

And Manager and Ma

A MARINA MARINA

Statistic de la company de la

# The unique travel experience

hundreds of cultures throbbing with vibrant colour-a spectacular land unscathed by the march of time ~ an untamed kaleidoscope of nature's handiwork





#### paradise

#### No. 23 May 1980

Paradise is published by Air Niugini's Public Relations Department, PO Box 7186, Boroko, Papua New Guinea (telephone 273542 or 273537; telex NE 22177 or NE 22153). No responsibility will be accepted for unsolicited editorial material.

Editor - Gerry Dick Editorial Adviser - Bob Hawkins Art Director - Tom Cooke Artist - Rob Kysely

Advertising: Papua New Guinea -Advertising Department, Air Niugini, PO Box 7186, Boroko; Australia - The Globe Bridge Company, 11a Euroka Street, Waverton, NSW 2060 (telephone (02) 92 1249); Japan - Universal Media Corporation, GPO Box 46, Tokyo (telephone 666-3036; cables 'Unimedia' Tokyo.

#### IN THIS ISSUE

- Bridgebuilders 5.
- 9. Golden waters
- Class Art 15.
- 17. Memories
- 19. Chasing after rainbows
- 23. Reflections
- On! On! 25.
- 29. Pacific aristocrat
- 33. Sepik journey
- 37. Tarawa



#### Welcome aboard

'Pacific Awareness' — that's the theme of the Third South Pacific Festival of Arts which Papua New Guinea has the honour to hearing and absorbing the cultures of all of the peoples who



globe we call Oceania. And, in turn, 1400 islanders actively participating in the festival — and, we hope thousands more visitors not just from Oceania but from around the world — will witness the richness and diversity of our own Papua New Guinean cultures.

and diversity of our own Papua New Guinean cultures. We have been working for two years now with the intention of mak-ing the festival not just a time for joy and entertainment, but a time for understanding, and above all, inspiration. It must help us all to work toward bridging the gap between our ways of yesterday and the new ways of tomorrow which have been forced on us Island peoples in so much shorter a time span than that experienced by those developed nations whose actions have so profoundly affected our lifestyles. The festival is striving in particular to involve schoolchildren, upon whose shoulders rest the decisions of tomorrow. We must ensure that they are equipped with a solid knowledge of the ways and wisdom of our own heritage. Toward the end of June, Air Niugini, as official carrier for the festival, will be welcoming participants and spectators from all of

hood before its participants set off from Vila to join us in our

In 1977 Papua New Guinea was the venue for a gathering of Oceanic heads of government in the shape of the South Pacific Forum. On that occasion it was serious business. This time, let's make it joy, laughter and learning all the way.



Bart Philemon Chairman of the Third South Pacific Festival of Arts and Air Niugini's Assistant General Manager (Commerical)

#### PHOTO CREDITS

Bruce Adams Gerry Allen Geoff Baskett Tom Cooke Gerald Dick E.T. Gilliard Sheridan Griswold Rob Kysely Graeme Lee **Brian Mennis** G.E. Schmida Harold Stephens

COVER

5

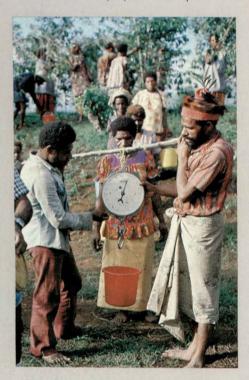
This face greets motorists travelling between Goroka and Kundiawa on the Highlands Highway at Watabung Community School. More 'class art' inside. Photo: Sheridan Griswold.

# We're looking forbusines

In introducing the Fifth National Investment Priorities Schedule, the former Minister for National Planning and Development, Mr John Kaputin said.

We seek through our economic and other policies to create the basis for a free and democratic society genuinely controlled by and actively involving the people of Papua New Guinea.

'There is no reason why foreign investment and this kind of development cannot go together. Indeed the one can scarcely be conceived without the other. For this reason, we welcome responsible foreign investors who are prepared to respect our



laws and people. I hope that you may be numbered among them."

It is the role of the National Investment and Development Authority (NIDA) in addition to promoting, regulating and controlling foreign investment, to assist investors and co-ordinate all matters relating to foreign investment in Papua New Guinea. Your first point of contact is NIDA at the address below, if you are interested in looking at the investment opportunities and potential or if you need further information. Projects and business activities are divided into three main categories - PRIORITY, OPEN and RESERVED. These are reviewed annually.

Foreign investment in PRIORITY activities is considered to be an essential part of Papua New Guinea's development programmes over the coming years. OPEN activities are projects which are suitable for development by foreign investment but which are not Government priority.

**RESERVED** activities are those in which foreign investors will not, as a general rule, be allowed to establish new businesses or to take over existing businesses

PRIORITY ACTIVITIES INCLUDE: 1. Mining: the development of mining

- and petroleum products.
- 2. Agriculture: the growing of legume and grain crops.
- 3. Forestry: sawn timber and veneer production; woodchipping in association with reforestation; further processing of timber; development of follow-up land use scheme.
- 4. Shipbuilding and ship repair.
- 5. Hotels.
- **OPEN ACTIVITIES INCLUDE:**
- 1. Agriculture: growing of fruit trees, and oil palm, rubber, cocoa, seeds and spice - through nucleus estate development.
- 2. Wildlife: harvesting and farming of deer.
- 3. Forestry: integrated timber development in six provinces.
- 4. Fishing: farming of prawns, eels, pearls, edible oysters and mussels; aquaculture; fishing of sharks and mangrove crabs.
- 5. Secondary industries: the processing, manufacture and assembly of a wide variety of goods.
- 6. Construction: using specialist skills not available at competitive costs in PNG.
- 7. Trading: export of minor agriculture products.
- 8. Tourism, restaurants and motels: in conformity with a National Tourism Plan.

9. Technical and professional services. The following new incentives have just been introduced:

1. First, the accelerated depreciation allowance:-

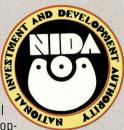
This will allow a greater claim for depreciation in the year of capital purchase. It is intended that this incentive be made available to the manufacturing, transport and communication, building and construction and business service sectors for items of investment which have a useful life of over five years.

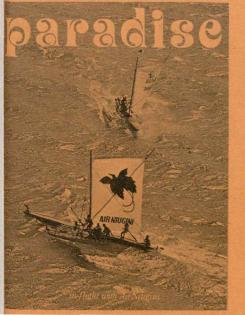
- 2. The next new incentive is a 200% deduction from assessable income for wages paid to apprentices registered with the Apprenticeship Board of Papua New Guinea.
- 3. Thirdly, the Government will provide necessary infrastructure, including buildings, to investors for new industrial projects in return for a negotiated user charge payable annually over the life of the project.

There are, of course, many other schemes and policies already in existence which are intended to assist investors.

We have an Export Incentive Scheme for manufactured goods under which 50% of profits related to growth in export sales are exempted from company tax; an Infant Industry Loan Scheme under which Government will consider providing an unsecured standby loan facility for firms which identify possible financial problems in the early years of a project; a Feasibility Studies Contribution Scheme for certain qualifying industries. We have no import duties on capital goods, other than the general levy of 21/2% on all imported goods. Investors can also apply for exemption from the generally low rates of duty on raw materials if the latter are significant to project operations.

For further information, contact: Executive The Director, National OITAN Investment & Development Authority, PO Box 5053, BOROKO. Papua New Guinea





# paradise

We'll airmail *Paradise* to you anywhere in the world for a year (six issues) for Kina 15, \$Aust 18 or \$US 20. Tear off this card, print your name and address overleaf, put your cheque or bank draft with it, and post it to:

Air Niugini Public Relations Department PO Box 7186 Boroko Papua New Guinea

# Paradise now on subscription

Payment is enclosed.

Name

Address

Air Niugini, Public Relations Department, PO Box 7186, Boroko, Papua New Guinea

# Bridgebuilders

Intricate bridges, made entirely of bush materials, are rapidly being replaced in Papua New Guinea by more durable ones of steel and concrete. In 1952, ornithologist E.T. Gilliard and his wife Margaret documented the building of a bridge at Kup in what is now the Simbu Province. At Kup the Wahgi River narrows to about 20 metres. The long strands of lianas vine, required to build this bridge, had to be brought down from 2500 metres, nearly 1000 metres higher than Kup. Bamboo and the split casuarina planks were obtained from near the village. Skilled bridge-builders then set to work.



