tabu* they alone were in a position to initiate large-scale mortuary rites and ceremonial dances or to sponsor the activities associated with the cult of the *tubuan* and *dukduk*, all of which involved the participation of, and competition between, individuals and groups from a number of different villages, and so served to extend the effective range of social relationships (Matupit 1969).

Above: Wheels of tabu on display at the Plantation Hotel Rapopo (Photograph M. Mennis March 2019).

Right: Small amounts of tabu are used to buy fish or vegetables. The shells are threaded onto cane. The tabu is a recognised currency even in modern times and school fees can be paid with it.

Chapter Two: The Political History of the Province.

The German Colony, 1884 to 1914

In November 1884, Otto Finsch, on board the *Samoa*, and two German warships, the *Elisabeth* and the *Hyane* sailed into Mioko in the Duke of York Islands and the German Imperial flag was raised and later that same month at Matupit Island and then on the north coast of New Guinea.

Otto Finsch wrote. "The hoisting of the flag itself aroused great pleasure. Its colours especially appealed to the people as they are the same earth colours that they were familiar with. Soon they would be entirely under the protection of this tri-colour".

Above Photograph: Hoisting the German Imperial flag at Mioko, the Duke of York Islands.

Unfurling bright flags and the acquisition of land from the villagers in return for a few axes or trinkets was enough to establish possession over large areas of land in those colonial times. The New Guinea Kompagnie was granted sovereign powers by the German government and given powers to carry out trading, development of plantations and mining. The new colony on the mainland was called Kaiser Wilhelmsland and the whole area was called the Bismarck Archipelago. The village elders who accepted gifts of axes, beads and material did not realise they were handing over large tracts of land permanently. They thought these gifts were just for the yearly rental of occupation and they would soon have their land returned to them.

The German Neu Guinea Kompagnie flag

Richard Parkinson was employed by the New Guinea Kompagnie to organise the building of the new headquarters at Herbertshohe on the hill overlooking Kokopo. This meant his wife, Phebe, took over the running of Kuradui plantation and enlisting workers from the villages.

In January 1896, Albert Hahl arrived at Herbertshohe as the new Imperial judge for the Bismarck Archipelago and a new era was begun. By now the New Guinea Kompagnie wanted to concentrate on its commercial side and was happy to off-load the administrative work to the new Governor. Hahl was soon learning the *kuanua* language and familiarised himself about the Tolai culture. He learned about their discontent at having large areas of their land being taken over for plantations and set up reserves of protected village land in unused parts of these plantations where people could live and garden without the interference of the plantation owners. Doing this brought peace to the Gazelle Peninsula. Aparam To Bobo became a spokesman for the Vunamami clans. His status as a leader was acknowledged by both the Tolai people and the German Government when the first of many reserves was set up (Threlfall: 2016: 58).

In about 1903, Governor Hahl bought land around Simpson Harbour to set up the town of Rabaul. He paid 750 marks for 150 hectares incorporating areas of land later used for the administration quarters and housing for the town. The name, Rabaul, means mangroves and the area was a swamp of mangroves. Tolai people and Chinese workmen helped fill in the swamps to make it a beautiful town. Through his efforts Hahl had created a town which was now ready to become the colony's capital. Later he bought land on Namanula Hill for his headquarters, over-looking the town and the harbour; nowadays the old steps are the only evidence of its existence. Governor Hahl left Rabaul in April 1914 after 18 years, a few months before Rabaul was captured by the British and Australian troops during the early days of World War I.

The First World War 1914

After the outbreak of war, five allied ships entered Blanche Bay on 11 August 1914. They were battle-cruiser HMAS Australia, light cruiser HMAS Sydney, and destroyers HMAS Warrego, Parramatta, and Yarra under the command of Rear-Admiral George Patey. They flew the white ensign flag. The troops took over Herbertshohe and later the HMAS Australia and two other vessels headed for Madang.

Photograph HMAS Australia and ensign

Photograph. Raising the Ensign in Madang town, September 1914.

While the white ensign was raised in Madang, it was the Union Jack that was raised in Rabaul on September 13, 1914, under the orders of Colonel Holmes Brigadier Commanding His Majesty's Australian Naval and Military Expeditionary Force (ANMEF). Holmes read a proclamation, "On behalf of His Majesty George the Fifth, by the Grace of God, of the United Kingdom of Great Britain and Ireland, and of the Dominions Overseas, King, Defender of the Faith, Emperor of India". In this proclamation he stated that "the Forces under my command have occupied the Island of New Britain; and whereas upon such occupation the authority of the German Government has ceased to exist therein."

Within a few weeks most of German New Guinea, Bougainville and the Admiralty Islands were under the control of the Allies. On September 21, 1914, 40 German soldiers and 110 local recruits marched into Rabaul and laid down their weapons.

Over the following days in Rabaul, the troops looked for the German radio station which turned out to be at Bitapaka. On the 15th September Lieutenant Read noted in his diary, "The brigadier has taken possession of Government House [Hahl's previous residence on Namanula Hill] and is erecting a wireless station there. This place is about two miles from the town and is admirably situated for this purpose being on the heights." (edited by Brian Mennis 2015: 26).

While World War 1 continued in Europe, the possibility remained that Germany might win and demand her colonies back. Emphasis was placed by the Australian administration on making money from the existing plantations rather than on development. The German plantation owners and managers were allowed to continue to run their plantations provided they took an oath of neutrality. Because they no longer were allowed to keep arms or ammunition, they felt insecure and had no way of protecting themselves against aggression from the local villagers. There was also much indecision about the terms of capitulation. Under the Australian Military Administration, the German Native Development Programme was scrapped and European commerce was once more allowed to dominate policy.

After the Treaty of Versailles, in 1921, Germany lost her colonies and Australia received a mandate from the League of Nations to govern the area. The New Guinea Act was passed by the Australian Parliament and came into force in May 1921. The Military Administration was replaced by a civilian government. The Territory of New Guinea was to be administered separately from Papua, under the Australian flag.

In the villages, life continued as normal although changes were beginning to happen. The local Tolai people still made their *vup* traps suspended from the *babau* floats, the *Tubuan* society continued and boys were initiated as before. The *tabu* shell money was still in operation although Hahl's edict that it could not be used in negotiations with Europeans was still in place. [On the Duke of York Islands the shell money was called *diwarra*]. New techniques and modern material were now available. The people accepted these technical innovations. They were pragmatic and wanted to use the best methods they could afford. Economic changes to the labour force occurred when villagers were employed on plantations and goldfields. The people were becoming aware of a far wider world. It was up to them how they met the challenges. Economically, technically, spiritually and politically the people's lives were gradually changing. As one writer said, "it was ten thousand years in a lifetime."

The 1937 Eruption.

On 29 May 1937, Tavurvur erupted and clouds of ash rose above Rabaul and then settled on village houses causing many to collapse. Vulcan Island then turned into a volcano blowing dust, ash and pumice into the sky and falling all around. People who had gathered for a feast nearby were all killed. It was thought the Kaia spirit who lived inside *Tavurvur* was angry with the people and this was their punishment. There were mini tsunamis following the eruptions and the waves crashed against the coast all around the Peninsula. People gathered at Nodup and were taken on board the *Montoro* to Kokopo. Brett Hilder recalled "The ship's decks were crowded with a crowd of 6,000 people including 250 Europeans. The life-boats were lowered to take more people. They were certified to carry 50 people but were carrying 110."

The effect on the culture was long-standing. Sacred *taraiu* and *matanoi* were destroyed near the coast. All *babau* fish-traps were wrecked by the weight of the ash and would have been washed out to sea. Fish would have died from the effects of ash and the thick layers of pumice on the surface of the water.

The Second World War.

In the 1940s there were more rumbles as the Japanese advanced across the Pacific. With the start of World War II, New Guinea again became one of the first areas of operation. At 10.30 on 4 January 1942, sixteen bombers made a high-level attack over Lakuna airfield, damaging one end of the runway killing 15 New Guineans but no Australians so in New Britain these New Guineans were the first casualties (Threlfall 2012: 297).

During this Pacific war, Rabaul became Japan's main base of military and naval activity in the South Pacific. It is estimated that more than 90,000 Japanese soldiers encamped there. The offensives in Papua and New Guinea of 1943–44 were the single largest series of connected operations ever mounted by the Australian armed forces. Major battles included the Battle of Kokoda Trail, Battle of Buna-Gona and Battle of Milne Bay. Around the country brave Coast-watchers kept a vigil on the movement of the Japanese forces and reported them by radio contact. Through this information important victories were made.

Many Europeans including women and children had been repatriated but the Tolai stayed in their villages afraid of the future. They were forced to help the Japanese soldiers. They had to climb the coconuts, grow food and catch fish. Finding the villagers reluctant to accept payment in *Kumpio*, as the occupation money was called; the Japanese turned to direct barter and traded rice, cigarettes or tinned food for garden produce or wages. However, there were strict rules which had to be abided by. "Any New Guinean passing through the town of Rabaul was made to bow deeply from the waist to the sentries who stood at every street corner. Those suspected of spying for the Australians were tortured to make them admit guilt; they were hung-up by their hands with only their big toes touching the ground" (Threlfall p 332).

While the war waged, the people of New Guinea were very conscious of the Royal Family. When Malcolm Wright landed from a submarine in New Britain in July 1942, he was met by an old *luluai* who had a gift for the King: "We would like to send this to the King. Tell him that we are still his people and we look forward to the day when the Australians return to New Guinea".

Photograph below: Soldiers at Gloucester with Japanese flags they had confiscated.

Some villagers proudly stood up to the soldiers. Benedict To Varpin, born in 1936, remembers that his father, Gustav was a good fisherman. One day they were returning to their village at Volavolo with a catch of fish looking forward to a good meal, when they were approached by two Japanese soldiers. One of them demanded Gustav hand over the fish but he stoutly refused. The soldier had a bayonet to his neck and still he refused. Gustav knew a bit of the Japanese language and threatened to tell the Kempitai, the security police about them. Immediately they ran off. Gustav reported them and the soldiers were punished. Gustav knew the Kempitai as it was his job to bury those executed by the Japanese. Usually though the villagers were too frightened of the soldiers to stand up to them and when the allied bombing became too severe many fled to the mountains leaving their villages and way of life behind.

Photograph Gustav on left and Benedict on right

Photograph: AWM 064239 (Australian War Memorial). The surrender ceremony at Wewak 13 September 1945. General Adachi hands over his sword to Major General H.C. Robertson.

The war ended in 1945 and the Japanese surrendered. General Adachi was taken to Rabaul to stand trial and charged with the responsibility for crimes done during the war in Rabaul. But before the trial date he committed suicide (Trelfall: 371).

Kenneth Burridge interviewed a man on Manam Island who said:

> You see, we do not understand. We are just in the middle. First the Germans came, and the Australians pushed them out. Then the Japanese pushed out the Australians. Later, the Australians and the Americans forced the Japanese to go. It is beyond us. We can do nothing. When a kiap tells us to carry his baggage, we have to do it. When a German told us to carry his baggage, we had to do it. If we did not we might be killed. All right, there it is. Take it or leave it. *Nogat tok,* I didn't say anything, that's just how it is. That's life (Burridge, 1960: 12).

Rabaul market in the 1960s was a busy place

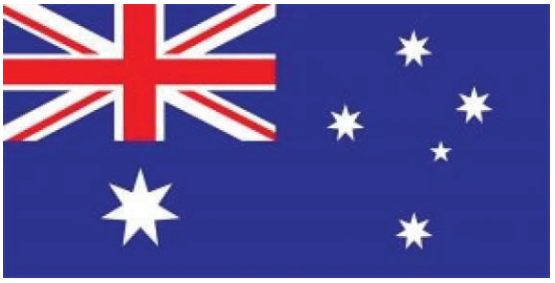
After the war.

War damages payments were made to villages after the war. Patrol officers visited villages that had been affected and assessed the claims and damages. Apparently these claims were still being registered for villages on the Gazelle Peninsula and Duke of York Islands five or six years after the war. Claims were made for houses, boats, trucks, copra driers and shell money. On Matupit Island the Japanese had broken down the *tabu* houses and stolen the money to use to trade for food from the villagers according to Jacob Simet. After the war the Matupit Islanders wanted compensation. Often the Chinese stores benefited best as the villagers spent their damages money on food, tools and materials at these stores.

It took many years for the people to re-build their villages and re-connect with their communities. Bomb craters were everywhere and roads had to be built and it took even longer for the men to organise the *babau* fish-trap building again. Tolai people still used the *tabu* shell money in the markets to buy their vegetables and supplies but woe betide anyone European trying to use it. This was experienced by the author when she thought to use a string of *tabu* she had to buy some tomatoes at the Saturday market. She nearly caused a riot. "Don't you know, missus, ex-pats can't use this currency?? It is only our money not yours."
Governor Hahl's edict was still in place in the 1960s.

The Australian Trusteeship, 1946 to 1975.

On 13 December 1946, Australia entered into a trusteeship Agreement for administration of the former Mandated Territory of New Guinea, as approved by the General Assembly of the United Nations. Papua and New Guinea were then combined in an administrative union for administrative purposes called the Territory of Papua and New Guinea.



In 1962, the United Nations Visiting Mission under the Chairmanship of Sir Hugh Foot recommended to the Australian Government that it make rapid constitutional changes in Papua New Guinea The Local Government Ordinance of 1963 cancelled the power of the former *tultuls* and *luluais* in the villages and passed it on to the councils. The councils were to be elected and not imposed as the *luluai* system had been. New councillors were often young and not familiar with the village affairs and there was some opposition. The House of Assembly replaced the Legislative Council in 1963, and the first House of Assembly opened on 8 June 1964.

Photograph: Sir Michael Somare was born in Rabaul. (M. Mennis: 1994)

In 1972, the name of the country was changed to Papua New Guinea and the 1972 elections saw the formation of a ministry headed by Chief Minister Michael Somare, who pledged to lead PNG to Self-Government and then to Independence. Leading up to Independence, Papua New Guineans were appointed to senior positions in government.

Brian Mennis was a surveyor in Rabaul for 13 years and understood their land problems. In 1970, to help ease the land shortage he set up camp at Vunapalading working on the Trans-Vudal Scheme, surveying new blocks of land in an area which had been declared common ground and used for hunting and fishing by both the Tolai and the Bainings people. The new owners of these blocks arrived but they were confronted with the descendants of the original owners who began squatting on the land. They were supported by the Mataungan Association who organised a large group of Tolai to face the police riot squad. Brian wrote" our campsite became the site of a major confrontation between several riot police and a somewhat greater number of Tolais who were wanting to move on to the newly surveyed sites".

The New flag of Papua New Guinea.

Leading up to Independence all Papua New Guineans were encouraged to enter designs for a new flag. In 1971, Sister Joseph Mary taught the art class on Yule Island at the Catholic High School. She encouraged her students to take part in the competition by colouring in their own designs. She saw the various possible designs for the new flag and thought them a bit insipid in green, white and gold. The class decided that gold and red should be two of the colours. Sr Joseph Mary copied the designs and gave them to the girls in her art class. Fifteen year old Susan Karike was one of the students and chose the bird of paradise and the stars for her design. Sister Joseph Mary told her to draw the diagonal line across the page to fit them in. This Susan did and the rest is history. When the Constitutional Committee came to Yule Island, Susan's design was presented to them. Within a few days it was accepted by the Parliament. Sir John Guise had the casting vote and he voted in favour of accepting this design for the flag (Mary Mennis interviewed Sr Joseph Mary in 198).

On Saturday 23 February 1974, the year before independence Her Majesty the Queen, Prince Philip and other members of the Royal family came to Rabaul on board the royal yacht *Britannia*. They went to a service at the Pila Pila United Church and later the gathering of people at Queen Elizabeth Park was enormous and enthusiastic. Both Mango Avenue and Malaguna Road were festooned with dozens of the new Papua New Guinean flags and Union Jacks.

At a reception that evening at the To Bunbun Hall there was an exhibition by the Bainings Fire Dancers which they really appreciated. So great was the response and welcome all around the country, that Michael Somare decreed that the Queen would become Head of State when the country gained independence with a Governor General to represent her. He would also apply for the country to be part of the Commonwealth (Threlfall 2016: 508).

Independence 1975.

On 16 September1975, Rabaul celebrated Independence Day in great style. The evening before was a day of prayer and the lowering of the Australian flag for the last time. It was sixty years since Colonel Holmes had raised the Union Jack flag at the beginning of the First World War. It was an emotional time for ex-pats as well as the Nationals of Papua New Guinea who had grown up with the Australian flag. Sailors on board the HMAS Torrens took part in the ceremony

Photograph Below: Raising the Papua New Guinea flag in Madang (Brian Mennis)

There were great celebrations on Independence Day 16 September 1975. That morning there were processions of floats, bands playing and choirs performing and sing-sing groups dancing at the Queen Elizabeth Park in the centre of Rabaul. Then the flag was blessed and raised amid much rejoicing. This was followed by speeches by politicians and Prime Minister Somare's speech was played over the loudspeakers. It was a day to remember. That evening in the cool of the day the Bainings fire-dancers put on a wonderful performance in the park watched by an enthusiastic crowd of spectators (Threlfall 2016: 511).

Rabaul town was at its best with lovely gardens and the mango, frangipani and hibiscus trees blossoming. There were many new businesses in the town. The Tolai took a growing part in business enterprises in Rabaul. Their children were being educated and sadly were not so interested in the traditional culture including making the *babau* or sitting in the *matanoi* to learn the art.

In 1976 a new goal was set in East New Britain for it to become a province.

Illustration: The East New Britain Provincial flag which features a Tubuan mask on the left and a Bainings mask on the right.

Premiers (1978–1995)

Premier	Term
Koniel Alar	1977–1978
Ereman Tobaining Sr.	1978–1980
Jacob Timele	1980–1981
Ronald ToVue	1981–1989
Sinai Brown	1989–1995

Governors (1995–present)

Premier	Term
Francis Koimanrea	1995–2000
Leo Dion	2000–2012
Ereman Tobaining Jr.	2012–2017
Nakikus Konga	2017–present

Brian Mennis with two volcanologists at the Rabaul Observatory, 2008.

The 1994 eruption.

While many changes were happening in the political situation, the older Tolai fishermen continued to make and set the *babau* traps until Tavurvur erupted again on 19 September 1994.

During the eruption, ash was sent thousands of metres into the air and the subsequent rain of ash caused devastation to the Rabaul town. Houses, shops, businesses, Churches and schools were destroyed. After the eruption the capital was moved to Kokopo, about 20 kilometres away and fishing with the *babau* ceased for a long time. Some coastal people were re-settled in the Warangoi area and others returned home after a long absence. The *babau* traps are now made with modern changes using new material.

At the time of the eruption on Monday, 19 September 1994, Tiolam Wawaga, felt the series of earthquakes which warned of the forthcoming eruption. He was running a fuel station in Rabaul, next to the Rabaul Hotel and rushed back to the business in his small Suzuki to retrieve papers and cash. When the eruption became serious he turned back home hastily. Here he found his family already in his truck ready to flee. They drove towards Kokopo and later moved to the Mope Primary School near Pomio where the Catholic Church provided accommodation and food.

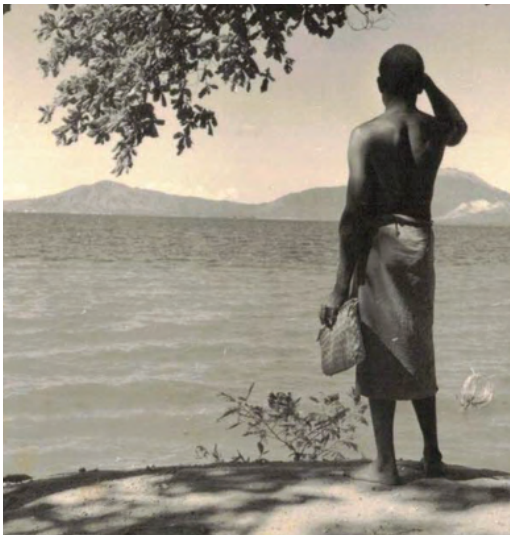
Left: Tio Wawaga with the large vup trap in the Rapopo Hotel, April 2019.

Tio Wawaga knows a lot about the *babau* fish traps and helped me in my research. I found that in studying these *babau* it is not just about the manufacturing of the bamboo float and the *vup* and the *peo* but it is all the things associated with the process: the names of the fish that are caught; the birds that come and sit on the *babau* indicating there are fish caught in the trap; the best months to fish with the *babau*; the system of scouts to keep a watch on the trap; the fact that large traps must be set one to two kilometers off-shore to catch the pelagic fish that live there; the disasters that can happen if the rope connecting the *peo* to the *babau* is broken; what happens if someone steals fish from the trap; the procedures that must be followed to bring good luck to the trap; banning of women from being in the *matanoi* or from even touching the *babau*; the devastation of the Pacific war; the effect of the 1994 eruption on the fishing villages in the bay and outside in direct line of the ash from the volcano; the modern adaptations the fishermen are using in making the *vup* nets but still following the traditional knowledge and placement of the *babau* platform. Each of these topics could be a paragraph on its own.

