

KORERO





K O R E R O

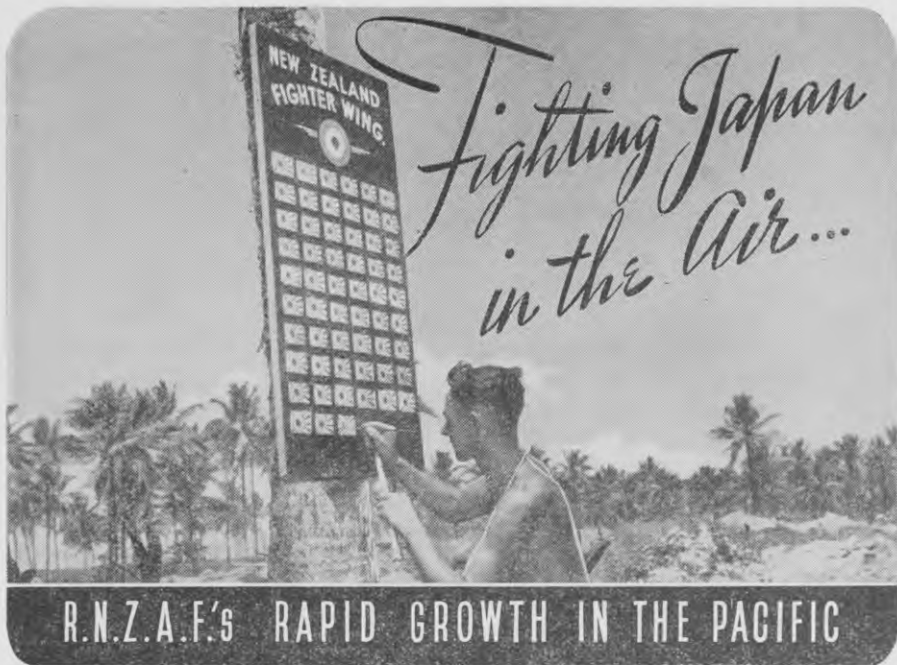
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Contributions to Korero

You are reminded that a maximum sum of £3, payable in canteen orders where there are canteens under New Zealand control and in cash where there are not, will be divided among contributors in each issue. It is necessary, therefore, that all contributors should send us number, name, and full address. Remember, too, that articles are not the only contributions we are looking for. We would like to see also short paragraphs, black and white drawings, and verse. There is space, too, for your comments and inquiries, provided you keep them short. The address is: "D.A.E.W.S., Army H.Q., Wellington." Mark your envelopes *Korero* in one corner.





A KORERO Report

STRANGE AS it seems, one of the busiest members of the Royal New Zealand Air Force in the forward Pacific is a sign-writer. He works in red and white, painting Jap flags on a scoreboard at the island headquarters of the New Zealand Fighter Wing. Each new flag shows that another Japanese warplane has crashed to its doom after exchanging aerial unpleasanties with an R.N.Z.A.F. fighter. And the sign-writer is busy—extremely busy.

There is more in this tropical sign-writing than occurs at a cursory glance. To those who know the R.N.Z.A.F.'s short but eventful Pacific history, the scoreboard points in two directions. Its empty spaces offer dismal cheer to the flying men of Hirohito's hordes, and its gay chequers of red and white recall the equally chequered history of R.N.Z.A.F. pioneers in the Pacific. The latter is a short story that goes back to a tropical hurricane . . .

The wind blew strong in Fiji halfway through February, 1941, so strong that

it wrecked half of the R.N.Z.A.F.'s aircraft strength in the Pacific—two de Havilland 89's, tethered down on a Fijian aerodrome. The R.N.Z.A.F. had then been "up in the Pacific" for four months. Its first unit, assigned to carry out reconnaissance, shipping escort, and operational training, consisted of four aircraft taken over from civil owners and converted for service flying. This flight, plus a headquarters unit, arrived in Fiji in November, 1940. It had the "will" even if it had but little with which to make the "way."

Even earlier than this Fijian commencement, however, R.N.Z.A.F. aircraft were operating in the Pacific. Traditions were founded in the earliest days of the war, when a handful of pilots flew cheerfully hundreds of miles out over the Pacific on reconnaissance from New Zealand air bases. They flew obsolescent, single-engined aircraft, with only their life-jackets as small salvation in the event of a water "landing." Nevertheless, the pilots of this little band join



[R.N.Z.A.F. Official Photograph.]