High end abutments of criss-crossing lengths of bamboo lashed together in a rigid and strong lattice will support the centre portion so that it will hang well above high water level. Within the bamboo structures are tunnelled ramps which allow pedestrians access to the bridge span. Bridges like this one usually are built on or near the site of previous bridges. Trails leading to them are deeply worn and look as if they could be centuries old.

Work on the hanging section is started by an archer who fires a light line across the river . . .



Then heavy vines that will make the railings and support the floor of the span are dragged across. The lianas vines are sometimes nearly 50 metres long. The railings are made up of five to 15 lianas roughly braided together and anchored by interweaving the strands among upright bamboo poles

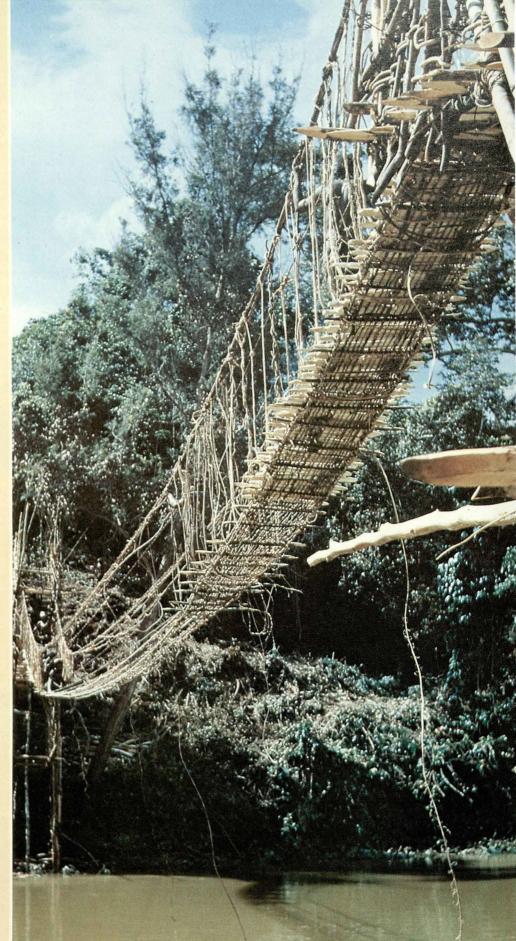




Sill cables are laid along the length of the bridge. They are solidly linked to the railings by a wall of loosely-woven vines

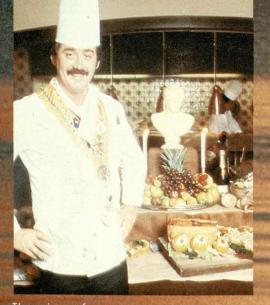


Slats of casuarina wood are then laid along the length of the bridge and are laced in place with vines



In a week the job is finished. Although no swaying is felt as one walks across there is a pronounced sagging as the bridge adjusts to the shifting weight of a moving person. Bridges last for several years but require constant maintenance

# First Impressions



The views from your room are breathtaking. The bars are friendly. The restaurants are superb. And then there's the ambience of Kings Cross, right outside the door. First impressions just keep on getting better. **Contractive Spirit** 

E H

HYATT KINGSGATE HOTEL SYDNEY Kings Cross Rd, Kings Cross. Phone: 35722

Mendi, Wapenamanda, Chimbu and Tari are the heart of Papua New Guinea. They're among the 130 ports of call serviced by Talair. Our Bandeirante flagship has jet-like comfort and speed to match large turbo-prop airliners.

Comort

Talair Pty Ltd (Head Office) PO Box 108 Goroka. Telephone: 721355. Telex: NE 72519

where jets can't fly

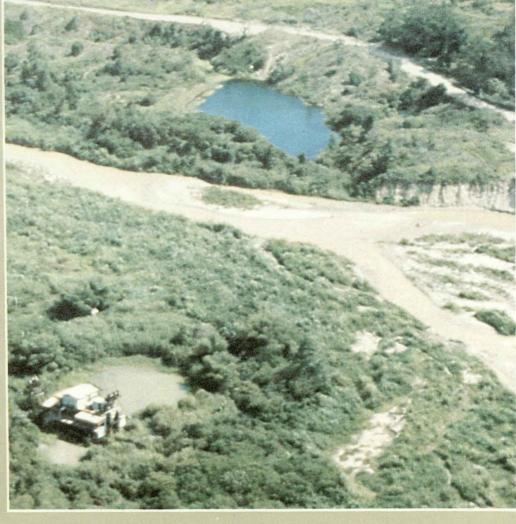
100 M



In an uncertain world of uncertain currencies, man's primitive selfsurvival instinct has made him turn again to the security of gold, forcing its price to unthought-of heights. Janetta Douglas traces the story of Bulolo Gold Dredging's world-famed fleet of dredges and ponders the possibility of some of these derelicts being brought back to life. Bruce Adams took the photographs.

The world was in the grip of the Great Depression. Despondent shareholders in Guinea Gold No Liability were meeting in Adelaide, South Australia. The date was November 29, 1929. These people had invested their money on the strength of surveys of gold reserves in the jungles of New Guinea.

Now, though they had been assured the gold was there for the getting, they were unconvinced that the getting was possible. They were angry too - at people like Cecil J. Levien, the man whose reports had persuaded his First World War buddies Charles Wells and William Lapthorne to float Guinea Gold in Adelaide. But that had been in 1926 at a time when Edie Creek had been found. Then shareholders had tingled with excitement as their board registered the company's claims in Bulolo. It acted on the advice of Levien whose theory was that alluvial gold had been washed down from Mount Kaindi through the Edie and Korange Creeks into the broad Bulolo River valley. Geologists confirmed Levien's theory by reporting a 12-



# Golden waters

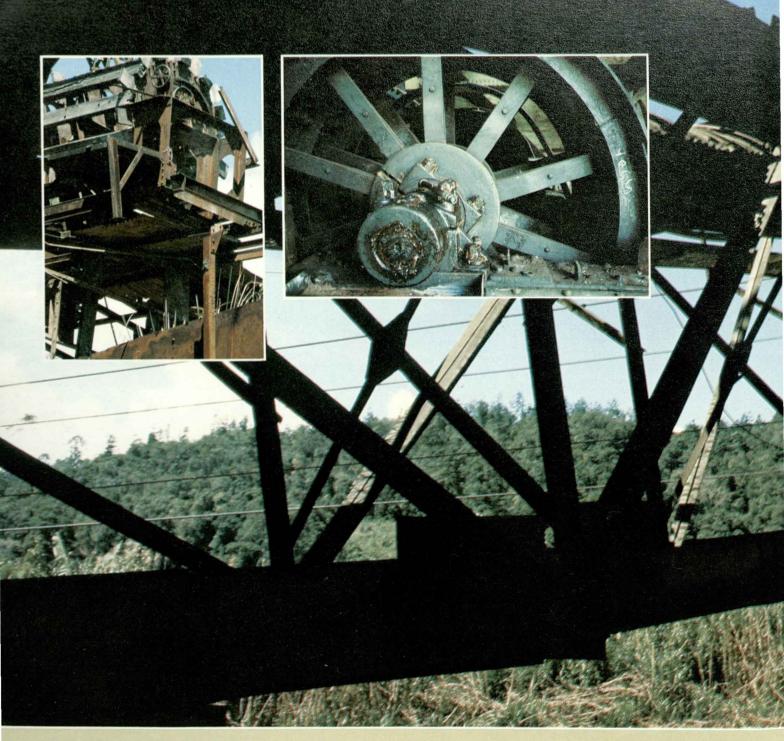
metre layer of gold-bearing silt along the entire valley. But how to get it out?

Bulolo Valley was no Edie Creek where sluice boxes could vield 100 ounces a day. It needed gold dredges weighing about 1500 tonnes and costing £250,000 apiece. Guinea Airways had been established on Levien's urging in 1927, but the aircraft it was using were mere toys in the face of what would be required to lift the dredge parts, the heaviest of which was about 31/2 tonnes. Roads and railways seemed out of the question. Roaring rivers, mud flats, mountains, landslides - and money (or the lack of it) - soon put a stop to thinking along those lines.

Whatever the doubts of the shareholders, Guinea Gold's board had kept faith and had been wooing other mining interests to join them in the Bulolo venture. Among them was a small Canadian company, Placer Development. Guinea Gold's board had persuaded Placer to send their geologists to Bulolo. At the November 29 Adelaide meeting was Placer geologist Frank Griffin, all fired up with enthusiasm after visiting New Guinea. Great would be the reward of the men who had the vision, courage and capital to seriously undertake the development of the Bulolo Valley, he told the meeting. But still — the problem of getting the dredges in.