Today Rabaul/Kokopo is seen as a haven for tourists.

Left: Painting of the Rabaul area showing the two Beehive Rocks (Dawapia) and the yawning crater of Tavurvur behind Matupit Island.

As a tourist destination, Rabaul is popular for its volcanoes, scuba diving and for snorkeling sites, spectacular harbour and other scenery, World War II history, flora and fauna, and the cultural life of the Tolai people. Before the 1994 eruption, Rabaul was a popular commercial and recreational boating destination; fewer private small craft visit now, but 10 to 12 cruise ships visit Rabaul each year, including the Queen Elizabeth carrying up to 2000 passengers. Tourism is a major industry in Rabaul and East New Britain.



The Tolai people are friendly and hardworking and they always come up smiling in spite of their hardships. They have suffered much from volcanic eruptions with its clouds of ash which settled on the surrounding hills and villages. When it rains this ash is washed down on the main road from Rabaul to Kokopo which is now the headquarters of East New Britain. Rabaul Harbour is still the preferred port for the tourist ships and the large cargo ships. Their containers need to be transported along the Rabaul/Kokopo road. After weeks of solid rain in March 2019 the road was almost impassable with the run-off from the hills of the volcanic dust. That was when I arrived and I had first-hand experience of the difficulties facing the people. However, the Burma Road which goes up over the top of the range is a good road and is preferred by many people. It is the village people who live on the coast including Raluana Village where I was staying that bear the full impact of the poor coastal road.

Above Photograph: 1973 (Brian Mennis) Man standing on Raluana Beach looking across Blanche Bay to the volcanoes and Rabaul town in the 1970s.

Photograph Left: P & O cruise ships often berth at the Rabaul Wharf as here.

Photograph Below: The tourists buy local products at the small markets set up nearby (Brian Mennis)

One of the tourist attractions is the war cemetery at Bitapaka in the Gazelle Peninsula.

Here just outside of Rabaul is the resting place of soldiers of both wars. *Photograph 2008 Brian Mennis.*

Another big tourist attraction in Kokopo every year is the Tropicana Billfish competition which attracts anglers from around the world: the USA, New Zealand and Australia as well as local anglers and fishermen from the New Britain Fishing Club anglers. John and Sandra Lau, owners of the Tropicana, are the hosts for the occasion. They are well known for their charitable work and have donated large sums of money to help educate local students.

Sandra is especially known for her work and in the 2019 Queens's birthday honours she became a Dame of the British Empire DBE "For services to commerce and the community through her philanthropic contribution in the areas of women and children welfare, education and health services. John and Sandra warmly welcome many visitors to Kokopo ensuring that their visit to East New Britain is memorable.

The fishermen in the Tropicana Billfish competition use line fishing and trawling from their boats and catch the large marlin and sailfish but it is a catch and release programme. Once the fish are caught and weighed they are released.

John Lau is a well-known deep-sea fisherman. Born in a tunnel near the end of WWII to a Japanese mother and a Papua New Guinean father, John Lau has since travelled all over the world. He is famous for the lures he makes to catch the giant sailfish found in the ocean off Kokopo.

Chapter Three: Articles by Brian Mennis on the *babau* fish-traps 1973.

In 1959 Brian Mennis, a surveyor arrived in Rabaul which was then called the Territory of Papua and New Guinea. Brian married [me] Mary Eccles in 1964. We left Rabaul in 1971 for Mt Hagen and Madang.

Brian wrote:
My first posting was to Rabaul, which was really the best posting in both Territories. The word "Rabaul" in the local Tolai language means "the mangrove." the town being built on the low-lying area around the harbor. The harbor itself was the crater of an old volcano which had erupted hundreds of years ago, blowing out its side allowing the sea to rush in to form one of the best harbours in the South Pacific. The whole area was, and still is, a very active volcanological area. The old caldera has three old volcanoes around its summits with three not so old ones inside. There have been four eruptions in recent times: in 1876, recorded by missionaries when a reef was formed in the western side of the harbor and named Vulcan Island; in 1937, when Vulcan Island and Tavurvur (Matupi) erupted to shower pumice ash over the town and caused its evacuation; in 1942 during the Japanese occupation; and lastly in 1994 when both Vulcan and Tavurvur erupted again and completely wrecked the eastern half of Rabaul. During the war, the Americans even tried to set off the volcanoes by dropping bombs into the craters, but with no success.

Rabaul had been a major Japanese base in the War, and had been bombed heavily by the US Airforce and, even in 1959, 14 years after the war ended, still bore the scars together with numerous wrecks littering the jungle and in the numerous tunnels in the hills. Because the Americans bombed Rabaul on a daily basis, the Japanese soon started digging tunnels into the many hills around the harbor. They were following the example set by Bishop Scharmach of the Vunapope Catholic Mission who, as a German soldier in WW1, knew that to survive shelling and bombing you had to get underground. When Vunapope was bombed, the Japanese thought that they had got rid of the missionaries and they could blame it on the American bombing. When they found out that there had been no casualties because of the Bishop's tunnels, they followed the example of the missionaries.

After the 1937 eruption, the then Administration decided to transfer the administrative capital to Lae, on the New Guinea mainland. Of course, this decision took several years to make and the move was only partly underway when the Japanese war broke out. It had also been hampered by a lot of staff leaving after 1939 to join the AIF.

After the war, with the change in status to the amalgamated Territories, Rabaul became merely a Regional Administrative centre. But its growth had been stunted because, while business people wanted to re-establish their businesses, the Administration could not make up its mind on the location, in the area of the old town or 30kms further east at Kokopo. Eventually the business community forced the issue. A major survey task then became to find out where all the old boundaries were, since a large area of the town had been covered by a layer of pumice up to several feet thick. This had been completed before I arrived.

At the end of 1970, I won promotion to the position of Regional Surveyor in Madang. While waiting for confirmation, we spent six months in Mt Hagen which was interesting. In Madang, we lived in an old colonial style house on extensive grounds, backing onto one of the town's freshwater lagoons. It was very picturesque looking out of the back windows to the lagoon with the Sepik women fishing with their traps.

Maybe my interest in fish-traps began then. My work was administrative and apart from one or two minor surveys for particular purposes, I did not do any field work.

We visited Rabaul again on one of our leave in 1973 and we found it very interesting to see the changes and to visit all our old friends. While I was there, I wanted to take some photographs of the large Tolai fish traps, preferably when they were placing them out at sea. I went to the *matanoi* where they prepared the traps every day for a week, but the sea was too rough to go out in the canoes.

Photograph: Two of my sons Gregory and Paul at the Matanoi in 1973.

While I was waiting each morning, I talked to the men and eventually managed to get photographs of the *vup* traps, the *babau* float and the *peo* anchor. All made in the traditional way. I obtained enough information to write a detailed article on the construction of these traps. It was eventually published in *Oral History*, the Journal of the Institute of Papua New Guinea Studies. I also had an article in Paradise Magazine in May 1978.

Photograph Left:
Son John inspecting the coil of rattan cane which joins the anchor to the babau.

John went out to the *babau* with me and was amazed at seeing the fish so clearly in the water in the dawn light.

Tolai Fish-traps 1973.

Article by Brian Mennis (1934 – 2018)
(Then Assistant Surveyor General of Papua New Guinea).

The Tolai people live in the North-eastern comer of the Gazelle Peninsula of New Britain, one of the large islands of Papua New Guinea. They are a very industrious tribe, and have been noted for this from their earliest contacts with European. As well as being industrious, the Tolai people have a cash economy using small shells threaded on thin vines and counted by length. This money is called *tabu* and while not circulating as freely or used for the same purposes as in European society it performed almost the same function.

Fish traps are made only by those villagers along the north coast around Rabaul, from Kokopo westwards to Kabaira and vary in size from 2.75 metres high, by 1.8 metres in diameter, down to baby ones of about 750mm by 500mm. Each size and there are five of them, is used in a particular manner, and for a particular purpose, as handed down from father to son over the years. They are made traditionally from bamboo and vine but in some areas, 12 mm chicken wire is being used

Photograph Left:
Attaching the bamboo strips to the hoops. Brian Mennis 1973.

The men of Malapau scorned the use of wire and had no intention of adopting its use and had the avowed intention of handing down the traditional methods to their children.

The basis of a trap is the inner core, called in the Tolai language *a tika*. This runs the full length of the trap. In the case of the largest it is about 300 mm in diameter along the central section, belling out over the last 1.2 metres to a diameter of 600 mm at the top end. Where it starts to diverge, the core is closed off by a tightly woven bamboo partition which deflects the fish into the outer chamber of the trap. At the bottom end the last 750 mm is belled out to a diameter of about 500 mm. There is no partition at this end. The longitudinal members of the core are made from bamboo strips 12 mm wide, spaced about 300 mm at the central section, widening to 75 mm at the top.

This inner core is now enclosed by the basket which is made from bamboo strips, 6 mm wide, and laid in three layers. It is given its belled shape by four main ribs, made of bamboo strips 25 mm wide.

Photograph. Men working in the matanoi. Note the coils of rattan cane used to connect the peo anchor basket to the babau float. (Brian Mennis 1973.

In construction, the first layer of longitudinal bamboo is laid in and tied at one end. The other end is threaded into its proper place, but left free, with quite an amount of spare length. The four ribs are then put in, but no attempt is made immediately to get them to their full diameter, but they are merely held loosely in their correct positions by bush vines. When all is positioned correctly, they are expanded until the correct shaped and size is obtained. The loose fastenings are removed, and permanent ones are made.

The layers of bamboo are then tied into place, and the loose ends of the first layer fastened. It is this outer basket that the progressives (?) are replacing with chicken wire. Apart from the traditional aspect, the bamboo basket does not seriously hurt the fish caught in the trap and they can live several days. With wire, the fish get badly abraded by the rough wire and live only about 24 hours or less after being caught. The advantage of bamboo can be seen at times like now, when the seas are too rough for several days to go out and empty the traps.

The finished product is termed *vup.* While it is the actual name for the largest trap, is also the generic name for the smaller sized traps. *A vup na tataba* is the next smallest size. (The largest basket is also referred to as *a vup na babau*). All the materials required for the trap are obtained from the land owned by the village. Bamboo grows prolifically and the vines or *kanda* loop around and up and down every bush tree.

Vines also provide the material required to make the anchor rope *a vinau*. These are selected as long as possible and about 10 mm in diameter. They are put in the sea for a week, then transferred to the edge of the beach, and left on the sand, where the waves will wash over them. Three days later, a five-day drying period commences. At the end of this process, the vines are free of sap and skin, either of which would have caused them to rot quickly.

A rope is made by taking vines and twisting them together. As the vines, when dried, are very springy, it is necessary to bind them together about every 2 metres. As the length required is in the order of 100 metres and this is much longer than any vine available, it is necessary for the various lengths to be spliced as required. These are staggered so that no more than one splice occurs in any one section. When a new vine is started, it is tied around the other strands, and the free end carried back over the completed section. This is then bound every 250 mm from its end down to about 3 metres of the new length. As the rope takes shape it is looped into a coil about 2.5 metres in diameter.

Photograph: A peo ready to be anchored in 1973.

The anchor itself, *a peo*, is a pear shaped basket, 1.2 metres in diameter, and 2 metres high. The weight is made up by filling this with stones from a nearby reef. The basket is made from the same bush vine as is used for making the rope.

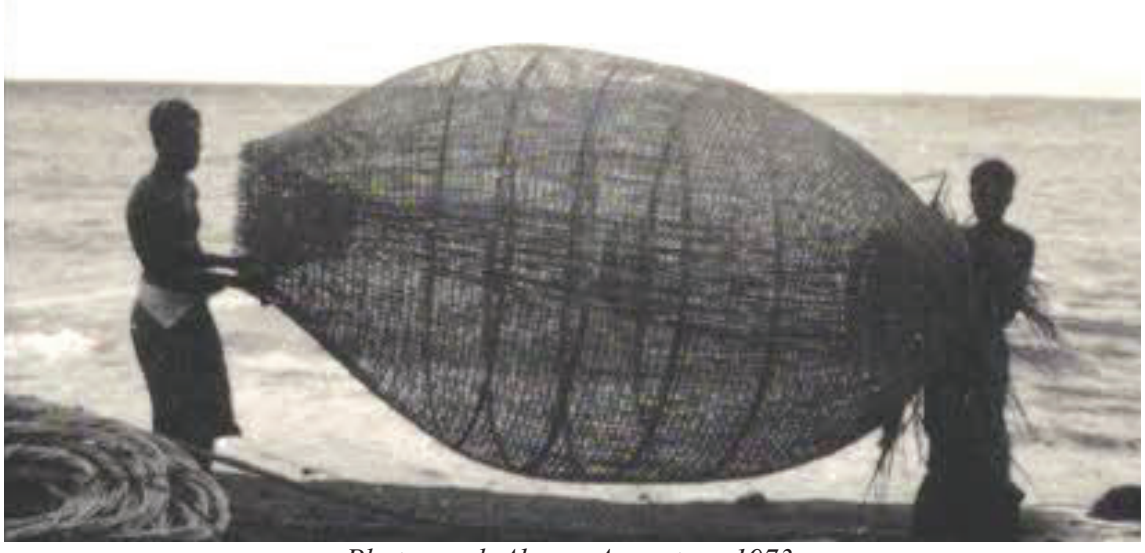
To hold the trap in its correct position, which is 600 mm below the surface, a buoy is required. Eight lengths of 75 mm thick bamboo, 8 metres long, give the required buoyancy when fastened together with vines. The buoy *a babau* is attached to the anchor rope with a shackle made from vines, *a pogogo.* The trap is suspended from one end.

The whole assembly, trap, buoy, anchor and rope takes the name of the buoy*, babau.* From the dimensions given it is easy to see why a calm day is required to get it all out to its location in the open sea.

Apart from the necessary tasks of collecting the bamboo and vines, all the work of making the traps, ropes etc is carried out on a special area of the sea front set aside for the purpose.

These areas *a matanoi*, in past times, would have belonged exclusively to the one village. However, with the alienation of so much of the sea frontage for plantations, it is now necessary for several villages to share the one *matanoi*. At Malapau, three villages Balnanataman, Vunakabi and Vunamerum shared the same area. Each village had, in its own part, a specially fended off section where the actual trap was made. Women are not allowed into this section of the *matanoi*, *a bagi*, and it is also forbidden to men who are not connected with the actual making of the baskets. Tradition has it that if this prohibition is broken, the trap will not work and it could be broken easily by a shark. After six days waiting, a slightly overcast dawn found the sea with only a slight swell and the men of the *matanoi* decided that these conditions, while not ideal, were acceptable.

The trap is put out in two sections. The anchor, anchor rope and the buoy are put out first, and then later the trap itself is taken out and attached to the buoy. However, there were a few preparations to be made before this can happen.



Photograph Above: A vup trap 1973.

Pauli, who owned the trap that was to be installed, with the help of some men, took the coil of anchor rope and put it into the sea. It floated by itself, and he started off pulling the free end along the edge of the sea, in chest deep water. One man assisted in uncoiling the rope until Pauli had run it completely out. I paced its length and this was near enough to 350 metres. While Pauli was doing this, other men put a canoe into the water and attached an outboard motor. The empty anchor basket was loaded onto it, taken to a reef about 20 metres offshore and filled with stones which had been piled up in readiness.

It requires quite a few men to get the first part of the installation done. It is a co-operative effort and the men helping Pauli would, in their turn, receive his help, when they had a trap to install. The only man who received any actual payment was the man who owned the canoe and outboard motor. He was from Vunakabi and was paid $2.00 and two fathoms of *tabu* (the Tolai shell money).

Pauli owned a canoe, but it was still too small to carry the anchor with its load of stones. In the days before steel tools became available, it was very difficult to make large canoes with the stone implements then available. The method used then was to float the anchor with its load of stones on a large raft made from bamboo.

This day the canoe, loaded with the heavy anchor, was brought back to the beach, and the near end of the rope was affixed to the anchor. The men now coiled the rope back onto the beach, making its diameter about two metres. While this was happening, the bamboo buoy was carried down, and when the far end of the rope arrived at the scene of the operation, it was fastened securely to the shackle, which had been affixed when the buoy was being made the previous week. At this stage, the rope and buoy were loaded onto the canoe, and it started off on its half hour run to the selected spot. I had arranged for myself a smaller canoe with the old fashioned form of propulsion, three paddlers, but we accepted a tow from the powered canoe.

The sea was reasonable with half a metre swell running. As we went out, I could see markers everywhere, indicating numerous traps in position where the fish were most likely to run. Sea birds were circling and diving, indicating that schools of fish were being attacked by larger fish. If the birds were observed over a trap, it was a sure indication that it contained some fish. Not all the twenty came from Malapau, and of these, three belonged to men of Pauli's village. The other thirty men came from various matanoi in the west and one to the east of Malapau. Two canoes were already out checking traps, and we could see them pulling some up to empty them of their catch.

Photograph Above: The peo being loaded onto the canoe.

Arriving where Pauli wanted to locate his trap, my canoe cast off and got clear of the operation. The buoy was first thrown over and the canoe put off in a circular path, paying off the rope as it went, arranging to be back at the buoy when it was fully run out. The anchor was then pushed over. This was not an easy task, as it was quite heavy and not a solid object, being only stones in a basket. After the anchor hit bottom, it was found that there was about fifty metres of rope left floating on the surface. Simple arithmetic indicated that the sea at this point was about 300 metres deep.

Leaving about 15 metres slack on the surface, the remainder was cut off, and the end refastened to the shackle on the buoy. The marker stick, *a unai*, was then tied to the shackle. A special bush is used for this, the *karawon*. which is trimmed so that a bare stick is left for about two metres and brushy top remains. The leaves of this bush, last three or four months which is rather unusual for the tropics. Below the top, other bushes and leaves are fixed to make a distinctive mark. This is normal, and as the rope takes up water, it gets heavier, pulls on the shackle, and eventually rights the marker.

By this time the sea was starting to get rough and we returned to the beach. After consideration, Pauli said that it would be too rough today to put the trap out, and that he would try to get it out at first light tomorrow.

Photograph Left: Putting leaves in the trap

At this time, one of the canoes returned from clearing the traps. The fish were unloaded, and quickly bought by the waiting villagers. One *aurup* was sold for a fathom of *tabu*. Occasionally $2.00 in cash would be paid, but more usually if the seller wanted cash, he has to hang the fish beside the road to catch the passing traffic.

Next morning was a beautiful calm morning, practically cloudless. Much to my disappointment, I was told that the sea had calmed down sufficiently the previous day and Pauli had taken his trap out. However, another man, *Tadep* was putting a trap out that morning so I would be taken out to watch this. As preparations for this had been completed the previous afternoon, with one exception, there would be very little delay.

The most important preparation had been performed by the *tena papait,* the good sorcerer, (as distinct from the *tena agagar* the bad sorcerer). The *tena papait* ensures that the basket remained strong against sharks, and

attracted plenty of fish. For all the sophistication of the Tolai, they still consider it most necessary to follow all the traditional practices associated with the installation of a trap. This goes down to such details as to there being only one way to fasten the trap to the buoy. The men told me that they had tried relaxing certain of their traditions, but found their fish catches dropped off alarmingly and very hastily reinstated them. The *tena papait* also operates via the medium of the owner of the trap, and this is performed quite regularly, ensuring that the trap attracts plenty of fish. To do this the *tena papait* gets a small young coconut, cuts a small opening in the side so the it is easy to get the milk out, and speaks into it calling the fish from various places by name. This is given to the owner of the trap who spits the milk into the mouth of the trap.

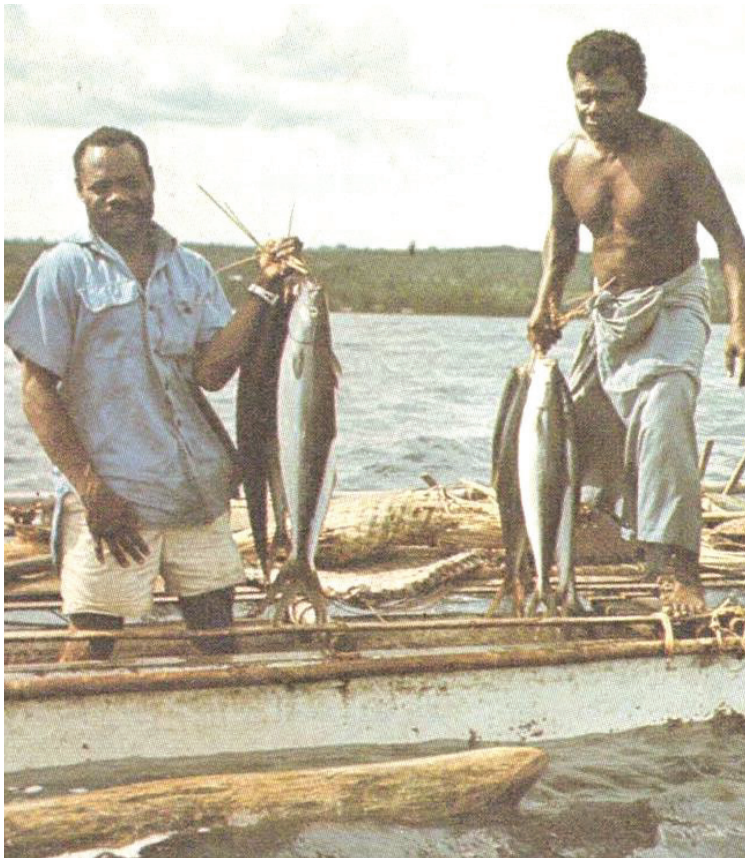
The last thing that remained to be done with the trap was to put some leaves into it. These are put in small bunches, and there is no preference as to type of leaf used. These give a dark mass to the lower part of the trap and make it look more like a reef. It is this that attracts the fish into it, looking for shelter when they are being attacked by a shark or other large fish. At certain times of the year, a small fish, *yalibu* goes freely in and out of the trap and if the trap is left down for several days, the larger fish will go in after them. No bait of any description is used. Two or three stones are finally added to give some ballast.