Photographed as they neared their Pacific Island base, this flight of new Warhawk fighters were flown from New Zealand to the forward area. The Hudson bomber leading in the apex of the V navigated this air convoy.

in crediting the Fijian unit with the first "real" Pacific operations.

But to get back to the hurricane: the two aircraft destroyed by the wind were replaced by another two machines taken over from a civil air-line. These two aircraft, with their fresh war-paint, were harbingers. In less than twelve months a bomber reconnaissance squadron, equipped with Lockheed Hudson bomber aircraft, was operating from Fiji, in addition to an army co-operation squadron and a flight of multi-engined flying-boats. The primary role of these squadrons was to carry out reconnaissance patrols in the Fijian area. They also provided escorts for merchant shipping trading in Fijian waters, and flew searches as deep as 400 miles seaward from their bases.

To the realist student of geopolitics, however, this R.N.Z.A.F. expansion was too small to be noticed beneath the shadow of a greater and more devastating

expansion—that which Japan initiated with Pearl Harbour in December, 1941.

The events which followed Pearl Harbour are already history . . . New Zealand prepared to meet dire eventualities.

By the middle of 1942, however, the strategical position in the South Pacific area had altered. The Midway and Coral Sea Battles, the United States landings in the Solomons, and the halting of the Japanese drive in New Guinea, had all contributed to remove the immediate threat from New Zealand. This improvement made it possible to revise earlier plans, which were mainly defensive. The time was ripe "to let the boys have a crack at the Japs," to quote the term of a New Zealand journalist writing of a New-Zealand-based reconnaissance squadron just after Pearl Harbour.

Consequent on the United States' activity in the South Pacific, the pioneer

squadrons at Fiji had borne a heavier burden of reconnaissance in Fijian and Tongan waters. More was required, however, for the bamboo halted in its southward flight had now to be sent whistling back to its mother grove in the East.

It was a cool, grey October morning, just after dawn, when the next chapter began. From the runways of a northern New Zealand air station a squadron of Lockheed Hudson bombers took off at one minute intervals to fly to the forward Pacific area. This departure is history now, but at the time it was an epic, being the first mass aircraft departure from New Zealand soil for a landing in the combat zone. As the sign-writer "up forward" will tell you, such mass migrations are commonplace nowadays—even fighter aircraft now migrate *en masse*.

Operating from Guadalcanal, aircraft of this pioneer squadron were immediately on the job, co-operating with the U.S. Forces. The squadron was early to find need for a scoreboard—in attacks on submarines, one was accounted definitely destroyed, and another counted as a probable, while later at least one enemy float-plane was definitely destroyed. This, judged by European standards, was a modest beginning, but not so modest when it is remembered that the squadron's assignment was reconnaissance and search.

Many jobs of flying came the pioneer squadron's way, including the bombing of supply dumps and other targets, the illumination of targets for U.S. night bombing attacks, and weather-reporting flights prior to U.S. bombing operations. On many occasions the Hudsons were intercepted and attacked by enemy aircraft, and, as recorded earlier, at least one Jap will never intercept again. This squadron laid a foundation.

Other squadrons went to the Solomons and by as early as May of last year R.N.Z.A.F. reconnaissance craft in the forward area, operating from Guadalcanal alone, had flown missions aggregating 700,000 miles; had carried out 1,240 searches and other operations, and had clocked 5,000 hours of operational flying.

On over twenty occasions they had clashed with the enemy.

Sign-writing became almost a full-time job for the R.N.Z.A.F. painter in June last, when the first New Zealand fighter squadron arrived in the Solomons. Ten emblems went up on the board after the first two major battles in which our fighters met Japanese Zeros. Six of the ten victims were despatched by pilots who had arrived at Guadalcanal only the day before the engagement.

Since that June beginning the fighters of the R.N.Z.A.F. have gone on to bring the score to the century mark, the shooting-down of the hundredth Japanese plane being announced a short time ago. Fresh fighter squadrons have been flown up from New Zealand, and to-day their bases are much farther forward than the original landing-strips on Guadalcanal.

Word has recently been received that New Zealand fighter squadrons are to



(R.N.Z.A.F. Official Photograph.)

PIONEER

Wing Commander G. Fisher, R.N.Z.A.F., who commanded the first squadron of Lockheed Hudson bombers to fly direct from New Zealand to the Pacific operational area.

be equipped with the famous Corsair aircraft. Meanwhile, New Zealand Warhawks, operating from Bougainville, have assumed the role of fighter-bombers, and are striking the Japanese in the Rabaul area. An attack bomber squadron of Venturas has made its presence felt among Japanese installations, while Catalina flying-boat squadrons based at Fiji and farther north have carried out valuable reconnaissance and search missions. During the last few weeks New Zealand Catalinas have rescued over twenty United States airmen from the sea. Squadrons of Grumman Avenger torpedo bombers and Dauntless dive-bombers have been formed and trained.