Cecil Levien, Pard Mustar, chief pilot of Guinea Airways, and Charles Wells, chairman of Guinea Gold, thought they knew the answer. They had heard of a new German aircraft, the Junkers G31, capable of carrying what in those days was considered a phenomenal three tonnes. Nearly a month after the Adelaide meeting, Mustar and Wells demonstrated, with models of the G31 and the largest dredge part (the upper tumbler shaft), how gold dredges could be flown into the Bulolo Valley from Lae, about 45 minutes flying time away on the coast of Morobe Province. Scepticism turned to jubilation as a Junkers representative gave assurance that the Mustar-Wells proposition was feasible.

The rest is history. Placer took up the options to buy 90 per cent of



Guinea Gold in February 1930 and floated a company, Bulolo Gold Dredging (BGD), a name still familiar in Papua New Guinea.

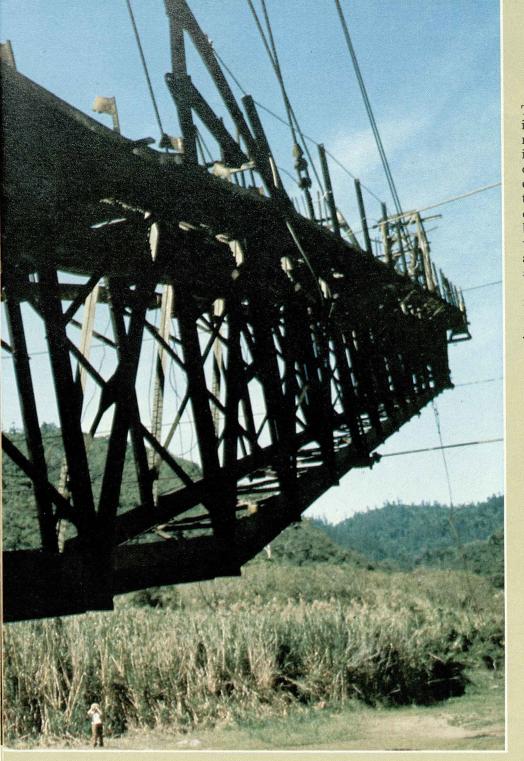
Within weeks of hitting the stockmarket, BGD was heavily oversubscribed. Frank Griffin went off to California to fine up design of the dredges; dredge pontoons were built in Australia; and hydro-electric turbines were ordered from Sweden.

Numbered dredge parts were soon on their way by sea to Lae where crane operators were practising loading mock dredge parts into a mock-up Junker G31 fuselage. At last, all was ready, and the first of the dredge parts began the last leg of their journey, over the mountains into Bulolo where steel workers, many of them fresh from working on Sydney Harbour Bridge, were waiting to begin assembly.

Dredge No. 1 was built near where Bulolo stands today. First a great pit was dug in the sand for the pontoon assembly. The river was diverted to enable the hull to float. Next came the superstructure and then dredging and electrical equipment was installed. On March 21, 1932, Levien's dream became reality as electricity flowed from the hydro-electric turbines above Bulolo to the first dredge to be completed. But the canny old miner was not there to see it. Nine weeks earlier, complaining of fatigue and earache, he had gone to Sydney. Within two days he was dead, a victim of meningitis.

As No. 1 moved up river in search of gold, Guinea Gold's chairman, from an aircraft, scattered the ashes of C.J. Levien over the valley he loved and knew so well.

After only 10 days No. 1 had turned up 1700 ounces of gold and Placer's shares had soared to \$15 The mountains around Bulolo were echoing to the roar of constantlyarriving aircraft, the ring of dredges under construction and the pounding of dredges at work. By the end of 1932 it was established that gold existed to a depth of about 60 metres, not just 11 metres as originally estimated. Eight dredges were built in



the valley and Placer Development grew to become one of the largest mining companies in the world. Described variously as 'the battleships of Bulolo', 'monsters wallowing in mud' and 'insatiable robots', the dredges were to turn over 7.4 million cubic metres of soil and win more than two million ounces of gold before the last one, No. 5, finally collapsed on June 4, 1965.

Basically, all the dredges worked on the same principle. They groped their way across the valley floor, floating in their own water-filled paddocks. They 'walked' forward on two 20 tonne spuds attached to the rear of the pontoons. Back and forth the dredges went, enthusiastically sucking up gold dirt in their capacious maws, scooping up more dirt in one of their 300 or so buckets than one man could pan in a day. The noise was deafening — bellows, groans, creaks, shrieks and a ceaseless shuddering that vibrated through the bodies of the men who cajoled and tended them.

A dredge master from the early days, Tom Lega, recalls there were many jobs his crew dreaded doing. It's little wonder. One of the worst was replacing the 86 kg pins holding the buckets to their frame. To do this the pin had to be manhandled through the screen. Another horror job was putting the 460-tonne bucket line back on the lower tumbler. This involved nerve-wracking straining and pushing against the constant movement of the dredge. The dirtiest job, Tom Lega remembers, was changing the lower tumbler because each of its bearings was packed with thick black graphite grease. This, coupled with the fact that each tumbler weighed about seven tonnes, was a mighty messy job. It is remarkable that there were so few major accidents on the dredges.

The Second War, as it rolled inexorably toward New Guinea, scattered the men of BGD. Many joined the military or coastwatchers. In August 1942 the order went out that Bulolo and its workshops should be destroyed to prevent them being used by the Japanese. Ironically, the Japanese never did penetrate the Bulolo Valley. However, there are stories of allied troops boarding the dredges and stealing about £50,000 worth of fine gold from the dredging tables. Extensive damage was caused. One soldier was courtmartialed.

At the end of the war, all but one bucket of gold (hidden in the dredge pond of No.1) was recovered. Dredges Nos. 1, 2, 3 and 7 quietly survived flooding and the neglect of the war years and were found sitting evenly in their ponds. Nos. 4 and 6 were aground but on an even keel but everything, from electrical gear to gold-saving equipment, had either been taken away or destroyed by the allies. Much improvisation was needed before dredging could begin again. However there was one bonus from the war: the construction of a road from Lae to Bulolo, much of which is still in use today.

Dredge Nos. 5 and 8 were the problems. Not until September 1947 was No. 5 back at work. No. 8 severely damaged its hull on a hidden rock and pumps were used frantically to prevent it sinking. Finally the crew did a 'Captain Cook' by wrapping sails around it, plugging the hole for a week while her dredging ladder gingerly dug a shelf for its pontoon to rest on while repairs were made.

In November 1949 No. 5 was in trouble again. A screen drive shaft had snapped and maintenance men were working around the clock to fix it. To save time, No. 5 was left in its digging position beneath an exceptionally high bank. Both its digging ladder and spuds were raised. With-



out warning, the starboard bank caved in and the vortex of boiling water lifted the starboard side of the dredge. The port side slid under the water and, with hatches open, the hull began to fill. The 2500 tonne dredge turned turtle. Miraculously everyone managed to get clear. No. 5's salvage, using the winches and wire ropes of No.1, is still considered a triumph of technical achievement by miners worldwide.

As the fifties rolled on, the men of Bulolo sadly watched the dredges running out of payable ground. High operation costs, low ground values and increasingly difficult digging conditions started to bring them to a halt. Dredge No. 6 was left to rust in the coffee plantations of Wau. No. 8 was abandoned on the Bulolo River. No. 1 was cut up to make bridges, its pontoon being used to make a large water tank at the Bulolo plymill. Nos. 3 and 4 had better luck. They were dismantled and shipped to work again in South America in 1957.

No. 2 finally stopped work in Ap-

ril 1955 and its parts were used to keep Nos. 5 and 7 working in much higher yardage than their designer had intended. That they kept going at all was a tribute to the ingenuity and dedication of their crews and maintenance men.

BGD began diversifying its efforts in the Bulolo Valley — timber production was lifted, a massive reafforestation programme was started and the plymill was developed.

In 1956 came catastrophe: the 460-tonne digging ladder of No. 7 broke. The sudden release of weight from its bows stood the dredge on its end. Water flooded the hull and, after an eight-hour battle, it was abandoned. Again there were no fatalities. Salvage efforts came to nought and today No. 7 lies rotting near the more carefully preserved No. 5 whose end came in 1965. Although it was planned that it should dig on for another year, when No. 5 snapped its digging ladder on June 4 it was decided, that with gold prices so low and repair costs so high, to abandon operations.