It was now a matter of minutes to load the trap and ropes onto Pauli's canoe, this being the largest that the Balanataman villagers owned. A small outboard motor belonging to another man from the same village was used for propulsion. Four men made the crew, with myself as supercargo.

Arriving at Tadep's buoy, I was surprised to see that it had marine growth on it. It was explained that this had been down about two months, and the first trap had been broken by a shark and removed. In any case, a trap gradually loses its strength and lasts only about three or four months.

The buoy and anchor will last up to a year, provided the anchor is on a sandy bottom. To fasten the trap to the buoy, we had brought along Dakol, the specialist in the work. He was one of only two or three men in the village who knew how to correctly tie the short rope, *a virvir,* to both buoy and trap. Apart from the main rope, there is a safety rope, *a wakai*, to hold the trap if the main rope breaks. This is a regular occurrence. One of the few concessions to modern technology is a second safety rope made from nylon.

After the ropes were all secure, the last thing to do was to finalise the work the *tena papait* had started the previous afternoon. Tadep had brought a young coconut that had been 'talked over' by the *tena papait* and Dakol spat the contents into the trap in the proper manner. The trap was now let go and sunk to its proper position, hanging vertically about 600 mm below the surface.



Leaving the trap, we saw three men from another canoe struggling to get a heavily laden trap into their canoe. Eventually, they had to leave it resting on its side, until they had emptied it sufficiently to get it up altogether. Their catch was 32 *arup* or tuna fish that would have weighed two to five kilograms each. The fish are taken from the trap and merely dumped in the bottom of the canoe. Villagers further west adopt the practice of hitting the fish on the head to kill them, but the men here do not believe in this. One fish slipped out of the canoe, as it was being transferred form the trap, but it would not last long, as it had been hurt by the bamboo basket and would soon die.

There was one more task left for us before leaving the fishing ground and this was to take Dakol to replace the main rope on Eriman's trap, which had been broken the previous day, and was now hanging by its safety rope. We cut the outboard motor some distance away and drifted up to the trap, in case any fish had been caught. While Dakol was tying the new rope, Eriman was telling me that there were many men in the village who do not know how to make the traps or how they work.

The children in the village are not very interested in learning these skills when they go away to school. They consider that there are many more important things to do in school holidays than go down to the *Matanoi*. While he considered this to be a bad thing, he realized it was inevitable, and predicted that eventually a few men would specialize in fishing and buy their garden produce with their earnings. Even now, a man does not have to make his own trap he can buy one for $10.00.

He also told me that of the five different traps that used to be common in the past, only the largest, the one I have described, and that is the subject of the photographs, is still in everyday use.

Five different traps

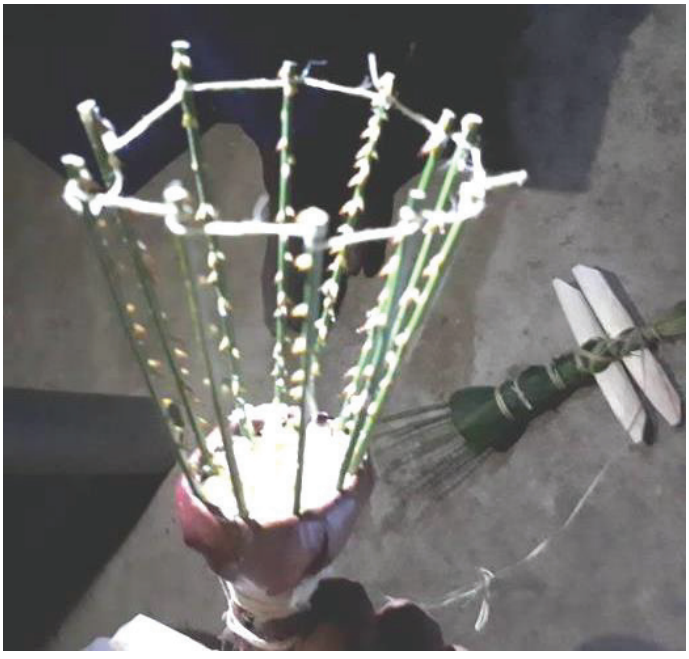
1. A vup na Babau. The largest traps

2. A vup na tatabar is slightly smaller than *a vup na babau,* and is ballasted with stones, and sunk into 100 metres or so of water. Baited with smaller fish or fruit, it is left down only a few hours, before being hauled to the surface with a load of fish.

3. A vup na tatakia is a trap about 1.2 metres long that is placed horizontally on a sandy part of the reef, about five metres below the surface and camouflaged with stones. A white vine, *kadapon* about one metre long is tied to the mouth and laid along the sand in line with the trap. The far end is fastened to a stone. The reef fish are attracted by the white of the vine and nibble at its skin. Following this up, they end in the trap which are left in place for up to three days.

4. *A vup na kavakavara* is about half the size of the *takia* and is set on a shallow reef in the same manner except that *kadapon* is not used. Five or six men frighten the fish who then seek refuge in the trap thinking it is another piece of reef.

5. A vup na pinap is a middle sized trap that is sunk into 15 or 20 metres of water, and baited with fish or fruit. Simultaneously with the trap, a large reef stone, joined to the trap by eight metres of rope is sunk. The two lay on the bottom separated by the rope. After several days, the rope is grappled for with a bush hook and brought to the surface.



A completely different type of trap is *a aungmuton* which is made using a forked stick and a vine with numerous spikes on it. The vine is wrapped around each side of the fork with the spikes pointing to the apex. A leaf is wrapped around this so that the fork is now totally enclosed. A bait of chewed coconut is placed in the apex and the trap is stood up in a reef at an angle of 45 degrees. When a fish is caught, his struggles loosen the trap, which floats to the surface and is retrieved.

Photograph 2019.
The aungmuton trap.

As we finally came back to the *matanoi*, I thought how sad it would be of all the years of tradition which had gone into the creation of these traps was lost and that it was a good thing that Eriman, Pauli, Dakol, Elisa, Francis and all the other men of Balanataman Village and the Malapau *matanoi* were so determined to hand these traditions on wherever possible.

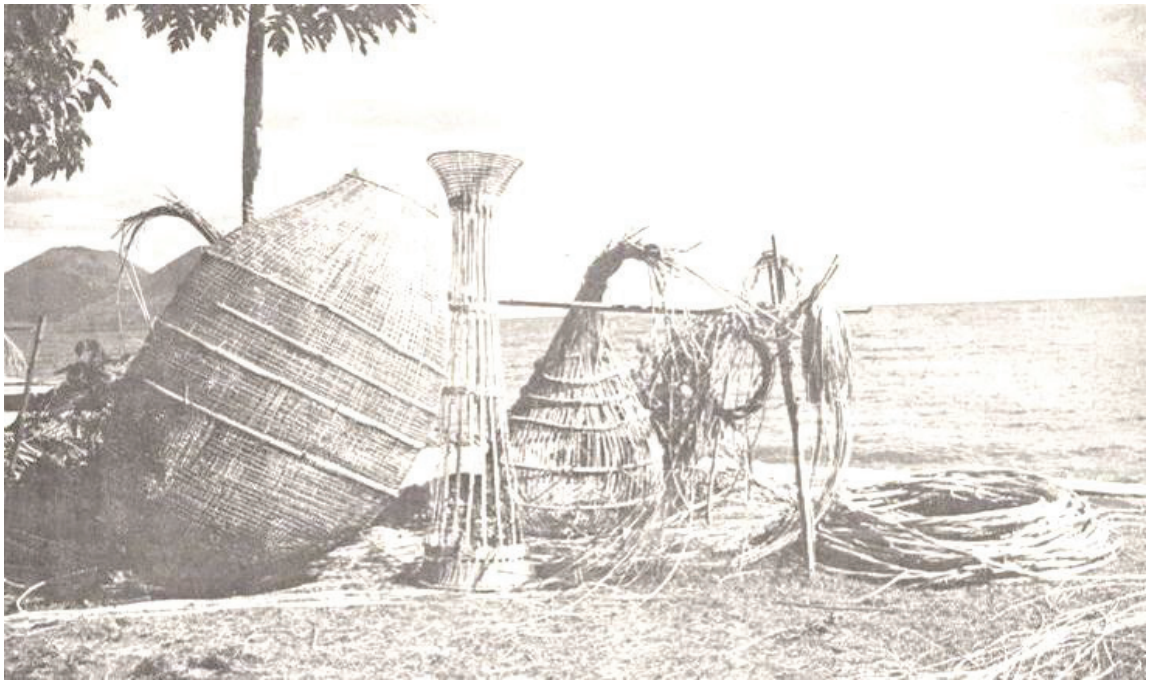
Photograph: Man fishing with a nylon net at Raluana Beach 2019
This is the more favoured way of fishing nowadays (M. Mennis).

Photograph:
An orchid covered in ash, Rabaul 2018.

THE BABAU OF RABAUL

The following is a series of photographs
by Brian Mennis in 1973

Photograph Left:
Tolai building to store the babau



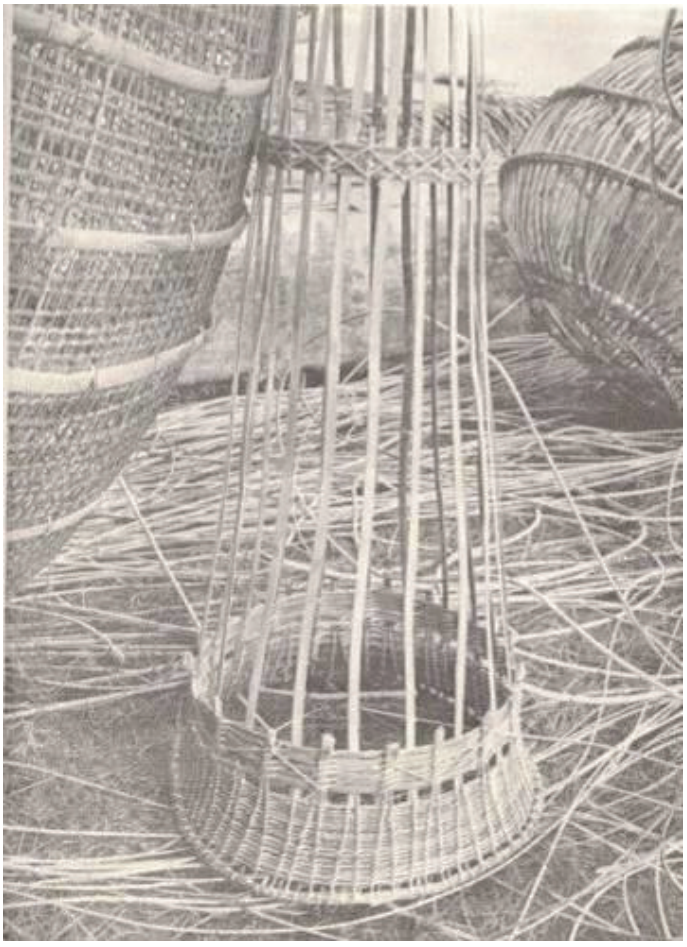
In 1973, the *matanoi* section of the beach where the men make the fish-traps. Some components of the *babau* can be seen. From left, the fish trap basket, *vup*, the inner core *tika*; the anchor basket *peo* and on the ground a coil of anchor rope called *vinau*. Missing is the *babau* bamboo float that hold them altogether when at sea.

Preparing the anchor rope for launching in the sea. On the right is a close-up of the *peo* basket. Missing is the *babau* bamboo float to which the coil is tethered. The other end is attached to the *peo* on the seabed. In the background are the Rabaul volcanoes: from right the South Daughter, the Mother (Kombiu) and Tavurvur in front.

Emptying the fish from the trap in 1973. The fish are emptied from the top and two men are busy extracting the fish while a third man lifts the vup trap up from the bottom. Meanwhile the man sitting on the canoe must steady it and make sure the *vup* trap does not pull too far from the *babau* float on the left. If this should happen the anchor rope might get pulled and break off from the float. The stick on the float holds a marker to show where the *babau* sits in the water for those watching from the shore.

Vine waiting to be worked into the coils for the anchor rope. The rattan vine grows high up on the trees. The men must be careful when getting it down as the vines have thorns on them.

Photograph Below: The matanoi near the beach



The *matanoi* trap-making site on the beach. Women are banned from this area. A Tolai man is working on the inner core (*tika*) of the *vup*. He started from the bottom and worked from there upwards.

Photograph Left:
A close-up of the tika –
the inner core of the trap.

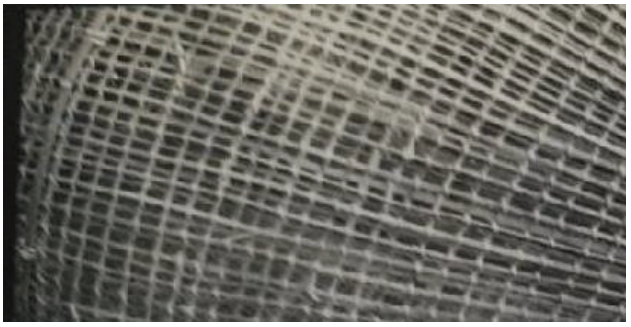
The top of the *tika* is sitting on the ground. The fish go in the top here and then hit a webbed barrier which deflects them into the wider chamber of the trap seen here on the left.

This is the first stage in the construction of the outer basket of the *vup*. The man is putting on the locks which loop around and give shape to the *vup*.

The second layer of bamboo is wound in place with cane strips in the *bubulu* process.

View of the *matanoi*, showing the coconut fronds to keep people out. Women were forbidden to go into the *matanoi*. They could leave cooked food on one side of this coconut fringe fence and call the men to come and get it.

Below
The close-up of the outside of the *vup* showing how the thin strips of bamboo are tied in place with thin vine.



The anchor *peo*, is a pear-shaped basket, 1.2 metres in diameter, and 2 metres high. The basket which is filled with stones from the reef is made from the same bush vine as is used for making the rope. To make the peo thick canes are used and put flat on the ground.

A large stone or brick is placed in the middle of these canes which branch out and are then gathered at the top as seen here.

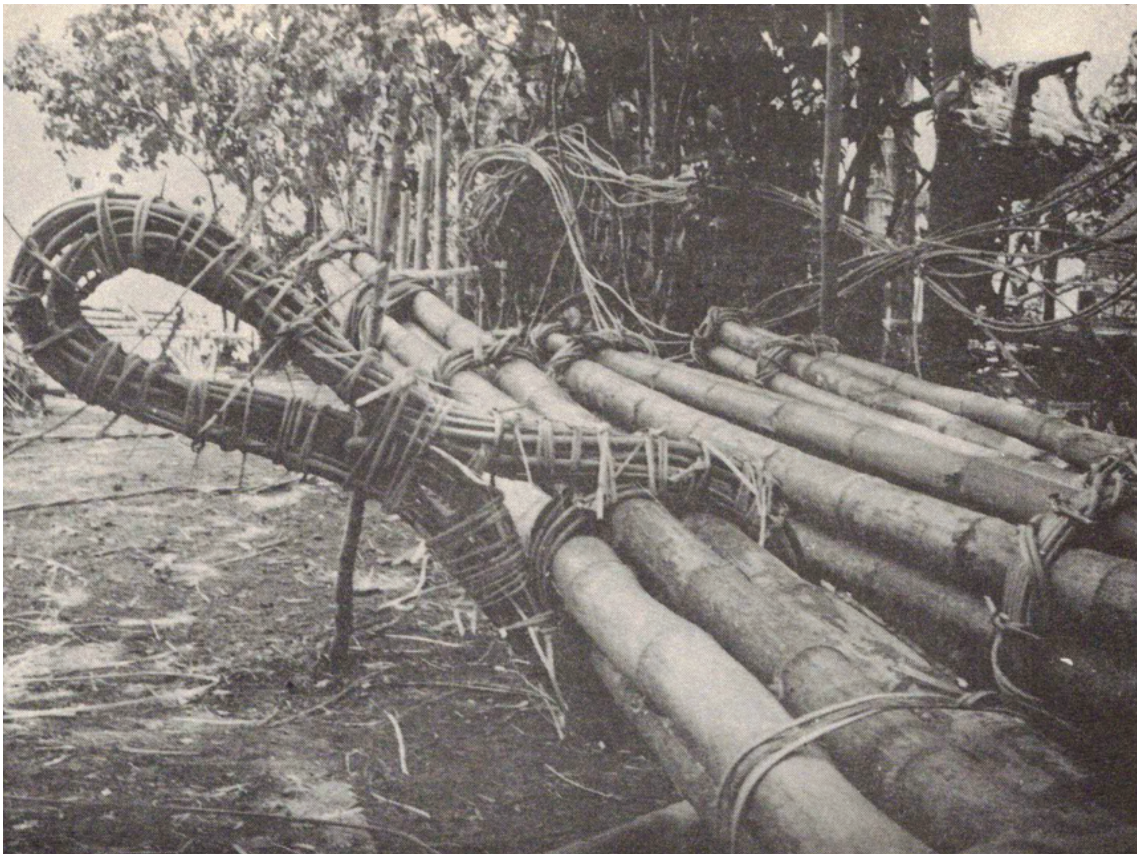
Photograph Above: The vine coils to be used as the rope connecting the peo anchor on the seabed to the bamboo babau float on the surface.

The bamboo buoy (*babau*) is made from dried bamboo logs which are naturally dry in the bamboo clumps. These need to be dry so they can float for a long period of time and hold the *vup* trap which is suspended off one end and the *peo* which suspended off the other end.

Below: This photograph shows the length of the babau bamboo raft or float.

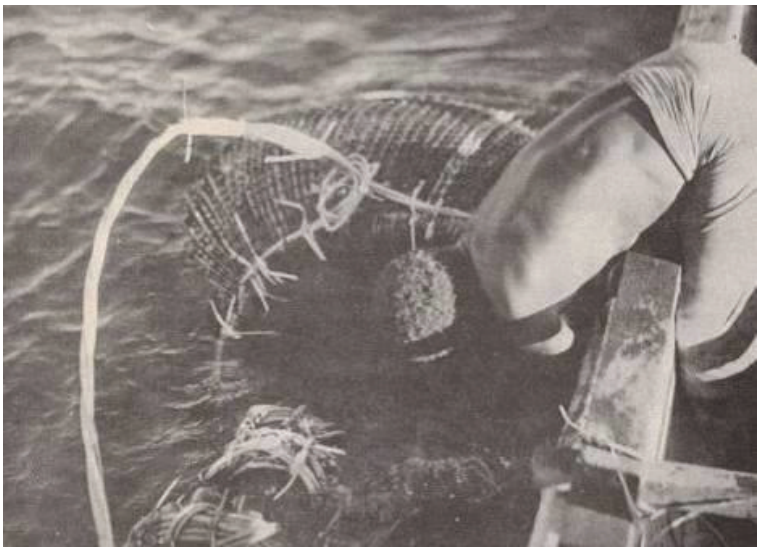
Richard Parkinson wrote about the *babau*:
Various accessories belong to such a net, namely the float or buoy, to which the fish-trap is attached, the anchor rope, and the anchor. The float or buoy, *babau*, consists either of a bundle of firmly tied bamboo canes about 4 to 5 metres long, or a wooden float usually made from the inner wood of the breadfruit tree, which is not attacked by the boring clam; in the latter case the 4 to 5 metre long wooden buoy has a deep, broad indentation at one end, *kala ta dokop,* to which the *wup* is attached by means of the *virvir*.

In the middle, the buoy has a further indentation, *kokobot*, which serves to receive the anchor rope, *vinau* ; the latter is wound round the buoy and secured to it in a particular manner, called *paraparik*. The anchor rope, vinau is made from lengths of rattan; usually three to four of them are wound round one another and held in place by wrapping with fine strips of rattan about 10 centimetres apart; the wrapping is called *gogo*. The anchor ropes are often of great length, occasionally up to 300 metres long.



The shackle on the *babau* platform. A rope was fastened securely to this shackle, which had been affixed when the buoy was being made previously. The other end of the rope is tied to the *peo* anchor which is then dropt into the sea. Once the *peo* hits the water, the coil of rattan cane unravels suddenly.