Linked with the operational squadrons in the Pacific are the Air Transport and Pacific Ferry organizations. These play a less spectacular but none the less important role than the fighters and bombers. New Zealand heavy transport aircraft carry personnel and supplies to and from the forward area of the Pacific, generally maintaining fast and efficient communication between New Zealand and the forward bases. This organization is equipped with Douglas Dakota and Lockheed Lodestar transport planes.

The Pacific Ferry organization brings to New Zealand by air across the Pacific many of the modern aircraft that are subsequently flown by operational units. In many respects the work of this organization is similar to that of the famous Atlantic Ferry Command. It has greatly speeded up the delivery of aircraft, and so has played a vital part in the efficiency with which the air war against the Japanese is being prosecuted. The organization has tens of thousands of mishap-free miles to its credit and, as a weekly newspaper stated recently, "the ferry crews have yet to lose an hour, much less an aircraft on the way."

No review of R.N.Z.A.F. activity in the Pacific is completed without some reference to the ground organization



[R.N.Z.A.F. Official Photograph.

ACE

R.N.Z.A.F. Pacific fighter ace at the present time is Squadron Leader P. H. G. Newton, Wellington, who has five Japs destroyed (confirmed) and one probable to his credit.

which, in itself, is material for a long article. In brief, it can be said that wherever R.N.Z.A.F. aircraft are based in the Pacific area there also will be found New Zealand servicing units, personnel, and administrative organizations. Like their flying counterparts, the men in the ground organizations have tradition; some of them served with the R.N.Z.A.F. fighter squadron and aerodrome-construction unit in the Malayan-Singapore campaign. They bring to their work a speed and quality which wins high praise from British and American correspondents.



THE ARMY GOES HARVESTING

By Lieut. F. A. SANDALL with illustrations by S/SGT. W. A. SUTTON

EVERY YEAR something like 405,000 acres of grain and pulse crops are grown in New Zealand for threshing. Most of it—98 per cent. of wheat, 99 per cent. of oats, and 97 per cent. of barley—comes from the South Island; more than half of the total from Canterbury alone. In the past, to gather and thresh this grain, farmers have relied largely on casual labour.

To-day casual labour hardly exists, so Army agreed to supply the extra hands required. Demobilized home servicemen under twenty years of age and some men from the reinforcement pool were encamped about the country for short periods.

Wheat, oats, barley, peas, potatoes, tomatoes, flax, have all been gathered by soldiers. Grain-stores, threshing-mills and flour-mills have also had help. Everywhere tribute is paid to the men's work. It is commonly agreed that "We simply could not have done without them".

Army harvesting is an interesting experiment in labour. It has *organized* casual work. Primary Production Councils estimated labour required in their localities. Small pools of men were put in camp at suitable places. The camp is on the phone, and farmers ring up when they want assistance. In the orderly room is a large board slotted like a sports club "ladder." Men's tickets are put under employers' names as required. If the local telephone exchange is open twenty-four hours a day, you may get a call (or a cancellation) at any time. And whether it be a "call" or a snub, praise or blame (like most of us, farmers love a grouch), you must answer it with courtesy and readiness. For in this game, too, politeness oils the wheels.

Word gets about in a flash, particularly if it's a bad word. Farmer A finds one of the men sent to him especially good. That evening Farmers B, C, and D will all ask for the same man. Soon an employer is trying to get a group of three or four good men! But the O.C., trying to give every farmer a fair deal, must mix as evenly as he can the sheep and goats.

By 0730 breakfast is over, tents laid out and respective parties ready to leave. Before 0800 hrs. the farmers have their men. Sometimes the O.C. and the Sergeant-Major are out, too. Camp must have at least a Quartermaster, Orderly Room Clerk, R.A.P., Cook, and fatigue. You know the usual round—ablutions, latrines, cookhouse, tent-lines, &c.

Midday dry rations are given each party. These are helped out or not (according to taste or temperament) by employers.

Time-sheets are kept and signed daily by employers. The men get Army pay plus sixpence an hour. If they work more than eight hours a day or after 5 p.m. they get 2s. 6d. an hour overtime. The farmer pays 2s. 6d. an hour to Army for labour during working-hours.