The dredges of Bulolo were silent

for the first time in nearly 20 years. Today No. 5 stands sentinel in its silted paddock, gantries pricked like noble ears, tailings belt flying, poised as though ready to leap back into action. With gold prices going the way they are, such a thought may not be quite as far-fetched as some might imagine. – Janetta Douglas has worked for the past 15 years to revitalise interest in PNG's culture and history. In 1965 she encouraged the people of Yabob village, Madang Province, to revive their pottery skills. Later she established the Konedobu Cultural Centre, Port Moresby, and in 1971 became the first chairman of the national capital's now annual Hiri Festival.



Herbz

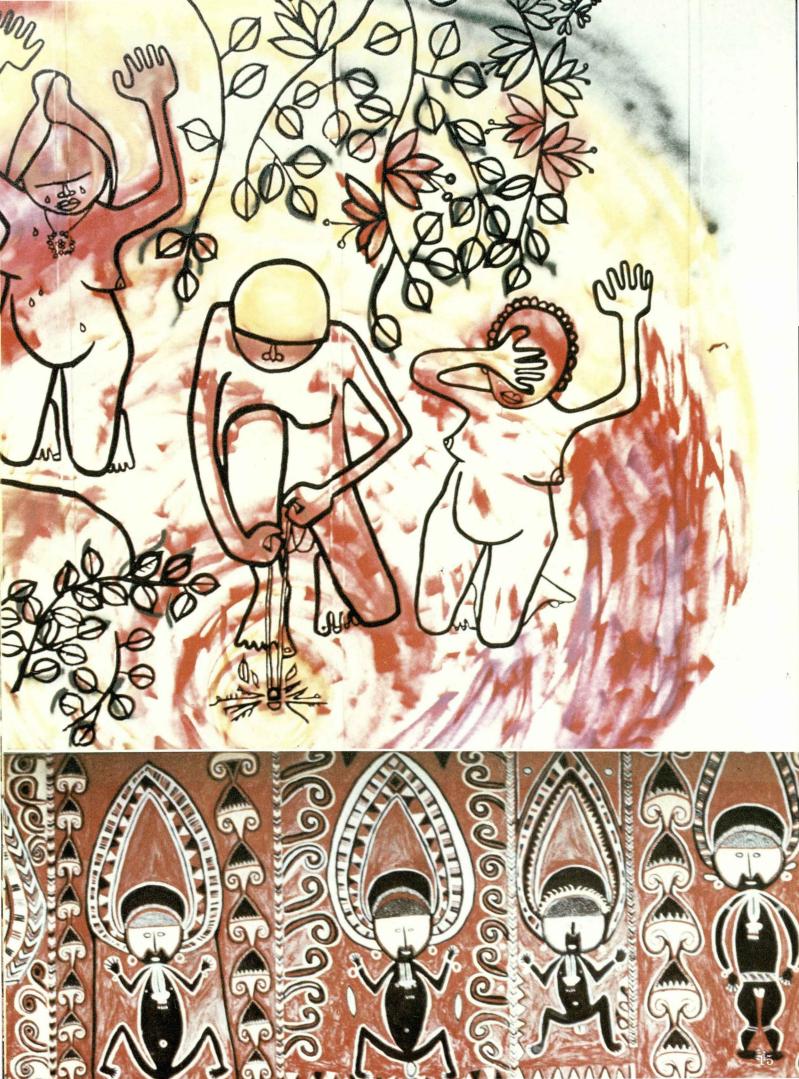
PORT MORESBY: JACKSONS PARADE TEL 255552 TELEX 22294 ● LAE: ELA MOTORS TEL 421772 RABAUL: ELA MOTORS TEL 921988 ● MT HAGEN: PROVINCIAL AIR SERVICES TEL 551323 GOROKA: TEL 722986 ● MADANG: PROVINCIAL AIR SERVICES TEL 822594 WEWAK: PROVINCIAL AIR SERVICES TEL 862584 ● KIETA: ELA MOTORS TEL 956188



Painting on school walls is usually enough to win six of the best — if you are caught. But in Papua New Guinea children are actively encouraged to paint their schools. Some even have panels built into the walls specially for their artistry. Sometimes it has gone all wrong. Crude, unsophisticated renderings of traditional themes simply have not worked out. When that happens the answer is easy: paint it over and start again. Occasionally the result has been a genuine work of art, giving constant stimulation to pupils and staff. Sheridan Griswold on his travels around Papua New Guinea has recorded several samples of school wall art.









# **Business? Pleasure?**

The specialists in merchandising, shipping, stevedoring, plantations, customs and forwarding, soft drink manufacture, hotels, travel, transport, automotives - and many more fields



Burns Philp (New Guinea) Limited, Post Office Box 75, Port Moresby. Phone: 212233. Telex: NE22116.



No nation in the world cares for the families of its war dead with as much generosity and love as Australia does through this extraordinary ex-servicemen's association. James A. Michener writing of Legacy.

Australia's Legacy, ever since its founding in 1923, has cared for the wives and children of all deceased ex-servicemen who served with Australian and British Commonwealth of Nations forces in World Wars I and II, Malaya, Korea and Vietnam. It has not always been easy raising the money needed each year to provide for the more than 100,000 widows and children enrolled with Legacy throughout Australia.

But it is not all hard work either. There's a lot of fun to be had with Legacy too, for workers and the recipients of their labours. Last year, for instance, someone got the idea that Legacy members and friends should make a 'nostalgia tour' to Papua New Guinea, a place where many Australians died and many more were injured during the Pacific War.

Certainly, as the tour party picked their way over memory-filled ground — Port Moresby's Bomana War Cemetery, Cape Wom at Wewak where Japan finally surrendered, and Lae, scene of terrible devastation there were tears and throaty lumps of sadness so difficult to swallow.

But, at the same time, the 'nostalgia tour' had its high moments. There



nemories

were happy meetings with Papua New Guinean ex-servicemen who had fought alongside their Australian cobbers. There was much reminiscing. And medal-wearing. And, for widows, children and relatives of those who fell or later died of their wounds, there was the chance to see the magnificence of the country which tragically became the battle theatre for other nations' differences.

So much did the Legacy crowd who visited Papua New Guinea last year enjoy themselves, another group is planning to leave Sydney at the end of this month for what they are calling 'Legacy's Second Nostalgia Tour'. Looks like it may become an annual event!

### So near yet so far . . . .

#### **Bensbach Wildlife & Karawari Lodges**

Two exciting Lodges for the discerning traveller — Bensbach & Karawari.



Bensbach Wildlife Lodge Situated on the beautiful Bensbach River in South West Papua New Guinea. Bensbach Wildlife Lodge is a photographer's dream and a sportsman's paradise. The area is prolific in birdlife and the river abounds with Barramundi and Saratoga. Herds of deer and wallabies roam the surrounding plains.

Karawari Lodge In the remote headwaters of the magnificent Sepik Region is Karawari Lodge. See mystorious initiation

mysterious initiation ceremonies and visit villages where time has stood still. Explore the waterways by river-boat. So near yet so far ..... Bensbach Wildlife Lodge and Karawari Lodge are so near — charter aircraft can be arranged — yet so far from anywhere else you have ever been.

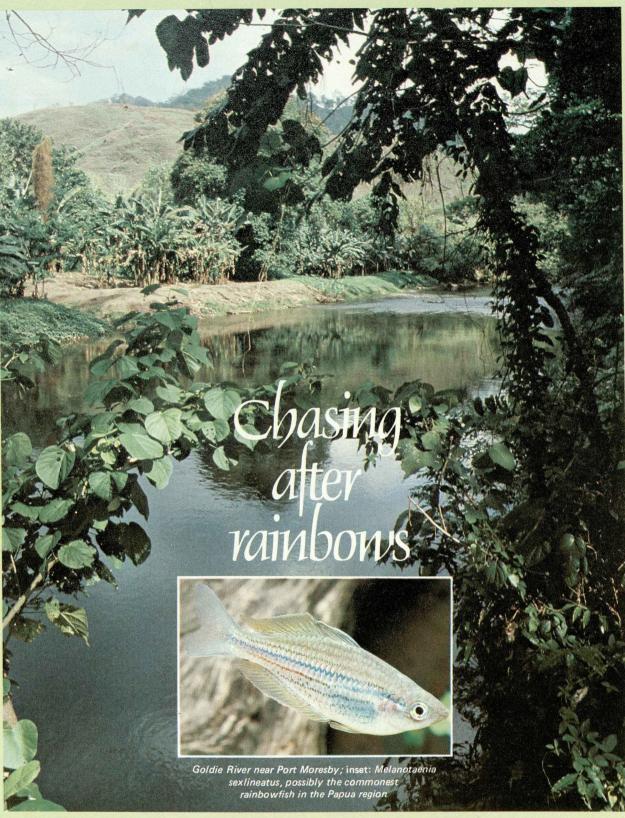
For reservations or further information see your travel agent or contact:





2. MARTIN CONTRACTOR





Think of tropical fish and the tendency is to picture blue lagoons, coral reefs, and darting shoals of spectacularly-coloured saltwater fish. But, in the mountain streams, rivers and lakes of Papua New Guinea, there are varieties of fish ready to compete, for line and colour, with their more familiar marine cousins. Brian Parkinson reports.