The rattan cane is soaked in seawater to soften it. Then it is coiled up ready to be attached to the *peo* at one end and the shackle on the *babau* at the top. It can be as long as 300 metres so it reaches the sea bed.



The *tena papait* (magician) is doing his part with secret incantations calling out the names of fish to make the trap safe and successful when it is launched into the water.

Photograph Right: Success at last! A man clears out the fish from his vup trap.

Photograph Left: Fish caught in the babau fish trap (Brian Mennis 1973).

**Note the shell money at the side. The fish here are probably the Rainbow Runners which are popular with fishermen in Rabaul. This is a common species of the pelagic fish.*

Photograph Left: Fish caught by modern methods for sale at the side of the road in 2019. The mouths are covered to keep the flies away. (Mary Mennis).

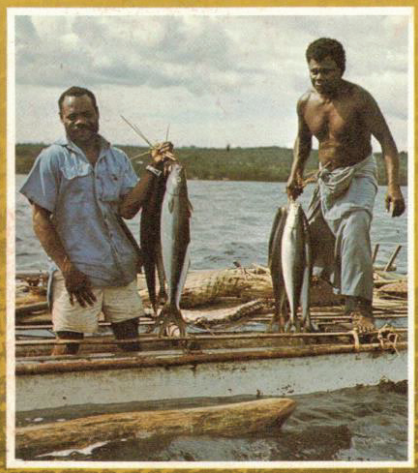
Fish in a basket

Story and photographs by Brian Mennis

Fish abound in the waters around Papua New Guinea and with today's fishing aids it's not difficult to land yourself a feed. But *long taim bipo* (in days of old) for Papua New Guineans a lot of hard work and careful planning was necessary for father to be reasonably sure of bringing home a catch.

Like so many other things Papua New Guinean, fishing methods vary across the nation. But in most areas fishermen were, and in many areas still are, dependent on some form of trap. The coastal Tolai of the Gazelle Peninsula around Rabaul in East New Britain Province still use their traps on a regular basis, anchoring them out to sea in Talili and Blanche Bays. In the best times of the year for trapping, passengers flying into Rabaul will see quite a number of bamboo rafts anchored off the shore line.

The rafts, *a babau* in the Tolai language, support the traps just below the surface of the sea. All this sounds easy. But the waters around Rabaul drop steeply away from the land, and where the traps are anchored it is about 300 metres deep. Not quite so easy. Even less easy when it is considered that often



everything used in the construction of the trap comes from the lush tropical forest behind the coastal villages.

The traps — up to 2.5 metres high by two metres in diameter — are a work of art in themselves. They have a central core surrounded by an outer basket. The inner core, running the full length of the trap, bells out at each end. Where it starts to bell out at the top end to make the mouth, it is closed off by a woven bamboo partition. Bamboo strips, used in its construction, are spread a couple of inches apart and are flexible enough to permit easy passage of fish into the main basket.

The main basket is made up of three layers of woven bamboo, shaped by four main ribs of thick *kanda*, a strong bush vine. Some villagers are now replacing the outer basket with 1.25 cm chicken wire. Soon, no doubt, the woven bamboo will become a thing of the past. Bamboo's major advantage is that it does not seriously hurt fish caught in the trap and it allows them to live

Tolai fisherman takes great care in fastening the trap to the raft

several days. Chicken wire damages the fish and they live only about 24 hours or less after entering the trap. This is an important consideration when heavy seas prevent daily inspections and clearing of the traps.

The trap hangs vertically with its mouth set less than a metre below the surface. It is held in this position by the anchored raft. The 300 or so metre rope linking the raft to its anchor comes from the same place as everything else — the jungle. Five thicknesses of vine, each about 10 mm in diameter, are twisted and spliced together to make up the length required. One rope I saw laid out measured 350 metres. The anchor is a pear-shaped basket about two metres high filled with stones from a nearby reef.

After collecting the bamboo and vines, all the work involved in making the traps is carried out on an area of the seafront, set aside for the purpose, called the *motonoi*. Each of these areas, in past times, would have belonged exclusively to one village. However, with the alienation of so much of the seafront for plantations, it is now necessary for several villages to share one area. A part of each of these areas is used exclusively for building the trap. All women, also men not directly connected with the actual making of the trap, are forbidden entry. Tradition has it that if this prohibition is ignored the trap will not attract fish and could easily be broken by a shark.

Once a trap, with all its extras, is completed, the next task is to get it out to sea and into position. Because of the sizes of the components, this is done in two operations. First the anchor and anchor rope are put down and attached to the raft. Then the trap is taken out and tied to the raft. But it is not just a simple matter of picking the trap up, taking it out, and tying it on. The Tolai people still consider it necessary to follow all the traditional practices associated with the installation of a trap. This involves such detail as there being only one way to fasten the trap to the raft.

Once in place, the traps are visited, if possible, at least once a day to collect anything that may have been caught. Catches of up to 30 2-4 kg fish are not unusual. Fish mostly are sold on the beach as soon as they are landed. Quite often the sale is made in traditional currency — one fish bringing one 'fathom' of *tabu* or shell money. If the fisherman does not dispose of his catch at the beach, he will display it beside the road or take it into the market.

The trap lasts only about four months at sea before it loses its strength and has to be replaced. Sharks also break them quite frequently to get at fish trapped inside. However, the raft, rope and anchor will last up to a year provided the anchor is on a sandy bottom, so it is merely a matter of replacement of the trap to keep the fish catches coming. — *Brian Mennis is a freelance writer based in Madang, Papua New Guinea.*

Traps are anchored with a basket of rocks attached to a bamboo raft on a 350m rope

Fixing the trap to the bamboo raft where it will hang less than a metre below the surface

Living in Rabaul in the 1960s by Mary Mennis

I, the author, first went to Rabaul in 1962 and taught at Matupit Island in the shadow of the Tavurvur volcano. A couple of times the students took me down inside the volcano which stank like rotten eggs from the sulphur. It was smoking in one corner.

Inside Tavurvur volcano 1962.

Right Matupit children in school 1962.

The young Tolai children had lived a life of freedom swimming, hunting and fishing before they went to school, so they had to readjust to the new life which they sometimes found too confining. In the hot afternoons if there were children missing, I would be told that they had 'gone fishing'. It was through these children that I met their grandparents who had stories going back to the German times.

One of the oldest people was Paulina Ia Dok who was born in the 1890s on the Beehive Rocks (Dawapia) which sit in the middle of Rabaul Harbour. In those days the Beehives were larger and had a small fishing village on them.

Ia Dok's father, To Kurotote and her uncle To Malan were two fierce *tena agagar* sorcerers who had a falling out with a man from Raluana called To Lakua as they believed he had poisoned their relative, To Vuvung. They invited To Lakua over to the Davapia Rocks and pretended to be very friendly with him. In the afternoon they made a peo basket together and that night they killed To Lakua while he slept. They put his body in the *peo* basket with some rocks and then sank it. The people on the mainland got to hear about this and many canoes set off from the coast towards the small islets to get their revenge. *Photograph Left: Ia Dok in 1962.*

Ia Dok was only small at this time but she understood the danger they were in when she saw the canoes coming. She thought she would soon die. She cowered down near her little house and watched as her father and uncle climbed to the top of the tallest Beehive Rock (Dawapia) and faced the advancing canoes. The paddlers in the canoes saw them standing there defiantly on the top of the rock and saw them making the malan magic to make them weak. Suddenly they lost all power in their paddling.

Their canoes could not advance as To Kurotete and To Malan continued to shout out threats. Gradually one by one the canoes turned around and returned home. Ia Dok heaved a sigh of relief but she never forgot how frightened she was that day. Nor did she know how their enemies knew what her father and uncle had done to hide the body. Putting it in the *peo* basket with rocks in it would have made it sink to the bottom of the harbour. Someone must have observed what they had done. Personally, I had never heard of a *peo* basket before Ia Dok told the story and until recently did not know of its significance in the Tolai fishing culture.

Photograph Right:
Beehive Rock with fishing village.

In Rabaul in 1962 I met Brian Mennis who was a surveyor and we married in 1964.
We continued living in Rabaul until 1971 when we transferred to Madang. As Brian mentioned we returned to Rabaul on a visit in 1973. This time Brian had developed an interest in photography and spent a week at the *matanoi* near Raluana on the Rabaul/Kokopo road taking many photographs. Subsequently he wrote two articles about them. one for Paradise, the in-flight magazine of Air Niugini and another longer one was published in Oral History with the help of Pamela Swadling.

Since Brian's death in May 2018, I was anxious to re-publish his photographs and articles, particularly as they are of historical significance. I had heard that the *babau* with the *vup* fish-traps were not made or used these days. It was time to investigate the truth of these stories.

I had been in touch with Tiolam Wawaga whom I had met previously with Ruth McDougall at the Art Gallery in Brisbane. Before leaving for Papua New Guinea I had arranged to stay at Raluana village and Tio promised to look after me. This trip was partly to honour Brian's memory, and to see what had happened to the *babau* fish-traps he had written about in the 1970's and add information about these traps.

In Brian's photographs, the *vup* fish-traps and the *babau* bamboo rafts looked very similar to those photographed by George Brown in the 1880s nearly a century earlier. I was to find

that nowadays smaller *vup* traps are made in the traditional way but the larger ones we saw at Karavia were encased in green fish-netting, using modern materials as short-cuts.

However, the theory behind the *babau* is quite scientific. Tio mentioned the FAD system of creating a situation that attracted fish into the large fish-traps. The anchor ropes would grow algae which attracted the small fish and then the large fish would come to eat the small fish which sometimes found refuge in the *vup* traps made attractive with leaves and food. The large fish would then chase them into the *vup* and get trapped. If the little fish were small enough they could escape through the bamboo sides or even swim out again through the top of the *vup* and inveigle more fish into the trap.

Since the 1960's, Brian and I knew some things about the Tolai culture, but there was a lot more to learn. This was particularly so regarding the *matanoi* where the men made the large fish-traps called *vup* and the *babau* rafts from which they hang. Women were banned from these areas altogether whatever their nationality because if a woman touched a fish-trap it would bring bad luck and a loss of the catch of fish. Tolai women respected this rule and abided by it for generations before any Europeans ever came to the area.

The method of using a floating platform is used throughout the world to make a gathering place for pelagic fish such as marlin and tuna.

According to Wikipedia:

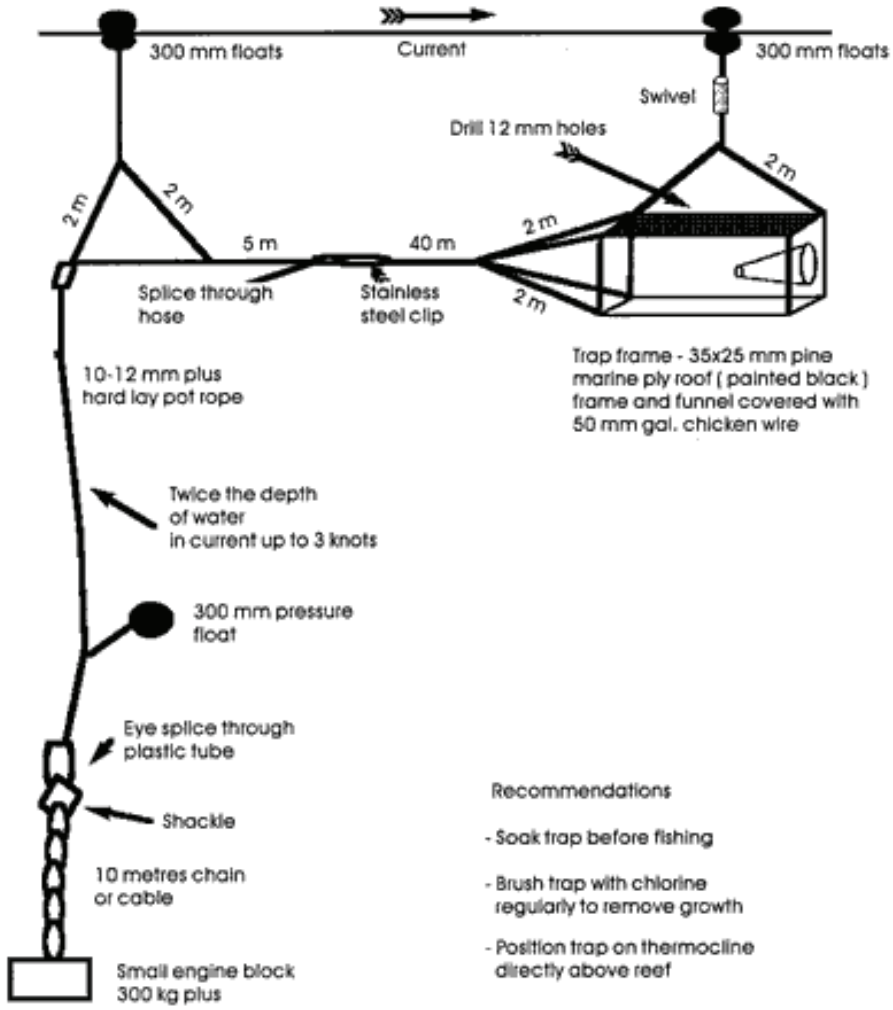
> "A fish aggregating device (FAD) is a man-made object used to attract ocean going pelagic fish such as marlin or tuna. They usually consist of buoys or floats "tethered to the ocean floor with concrete blocks. FADs attract fish for numerous reasons that vary by species." It seems that in many cases there is no net fixed to the float but ships use their retractable fishing nets to catch fish that are attracted to the floats. Fish see floats as a marker in a sea where there is a so-called "optical void."

In Rabaul the floats were set up to two kilometres out to sea to catch the pelagic ocean fish like the Rainbow Runners that live there. Unlike those cases just mentioned the Tolai system had bamboo traps to catch the fish that were attracted to the floats in the first place.

In an article on the web mention was made of traditional fish-traps used by 'prehistoric people' using simple barriers made from stone or wood and were probably one of the first types of trap used. Many such traps are still used today throughout the world and their design is based on the types of fish in that area. Special note was made of an invention by Norwegian technologists of a trap for taking live cod.

The pot has two chambers and is somewhat larger than the traditional tusk pot. It has two fairly wide entrance funnels leading into the lower chamber, with a narrow entrance leading to the upper chamber. A bait bag or saver is fixed in the lower chamber between the two funnels. The pots are baited with squid and set on a string or longline at depths varying from 50 to 300 m.
www.fao.org/3/X2590E/x2590e07.htm

Pelagic fish trap



Above: Norwegian two-chamber pot for cod
at www.fao.org/3/X2590E/x2590e07.htm

This design has some of the characteristics of the *babau* system used by the Tolai people and described in this book. This design is copied for educational purposes.

Chapter Four: Diary of 2019 visit to Raluana village

DIARY OF 14 MARCH – 2 APRIL, 2019: Raluana village and *Babau* fish traps

Thursday 14 March,
John Evans and I flew to Port Moresby from Brisbane. John wants to publish Brian's articles plus a follow-up about the Tolai fish traps today. We stayed in Port Moresby until Sunday when I was scheduled to go to Rabaul and John Evans to Madang.

Sunday 17 March,
Sunday morning John Evans, Jack and wife, Natalie were there to see me leave the Holiday Inn by the airport bus. The ticket man at the New Guinea Air counter said I was off-loaded and had to come back the next day. I just stood there and said "No I have to go. I cannot get in touch with the people in Rabaul." A kind woman official helped me get a seat. After a long wait at the terminal we finally boarded and I saw several spare seats on the plane so there was no need for me to be off-loaded.

I was a bit worried what lay ahead. It had been ten years since I had been to Rabaul apart from a one-day tour on a tourist cruise. I had been in touch with Tiolam Wawaga but had only met him once at the Queensland Art Gallery in Brisbane. Would he be there to meet me? If not, what was I going to do?

No need to worry. There was Tiolam waiting for me at the airstrip. What a relief. I was to find him very solicitous and intent on helping me find information about the *babau* and the *vup* fish-trap. He drove me to Raluana Village on the main Kokopo to Rabaul road. There had been landslides two weeks previously and the road had been covered in pumice which just falls down the steep hills during the rainy times.

Tio's wife Ovin was in Port Moresby recovering from an operation, so Tio organised for Josephine to live in and be my companion, while I stayed at his place. Josephine Aquila is very intelligent and has been on many United Church committees. She had spent the previous day cleaning and polishing the house for me and she added some lovely flowers from her garden - Tolai hospitality at its best. Tio's house is a lovely two-storied modern building which his carpenters built for his two sons Allan and Junior Tio. Tio built a unit on the ground floor for himself and his wife Ovin and there is a large under-cover area alongside for family meals. Family get-togethers mean a lot to the Tolai people.

That Sunday evening, I interviewed Ebes who is Tio's uncle. We sat talking on the verandah with Tio's help as Ebes has hearing and sight problems. He seemed a little shy but then he didn't know me from a bar of soap and I was full of questions about fish traps. I had drawn up a questionnaire with thirty questions. Not all of them were relevant and I learnt to cut some out during interviews over the following days. I managed to have some interviews with women as well. Although they were not allowed to be part of the fish trap building, they had their own view of it all. They had to do the gardening, cooking and looking after the children while the men stayed and worked in the *matanoi*, like a large men's club.

After our talk with Ebes, we had dinner downstairs with the family including three little girls – granddaughters of Tio. That same evening Tio recalled when he finished school one year, he and his friends decided to drive to the base of the Mother volcano (Kombiu) and then climb it. On the way they picked up some fish that had been caught in a *vup* from a vendor at the side of the road. They did not have any shell money with them, so they bought it on credit and put it in the vehicle. Then off they went. Some of the boys stayed at the base of Kombiu and prepared a fire to cook the fish while the others raced to see who would be first to the top of the mountain. They were all hungry by the time they came back, and the smell of the cooking fish was delicious. After their party, Tio knew he had to tell his father that they still owed for the fish and they made sure the fish seller got their shell money payment. If not it would bring back luck to them and they would not get any fish in the traps until it was paid.

It was stories like this that I had come to collect. The nitty gritty of catching fish in traps hanging from the *babau* platform and the payment with shell money, the assurance of good luck by following certain rules. That evening I settled into my room with all my baggage and got organised for the next day.

Monday 18 March,
Today Tio checked Richard Parkinson's articles from the 1880s about the *babau* fish traps and his information about counting the shell money (*tabu) i*n his book "*Thirty Years in the South Seas.*" He thought both could be used as reference. Tio mentioned that he had been interested in *vups* since a young age, so he is happy I am doing this book to honour Brian who had taken some lovely photographs of the *vup* and *babau* in 1973. Over the following days Tio was able to add captions to them.

Because of his continued interest, it was great to have him on board. Later we went to Tokilala at Kuradui to visit Melkie Kilala who is another of Tio's uncles and belongs to the Vunamama/Tamtavul Clan of Vunamurmur Village at Raluana. The road to Melkie's place is shocking and I felt the car was going to tip over sideways at one time. Melkie lives at Kuradui plantation which Phebe and Richard Parkinson once owned so we were at the place where the first written notes about these two cultural items were done. Parkinson would have seen the *babau* at *Raluana* Beach and with his wife, Phebe's help described them in detail.

Melkie had previously lived at the northern end of the Blue Lagoon on the Kokopo Road. When he was a young man, he watched his elders making the fishtraps and learnt the art. He worked as a driver and when he finished, he decided to go into trap-making at the Togole *matanoi*.

Photograph Left: Tio, Melkie and me with a tika, peo basket and the babau in Melkie's yard.

Melkie is one of the few men left who knows how to make the full *vup* trap but he is too old to make them. The yard at his house has an interesting collection of the *babau*. There is a large *peo* basket in the attic of the *haus win* jutting out as it does not fit. He obligingly let us take it out for a photo. Josephine took photographs of Tio, Melkie and me with the *peo* basket and a quantity of the rattan cane. There was also a *tik* inner frame of a *vup*. The only thing missing was the *vup* outer basket.

The *peo* is made of very thick cane which has been softened so that it can be turned in a circle. When being used in the sea it is filled with quite large rocks so that it acts as an anchor for the *babau* fish trap. Tio and I sat with Melkie under his trees while his relatives and Josephine sat in the *haus-win* which doubles as a storage area for the parts of the *vup*.

Melkie said that when selling fish from the *vup*, the people can bargain over the price of fish, but usually if they buy ten fish you would then add one for free to give more luck to the trap.

When I asked why the fish-traps aren't made anymore, he replied that all the old men who knew how to make them have died and the younger men are not interested. Some people take short cuts using chicken wire instead of the bamboo outer cage but the wire batters the fish and bruises them and sometimes when you go to get them out of the trap, the fish fall apart and are rotten so not a good idea.

Photograph left: Grave of Phebe Parkinson at Kuradui. March 2019 (M. Mennis)

After we left Melkie's place we visited Phebe Parkinson's grave which is not far from the main road. It could be quite a tourist attraction, but the graves are deteriorating.