As most of the men engaged are of the under-age-for-overseas-service group doing part of their annual compulsory training, the job is popular enough, and yet not all claim this harvesting scheme a success.

What are the pros and cons?

Against: Unskilled labour. Men sometimes too young; not tough enough.

For: Men on tap when, where, and in numbers required.

Little or no meals for employer to supply.

No accommodation for employers to supply.

No work, no pay (farm employer's viewpoint).

Men housed in healthy clean surroundings with a regular routine.

Recreation and entertainment organized.

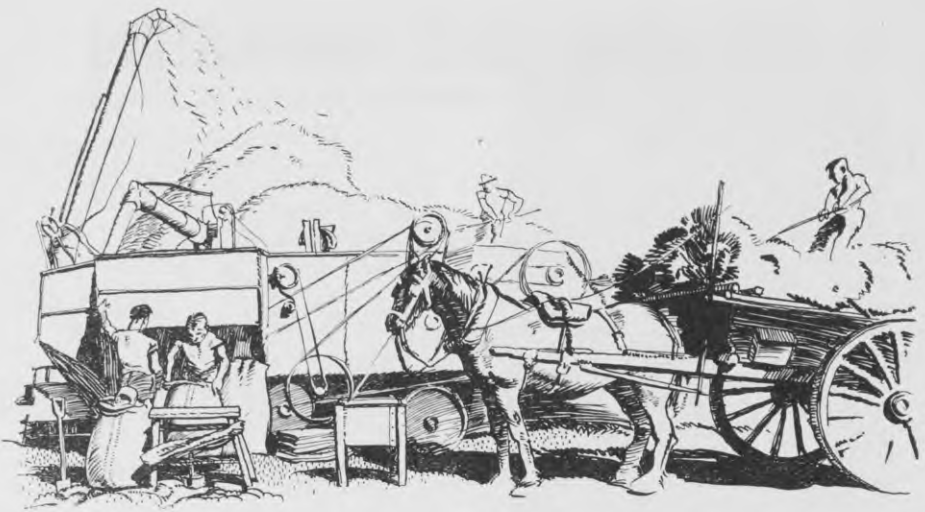
Men usefully employed on wet days or when not required by farmers—*i.e.*, in military training.

Broadening experience for many clerks, factory, and other city workers.

Healthy change of occupation.

May foster understanding between city and country and even win some converts to farming—

The "Ayes" Have It.



Stacking

This is a fine art—stacking. Unless you were a stacker before you joined the Army, you won't be given this job. Instead, you may "crow."

On the stack-site a round bed of straw is made, about a foot deep. Meanwhile out in the paddock, sheaves are being forked from the stooks to build a load on a dray. Even this is quite a job, because to prevent the load falling off, every sheaf must be placed right, according to a traditional pattern. A beginner will not build a good load. The dray is driven along the stack "bottom." The stacker stands ready to place the sheaves; the crow, fork in hand, beside him. A sheaf is forked down from the top of the load and is immediately caught by the crow, who passes it on his fork to the stacker—stub end forward. The stacker places it with his gloved hands; kneels on it and places the next. Soon a circle of sheaves is laid, stubs outwards, another circle inside this one; a third perhaps on top of the first and the stack begins to rise.

With it go stacker and crow until they are well above the dray and are shaping in the rows to form a cone. By now the crow has, we hope, gained some skill with his fork. He must be able to use it for defence and protect the stacker from up-coming sheaves from the dray-

man, who is now forking "blind." The apex is reached and neatly finished with a few sheaves placed head up, stookwise. Down climb the two builders.

The soldier has crowed his first stack.

Fun and Games

All work and no play won't make Jack a dull boy here. In fact, there is much more chance of freshening yourself with a game than in peacetime casual farm-work.

The recreation hut is a marquee. A table with magazines, and chairs and a billiard-table, furnish it. Golfers play best on this last because of the ingenious and difficult hazards on the cloth. As the balls are bigger than the pockets, scoring is simply a matter of cannons. Outside there is a concrete cricket pitch with matting, stumps, bats, balls, a tenniquoit court, net and quoits, and on the camp-site there happen to be two asphalt tennis-courts, a football ground, and a basketball court. I saw also a pack of cards, table tennis set, and medicine ball.

Actually the use of these things is small. Boys working all day and often not back in camp until eight o'clock (sometimes nine-thirty) are too tired for play.

But when it's needed, well it's there.

Once a week, usually in a nearby hall, A.E.W.S. shows an entertainment film, to which the public may come if they wish; in the week-end the local people reciprocate with a dance for the boys.