It was when the importation of fish was prohibited that I started looking around the streams and lakes of Papua New Guinea to see what I could find. In the years since, I have collected a large number of colourful fish quite suitable for aquariums. Of these, by far the largest number of species was of the rainbowfish family.

More than 30 species of rainbowfish are known throughout Papua New Guinea and Australia and another species is found on the Aru Islands which lie between Indonesia's most easterly province, West Irian, and northern Australia.

Despite their numbers little was known about these fish. But what was obvious was that some species because of pressure from tilapia, carp and other introduced freshwater fish — were declining in numbers in both lowlands and highlands.

It was good news, then, when Dr Gerry Allen, curator of fishes at the West Australia Museum, who had worked on the rainbowfish of Australia, decided to take a look at Papua New Guinea's rainbowfish. I had the luck to travel with him on a collecting trip. We had only two weeks available but we were able to make collections at about 20 points around Port Moresby, the national capital, Popondetta in Northern Province, Lae in Morobe Province, and Madang, capital of a province of the same name.

Some of the collecting areas, to be frank, were quite horrible. But Gerry Allen's unflagging enthusiasm and willingness to hop in to some of the most unsavoury streams and swamps I've ever set eyes on, left me with nothing but admiration for his dedication.

Oddly, the beauty of the fish

seemed to be in direct proportion to the number of handicaps encountered. The more mosquitoes, sandflies and snakes we ran into, the more beautiful the rainbowfish we found.

I remember with particular horror a very long trudge through knee-deep mud into Lake Wanum, a crater lake on a hill on the south side of the Markham River not far from Lae. But the rewards more than compensated for the discomfort. We found large numbers of rainbows, including one which previously had only been seen in West Irian and one as yet unidentified species.

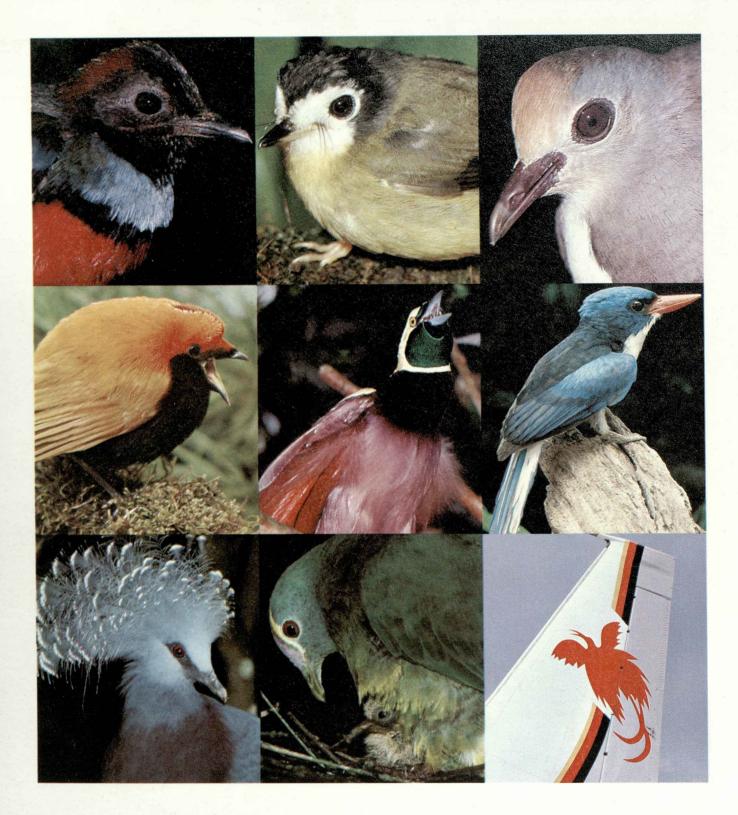
Gerry Allen, having checked out

the rainbowfish situation in the eastern half of Papua New Guinea, was hoping to return to have a look at the lesser-known western half. When the fieldwork is over it is hoped a book will be published on the results which should greatly increase interest in this little-known aspect of Papua New Guinea's wildlife. — Brian Parkinson is the PNG Government shell projects officer based in Rabaul, East New Britain Province.



Lake Wanum near Lae; right: Dr Allen in a mountain stream tributary of the Snake River in Morobe Province; below: Melanotaenia gouldii, found within a few kilometres of Port Moresby





# some of our birds

Papua New Guinea is one of the last places on earth where the rare and beautiful Bird of Paradise still survives. That's why it graces the tail of our Boeing and Fokker jet aircraft. At twenty eight destinations throughout South East Asia and the Pacific, from Hong Kong to Honolulu and from Sydney to Japan, you'll find the service on our Bird of Paradise jets as exotic as the bird itself.



# Reflections on the Mangrove

The original mud-creeper. Hidden, till a leaf, splitting through ebbing tide evidences that life is well for Mangrove dependents all.

Hell 'tis for unclad soles, but nestle close a-courting shoals, for here, in estuarine slime, life's cycle flows again.

Green, grey, knotty, gnarled, Mangrove guard, with web unfurled, edge of soil and water's lip, in silent state, like anchored ship.

'Tis here the world can find its pulse,Eden ne'er so treasured was,'tis here the world begins again,Mangrove, keeper, maker, king.

**Bob Hawkins** 

# Use of a second second

The Hash came late to Papua New Guinea. They'd been Hashing around the world for nearly 40 years before the message got to Port Moresby in 1974 — presumably via a few old Hashmen who had plodded uncertain trails in other corners of a by then lost British Empire.

Now, as any good Papua New Guinean or expatriate knows, our nation has a great reputation for being sports-minded, even when it comes to pseudo-sporting pastimes like, say, an outing of the Hash House Harriers. And, sure enough, it was not long before the Moresby Hash had made its mark by becoming, without doubt, the biggest Hash in the world.

Well, you might ask, what is hashing? Venerable Hashman Jack

Francis describes the Port Moresby version this way:

'Hashing is the practice of a group of fit, and usually many more notso-fit, young and not-so-young men, who experience some almost subconscious need every Monday afternoon to run, jog or walk themselves ragged over about eight kilometres of Port Moresby's hilly terrain before re-grouping to socialise over a few, and sometimes not-so-few, glasses of beer and what have you.

'In some Hashes the girls run with the men. Not so in Port Moresby, except on special occasions. In Port Moresby, a male runner is a Hashman, a female runner is a Harriett. (Logic is not one of the Hash's strong points.) A Hashman is usually in his late teens. Or his twenties. Or, for that matter, in his thirties or forties. I suppose what I'm trying to say is that anyone can be a Hashman — or a Harriett for that matter — as long as the gender is right.

'Here's how a Hash is set. A volunteer from the ranks lays a trail, sometimes with paper, other times with flour or paint. Many are the false trails. The idea is to confuse, to check the pack and to keep it roughly together. The main aim is to get them all to arrive back at the start together. That's fine in theory but discipline gets a bit slack here and there, and there's always the Hashman who intentionally or unintentionally, takes a short cut and

gets home early to sample the cold drinks. Mind you, at the other end of the Hash spectrum, it has been necessary on occasions to send out search parties for stragglers.

'Who controls Hash? Well, it sort of controls itself. Each year a committee is press-ganged into action. Elected are a Grand Master (president), Joint Masters (vice presidents), an Hon Sec, a Hash Cash (treasurer), Trail Masters (run checkers), Hash Horn (carrier of the horn which is sounded repeatedly to spur the Hash on), and the Hash Booze (the man in charge of liquid refreshment).

'Hash doesn't look to make a profit but, at the end of each year, if there are a few kina in the kitty they are donated to a charity of the Hash's choice. Over the past few years in Port Moresby the Cheshire Homes for children have benefitted by donations of equipment and a sizable donation has also been made to the Prime Minister's children's appeal.'

Each Hash has its own way of doing things—and its own way of defining what the Hash House Harriers are all about.

Harold Stephens, writing from Singapore, quotes Dave Hay, a computer specialist who runs the local Hash: 'The mistake people make is that they call us an athletic organisation. We're a social club, not out to win but to get to the beer first.'