The people are going to have a special ceremony in September 2019 and will fix the graves by then. It will be a funeral service followed by the *Minamai* where *tabu* will be distributed. After that there will be the feasting with pigs and bananas followed by traditional dancing. I am hoping to make it back by then with copies of the book - The *Babau* of Rabaul. [Phebe Parkinson did spell her name the way it appears on her grave. In some books about her, the spelling is Phoebe, which is incorrect]

Photograph Above: Parkinson's former Kuradui house in the 1890s was bombed in the war.

After leaving Kuradui that day, Josephine, Tio and I enjoyed a lovely fish lunch in Kokopo at the Gazelle International Hotel which is on the previous grounds of Queen Emma's plantation, nearby are the famous steps which once led to her grand house. Each morning she would descend these steps dressed in a colonial style outfit with her attendants and then be driven off to the office in a horse and carriage. She managed to hold on to her estates when the Germans arrived.

Emma and Phebe Coe were sisters born of a Samoan mother and Jonas Coe, an America father. Because they were of royal Samoan stock, Emma saw herself as a princess and became known as Queen Emma. Both sisters became prominent business women and planted large coconut plantations with the help of their extended families. Phebe and her husband Richard Parkinson, managed Kuradui plantation so it was all part of the historic day we were having. Parkinson was a surveyor but also a scientist and ethnographer and described the *vup* traps, the *babau* rafts and the *peo* anchors in detail as he saw them on Raluana Beach in the 1880s.

Later that day, we went to the museum which has many relics of the Second World War in its front lawn. We were amused at the hens in a cage marked *muruk* and we wondered if tourists might think *muruk* was the Tolai name for a hen. A *muruk* is a cassowary bird and as there were none of those on display it makes a good chook pen. We saw the extensive collection of World War II exhibits of guns, shells, aircraft etc. There was also a new German exhibition which was very good I wish we could have something like that in Madang. Afterwards we visited Sandra Lau and went shopping in her Tropicana Supermarket. She invited us to a party on Wednesday night.

Tuesday 19 March,
Tio had a meeting that went all day. Josephine and I stayed at home and I interviewed her about her life and how she lived a few years on the Duke of York Islands and saw the *vup* although they are called *vu* over there.

At 4.30 after Tio came home and we went next door to visit Nanes Rarana, the wife of Nelson who was beaten to death by rascals when he was trying to break up a fight two years ago. There was a small *vup* on a table in the yard made by Nelson. He used blue string instead to the traditional vine, but it is a good innovation and will last longer.

Photograph Left:
Nanes Rarana, wife of Nelson with his beautifully made vup.

It was interesting that Nelson made the small trap at his house with the help of his wife. The taboos on women do not apply to the smaller ones.

Nelson found the bamboo for his trap locally. He made it in the traditional way with the strips at an equal distance. The smaller locks are tied in place over the *tika* inner frame. Sad to see this beautifully made small *vup* - a reminder of the skills Nelson once had.

Wednesday 20 March,
Tio, Josephine, Junior and I caught up with Ebes again. He lives in Baravon Village high above Blue Lagoon. The road is quite poor and lumpy. On the way we took Tio's adopted granddaughter, Theodora, to the school called - Vunamurmur Elementary School which has about three grade levels. After we had a photo taken with the children, the teacher was just arriving, probably held up by the poor condition of the road. We drove further down and there was a great lookout over the water, blocked now by some tall trees, whereas in the old times there would have been a clear view across the water. These lookout places are called *makmakila*: a place where you stand and spot the birds circling over the *vup,* indicating there are fish inside. These *vup* were placed one or two kilometers offshore so it is easier to view them from this height. Tio said that if the scouts saw anything, they made a yodelling sound and the men below knew it was time to go out and clear the traps. Today there was still a view of the Rabaul volcanoes in the distance between the trees. It was still easy to see into the water down below even though the view is partly blocked.

Ebes once had a *matanoi* at Blue Lagoon and used to walk down a very steep track to the beach. He reiterated what Tio had said about the scouts on the top of the cliff watching for bubbles on the surface of the water or birds circling the traps. They knew then it was time to go down and clear the traps or signal to the men down on the beach to do this.

Photograph Left: Tiolam, Ebes and Josephine at Ebe's house. March 2019.

Tiolam went to his meeting in Kokopo, and his son, Junior Tio, drove Josephine and me around to the bank, the market and the *Digicel* phone place where I paid a lot of money to get a few digits.

Photograph Left: Blue Lagoon on the Rabaul/Kokopo Road. (M. Mennis 2019)

Junior Tio then drove us to the Blue Lagoon where Melkie once had his *matanoi*. It is a very nice place on the Rabaul/Kokopo road and the water is indeed very blue. Above is the tall cliff up to Baravon where we had been earlier. It was this cliff that collapsed during the recent rains causing a big landslide which cut off the Rabaul/Kokopo Road. Even now, one detours around potholes from Kokopo to Blue lagoon. There were very bad wash outs in places. The poor state of the road has been on the national news. It is a major problem facing development there.

Photograph Left: United Church near Blue Lagoon showing the Baravon cliff behind. (M.Mennis)

At the Blue Lagoon we saw fishermen using nylon nets - a modern way of fishing. They said they had caught a lot of fish in the morning and sold them all. When Tio heard this, he said he wanted proof of how many and what size.

At Tio's place they are having a lot of blackouts. There was another one this evening and then the water stopped because the pump didn't work so they have a few problems, but they are so cheerful. The Tolai are a very resilient people. They have had to contend with eruptions, volcanic ash; the loss of most of beautiful Rabaul to the eruption and continual ash-falls yet they come up smiling and happy.

Photograph: At the Gazelle Hotel. Isaac Ion, Jacob Simet, Mary Mennis and Tio Wawaga.

Thursday 21 March 2019,
Tio had another meeting in the Gazelle International Hotel and Josephine and I accompanied him. We met Isaac Ion from the Duke of York Islands and Dr Jacob Simet of Matupit Island who remembered me as Mary Eccles, a young teacher at the Matupit Government School in 1962.

Jacob is worried that some of the Tolai emblems like the *tabu* shell money are being used on meri blouses made in China and Thailand and that the Tolai were missing out on the copyright of these symbols. Today was the last day the women could buy the meri blouse material with the *tabu* illustrations on them. There was quite a crowd in the ground of the hotel buying up big. They

were not worried about my work on the fish-traps as it was more history based. We sat around a dining table at the hotel and had interesting discussions. Later I interviewed both Jacob and Isaac.

Friday 22 March,
Josephine, Tio and I went to Pilapila Village and then to nearby Karavia Village where men were making modernized *vup* traps.

Photograph: Karavia Village. March 2019. Note the tika being constructed the babau hanging from the trees and the vup covered in green netting. (M. Mennis).

The inner part of the *vup* trap (*tika*) is the same but the outside is covered with fishing net which apparently lasts quite a long time and is stronger than the traditional bamboo woven *vup*. The *babau* float is the same but the anchor is just a large metal engine. The *kunda* vine rope has been replaced by an ordinary rope so there are many changes but the men say they catch a lot of fish. We then went down to the beach in front of Karavia Village and saw some of the modern style *vup* ready to be dispatched out to the *babau* floats. They were encased with green netting all the way around and were set lengthways on the top of canoes. The men said they had about twelve of these traps at sea at the moment and record large catches. Overall, they use the same traditional FAD system of a float that attracts fish to the area

Photograph: Karavia Beach 2019. Canoe with a vup trap on it ready to be launched into the water. Note green netting instead of the bamboo webbing. These traps work well. (M. Mennis).

Tio commented that Pilapila and Karavia were more fortunate than those villages facing Blanche Bay as they are not affected by the shipping lanes. The placement of the *vup* traps a kilometre or two off the coast would intercept with the shipping lanes of any cargo ship coming into the Rabaul Harbour. Their weight would cut the *babau* raft and cause waves that would upset the fish in the *vup* and the *babau* moorings. That day we had lunch at the hotel in Rabaul and saw Yamomoto's bunker in Mango avenue.

Friday 22 March – When we saw the coil of shell money in the hotel,

Photographs: The coil of shell money at the Hamamas Hotel Rabaul March 2019 Right with Susie - Proprietor of the Hamamas Hotel. (Photographs M. Mennis)

That same day we also saw the sign to Admiral Yamamomo's Bunker set in between mounds of ash and pumice in Mango Avenue.

Isoroku Yamamoto (Wikipedia) was the commander-in-chief of the Combined Japanese Fleet during World War II. Yamamoto held several important posts in the Imperial Japanese Navy (IJN), and undertook many of its changes and reorganizations, especially its development of naval aviation. He was the commander-in-chief during the early years of the Pacific War and oversaw major engagements including the attack on Pearl Harbor and the Battle of Midway. To boost morale following the defeat at Guadalcanal, Yamamoto decided to make an inspection tour throughout the South Pacific. This included a visit to Rabaul where some 90,00 Japanese troops were stationed.

"On April 14, 1943, the US naval intelligence effort, code-named "Magic", intercepted and decrypted a message containing specifics of Yamamoto's tour, including arrival and departure times and locations. Yamamoto, the itinerary revealed, would be flying from Rabaul to Balalae Airfield, on an island near Bougainville in the Solomon Islands, on the morning of April 18, 1943". That morning, the United States Army Air Forces shot Yamoto's plane down. His death was a major blow to Japanese military morale during World War II, (Wikipedia).

On the way home that day via the Burma Rd, Tio dropt me off at the Malabunga High School where I spent the weekend with Elizabeth Paisat and family.

Saturday 23 March,
We had a Grail women's meeting in Vunapope which is the Catholic Centre of East New Britain. Elisabeth organised the school bus to take us. The driver drove fast and there doesn't seem to be a speed limit on these roads. Unlike the coastal road, the Burma Road over the top of the range is in good shape but has many sharp corners. We picked Adriana George up in town and proceeded to Vunapope Hall. Adriana George knew quite a lot about the fish-traps, so I was able to interview her as well.
We drove back to the Malabunga High School and on the way visited Blessed Peter Rot's Memorial Church.

Sunday 24 March,
There was a bad storm that afternoon and after it finished Tio kindly drove up into the mountains to pick Adriana and me up. That night I met Mission Bale, a friend of Tio's and we sat on the verandah talking fish-traps and toasted the name for the new book *The Babau of Rabaul* with the wine I had brought along. We all agreed it is a good name and has a ring about it. Mission Bale lived on the coast until he was in Grade 8 and then moved to the bush. After that he did not practice swimming and lost confidence. He didn't like going out with the men to collect the fish from the *babau* traps. He became a scout on the beach to watch out for the birds flying over the traps. It began to rain that evening so Tio lent Mission his umbrella and he went off in the gathering darkness to catch a PMV.

Monday 25 March,
I have been a week now at Tio and Ovin's house and it has been just wonderful: all the contacts I have made have had added to my knowledge about the *babau* the *vup* and the *peo* basket.

Photograph Below:
Josephine on the left and Bonnie (on the right) who looks after the grandchildren.

Bonnie made a small fire in the nearby shed and the two girls Abby and Shasha were waiting patiently for the Singapore taro to be cooked I sat with them and after Bonnie had scrapped one down it tasted delicious. She also cooked bananas and ordinary taro on the ashes. I gave them a large pomio fruit which was peeled and shared - so nice to sit with the smoke from the fire curling up. Bonnie is so patient and at night cooks a large meal for everyone before going home next door with the three girls. Earlier I drew their names with a stick in the dirt of the driveway and they were having fun making their own drawings. Afterwards I noticed they were copying their names as I had written them and spoke a bit of English. Tio was hoping I'd teach them some English so I took my laptop down and showed them the PowerPoints I had made about Rabaul and Madang. They loved all the photographs.

After dinner I brought my laptop downstairs and showed Tio and his two sons the PowerPoints and they were very interested. Allan wanted to know if he could get a copy. It is good to have positive feedback. Later that night there was much shouting on the road near the house and we stood on the verandah and watched. Junior said "Don't worry about it. It is just some drunk men on the road." I felt protected with three strong men to guard me.

Tuesday 26th March,
Tio's wife Ovin came home today from Port Moresby where she had an operation poor dear. Tio has helped me so much about the fish traps and I have landed on my feet here following up on Brian's article and doing it to honour him and all the times he helped me without much recognition. How often I wish he was here to help me. He would have really enjoyed meeting Tio and hearing all his stories and information.

Tio mentioned that the *vup* and the *babau* style of fishing is a FAD - Fish Aggregating Device. According to WEB articles Fish Aggregating Device (FAD) area found in Hawaii and the Mediterranean as well as many other places in the world. Under this scheme large buoys are anchored off-shore and these attract fish which are then caught by game fishermen. Mostly they did not have a basket to catch the fish. A study of the *vup* in Rabaul could be done to test the efficacy of this method of fishing. Whether it be in the old way with the bamboo *vup* or even with the new style as found at Karavia and Pilapila on the north-coast of Rabaul

As I sit here, the early morning is reflected on the coconuts palms the roosters are welcoming a new day and the men will soon arrive to build the new *haus kuk* so it is up higher and keep the dogs out. Every now and then there is the thud as coconuts fall and land with a plop. Someone nearby is cutting grass with a bush knife and now I can hear a willy wagtail chirping away and prancing along a tree branch.

I have an appointment today to see Archbishop Francesco Panfilo SDB in the morning and I will be staying with the MSC Sisters at their convent at Vunapope for a week. On this trip as well as doing fish-traps I am collecting some mission history and looking at Vunapope in 2019. With this in mind, I stayed at the Sacred Heart Convent for a week from Tuesday 26 March until Monday morning 1 April and while there I was able to type up the material on the *vup* and *babau*.

Monday 1 April,
Still at the convent. It rained hard all morning and Sister Daisy thought I would be better off taking my bags back upstairs until Tio arrived to pick me up again. At lunch an elderly sister told me about the full-sized *vup* at the Plantation Hotel at Rapopo just down the road so when Tio arrived and I was farewelled by Sister Daisy, Tio and I headed off down to Rapopo to see the large *vup*.

Photograph: Large vup at the Plantation Hotel Rapopo 2019.

It was amazing to see a real full-sized fish-trap and we spent quite a while studying it. The description on the wall that went with it describes the small *aungmuton* trap which Nason had made a few days earlier and not any information about the big *vup* trap at all. Tio was going to clear this up with the management the following week. When we got to Tio's place, his wife Ovin was there to greet me and it was great to be able to sit and talk to her. She had not been well and was recovering slowly.

Small fish-traps like these are used for fishing on the reefs. Made from organic materials they are baited with pawpaw and coconut. They are secured to the coral to keep them from moving in the current. The fish are lured to the trap and are stuck by the thorns of the stalks preventing them from escaping. When the fish attempts to get out the trap floats to the surface and the fish are retrieved.

Photograph: Nason made a small-sized aungmuton trap. They are easily made, and women can put them in the reef.

That evening, the children, Theodora, Sasha and Abby helped take the *tabu* shells off short lengths of cane and piled them up inside an old cauldron made from the top of a gas cylinder. The edge of the cauldron was used to pull the shells off the old cane as they were quite tight. Dessie arrived and began to thread these shells onto new lengths of cane. Only one side of the shell can be threaded as there are two holes made when the top is removed by pliers.

Tio noted that there is a male end and a female end to the cane and the shells can be threaded only on to one end and not the other. This shell money can be used to buy things like tobacco, ice-cream and vegetables at the market and even to pay for the children's education at school.

Photograph: Essie, husband, Mosely, and child with tabu shells she has just been threading onto the cane (M. Mennis).

Tio is planning on making a wheel of shell money. Two years ago, he donated one to the Gallery of Modern Art, Queensland. (GOMA) for a recent display. It was worth a thousand dollars.

Richard Parkinson wrote about the shell money [tabu] in the 1880s

> When large quantities of *tabu* accumulate at a place, wheel-shaped coils of it are prepared, which can sometimes contain up to 500 fathoms or more of tabu. Such a coil is called *loloi.* As a rule it is covered with dry pandanus leaves and then wrapped round with a firm plaiting of strips of rattan. Such coils are opened only on very rare occasions and the contents distributed; they are, so to speak, the basic capital of the family to whom they belong. Smaller sums are of course also kept as loloi, but these are opened and distributed at festivities, funerals and on other occasions. Shell money is not rolled up everywhere but stored in baskets in the form of neat bundles laid together. These bundles are called *tutuqai* and are decorated by all kinds of snail shell and shellfish appendages, brightly coloured strips of rattan and the like.

For fixed sums there are certain names. A single snail shell is a vuana pal a tabu or palina; up to the number 5, the word palina is added to the number in question; for example, 5 snails are called a ilima palina. From 6 onwards, the individual snail shells are always counted in pairs, and one pair is called a tip. Six snail shells are therefore 3 pairs or a tip anireit 8 snail shells are 4 pairs or tip naivat. The odd numbers up to 9, like the values up to 5, are named by appending to the number in uestion; for example, lavarua na palina (7), and lavuwat na palina (9*). Parkinson; Thirty Years in the South Seas.*

Photograph:
Coils of shell money in GOMA Brisbane 2019 (M. Mennis).

Tuesday 2 April,

Up early today. Tio and I sat on the verandah and went through all the material I had collected so far. I had a few queries. (see Tio's interview).

Photograph: Mosely and Junior working on the babau float before stringing it up.

That afternoon the men in Tio's front yard strung up a full-sized *babau* between two trees for my benefit and to this was attached a full-sized *peo* basket which uncle Nason fashioned and at the other side was attached the small *vup* Nelson had made which they borrowed from his wife next door. How exciting was that.

The men attached a strong wire to each side of the *babau* and pulled it up high between two trees.

Photographs: Nason and Mosely working on the peo basket

When Tio returned from town he said to me. "Look at that *babau* and pretend that that is the level of the sea and below sitting on the seabed is the *peo* basket attached to the *babau* with the strong rattan cane rope. Look at the vup basket. They are often much bigger than this, but this is to give you an idea of the relationship between them and shows how it works in the water."

I was impressed. I had watched the men make the *babau* and the *peo* basket in the previous days. These had been pulled up and beside the rattan cane rope from the *babau* hung the small *vup* basket which they had borrowed from next door.

Photograph Hollis – Wesley, Mosely, Hollis, Junior Tio and Nason on the driveway under the babau they lifted up between two trees, note the peo and the vup.

That evening there was quite a get-together downstairs at Tio and Ovin's house. Josephine came with her son so that was nice. Tio's daughter, Victoria, Tio and I once again toasted the new booklet - "The Babau of Rabaul" and everyone agreed the title was good.

I cooked a sweet and sour meal for everyone with chicken and when Tio brought some minced meat out I made some sweet and sour to go with that as well. The recipe was new to them and they busily took note of it.

Photograph Left:
Mary, Junior, Victoria and Tio on the last evening.

Chapter Five:

The following are the interviews I collected.

Interview 1. Informant: Ebes Vinararang.

Date 17 March 2019. Place of interview Tio's house in Raluana village.

Ebes lives in Baravon village near Raluana. His father Ebes Tamgoi was from Raluana and his mother was from Baravon When his father died Ebes, returned to his mother's village of Baravon.

The Tolai are matrilineal and land is inherited through the mother. However, if anyone wants to stay in their father's village after he dies, they can buy the rights with shell money. In his family there were five children - three girls and two boys.

Photograph: Tio and his uncle Ebes

Genealogy. His father, Ebes Tamgoi married Amelia Ia Pore and had five children: 1.Gertrude Ia Lar; 2. Lane Ia Malana; 3. Elizabeth Ia Parau; 4. Ebes Vinararang, 5. Nason To Peril. The connection with Tio Wawaga is that Elizabeth is Tio's aunt so Ebes father was Tio's grandfather.

Ebes father, Ebes Tamgoi was a champion fisherman and could catch the red snappers by line. These fish were more plentiful in the old days and could be caught by a deep line. His father fished from a canoe out in the deep sea. He had to pull the fish up quickly or else the sharks would get it before it got to the surface.

Ebes sometimes went fishing with his mother in a canoe with a line and they caught snapper. He, himself, once made many *vup* traps. He said trap making is a communal affair. Everyone helps voluntarily. Later when fish are caught in the trap they were shared with those who helped and the surplus is sold.

When Ebes began to make his first *vup some* of the materials were bought from neighbouring villagers who grew the bamboo and had the thick rattan vines high up in the trees in the forest. This material was bought with shell money. Malapau village is on the beach and Balanataman Village is inland and the people there used to come down and help the Malapau people. He said that when the weather is rough you cannot go out and check the traps, but have to wait for calm weather.

Ebes said you do not need to be initiated into the *Tubuan* society before you could enter a *matanoi*. Any boys or men could go to the *matanoi* but not the women. The women were not even allowed to touch the *vup* as this could bring bad luck and lack of fish in the traps. I asked how much he would sell a trap for and he answered "Twenty fathoms of *tabu* shell money would buy a fish trap. There is a lot of work involved". Ebes made his own fish trap in 1972. They had their own bamboo and bought the rattan cane with fathoms of bamboo. Raw or green bamboo is used for the inner part of the *vup* trap. Dry bamboo was used for the *babau* platform. He mentioned that the anchor of the fish trap is suspended on a rope which goes all the way down. Algae grows on this and attracts small fish and then the bigger fish try to eat them.