In Singapore the course is marked out by two 'hares'. They can make it as easy or as difficult as they please. But it's important they keep one jump ahead of the pack. According to the Singapore rules, if the pack catches the hares they are to be stripped and left to get home the best they can. There's no record yet of the hares allowing themselves to be caught.

The elements, and kids, can play havoc with the trail. Sometimes the wind will wipe out a trail. In Singapore, when the trail has been laid through a Malay *kampong* (village), the children have been known to rapidly collect the paper and lay out a new trail — which may lead through a newly-manured rice paddy or a waist-deep swamp.

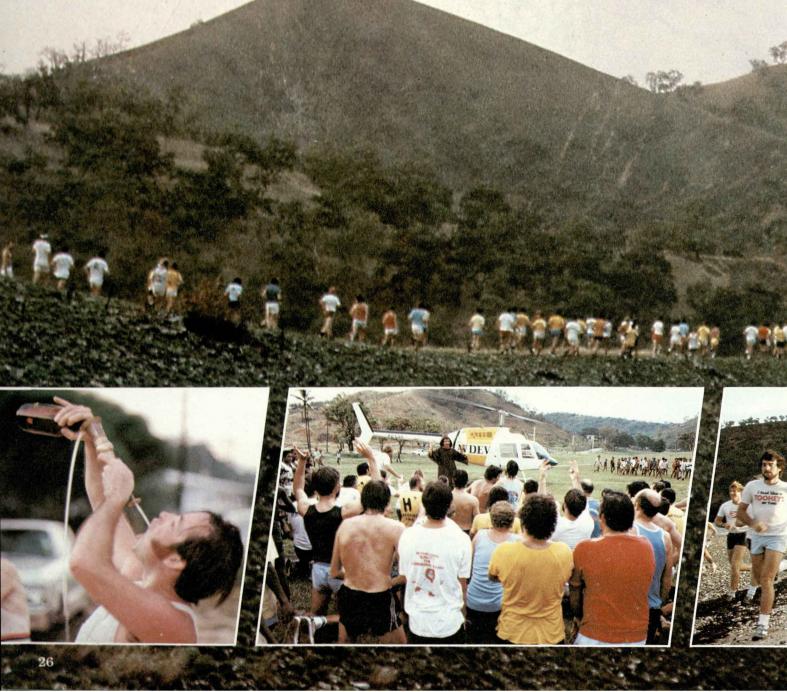
Every club has far-fetched anec-

dotes (which are fiercely defended as pure truth) about Hashmen going astray. 'You never know what's going to happen,' said Jim Stewart, an American who runs with the Hong Kong Hash. 'I always keep a little money tucked away in my running shorts so I can at least make a phone call or get a bus back to town.'

Some years ago, so one story goes, a Hash run in Malaya, then under emergency rule, ran slap bang through a communist rebel camp. The guerillas, it is reported, were too stunned to react when a dozen sweating foreigners in shorts and tennis shoes, bugles blowing and shouts of 'On, on' ringing in the air went thundering through. In Hong Kong, where a Hashman is, more logically, a Harrier, one runner had a tussle with a king cobra, eventually beating it unconscious. In May last year the Hong Kong Hash made a gruesome find—a body hanging from a tree—and detoured to the local copshop to report.

The Hash House Harriers dates back to 1938 when a man named A.S. Gisbert, an Australian and a member of Kuala Lumpur's famous Selangor Sports Club, after a disastrously damaging weekend, decided, on the Monday, to sweat out his excesses by running around the local padang (park). It seems he enjoyed it — or was a masochist — because he did it again the following Monday, and the next, and the next. Soon he had a following.

But, as so often happens, good intentions do not always result in beneficial ends. At one end of the padang was a Chinese eatery known as 'The Hash House'. Soon it had become customary for the Chinese shopkeeper to greet Gisbert and company with quarts of ice-cold beer at the end of their run. Well, one thing led to another. More and more joined. The padang wasn't big enough and the run was extended. And the canny Chinese shopkeeper. rather than lose his lucrative newfound business, followed the pack, loading his truck with cold beer and driving out to meet the returning



runners. The Hash House Harriers had arrived.

A founding member of that first chapter wrote of those early days: 'Gisbert was not an athlete, and stress was laid as much on the subsequent refreshment as on the pure and austere running. It was non-competitive and abounded in slow packs. Life was then conservative rather than competitive.'

The war came. Gispert was killed during the Japanese occupation of Singapore. But an original member, Torch Bennett, took up the cry. A good organiser, he brought some order to the Harriers. He established rules and, seeing that the club had a balance remaining from pre-war he retrieved that. He even put in a war damages claim for the loss of the battered bugle and 24 beer mugs, which had been just about all that the Harriers owned when war came.

Rules are kept to a minimum today. A chapter's president, often as not, is someone who failed to attend the meeting at which he was elected. 'Hash Supreme Headquarters' (Kuala Lumpur) has about 100 members today. Port Moresby has considerably more. Most have about 30. There's no doubt — Hash madness is spreading. There are 10 chapters in PNG. Out across the Pacific there are chapters in Vila, Suva, Lautoka, Rarotonga and Pago Pago. Hash has a toe-hold on the US mainland with chapters in Chicago and the East Coast. There's one in Yugoslavia. Yesterday, the British Empire. Tomorrow, the world!

So, if some Monday evening a pack of hot-eyed joggers come bashing through your taro patch, don't dash in for your shotgun. Get up and join them. It might be a lot of fun. On! On!

# TNT AIR CARGO

0

0

the second secon

URGENT

#### **FAST** SERVICE IN PAPUA NEW GUINEA & OVERSEAS

GO-GETTERS



agents for

LAE 42 3737

AIR NIUGINI CARGO

95 6127

100

3

5

RABAUL 92 2637





Quality in Air Transport

Half of a nautilus shell, from the inside . . . a section of the fragile 'siphuncle' can be seen starting from the core

Few life forms can trace their ancestry back more than 180 million years — as can the pearly nautilus. It makes this shell, which moved Oliver Wendell Holmes to poetic eloquence, something of an aristocrat among the molluscs of the Pacific.

Fossils of the nautilus shellfish (known as 'ammonites') are found 2500 metres above sea level in the Telefomin area of Papua New Gui-

#### Story and Photographs by Geoff Baskett

othe Aristocra

nea's West Sepik Province. Swedish carbon dating rates them around 150 million years old. These, along with fossils of sea-worms found in the same area which date back 300 million years, are presented as evidence that the earth's plates, as they slowly thrust outward, will push great areas of seabed before them, creating towering mountains of limestone.

The pearly nautilus, found in the Pacific from the Philippines to Fiji, was once a member of a vast family of more than 3500 species. Now there are only half-a-dozen or so species. Once nautilus ancestors grew shells up to three metres (as indicated by a fossil found in the United States). Today a normal nautilus



grows to between 15 and 20 centimetres.

A nautilus is defined as 'a tropical cephalod mollusc with a chambered spiral shell' which is partly selfexplanatory as long as you know what molluscs and cephalods are. A mollusc is an animal without a backbone which has a soft fleshy body covered partly or wholly by a shell. Being a cephalod means the nautilus is closely related to the octopus, squid and cuttlefish families, even though the nautilus has an external shell while the others have internal shells.

The nautilus shellfish is more like a squid than an octopus. It has 60-90 multi-use tentacles protruding from its shell, some used to smell out food, others to hold the food to be torn apart by its inner beak. Two tentacles, which trail beneath the shell, feel their way along the seabed, allowing the shell to float at the correct depth. Beneath its body is a funnel through which the nautilus can eject a steady stream of water which propels it forward. The water is sucked into the body through small passages behind its eyes. Water also is channelled through the shellfish's gills, thus providing it with oxygen. The strong beak is capable of crushing crabs, lobsters, shells and coral.

Though it normally travels shellforward with tentacles trailing, the nautilus can quickly go into reverse to collect something it has dropped or to avoid an obstacle or enemy by bending its funnel under the lip of Nautilus shell fossils from the Telefomin area of West Sepik Province . . . 150 million years old right: coating

cleaned off, the mother-of-pearl construction of the nautilus is revealed

its shell, making the jet-stream work in the opposite direction. When travelling forward a nautilus swims about as fast as a human wearing flippers.

If attacked, the nautilus withdraws all of itself into the shell and drops a leathery flap over the entrance. That's the limit of its defences. It then awaits its fate.

The real wonder of the nautilus lies in its shell. This consists of a mother-of-pearl casing built in a spiral form with a series of chambers, each sealed with a wall called a 'septum'. The outside of the shell is coated white with irregular dark red stripes to help camouflage it among the coral and rocks. The inside of the hood, or entrace to the shell, is coated with a thick black pigment.

The nautilus starts life in a tiny spiral shell. As it grows, it builds a new bigger chamber for itself, sealing off the one behind it with a septum but leaving in the wall of the chamber a minute hole for the 'siphuncle' to which we will return later.

The chambers of the shell which number up to 40 in larger specimens — have their walls built on to the increasing spiral of the shell with amazing precision. For some reason or another — although all the chambers increase in size according to the proportions of the spiral — the last chamber does not follow this pattern. It is relatively smaller, almost as if the nautilus knows that it is not going to grow any larger before it dies.

Oliver Wendell Holmes believed the nautilus made a new chamber each year:

Year after year beheld the silent toil That spread his lustrous coil; Still, as the spiral grew, He left the past year's dwelling for the new . . .

However, observation reveals that the chambers are replaced every few weeks so to Holmes must be granted the privilege of poetic licence.

The formation of the chambers makes the nautilus shell resistant to tremendous pressures. It has been observed swimming at depths of more than 600 metres. I leave that to



scuba divers to work out how intense the pressure would be at that depth.

It is through the siphuncle that the nautilus is thought to control its buoyancy by pumping either gas or water into the chambers, depending on whether it wants to rise or dive.

Intrigued by Oliver Wendell Holmes' conjecture on the chambers of the nautilus shell, in which he referred to 'sunless crypt unsealed', I decided to see for myself. With the help of a hacksaw I sliced through a shell, the owner of which had long gone to feed in its happy hunting grounds.

The result was breathtaking. The arcs of the walls in each chamber shone with mother-of-pearl the colour of moonlight. The points where the walls met the central core of the shell were smoothly welded with a pearly mixture, each crack and join being glossed over to make sure no projection could harm the flesh of the nautilus. All this painstaking work had been done in the dark of the 'sunless crypt'.

Holding the two sections of the shell over a strong fluorescent light, I saw that deep in the shell were lights of various shades — yellow, green, orange, deep red, purple and blue. My shell had beauties Holmes probably had never dreamed of.

Next time you glide smoothly in your jet over the Pacific, give a thought to another jet-propelled ship down below whose design goes back many millions of years and which, for sheer beauty, excels anything man has ever created to transport himself from one end of the globe to the other. — Geoff Baskett is attached to Kristen Redio, Lae, in Morobe Province.

#### **Our new low rates**

Besides all the friendly, cheerful attention, we have lowered our rental rates (The new Rate Brochure is available from all our branches). Cheaper kilometres per day plus more smiles per hour that's AVISERVICE. Choose from over 150 modern vehicles and our hostesses will put you behind the wheel with minimum of hassles and maximum of courtesy.

## put us smiles ahead...

larde

#### AVISA Regular customer card index

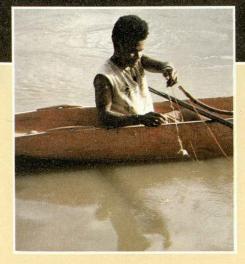
To further increase out efficiency we have introduced the AVISA customer card Index. This system is designed to make it even easier for customers who use our vehicles more than 4 times a year. Your name and details are registered at all our branches so a quick phone call assures a minimum of delay when you pick up your vehicle. Write to AVIS P.O. Box 3533 Port Moresby for further details.

AVIS – smiles ahead



NATIONWIDE in Papua New Guinea

As the Sepik day draws to a close the people of this mighty river still have much to do. Children, after a day in school, race down to the river for a swim; people head home for their evening meal; fisherfolk set their night lines; others, with time on their hands, settle simply to watch the reddening sun. Scenes on these pages were captured by Brian Mennis at Angoram where the Sepik runs fast and deep.



On the eve of departure I pored over the Sepik charts late into the night, long after my six companions had retired. We had flown into Wewak in the East Sepik Province that morning from Port Moresby. During the day we had gone to Wewak's lovely beach, searching the everencroaching jungle for war relics. Then we had relaxed over cold drinks at the Windjammer Hotel.

Next morning it was up at daybreak and overland to Angoram where our adventure really began. Angoram is the oldest Sepik outstation. Today, though drowsy and congenial, it still exudes that feeling of frontier town.

We freshened up at the Angoram Hotel and then set off for the river bank where crocodile skins are James Michener lit Tye Hartall's dream. Somerset Maugham and Herman Melville kept it burning. A few months ago Hartall made his dream reality. He reports on his experiences while travelling Papua New Guinea's mighty Sepik River.



bought from nearby villages, treated and consigned to cities such as Singapore and Hongkong. Then we bargained for 'story board' carvings from Kambot village.

Our river trucks, flat-bottomed vessels powered by outboard motors, were waiting to take us on the eight-hour upstream journey to Kaminimbit which was to be our base camp for the next few days. We loaded up and set off.

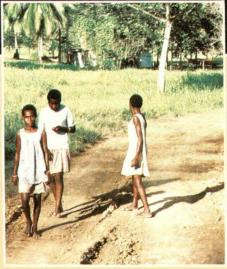
Though it is only 550 km from source to coast, the Sepik River travels a tortuous 1126 km from its beginnings high in the Victor Emmanuel Range near the Irian Jaya border to its mighty mouth into the Bismarck Sea at Watum. It resembles a huge brown constrictor as it meanders across alluvial lowlands permanently awash — half land, half water.

From Kaminimbit we explored the maze of tributaries and manmade channels leading to Blackwater and Chambri Lakes and visited villages remarkably untouched by Western influences. Eager to find unusual carvings, for which this part of the world is renowned, we called at remote Parambei, Kararau, Kabriman and Canigara, as well as more accessible villages such as Korogo, Shortmeri, Kanganaman and Yentchen.

Against the sullen greys and greens of the lowlands, the birds we encountered — great egrets, pied herons, black cormorants — provided a cascade of colour as our motors invaded their domain and sent them on







the wing. Dominant vegetation along the river banks is *pitpit* (a wild sugarcane) but a recent addition to Sepik flora, the infamous Nile cabbage (*Salvinia molesta*), is making a nuisance of itself on the waterways. It floats downstream in clusters, constantly snagging outboard motors.

Most villages we visited had haus tambaran (spirit houses) where carvings are displayed. The spirit house, the most spectacular structure in a village, is made from bush timber lashed with morita (sheets of sago palm sewn together). Though they vary in structure and design from one village to the next they all have the same purpose: they are the centre of each village community. Provided due respect is shown, visitors are usually allowed to enter them. It is in the spirit houses that the culture and history of an area is enshrined — and in which the youth of a village are initiated into manhood.

Wherever we went we were always greeted by throngs of happy village children. I had taken Frisbees with me and we had lots of fun as we introduced the game in many villages. At Kaminimbit five of us challenged the local team to a game of basketball. We won by two points.

Time came for us to collect our belongings and bid farewell to the people of Kaminimbit who had made us so welcome. We boarded the river trucks for Pagwi. There, a bus despatched from Wewak met us and, after managing to squeeze all our souvenirs in, we scrambled aboard for the 4<sup>1</sup>/<sub>2</sub>-hour drive to Wewak.

A bit dishevelled, suffering sunburnt noses and mosquito bites, we arrived back in Wewak as if from a pilgrimage. We had 'done' the Sepik; we had enjoyed an experience in another world which none of us would forget. — Tye Hartall is physical education instructor at Port Moresby International High School.

## See Papua Nevv Guinea with Douglas Airways

Within an hour's flying time of Port Moresby we can show you the historic mission at Yule Island, the exciting mountain scenery of Tapini or Woitape, tea plantations and butterfly farming at Garaina, the unique fiords of Tufi, or the never-to-be-forgotten 'jungle' airstrips and villages dotted along the famous wartime Kokoda Trail. Our scheduled and charter flights can take you country-wide in comfort and safety.