When I asked Ebes how he measured shell money he stretched out his arms to show a fathom length. This is a standard way of measuring shell money. This leads to men with short arms being used by a buyer whereas a seller would prefer a man with long arms. It makes a difference of a few shells on the length of a fathom. It is also a source of much merriment when negotiations are made.

Ebes said that when selling fish it depends on the catch. If you have a lot of fish to sell you might reduce the price or add some for free when the buyer pays you. You can bargain but not usually. With the reef traps, we collect stones to put down on a special rope and leave the traps there for three days or so.

There is no best season really for setting out the fishtraps. They can go out at any time. While they were working in the *matanoi* his wife and uncle cooked the food for the men and carried it down to the fence of the *matanoi* and called out to the men to come and get it.

Interview 2. Informant: Melkie Kilala.

Melkie is Tio's uncle. He belongs to the Vunamama/Tamtavul Clan of Vunamurmur Village at Raluana. Date of interview 18 March 2019.

Melkie previously lived at the northern end of the Blue Lagoon on the Kokopo Road. When he was a young man he watched the elders making the fishtraps and learned the art. He worked as a driver and when he finished decided to go into trap making at the Togole *Matanoi*.

Photograph Left: Melkie at his home in Kuradui. (M. Mennis 2019).

Melkie had some of the materials like bamboo himself but anything else he paid for in shell money,

from the neighbouring villages. He would pay 5 fathoms for a group of his friends to climb and get the *kada* vines high up in the trees about seven meters up. The men had to be careful of the spikes, the vine and leaves have thorns on them. The *kada* vine is used for the anchor rope and for the *vup*. They also used bamboo for the *vup* and the *babau*. Making a trap was a communal affair. Melkie is the only one left in the Raluana area who knows how to make the large *vup*. Probably if the truth be known he is the only Tolai left who has the knowledge, but he is too weak to make them now. I asked him some questions.

How much would you sell a large *vup* trap for? *Vups* are not usually sold. It would not work to have someone else's *vup* as you have to be part of the ownership with the other people who helped you make it, so it is no use if it is bought by another clan. If you buy one, you haven't put an effort into it as it belongs to the clan and so can't really be sold.

When you were selling the fish at the roadside how much did you expect to get paid? People can bargain but usually if people buy ten you would then add one for free to give more luck to the trap. The Red runner fish are called *urup* in the Tolai language.

Why aren't the fish-traps made anymore? All the old men who knew how to make them have died and the younger men are not interested.

What about chicken wire? If chicken wire is used the waves batter the fish inside with the wire and this bruises the fish When you go to get them out of the trap the fish fall apart and are rotten so not a good idea.

Were there any fights about the traps? For example about traps being set in someone else's area? Each *matanoi* could set only one of the middle-sized fish traps in the sea in front of them. If these were set in the wrong place there could be trouble. However there was no restriction on the larger ones which are set two kilometers off shore. They would set the traps in the early morning when it was calm. That is the best time. To clear the traps you would also need to wait for calm water.

There were several tabus about the *vup* fish traps. The men had to refrain from sexual contacts during the time they were making them and launching them as this could bring bad luck. Also women were not even allowed to touch the *vups* as that to could bring bad luck.

Photograph Left:
Tio with the peo basket at Melkie's place

Interview 3. Mrs Josephine Aquila.

Josephine said "My mother, Ethel was from Daru in the Gulf and my father, Okole is from Ialakua Village which is next to Baravon, Raluana. Josephine is Tio's niece. My mother, Ethel met my father in Daru where he was a teacher. They moved to West New Britain where Okole taught at the primary school. They had a large family of eleven children five boys and six girls".

Photograph Left: Josephine holding some strings of tabu shell money (M. Mennis 2019).

I, Josephine, was born in Kandrian and went to school in Kimbe from grades one to ten. In 1986 I went to the Lae Technical College to do a hospitality course. After this I moved to Port Moresby and worked at the Gateway Hotel. While there I met Aloise Aquila who is a big machine operator and we were married in 1986. After living in the Gas fields near Lake Kutubu for a couple of years I returned to Kimbe to be with my parents with two children.

In 1996 - 98 we lived in the Duke of York Islands where my husband is from. His village is on Karawara Island which is the nearest Island to Kokopo. We lived in his parent's house. Now 20 years later the sea has risen and covered some of our land and only the cement base is left. The main form of transportation was by canoe to access gardens on other islands. We used *diwarra* shell money to buy food - kaukau, peanuts and greens.

The Duke of York people made fish traps until recently and caught all sorts of fish in them. In 1996 I saw them set in the reef between the small islands. The men caught the reef fish which were nice, and we bought them with *diwarra* and money. We did not bargain over the price but paid what was asked but sometimes an extra fish was added.

Women weren't allowed near the sacred place where they made the traps. The women cooked meals for the men and left it at the *matanoi* fence. and. they called out to the men in the matanoi to come and get it. During the festival to break shell money I saw the Tubuan walking around in the village. On the island there was shortage of space, so the men sat in the *taraiu* the *Tubuan* sacred place to make their fish traps.

There were beaches where we could go for a swim in the lovely clear water where fish and turtles swam past. When we returned from the swim we used our well water to wash. Our house was near the beach and I often saw the canoes returning after the men had emptied the traps and then we went down to the jetty to buy the fish with the *diwarra*.

Since then I have lived 20 years in Raluana near Kokopo. We are living in my father's place. We are allowed to stay there as we settled with *tabu*. Today they don't use fish traps but use fishing nets – the boys chase the fish and they go into the nets.. It is easier.

Modern boys are not interested in making traps but fish with fish hooks, diving with a spear and nets. They sell the fish at the markets and have large eskkies to keep the fish in. Today although we live near Kokopo, I have many happy memories of living on the Duke of York islands and we often travel there by speedboat for picnics.

Josephine accompanied me during my stay in Raluana, Kokopo in March 2019. She looked after me very well while I stayed with Tiolam Wagawa who took us everywhere to meet people who had once owned and used the *vup* traps.

Interview 4. Informant: Mission Bale

Mission went to school with Tio until he was in Grade Eight. His father's *matanoi* was near the Blue Lagoon on the Rabaul side. Until then he was learning to swim and occasionally went out with his father to check his *vup* out in the sea. However, when his family moved to the bush area after some disagreements over land, he lost confidence in swimming and going out in canoes.

He thought if he fell off the canoe he would sink like a stone to the bottom and so was happy to sit on the beach and wait for the *Kanau* and the *Daula* birds to hover above the traps to indicate there were fish trapped inside.

The men would then paddle out to the *babau* to check how many fish there were. If there were too many fish for one canoe, they would take their *laplaps* off and wave to the men on the beach. Never mind if they were naked while they did this. When the second canoe arrived, the first canoe would move away with their load of fish although at least one man would stay on the *babau* holding the *vup* trap sideways.

Mission Bale said:

> I watched the men go out in canoes to the *babau* platform. They usually got a lot of fish and we put them in a drum with water at the back of the truck. They were all dead by now and later we put the *aurup* fish in baskets to sell. The fish would be shared out and sold or taken home to eat.
>
> Back at the *matanoi* we would throw some fish on the beach and get a few coconuts and have a feast sitting round the fire. The term used for these fish was *takenoaga* meaning "the shit of the canoe" so it was the dregs of the fish they used for this. [Note. Oaga means canoe in the Tolai language and is related to the term waga used

in Madang] These fish were ones we could not normally sell but were still good for eating with our friends on the beach while we discussed the day's catch. Left-over fish could be smoked for the next day.

Photograph Left: setting out the peo anchor.

My family always made these fish traps while we lived near the water. They set the peo anchors in the sea.

My father was a driver for the Comm. Works Department and so was Tio's father. That is how we know each other.

Interview 5. Adriana George

Adriana is from Iawakaka Village. She taught at various schools in East New Britain including at St. Mary's High School Vuvu, situated in her village for ten years. She retired in 2017 while a teacher at Malabunga Secondary School.

Adriana said:

> My dad's name was George ToVut Tolgil. He made *vup* traps at the beach in our village of Iawakaka with other village men including ToPukalur, ToMokmok and Talia. They were all experts in making *vup* or *babau* and were famous for their ability. George and his friends would go to the bush to get the materials The *matanoi* was called *gutgilai*. They would catch a lot of fish - the rainbow runners are called Aurup; the smaller fish are *agito* and the smallest are *malabur*.
>
> My father owned a cocoa and coconut plantation but he reserved an area of natural bush for materials for the *babau* including cane (*kada*), *kudita*, which grew on a special vine tree. These would be split, dried and coiled ready to be used as the anchor rope. The *vup* itself, is made from a special bamboo called *kaur* or *Kaur Kongkong* because it is softer than the others.
>
> The process for launching the *babau* is called *akira*. These days there are a few changes in this process. Whereas before the men would launch a long connecting twisted vine of several hundred metres, these days the men use a long metal rope attached to the anchor (*vat*) which sits on the seafloor. The top of this rope is then attached tightly to the *babau* platform. A floater is also attached to the top of the rope.

Next day, the men return to put the *vup* on the other end of the *babau*. They remove the floaters which then become the *babau*. The proper procedures must be followed or else the trap won't catch any fish and will remain empty.

The men used a kind of leaf or bark of a tree to rub the *vup*, *babau* and everything. It is called '*dokodoko'* and it belonged exclusively to my father's clan. It is believed that when this is done his *vup* would catch a lot of fish. When the '*tenanilauma* (men who go out to the *babau* to collect the fish) steal fish from the catch, the owner will know and this will cause disputes.

Photograph Left: Adriana George 2019.

Adriana said:

I saw my father using binoculars to check his traps from the beach to see if there were any birds flying around. He died in 1987 when he was 70 before the eruption. Women were not allowed near the *vup* or the matanoi and we respected that. The only way we could help was to cook food for the men working there.

Seagulls flew around the trap and the smaller *ulia* birds sat on the *babau*. In the early days, fish were only sold for shell money. You can get rich in *tabu* and it is circulated around from the sale of fish.

During the war the men stopped making the *vup* traps and the *babau* were all bombed. The Japanese had to be obeyed. They shot all the animals in the village and made the people climb the coconut trees to gather the nuts. If they wanted to kill people the Japanese made them dig a hole first for their grave and then shot them into the hole. It was common knowledge that the Japanese were cruel. Nowadays they want peace with everyone to make amends to what had happened. There is a Peace Boat run by the Japanese and when I was at school, we prefects and the staff were invited on board. We had dinner and there was a theatre performance showing the different cultures of the world. This was to give us a more positive attitude to the Japanese and a better perspective.

The dry season is the best time for the *babau* fish traps. The men sit on the beach and watch for the birds circling the traps. Occasionally people come in canoes from villages around the coast and try to steal our fish and then there is trouble if they are seen. The north-west season is too rough to set the *babau* into the water

After the 1994 eruption, dust and ash came from the volcano and blew everywhere. I was teaching at Malaguna and there were continual bursts from the volcano. We were using umbrellas to keep the dust off us. Many people got asthma and died. During the eruption, my village was destroyed and all the materials for the *vup* were no longer found. Other villages of Bai, Nodup Talvat, Matalau, Rakunai, Korere were all destroyed and covered in ash.

However, neighbouring villages like, Ratung, Pila Pila and Karavia were not so affected and Karavia was the first village to make *vup* after the eruption. The *babau* and *vup* have only begun again in the last few years. After the eruption people were moved and re-settled and then some returned home.

In 2019 there are many adaptations made by the fishermen with modern equipment but they still follow the traditional knowledge and placement of the *babau* platform.

The *tika* is made first using bamboo and tied with a rope (*kudita*). The *tika* is inside the *vup* and it is covered with chicken wire. The *vup* when ready is taken out to sea. This process is called *agirai*. The *babau* is made from a very strong tree – the breadfruit tree trunk is often used for the *babau*. It must be burnt first before being taken out to sea for preservation.

The *Akira* system of laying a *babau* trap.

Day One – Men go out to sea to put the sinker (*vat*) using a strong metal rope hanging form one end of the *babau* to the sea floor. A floater is tied to the end of the metal rope on top.

Day Two. Men go back out to the '*vup'* on the either end of the *babau*. They turn the floater which is now the *babau*. Men still use the *dokdoko* leaf or bark of a tree to rub the *vup*. It is believed that when this is done, the vup will catch a lot of fish.

Photograph Above: Carving of canoe and dukduks and tubuan at the Gazelle Hotel.

Interview 6. Mary Mitgal of Raluana - Kurakete village.

Mary was born 2 February 1950 and has lived in Raluana for many years. Her father Kilion Mamavut was a great *vup* builder and was also a fisherman using a fishing line.

Photograph Left: Mary Mitgil.

My father, Kilion could make the large *vup* as well as the middle-sized ones. He made them on the beach in the *matanoi*. As a small child I was allowed in the *matanoi* but as I matured, I was banned from it. I used to go to another beach with my father. I would also go out fishing with him and had a small bed on the canoe where I could sleep. We took a thermos to drink coffee and we ate *kaukau*.

My father knew all the best spots for fishing, and where to put the fish traps. We would climb up to Baravon to the lookout and see if there were any birds flying over the traps out at sea showing there were fish inside. I also helped my father sell the fish. My mother stayed at home and did the house work and she was happy when we caught fish for dinner. Usually Kilion gave some of the fish away and kept some for us. Sometimes he gave all the fish away to bring him good luck in the future and then my mother would swear at him.

Interview 7. Dr. Jacob Simet.

Dr Jacob Simet is from Matupit Island. He remembers me being a teacher there on Matupit. He also remembers helping the men put the *vups* out to sea when he was a small boy. He helped join lengths of the rattan cane and it stretched all the way along the beach. “We put it in the water with sticks to stop it going to the beach. This was to make the cane more flexible so it can be coiled up. Before that it was too hard and would break easily. We saw some people making the traps using chicken wire but they were soon washed up on the beach. There was a special house built in the *matanoi* with compartments in it for the two moieties and the *vup* hung from the ceiling.”

While the men were making the *peo* basket, it was the kids’ job to find the stones to put in the basket. Mostly they were igneous rocks from the volcano. The boys also helped with the cane and the bamboo for the *babau* float. The women did the cooking and the small boys had to carry the food down to the men in the *matanoi*.

Jacob Simet:

> We had long canoes – about eight metres long to carry the weight of the *peo* out. There would be ten men plus six kids in one canoe and we went out from Matupit towards Kokopo. After the *peo* sank it took the cane rope down with it.
>
> We would put a mark out to show where it was and then we would jump into the sea and splash around for 10 or 15 minutes. I used to think how dangerous it was. Here we were splashing around and it could attract sharks. We were OK and never had an incident with sharks. Then we went home and waited on the island for the sign of the birds flying above the trap showing us that there might be fish inside it. It was quite a long way off from the island and sometimes we relied on people on the south-side of the island to help us as they had a better view.

Simet left Rabaul in 1970 and attended the University of Papua New Guinea Moresby and then the Australian National University. He wrote specially about the *tabu* and studied A.L.Epstein, who predicted in the 1960s that the *tabu* would only last another five years.

Simet wrote that Epstein's prediction may have been correct at the time as it had to do with the circulation of the *tabu* but the only *tabu* he saw was used at funerals. During the war the Japanese stole all the *tabu* to pay for food for the troops. They took it from the *tabu* house on Matupit Island and broke the house down. Nowadays people use the *tabu* as currency. The traditional source of the *tabu* shells was Nakanai but logging there has destroyed the habitat of the shells. In the mid 1970s, there were new sources of *tabu*: some came from Pomio and Manus then Bougainville and now from Malaita in the Solomon Islands.

Jacob went to a festival in Honiara and got 20 bags of the *tabu* shells. By the time he returned from his studies in 1986, there were no more *vups* in Matupit – they were destroyed by the shipping that came into the harbour.

Interview 8. Isaac Ion.

Isaac is from the Duke of York Islands - Makurkur village. He saw men making the small *vup* traps used on the reef. Each village had its own *matanoi* to make the traps.

In the 1970s I went to the huts on the *matanoi* and the older men taught us how to make the *vup* traps. I could still make a small one now.

There are plenty of *kunda* canes and bamboo on the Duke of York Islands. A *vup* could sell for seventy or eighty kina. The fish that are caught can be sold at the markets or taken to the hotel or a shop like Tropicana where they would weigh them and calculate the price.

> You could get seven to ten kina a kilo. Fish can be easily caught on the reefs as there are plenty there. We would collect stones to weigh the trap down and leave it there for three days.

Isaac thought the traditional traps were the best and said chicken wire was no good. If you catch a lot of fish, the price might go down. People catch them these days by trawling a line off a boat. In selling with *diwarra* [shell money of the Duke of York Islands], one fathom of shell money is worth about five kina.

Isaac added that the men don't make the *vup* traps anymore. They are too lazy and don't appreciate what the elders could teach them. They could be revived for cultural or tourist purposes. Isaac himself loves fishing but uses modern methods. However he was taught by his father how to make the small traps and his father learnt from his father and so on down the generations. The elders said if the large *vup* broke you would have to start again. If you tried to mend an old trap you would never catch fish in it.

Interview 9. Ovin Talisia Wawaga.

Photograph Left: Ovin and Tio with a grandchild April 2019.

Ovin was from near Vunamami which is on the coast but her small village of Bitapabeke is inland from there. She attended school locally until Grade Ten. Ovin and Tio have been married for 37 years. Oven has devoted her life to her family and also to the United Church in many capacities. After a recent illness she is at last slowing down.

Tio and Ovin's children have all done remarkably well in their chosen fields. Her family has been her main concern since she got married and now, she is helping with the grandchildren.

Interview 10. Tiolam Wawaga of Vunamurmur, Tamtavul / Vunamama

Tio was born here at Raluana and went to primary school and then Kokopo High School and Lae Technical College and then Lae University of Technology. In 1976 Tio began work at the NBC as a radio technician. He finished here in 1990 and came back to his village as he just wanted to come home and become part of the village life. The first thing he wanted to do was learn how to make the fish traps. The Raluana Councl consists of 6 villages in a local government ward and Tio has been on this council for some time.

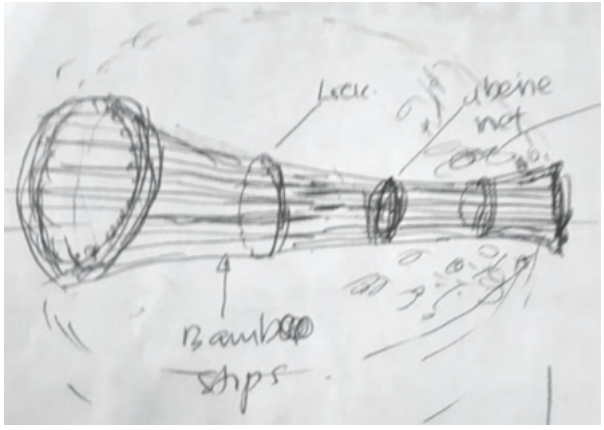
> My clan was always involved in fishtraps and my ancestors as well but I don't know where the art came from. The whole process is an amazing FAD technology and the principle is based on the appetite of the fish. The rope to the anchor grows algae on it and the little fish come to feed on it and then the slightly bigger fish come to eat

them. The trap has leaves and fruit and coconuts in them to attract the small fish which can go and hide from the big fish. They can come and go through the small holes between the bamboo slats or out from the top of the trap. When the large fish follow them into the *vup*, they first enter through the *tika* passage and then they face a webbed net which deflects them into the main chamber. They are now caught in the trap which hangs about a metre below the *babau.* Other fish are then inveigled into the trap and the whole lot swim around and around with no hope of escape.

The anchor rope is tied on to the other end of the *babau* float. The whole thing is called *babau* not a *vup* which is only the name of the basket. The *babau* season runs from April to October in the dry season also called the Taubar Season

When setting the anchor, great care must be taken. The men put the *peo* anchor in the canoe and fill it with heavy rocks. The coil of the rattan cane which can be up to 300 metres long is put in the same canoe and the men paddle out to where the *babau* float is set. One end of the cane rope is tethered to the *babau* and the other end is tied to the *peo* anchor which is then dropt into the sea. At this the coil of rattan cane unravels suddenly. If anyone gets in the way they could be pulled down with it and would find it very difficult to come back to the surface of the water. Great care must be taken at this stage. The vup basket is brought out on another canoe and is tied to the other side of the *babau* away from where the *peo* is anchored and about midway to the end.

Rocks are put at the bottom of the *vup* to stabilize it and the little fish can made their way up to the top and can come out. Maybe a school of *malibur* will come along. They are not a large fish and some could make their way back out the top. However if some are caught with the larger fish they are collected by the fisherman as they are good for bait and for eating.



Tio's illustration of the tika, the inner chamber of the vup.