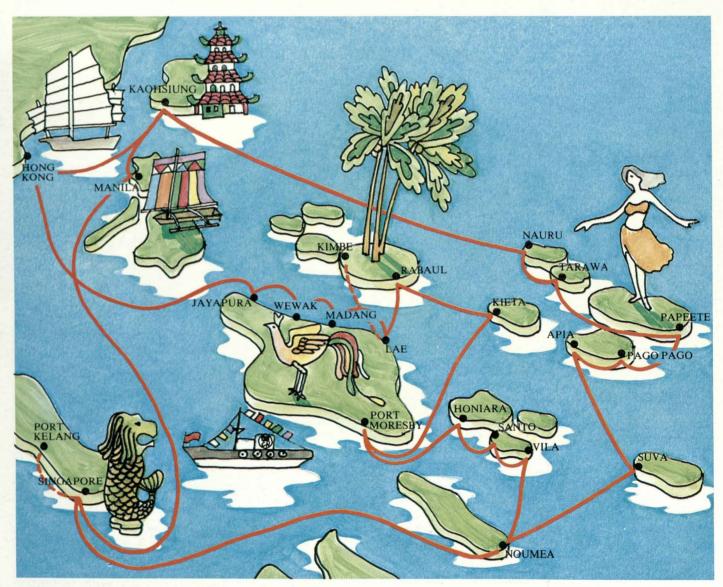


Head Office: Jacksons Airport, Port Moresby Telephone: 253499, 253330, 253440

## Delivering the goods – that's our business.

An efficient, regular service by New Guinea Pacific Line links the ports of Hong Kong, Kaohsiung, Manila, Singapore, Jayapura, Wewak, Madang, Lae, Rabaul, Kieta, Port Moresby, Honiara, Santo, Vila, Noumea, Suva, Apia, Pago Pago, Papeete, Tarawa and Nauru.

The New Guinea Pacific Line is a joint service between The China Navigation Co. Ltd. and Mitsui O.S.K. As a member of The Swire Group in Hong Kong, China Navigation is one of the longest established and most experienced shipping lines in Asia. When we say that delivering the goods is our business, that's exactly what we mean!



# New Guinea Pacific Line

The China Navigation Company Limited

Swire Shipping (Agencies) Ltd. GPO Box 1 Hong Kong Tel: 5-264311 Telex: HX 86000 Taiwan Swire Ltd. PO Box 111 Taipei 100 Taiwan Tel: (02) 393-5151 Telex: 21622 Soriamont Steamship Agencies PO Box 2039 Philippines Tel: 50-18-31 Telex: ITT 742 0138 RCA 722 7694 Eastern 3385 Straits Shipping Pte. Ltd. PO Box 398 Singapore Tel: 436071 Telex: RS 24301 Steamships Trading Co. Ltd. PO Box 1 Port Moresby Papua New Guinea Tel: 212000 Telex: NE 22115



# paradise

We'll airmail *Paradise* to you anywhere in the world for a year (six issues) for Kina 15, \$Aust 18 or \$US 20. Tear off this card, print your name and address overleaf, put your cheque or bank draft with it, and post it to:

Air Niugini Public Relations Department PO Box 7186 Boroko Papua New Guinea

# Paradise now on subscription

Payment is enclosed.

Name

Address

Air Niugini, Public Relations Department, PO Box 7186, Boroko, Papua New Guinea

It is called the dearest piece of real estate in the South Pacific. Not much over three kilometres long, only 450 metres at its widest point, and its highest point no more than three metres above sea level, it is Tarawa atoll in the Kirbati group (formerly the Gilbert Islands).

The cost is measured not in money but in human lives. Nearly 6,000 Japanese and Americans died in the battle for Tarawa, the worse single bloodbath experienced by either side in the whole of the Pacific War.

Today, Tarawa is an island paradise within the newly-independent Kiribati (pronounced Kiri-bas). As I stood amongst swaying palms, watching the blue Pacific gently wash its shores, I found it hard to believe that on this soil nearly 40 years ago men died in their thousands in the space of only three-to-four days. The main island in the Tarawa atoll — Betio — where practically all the fighting took place, is still littered with battle relics — guns, block-houses, pill-boxes, tanks, rusting amtracs, parts of aircraft, hulks of vessels. A few feet under the sand lie the skeletons of hundreds of Japanese and Americans. A government man on Betio told me that every time new cables are laid bones are dug up along with ammunition and unidentified crosses.

The Japanese had an airstrip on Betio. People in the area say there are dozens of American bodies under the strip. When the American war graves registration team arrived to investigate Tarawa they could find only half of the Americans who were killed. No Japanese war graves teams have visited the area.

Kiribati children today play hap-

#### Story and pictures by Bruce Adams

pily on the weapons and defences of yesterday. They fish from rusting hulks and sit on concrete obstacles on the reef put there to frustrate amphibious landings. Rear-Admiral Keiji Shibasaki's command pill box stands practically in the centre of the atoll. He was killed on the second day of the fighting. After the war British authorities tried to blow up the pill-box but even today it is still fairly well intact though scarred with shell and bullet holes. Tall coconut trees surround it, washing hanging from them.

I walked along the beaches where US marines were slaughtered as they had waded hundreds of metres to shore, weighed down with equipment. Some had drowned before the bullets reached them.

When the tide is low the reef exposes rusting American amtracs,



large crabs now their occupants. Propellors and a wing section of an American aircraft rest on the reef near a rusting Japanese tank lying on its side. Clips of live ammunition can be seen through the clear water.

On the ocean side of the atoll are large Japanese guns. Only one eventually went into action. Like Britain's guns on Singapore, they were facing the wrong way.

In the late afternoon I walked along the dusty road to Betio. Passing small villages and government buildings, I watched small children at play. One had an old Japanese helmet on his head. It looked so much better as a child's toy.

I went to Buariki at the northern end of the atoll where the Japanese made their last stand. Thirty-two Americans and 175 Japanese lost their lives there. I asked villagers where the last American bodies were buried. They took me through the palms across the island to where seven shallow graves had been dug up. The indents in the earth were quite plain. The remains had been dug up and taken back to America.

I climbed to the highest point on the atoll, the Betio wireless tower. The whole area has been replanted but, oddly, the trees have refused to grow on the old airstrip, the outline of which is clearly visible. It is a strange monument by nature to man's inhumanity to man, the horror of which should never have been — Bruce Adams has travelled for many years in the Western Pacific.



#### THE FINEST ACCOMMODATION IN PAPUA NEW GUINEA

#### Islander Hotel

8

Telephone 255955 Port Moresby Telex NE22288

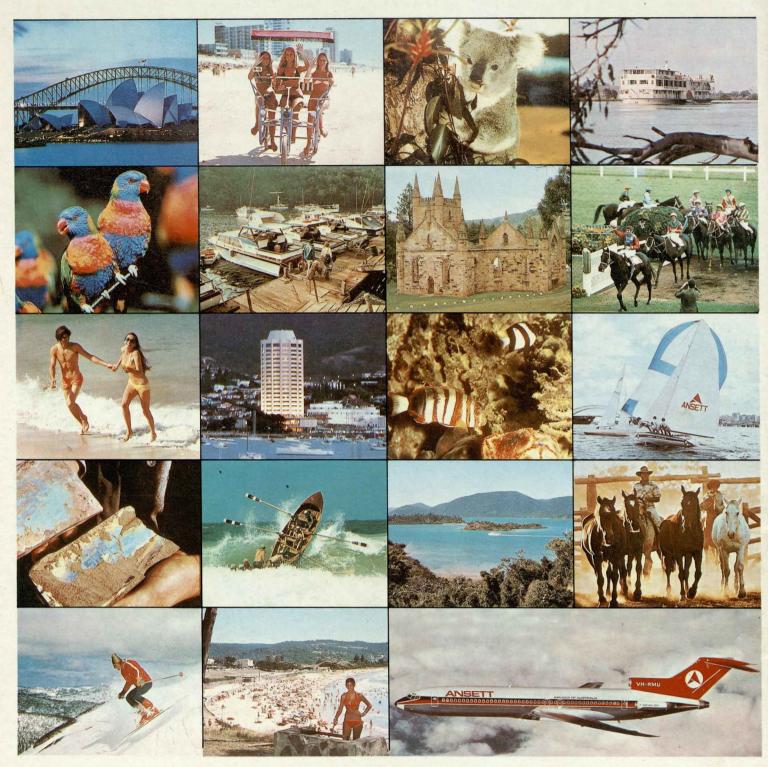
#### Davara Hotel

Telephone 212100 Port Moresby Telex NE22288

#### Davara Hotel Kieta

Telephone 956175 Cables DAVARA

# Australia is holiday country.



# And that makes it our country!

Ansett Airlines would like to show you an Australia you may not have seen. It's a big holiday country, brimming with fun places– and we know them all.

We plan individual holidays tailored specially for you, or turn on low-price travel-

accommodation jaunts that leave you free to do whatever you wish. For information contact Ansett Airlines of Australia, Champion Parade, Port Moresby, any office of our General Sales Agents, Air Niugini, or your Travel Agent.