At least three men go out in a canoe to collect the fish. The man in front peers into the *vup* and pulls on the handle to inspect the fish. If there are fish what he sees looks like a large snake going around and around. This is the school of fish caught in the trap swimming inside the circle of the bamboo trap. They cannot swim backwards. If they are left for too many days in the trap they will die of exhaustion and hunger. If he sees fish there the fisherman pulls the *vup* up with the handle on to the *babau* platform.

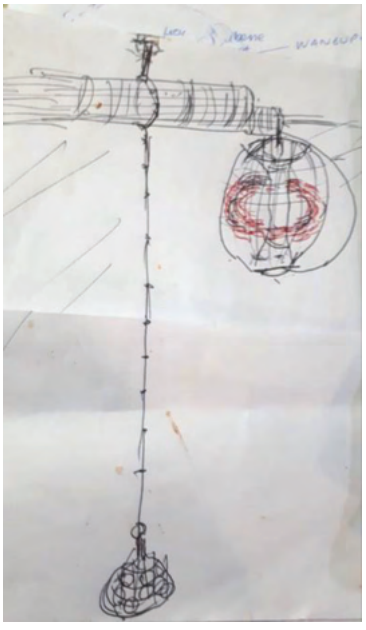
The fish are taken from the top of the *vup*. One man lifts the bottom of the *vup* so the fish sink down and two or three men take the fish out of the top and put them in the canoe. They hit the fish with a tool so they can't jump back in the water. One man remains at the back of the canoe to steady it as the anchor rope could snap if the canoe moves away and the rope is pulled.

The marker on the *babau* might have a red cloth or tree branch called *uvanai* tied to it. This is the indicator of ownership and an identification of where the trap is. Those who help clear the trap will get some red runner *aurup* fish as payment. They could sell these at the side of the road or to take them home. It depends how many fish are caught. They could get three or four out of a load of fish.

It was rare that fish became rotten in the trap. They might die of hunger if they run out of the smaller fish to eat. Some food is put in the bottom of the trap to attract the small fish that are too big to escape through the side of the trap. They eat this food and then get eaten by the larger fish. This is what happens in the trap. The fish circulate in the same direction and the smaller fish gradually fall to the bottom.

When they take the fish to the village, they call out "aen, aen" which means fish and the women rush out of the houses with shell money anxious to buy a fish for their family. Other times they sell the fish at the side of the road.

Tio remembers getting some fish at the side of the road for a celebration party with his friends. They had just finished the school year and were on their way to climb the Mother Volcano (*Kombiu).* He brought the fish on credit and later his father paid for it with shell money. If he had not done that it would have brought bad luck to them and to the *babau* as they wouldn't catch any fish.



Tio's illustration showing the relationship between the float at the top and vup on the right and then deep down the peo basket anchoring everything to the sea bottom. Notice the snake-like movement of the school of fish swimming around inside the chamber of the trap.

Tio continued: You can make *tabu* wealth from the *babau*. You could have four sets of *babau* and the first two or three could be used to raise *tabu* for a feast. People do not fish for no reason - there is always a purpose. If there is a wedding coming up there might be four or five *babau* set out in the sea. The *tabu* from the sale of two of them at least would be stored away. The *babau* season begins about April until October. This is the *Taubar* season – the dry season. Gardeners also have to start work as taro can take six months to grow for a feast. The rainbow runner fish are now depleted.

> The *babau* have to be set at least one kilometre offshore to catch the fish that live there. The trouble is this then puts them in the middle of the shipping lane. The incoming ships cause friction in the water which disturbs the traps. If the cane rope holding the *babau* breaks then the whole thing collapses. The *peo* basket is no longer attached and the *babau* takes off with the *peo* basket hanging on it. If this happens in the daytime there is a chance of taking after it in a boat and retrieving the trap but the rattan rope and *peo* need to be made again. This maybe why people are using ropes instead of the *kunda* vines as they are easier to replace.

Tio mentioned that the *vup* and the *babau* style of fishing has been described as FAD Fish Aggregating Device. According to WEB articles Fish Aggregating Device (FAD) area found in Hawaii and the Mediterranean as well as many other places in the world. A study of the vup in Rabaul could be done to test the efficacy of this method of fishing.

Glenn Higashi wrote about them in the Bulletin of Marine Science, Volume 55, Numbers 2-3, September 1994, pp. 651-666(16) published by the University of Miami. Rosenstiel School of Marine and Atmospheric Science

Glenn Higashi wrote:

> Fish Aggregating Devices (FADs) were introduced in Hawaii in an attempt to increase sportfishing opportunities and revitalize the fishing industry by taking advantage of the "aggregating" behavior of pelagic fishes around floating objects. In 1980, the State of Hawaii's Department of Land and Natural Resources established a FAD system of 26 buoys around the main Hawaiian Islands. Since their introduction, FAD buoy and mooring system designs have undergone considerable technological changes. The Hawaii FAD System evolved from the use of foam-filled tire buoys, using one type of synthetic line to the present sphere buoy design with two types of line. The design changes were developed to create a buoy and mooring line system that would remain on station for a long time and enhance sportfishing opportunities.

Tio has explored the FAD system of fishing. He describes the *vup* traps and the use of *babau* floats as an ancient FAD technology using floats to attract the larger fish. He is interested in finding out where the system, used by the Tolai people, came from.

The Tolai people put a long rattan cane rope down to the *peo* anchor then algae would grow on the rope. Then the small fish would come to eat the algae and the larger fish would come to catch the small fish which would then rush inside the *vup* net for protection. The fishermen put leaves inside the *vup* trap to make it attractive to the small fish, and even some food like pawpaw or coconut. Some small fish would be little enough to come and go through the top of the trap, but the larger fish could not escape. Inside the top of the *tika* internal structure there is a web across the middle which deflects the fish into the trap. Here they swim around and around but cannot escape. Tio is hoping to interest the Fisheries Department in Kokopo in promoting this old way of fishing.

Chapter Six: Conclusions

Traditional ways of Fishing with the Babau.

Brian Mennis accompanied the fishermen out to the sea when they set the large bamboo traps in 1973. So, his description details a procedure that was the same as the Tolai ancestors used over many generations.

Photograph Below in the 1880s of the coiled anchor ropes by George Brown

In 1973 Brian Mennis wrote:

The Tolai fisherman, Pauli uncoiled the anchor rope and put it into chest high water along the beach holding it in place with sticks. This was done to check on the vine rope. It was 350 metres long. It floated by itself. While this was happening, other men loaded the *peo* basket into a canoe and took it out to a reef to fill it with stones which had been piled up in readiness.

The canoe, loaded with the heavy *peo*, was brought back to the beach, and the end of the vine rope was attached to the *peo's* shackle. The men now coiled the rope back onto the beach, making its diameter about two metres [as above]. Then the rope coil and the *peo* anchor were placed on a canoe.

Photograph Left: 1880s a photograph of the peo basket.

Brian Mennis wrote in 1973:

In the old days before steel tools became available, it was very difficult to make canoes strong enough to carry a heavy *peo* already filled with rocks out to the fish-trap site, so the method used then was to float the anchor with its load of stones on a large raft made from bamboo out to the site.

In 1973, when Brian photographed the vup traps being made at that time, the old style was followed. The bamboo *babau* was carried down, and the shackle on it was fastened securely to the vine rope. The *peo*, *babau* and the vine rope were then loaded onto a canoe, and it started off on its half hour run to the selected spot. The *babau* float was first thrown over

and the canoe was put off in a circular path, paying off the rope as it went, arranging to be back at the *babau* when it was fully run out. The *peo* anchor was then pushed over. This was not an easy task, as it was quite heavy and not a solid object, being only stones in a basket.

Photograph Left: 1973 Brian Mennis. The vup trap with the peo anchor on the left and the coil of bush-rope in the foreground with the Malapau fishermen getting ready for action.

After the anchor hit the sea bottom, it was found that there was about fifty metres of rope left floating on the surface. This was cut off, and the end refastened to the shackle on the *babau*. Brian was on Pauli's canoe and described how the *vup* fish-trap was attached to the *babau* float and set in the water. This was a difficult job, and Dakol, the specialist was one of only two or three men in the village who knew how to tie the short rope, *a virvir,* to both *babau* and *vup* trap. Apart from the main rope, there is a safety rope, *a wakai*, to hold the trap if the main rope breaks. This is a fairly regular occurrence.

To help the fishermen identify where their *babau* is, a marker stick, *a unai*, was then tied to the shackle. That day in 1973, there were *babau* traps all over the place. Canoes were out while fishermen checked their traps. It was imperative that some sort of a marker was tied to the babau so that it could be seen from the shore. In Pauli's case, a special bush was used for this, the *karawon*, which is trimmed so that a bare stick is left for about two metres and brushy top remains.

Photograph Right:
Men rolling the coils of rattan cane.

In 1973, the *tena papait* was still in action. [He is probably still working today in 2019]. This is the magician whose special words were needed to bring good luck to the fishermen and the *babau* fish-trap. Brian wrote "The most important preparation had been performed by the *tena papait,* the good sorcerer, to ensure that the basket remained strong against sharks, and attracted plenty of fish."

Brian mentioned that for all the sophistication of the Tolai, they still consider it most necessary to follow all the traditional practices associated with the installation of a trap. This goes down to such details as to there being only one way to fasten the trap to the buoy. The men told me that they had tried relaxing certain of their traditions but found their fish catches dropped off alarmingly and very hastily reinstated them.

In 2019, Tio Wawaga explained that it is quite a sophisticated process which this Tolai ancestors had developed. Using the FAD (fish aggregation device) principle used by professional fishermen today. The algae grown on the anchor rope attracts the small *yalibu* fish. Larger fish then come to eat the *yalibu* which dart into the *vup* trap to escape. If the larger fish follow them in, they enter the inner chamber, called *tika*, and then face a barrier which diverts them into the outer chamber of the *vup*. The fish can now only swim around and around this chamber with many other trapped fish until they are caught by the fishermen. Meanwhile the small *yalibu* fish go freely in and out of the trap at the top and attract larger fish in. No bait of any description is used. Two or three stones were finally added to give some ballast.

In commercial fishing, large pontoons are laid in the sea and these attract the fish as a position in an otherwise endless sea. Here they congregate to mate and chase the small fish eating the algae growing on the pontoon. The ships then come and scoop up the large fish in their retractable nets. Much of the world's fishing is done using this technique. But unlike the Tolai system they do not use stable nets hanging from the pontoon. They do however have an anchor to hold the pontoon in place.

Tio Wawaga described the sight that faces the fishermen when they go out to clear the traps. They peer down into the *vup* and it looks as if there is a fat snake going around and around inside. It is the school of fish all swimming together they cannot swim backwards so they move like one mass: a school of trapped fish.

If left for too long these fish can die of exhaustion or hunger hence the importance to keep a look out from shore. Circling birds can be an indication or bubbles on the water. Since the traps are so far out to sea, it is easier to see them from a height so scouts sitting on the Baravon height above the Blue Lagoon *matanoi* searching the sea for the birds over the traps.

Photograph Right: Melkie Kilala

Brian saw one trap being cleared. "Their catch was 32 *arup* fish that would have weighed two to five kilograms each. The fish are taken from the trap and merely dumped in the bottom of the canoe." In 1973, Pauli's friend, Eriman told Brian that there were many men in his village who did not know how to make the traps or how they work. In 1973, there were, however, a lot of men still making them and getting good catches.

In 2019, this number has decreased to the point where there is only one man left who can make the full *vup* trap. He is Melkie Kilala who I interviewed, but now he is too old to make them so this tradition seems to be on the point of extinction - hence the importance of Brian's photographs and articles. Brian thought how sad it would be of all the years of tradition which had gone into the creation of these traps was lost and that it was a good thing that Eriman, Pauli, Dakol, Elisa, Francis and all the other men of Balanataman Village and the Malapau *matanoi* were so determined to hand these traditions on wherever possible.

At that stage, the children in the village were not very interested in learning these skills when they go to school. They consider that there are many more important things to do in school holidays than go down to the *Matanoi*. While Eriman considered this to be a bad thing, he realized it was inevitable. That day near Raluana Point, there were over twenty *babau* in the sea from Malapau village and another lot from a *matanoi* in villages further west. There was a deal of action: the sea birds were circling and diving, indicating that schools of fish were being attacked by larger fish; men on canoes were going out to check their fish-traps and loading their catch to their canoes and the markers on the *babau* floats were blowing in the wind.

Nowadays in Karavia Village near Pilapila in the Rabaul area, the fishermen have adapted the old bamboo *vup* using modern techniques and materials very successfully. In March 2019, the fishermen said they had twelve *vup* out at sea and they were all doing well. The *vup* traps were still suspended from the bamboo *babau* as before.

Photographs above: School children at Karavia Village obtaining fresh water from their well. They knew all about the vup traps made nearby by their relatives and accompanied us there.

Modern variations of fishing with the *vup* today in Karavia village.

Top left; Men make a traditional tika.
Top right: The tika with netting.
Middle Right: Vup on a canoe.
Bottom Left; men with tika and vup.
Bottom Right: An alternator used as a peo anchor with ordinary rope to attach it to the babau.

Different traps

1. A vup na Babau. The largest traps set out over one kilometre out to sea. It is these traps that are described in this book. They are checked every day or so. 2. *A vup na tatabar* is slightly smaller and sunk into 100 metres and is left down only a few hours, before being hauled to the surface with a load of fish. *3. A vup na takia* is a trap about 1.2 metres long that is placed horizontally on a sandy part of the reef to catch reef fish. 4. *A vup na kavakavara* is about half the size of the *takia* and is set on a shallow reef. *5. A vup na pinap* is a middle sized trap that is sunk into 15 or 20 metres of water, and baited with fish or fruit. 6. There is also the very small trap *aungmuton* made with spikes on it. When a fish is caught, its struggles loosen the trap, which floats to the surface and the fish is retrieved.

Materials used to make the *babau*, the *vup* and the *peo*.

In traditional times the only materials available were from the bush and the sea. Materials used were rattan canes, bamboo, logs, bamboo strips, stones, vines, shells and bones as well as canoes to carry the *babau* out.

Material used in 2019 included fish-netting, bamboo, string, rope, an old engine used for the anchor, and motor engines on canoes to take the *babau* out. These materials were available at trade stores and made everything much easier and quicker. Some fishermen have tried to use chicken wire but this was found to bruise the fish when the trap was battered in the sea. Also fish did not live long in these traps and often were found to be rotten when being collected. For these reasons chicken wire was abandoned for the modern-style traps.

The names of the birds

The sea birds that come and sit on the *babau*, play an important role by indicating there are fish caught in the trap. The *kanai* in the *Kuanua* language are the terns (sterna sp) that rest on the *babau* and circle the traps. Other birds are the *daula* which are the lesser frigate birds (*frigata ariel*). They would arrive when there was fish in the trap and dive into the water trying to extract the fish and indicate to the scouts on the beach that there was a catch to be fetched from the trap.

Photograph Right:
The Lesser Frigate bird (web).

The names of the fish that are caught.

Karua fish are pilcher reef fish that are caught in the small traps. *Urup*, the rainbow runner and the Chad fish are the largest to be caught in the *vup* traps and then there are the *agito* and the *malubur* which is like a herring and is caught in a special net called *a ubene na malabur*. On the whole, the tuna fish are too large to go into the trap although they are caught widely by commercial FAD (Fish Aggregating Device) which is now commonly used throughout the world to catch pelagic fish in deep water.

Photograph Left: The Rainbow Runner fish.

Where did this technique originate from?

Photograph Above: Bamboo fish-trap in Kerabi, Thailand. (M.Mennis 2019)

Bamboo traps of all shapes and sizes are used in Thailand by today's fishermen as observed in 2019. These traps have a hole partway down the trap to entice the fish into it. The thin strips of bamboo which are used to make the traps are very similar to the materials used traditionally in the Tolai villages. The hoops that circle the trap keep the bamboo in place. Perhaps traps like this were used generally over the Pacific and areas where bamboo is available in large quantities. Bamboo is an effective material and adaptable to different situations.

The Use of Tabu shell money.

Tio Wawaga said the fishermen could accumulate a lot of shell money through their fishing. If *tabu* was needed for a wedding there might be three or four additional babau set in the sea to get the money for this special occasion. As he said "They do not fish for nothing. There must always be a purpose for the fishing." As Richard Parkinson commented that t*abu* "permeated the entire culture and there was not a custom connected

with life or death in which this money did not play a great and leading part" (1887: 316)."

The time of the year that is best to fish with the *babau*:

The Tabaur season or dry season is the best time to use these traps. In the wet season the traps get battered and the fishermen have to wait for calm weather before they can go out and check their traps. The *babau* season is from April until October and then during the rainy time, the fishermen are busy making new *vups* for the next season.

The scouts who keep a watch on the traps

The *babau* must be set one to two kilometers offshore to catch the fish that live there. These are the pelagic fish that only swim in the ocean and do not come close to shore.
Once the trap is full of fish it is imperative that the fishermen go out and empty the trap. The fish could die of exhaustion or hunger. The men look-out from the beach but it is very difficult to see their markers at times.

If possible, they sit on a higher cliff and watch the sea. These lookout places are called *makmakila*: a place where you stand and spot the birds circling over the *vup,* indicating there are fish inside. Adrianna George remembers her father using binoculars but that would be a rare occurrence. These *vup* were placed one or two kilometers offshore so it is easier to view them from a height. The men using the *matanoi* at the Blue Lagoon would cliff the sttp cliff and observe the trap from this height. Tio said that if the scouts saw anything, they made a yodeling sound and the men below knew it was time to go out and clear the traps. Jacob Simet mentions that in the past on Matupit Island which is very flat it was very difficult to see the *babau* from his side of the island so they would rely on people on the other side to keep an eye out.

The disasters that can happen to the *babau*

Apart from the world war and the 1994 eruption there were other dangers for the babau. A heavy sea could tilt the *vup* trap sideways and the fish could escape. Sharks could also attack the babau wrecking everything. If the rope connecting the *peo* to the *babau* is broken then the *babau* would float away taking the *vup* with it. If this happens in the day time, there is a chance that the men could chase after it on a motor boat and retrieve it. Another danger is the trap might have its contents stolen by other fishermen and this could lead to disputes.

Shipping lanes

One of the main reasons why the *babau* is not used in the Raluana area is the fact that they would be positioned in the shipping lanes. Many large ships and cargo ships come into the harbour bringing tourists as well as supplies for the people.

Above: The Bulolo arriving in the Rabaul Harbour past the Beehives in the 1960s Painting by Sam Cham (Mennis collection).

These ships come close to where any *babau* could be positioned one kilometre off the coast. The disturbance of the water would affect the traps and deter fish from entering the traps which are left out for weeks at a time. The shipping lanes do not affect the village of Karavia and pila Pila as they out outside the harbour and not affected by the swell from the ships,

The procedures that must be followed to bring the *babau* good luck

Women were once banned from going into the *matanoi* or from even touching the b*a*bau as they could bring bad luck nor could there be any sexual activity. Parkinson mentioned that the men could not eat pork and pigs were not allowed near the fish-traps. To bring good luck the fishermen employed the *tena papait* to make his magic charms over the babau to bring the fish from every direction to the trap.

These days women and children of any nationality can go into the matanoi – the place where the new-style traps are made in Karavia Village, Photograph 2019.

The effect of the Pacific war on fishing

Children beside an old gun. These children have little idea of what their grandparents suffered during the war. Now this is a tourist site.

While the bombing raids happened and the Japanese controlled the area, the Tolai had no escape. They stayed in their villages afraid of the future. They were forced to help the Japanese soldiers. They had to climb the coconuts, grow food and catch fish. Finding the villagers reluctant to accept payment in *Kumpio*, as the occupation money was called; the Japanese turned to direct barter and traded rice, cigarettes or tinned food for garden produce or wages. The people were introduced to tinned fish and found it very useful. After the war they could buy the tins at tradestores and did not have to exert themselves with fishing.

The tunnels where the barges were stored are now tourist attractions and the villagers get money through their guided tours. Tio Wawaga used to go into the tunnels and catch small kippers in the puddles and use them as bait.

It must be remembered there were up to 90 thousand soldiers in Rabaul in the war and many had to stay in tunnels during the strafing by the allies. I met one of them Captain Enari who came back for the bones of dead soldiers. He said he had to sit in those tunnels for hours and there was nothing much to do. He at least could read but the ordinary soldiers did not have access to books.

Overall there was not much *babau* fishing during the war. The bombing raids of the allies would have targeted any unknown floating objects in the war and the *babau* float show up clearly from the air.

Furthermore, the coastal people moved inland for safety reasons and lost contact with their former way of life. After the war it took a long time for the village people to return to their villages often destroyed with bomb craters everywhere. They had to recover and re-build. They were paid compensation money and now had access to tinned fish at the Chinese tradestores. A diet of tinned fish and rice with vegetables became quite common. Furthermore it took time to catch fresh fish or buy them and tinned fish was cheaper and readily available from the tradestores. Inland villages in particular relied on 777 Tinned Fish or Oxen Palm Corned Beef tins rather than on caught fish from the coast which deteriorated quickly.

The effect of the 1994 eruption

On 19 September 1994, at 5.30 in the morning there was a big eruption in Rabaul. Tiolam Wawaga experienced it first-hand as he was in Rabaul when the first eruption occurred. He managed to escape to Raluana before Vulcan also exploded.

At that time there were many *babau* set about one kilometre from the volcano and the ash and the pumice stones that were shot up into the sky then rained down on the *babau* which were quickly destroyed by the weight of ash. The rattan rope to the *peo* basket would have been split and the whole *babau* would have just floated off and been destroyed. Some fish in the trap may have escaped but many would have died from ingesting the ash. In the sea itself, the eruption killed many of the fish in Blanche Bay as there was a thick layer of pumice floating on the surface, but other fish managed to swim to safety.

Any fisherman caught out checking their fish-traps at that time would have left their *vups* and paddled quickly to the shore. Some of these fishermen, who fled over the hills with their families, settled in the mountains or in the Warangoi Valley and did not return. Others returned and began again to make the *babau* but in a different manner.

Photograph Above: The house we lived in, in the 1960s was destroyed.

Tiolam said the eruption was the main cause for the decline in the *babau* fishing which had been re-established after the war. "Although the major eruption was in 1994, there were bursts from the Tavurvur volcano for years afterwards and it took a long time for life to get back to normal and the village people to return home."

The fishing villages in the bay were destroyed and their coconuts hung like closed umbrellas in the desolation. Some villages outside the bay were in a direct line of the ash and were affected most by the eruption. Adriana George said that the dust and ash from the volcano blew towards the villages of Nodup, Talvat, Matalau, Rakunai and Korere which were all destroyed. However villages like Ratung, Pila Pila and Karavia were not so affected. After the eruption Karavia was the first village to begin making the *vup* fish-traps again and the fishermen today are having great success. So we see that the eruption diminished the *babau* fishing industry as the men could not set the *babau* floats and traps for a long time after the first eruption. Nor could they even go fishing near the volcano as the ash could be quite hot when it landed on their canoes if they paddled out near Mt Tavurvur with its red-hot crater. No one knew when it would explode again.

Babau Fish traps described in the 1880s

Thirty years in the South Seas. Richard Parkinson; translated by John Dennison; introduction by Jim Specht; edited by J. Peter White with the assistance of Andrew Wilson. Published by Sydney University. Used with permission]. (Parkinson 43 – 45)

Photograph Right: Richard Parkinson 1844 – 1909.

The *vup* in its completed form has the shape of a large balloon and is somewhat wider at one end than the other. The manufacture requires considerable skill, and great patience and time. First of all mature bamboo canes are cut in a suitable place in the forest, split into long strips about 4 to 5 millimetres wide and 2.5 to 3 metres long, and the edges and insides carefully scraped and smoothed.

These lengthwise strips, which form the outer body of the fish-trap, are called *pal a wup (pal* = house); wider strips are similarly prepared for different use. From the outer, hard bark of a type of rattan, thin strips are cut, 2 to 3 millimetres wide, which are very supple and serve as bindings in the later stages of manufacture.

First of all the inner part of the trap is made. This consists of about ten to twenty bamboo strips, 1 to 1.5 centimetres wide and 2 to 2.5 metres long, according to the size of the fish-trap. These lengthwise strips, *pal a bul,* are attached at about two thirds of their length to a small bamboo ring, about 15 to 25 centimetres in diameter, and the ring is closed with a net-like wickerwork of fine bamboo strips; this ring with its mesh is called *aubene* (=net).

The individual strips, *pal a bul*, are now attached at both ends to bamboo rings, one of which forms the upper end, through which the fish get into the trap; the lower end is of course similarly open, but serves less as an entrance to the trap. The upper end, about 50 to 60 centimetres in diameter, and the lower, about 40 centimetres in diameter, are now prepared particularly carefully. They are now prepared particularly carefully. They are the same as each other in arrangement; the *pal abul* are attached to the outermost ring, and there follows a thick, funnel-shaped wicker-work, *palvavatur* , approximately 15 to 20 centimetres wide, consisting of bamboo strips about 1 centimetre wide, then a wicker-work of narrower strips, *pagala tit*. The rest of the length of the *pal a bul* remains free and without mesh, and fish that enter through the openings easily succeed in reaching the interior by pushing aside the sticks, but cannot swim out again because the staves do not yield from the inside outwards; the wicker-work, *aubene,* prevents the fish from passing through the fish-trap along its length; once in the funnel-shaped corridor the fish for better

or worse must pass into the interior of the fish-trap through the easily yielding staves, pal a bul.

To strengthen the upper or trap end of the fish-trap, a round collar of rattan and bamboo strips, about 3 centimetres thick, is laid on the inner rim, and the entire wicker-work is tied fast onto this; the ring, *a pulpul bat*, also serves for fastening the plaited rattan cords, *a virvir* by which the fish-trap is attached to the float. To the lower end is fastened a long, thin rattan cord, *lal*, used in raising the fish-trap from the water into the canoe to remove the possible catch; this end is provided with a cross-form wicker-work, *kakatua*, by which the individual staves of the fish-trap achieve a firmer binding. The outer covering of the fish-trap is formed from bamboo strips*, pal awup*, lying densely over one another, laid over rings of varying width that give the fish-trap its external form, and are firmly attached to them by means of narrow rattan strips, *pidikai*. These rings, made from bamboo strips, are of two types: broad rings, *loko*, to give the fish-trap greater firmness, and narrow rings, *piai,* which, secured with the *pal awup*, form the real shell of the fish-trap.

Various accessories belong to such a net, namely the float or buoy, to which the fish-trap is attached, the anchor rope, and the anchor. The float or buoy, *babau*, consists either of a bundle of firmly tied bamboo canes about 4 to 5 metres long, or a wooden float usually made from the inner wood of the breadfruit tree, which is not attacked by the boring clam; in the latter case the 4 to 5 metre long wooden buoy has a deep, broad indentation at one end, *kala ta dokop*, to which the *wup* is attached by means of the *virvir.*

In the middle, the buoy has a further indentation, *kokobot*, which serves to receive the anchor rope, vinau ; the latter is wound round the buoy and secured to it in a particular manner, called *paraparik*. The anchor rope, vinau is made from lengths of rattan; usually three to four of them are wound round one another and held in place by wrapping with fine strips of rattan about 10 centimetres apart; the wrapping is called *gogo.* The anchor ropes are often of great length, occasionally up to300 metres long if the *wup* needs to be anchored in deep water; the anchor ropes for the *widam*, which resemble the *wup* in form but are less solidly constructed because they are laid in lesser depths, are correspondingly shorter.

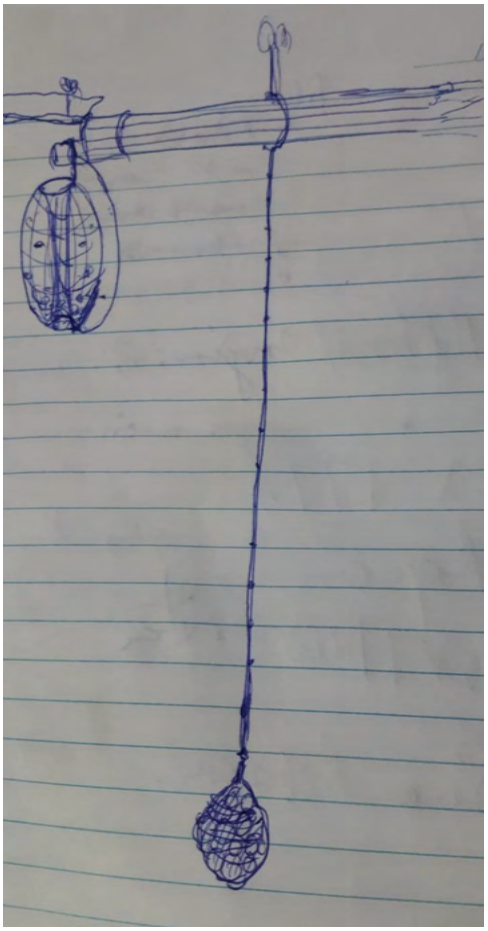


Illustration above: of the babau by Tiolam Wawaga. 2019.

The anchor, vat (= stone), is a conical rattan basket; the securing head, *kiki na vat*, about 75 centimetres in diameter, is thick cane wicker work on which coral blocks are piled into a conical heap. Then the rattans radiating out from the anchor head are bent upwards and these *vatutia* are secured with rattan rings, *vat a lil*, running round and round, and a strong loop, *kol*, is formed at the upper end. When all is ready, several bamboo floats, *goakara*, are attached above, and to one another. On this are placed the anchor and the anchor ropes, the latter wound into great coils. The completed fish-trap is placed in a canoe, and the fisherman sets out, buoys in tow, to the place appointed for laying the fish-trap. The fisherman, by using familiar landmarks, can reach the exact spot, whose depth he knows. Having reached the spot, the anchor rope is secured to the ring of the anchor, which can be carefully lowered. As soon as it has touched bottom, the upper end of the anchor rope is secured to the buoy and the fish-trap is joined on. In order to recognise the site of the fish-trap, a young sapling or a stick tied with brushwood is setup on the buoy. This sign, *au anai* is visible from afar, and every owner of a fish-trap recognises his property by this. From land the owner maintains a good lookout, to note when fish go into the fish-trap; since the traps often lie 3 to 4 kilometres from the beach, a good eye is required to spot the fish gliding in.

The fish-traps which are sunk to the sea floor, *wup na tatakia*, are considerably smaller, about one metre long, and more cylindrical in shape. All kinds of bait are laid inside, and by diving they are set in position on the coral reef. A thin anchor rope, *kuika* made from interwoven lianas, extends from the fish-trap to the surface, and a small float attached to the upper end indicates the position of the fish-trap.

The completion of a deep-sea fish-trap, *wup*, with its accessories, is the occasion for a small feast. The women bring the necessary taro, yams, bananas and coconuts down to the beach and prepare them there, beyond the bounds of the fishing place. On this site, to which women are forbidden entry, stand the spacious huts in which the fishing equipment and canoes are stored. On the whole, women are not allowed to have anything to do with the preparation of fishing equipment; but it is permissible for them to carry the heavy coils of rattan, from which the anchor ropes are prepared, from inland to the seashore. It is forbidden for women even to touch the completed fish-trap and its accessories, because this might bring about an unfavourable outcome, and every catch could be spoiled.

Photograph Right: The smaller vups near Raluana Point. Richard Parkinson.

During the preparation of fish-traps and accessories the men avoid the women and have no sexual relations with them. Before its immersion, the fish-trap and its accessories are the subject of all kinds of sorcery, which has the purpose of bringing about a good

catch. To the accompaniment of the murmuring of magic spells, the fish-trap is painted with red ochre mixed to a pulp with the sap of a particularly magical tree. This is called ramarama. Besides this, magical herbs are placed in the fish-trap and during this procedure a man skilled in magic murmurs luck-inducing incantations over the sea and over all the fishing equipment, which will not only invoke an abundant catch but also plead for calmness of wind and sea, so that the anchor rope does not break and the fish-trap be carried off.

A fishing site is given up once and for all should an enemy malevolently throw pig offal, entrails, and so on, into it, an offence that, if discovered in earlier times, would have been punished by death. Catching fish is carried out in many kinds of ways besides fish-traps, however. Methods vary with the different areas of the coast, and are dependent in many ways on local conditions. A quite widespread type of fishing is by means of *pakapakat* and *vinot* which is used along shallow stretches of shoreline to catch a particular fish, called *karua* by the natives.

The *pakapaka*t is a net about 1.5 metres deep, provided with floats on the upper edge and sinkers along the lower edge; the *vinot* consists of two, crossed-over bamboo canes that form a wide angle. Inside this angle a triangular net is spread. If a school of *karua* appears in the shallows, two men go into the water with the *pakapakat* and place it so that the fishes' way of retreat to the open sea is cut off. Those carrying the *vinot* then position themselves in knee-deep water, one *vinot* always abutting its neighbours, thus forming a broad arc. At a given signal, the men with the *pakapakat* make a noise and the terrified fish jump, describing broad arcs above the surface, into the *vinot* held before them.

Note about Richard Parkinson.

Richard Parkinson was of Danish royal blood. He was the illegitimate son of Christian August ii, Duke of Augustenberg, second in line to the Danish throne. Richard's mother was a lady-in-waiting to the Duchess. She was "married off" to the Duke's horse trainer, an Englishman called Parkinson who then left Denmark. The Duke built the mother and son a house and Richard was reared royally in Denmark with his half-brothers. During his travels Richard met and married Phebe Parkinson who was the woman behind the success of both her husband and her famous sister Queen Emma.

Photograph: Phebe helping her husband, Richard interview a village elder.

According to Wikipedia:

Richard Parkinson surveyed and planted Ralum plantation with its famous bungalow Gunantambu - as Queen Emma's headquarters, then many other coconut and mixed plantations for her. Phebe, crucially, recruited the labour to work them. Later, when Richard went to work for the German New Guinea Company, Phebe also took over managing Emma's burgeoning plantations as well as the Parkinson's own at Kuradui. Phebe was a superb linguist. She spoke English, Samoan, French (learned from the nuns who educated her) and German fluently. But, unlike her husband and sister, it was her mastering of the Tolai language, regional dialects and pidgin, which made her an indispensable business and cultural conduit. if not for Phebe's translations for her husband, "Thirty Years in the South Seas" and his other works could never have been written. Because of her empathy and innate understanding of them and her willingness to learn their languages and customs, Phebe was accorded a special affection and status among the local people. They called her "Miti" or Mother and turned to her to settle disputes and medicate their sick.

Above Phebe Parkinson with some of her Tolai friends in the Gazelle Peninsula.

"Mrs Kuradui" – Phoebe Parkinson (LO)

Phebe died in a POW camp in 1944. For sixty years, Phebe Parkinson lay lost in a jungle grave on New Ireland, where locals said her spirit waited to be reunited with her beloved husband at Kuradui. This happened in January 2004 after her grandson Alf Uechtritz was finally led to the grave by an old man who'd cared for the site for six decades after helping bury Phebe.

"To soothe her spirit, the old fellow, Das Das, had planted a Tanget bush, native to nearby

> New Britain, at the head of the grave. Alf arranged to return Phebe's remains to Kuradui, amid an extraordinary outpouring of emotion by the local Raluana people, who turned on a religious festival of feasting and dancing for Miti's homecoming. Present were 44 descendants - in four generations - of Richard and Phebe Parkinson." Max Parkinson Uechtritz passed away in 2008.

The cemetery is cared for by the traditional landowners and is a sacred place for the Raluana people and to the Parkinson family. As Sir Rabbie Namaliu, himself from Raluana, said in his speech at the 2004 ceremony to welcome Phebe's remains and spirit back: "Now, this cemetery can be a special place and live on for generations of the peoples of East New Britain and, indeed, for the whole of PNG."

Photograph of the Kuradui cemetery (M. Mennis 2019).

This cemetery is now a significant part of Raluana history, particularly as it was here that Phebe Parkinson helped her husband Richard record the local Tolai culture at the time of first contact in the 1880s. Crucially he described the *babau* which he saw being made at Raluana Point. In the past these fish-traps were of the utmost importance for the people's survival. Interestingly, the last of the true *babau* makers, Melkie Kilala lives at the Kuradui plantation, once the home of Phebe and Richard.

Glossary.

Babau …… The name of the float as well as the *peo* anchor and *vup* basket altogether.
Bilas …….. Decoration especially for *singsings*.
Bilum …… Netbag used by the women.
Buai …….. Betelnut, fruit of the *Areca catechu*.

Haus boi …… Men's ceremonial house.
Haus win ….. Garden house to catch the breeze.

Kina …….. Large shell; also money.
Kulau …… Green coconut used for the juice.
Kundu/ kudu .. Hand-held drum.
Kunda …… Strong vine.

Lalong …….. One-mast canoe used in Madang.
Luluai …… Village or tribal chief appointed by the government.

Mal …… A bark loin covering, traditional clothing for men.
Masalai…….. Spirits thought to inhabit streams, trees. Some are good and others evil.
Matanoi ……. Place reserved near the beach for making the fish-traps.
Muruk …… Cassowary, large flightless bird.

Peo …… Anchor for the *babau* float.
Purpur …….. Grass skirt.

Rabaul …….. The name of the town in East New Britain; also the name of the mangrove.

Saksak …….. Sago palm.

Tabu …….. Shell money.
Tabuna ……. Ancestor, also *tumbuna.*
Tapa ……. Material made from bark.
Tanget …….. Leaf used especially for magic.
Tena agagar.. Bad sorcerer who can make people.
Tena papait… Good magician who can heal with herbs.
Tibud …… Spirits of the ancestors.
Tika …….. Inner part of the vup trap.
Tultul …… Government appointed leader in a village second to the *luluai.*

Urup/Aurop… Rainbow fish that are caught in the *vup* traps.

Vup …… Trap made of bamboo strips.

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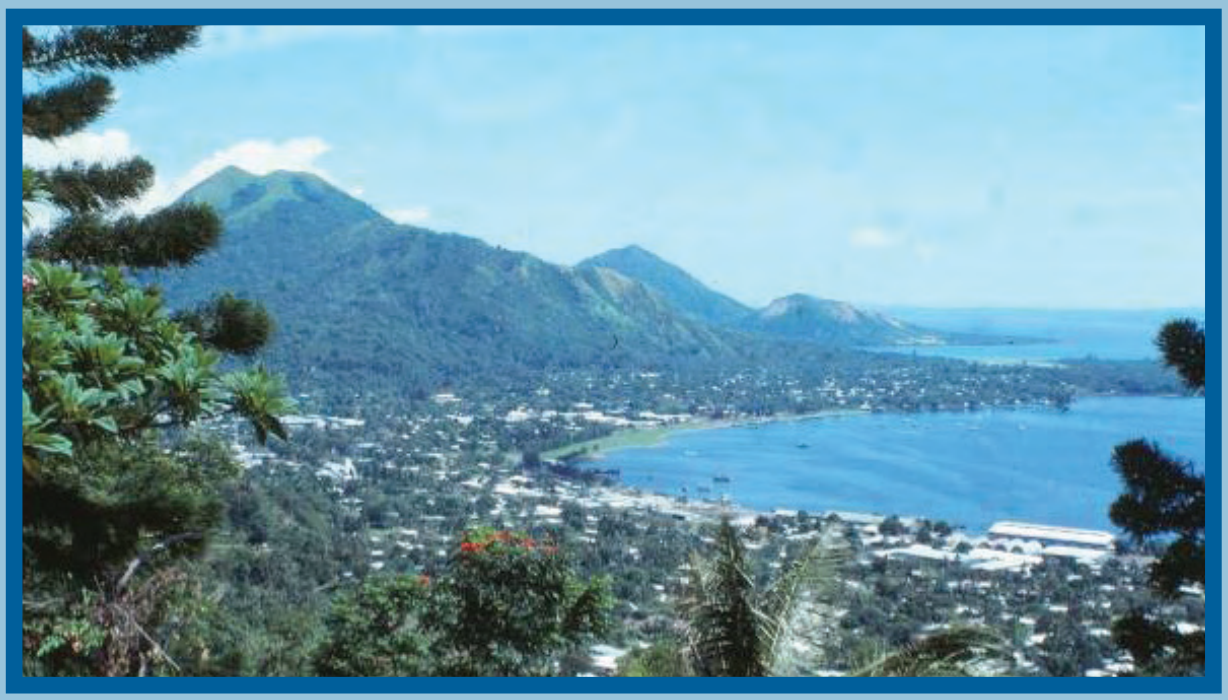
Oral testimonies.

Tiolam Wawaga**,** Ovin Wawaga, Adriana George, Josephine Aquila, Ebes Vinararang, Melkie Kilala, Mission Bale Mary Mitgal, Jacob Simet, and Isaac Ion.



Photograph of Rabaul in the 1970s before the 1994 eruption wiped out the town

The town of Rabaul shrank to half its size after the eruption of 1994. The site of the old Shopping Centre in Mango Avenue is still a wasteland of pumice and ash apart from the hotels and Yacht Club. The town has now spread westwards along Malaguna Road with shops, churches, schools, market and houses and is once again a thriving town. As they say 'Rabaul is sweet more yet'. It is the beloved Centre of the Tolai people and was once the capital of East New Britain. After the eruption it lost this title to Kokopo where most of the activity takes place.

The Babau of Rabaul describes the large fish-traps made of bamboo strips. The men now make them with modern materials, whereas their forefathers relied on bush materials to make them. This book studies the changes that took place over the years and the political events that influenced these changes.

The babau style of fishing is a precursor of the (FAD) systems used commercially throughout the world to catch the pelagic fish that live at least two kilometers offshore. In Hawaii the system of using anchored buoys to attract fish is used in game fishing. The Tolai men in Rabaul use anchored buoys but also attach a large vup fish trap from the buoy unlike the system used in Hawaii. The bamboo vup is intricately made from bamboo strips. Small fish hide in the net and the larger fish follow them in and are caught in the circular chamber. These days new materials like fish nets replace the bamboo slats on the vup in villages like Karavia.