On wet days A.E.W.S. has answered calls for training films, helping to fill usefully time that might be largely waste for the peacetime worker.

Overheard at a Dance : " Do you know, we have to thank the Army for all these people. Before the camp came, only about four couples used to turn up; and now girls come who have never been here before. And the local boys come just to see the soldiers treat the girls right! "

Machines

Every one knows the three periods of threshing history. Ancient threshing, with the flail, survives only in education (parent-offspring relationship) and in the darker recesses of Banks Peninsula (cocksfoot harvest). Middle Age threshing is represented by the traction engine and large wooden mill. This mill, the true original, so to speak, that used to be towed round the country, accompanied by a small train of huts and a galley on wheels, is now losing ground. First the " tin mill," then the header, both of

which a farmer might buy for his own farm alone, invaded and retained his country.

Eventually he will go, and with him the steam-engine and mill team life that have been part of Canterbury's harvest scene for two generations.

At present, however, such mills thresh much of the province's grain at a great rate—200 bushels an hour. Sometimes a tractor, sometimes the effortless silent steam-engine, drives the mill. It employs thirteen men and is a hard task-master. Nine work on the mill, four on drays; a steam-mill needs a " water-jockey." Once it starts, you're for it; there is no stopping, and the man who can't take it falls by the wayside. Whether you're forking sheaves from a dray, cutting the binder twine, forking away the straw from the elevator, or bagging, you've just got to keep on forking, cutting, bagging. It's no shame to say that everybody can't take it. Some have given in after a day's work or less; they were not unfit, but *unused* to such work. O.C. Camp scratches his head, but by adjustments and replacements these difficulties are smoothed out.



Tin Mill

Only needing six men, the tin mill is smaller, slower, but more portable and can be owned by an individual farmer. It's designer should have been Heath Robinson, for it is an ingenious and efficient tangle of wheels, belts, knives, forks, pulleys, string, wire, sheet galvanized iron, trap-doors, vents, and pipes.

He's a rowdy chap, this progressive offspring of the old "mill." Apart from a galvanized-iron framework and a bent chimney through which straw is blown out, father and son are alike in construction. Sheaves, their binding cut, are fed by a short travelling canvas, into a drum spinning at about 1,200 r.p.m. The beaters on this drum revolve within its casing just clear enough to tear the grain from the stalks. Grain and straw fall on to shakers (sieves moving frantically to and fro) through these to riddles and thence into a "screen" (a drum made of wire wound spirally). Straw and husks are caught by shakers and riddles and blown away "up the spout"; broken grain, wild turnips, fat-hen, and other weed seeds fall through the screen where they can, and the threshed and clean grain comes through the end of the screen and is fed through a hopper into a bag. Actually four grades of threshed grain are separated—wheat, seconds, broken wheat, and rubbish. The rubbish, consisting of the fat-hen seed, &c., is worth a few pence a pound as bird-seed. Some farmers, however, do not think it worth while collecting.

The tin mill is easily driven by a tractor, and what with the engine, the bolts, pulleys, drum, blower, shakers, and riddles it makes the world's own din. But it does the job. Sixty bushels an hour, and you might thresh 15 acres of a 50-bushel crop in one day.

As on the big mill, work is heavy, especially if you are handling the bagging end of the mill. Bag and wheat together

weigh 203 lb., and the bags are weighed and sewn up beside the mill. They are then carried a short distance to the dump of full bags, and here's a hint for harvesters. If you don't want to lift the bag, dig a hole in the ground and stand in it so that the bag will lean straight over on to your back from the sewing-up platform.

This 6 in. or 8 in. makes a lot of difference when you are carrying 200 lb.

Header Harvesters

The modern period ushers in the header harvesters. Though not much seen in the North Island, they are literally fast gaining ground in New Zealand's granary of the South.

A header does away with the reaper and binder—in theory. The cut stalks are not bound into sheaves, but carried up a canvas belt to the drum fitted with beaters (something like a set of lawn mower blades and revolving at high speed—1,200 r.p.m.). The grain passes through the usual series of shakers, riddles, &c., until it finally flows through a hopper into a bag. A man stands on a platform beside this bagging part, detaches a bag when full, and sews it up. Meanwhile another bag is filling. A tractor pulls the header along, but the machine itself is a self-contained unit run at constant speed by its own engine.

You may not be able to "head" the crop outright. It may be cut and then gathered in "windrows" with a side-rake. Perhaps weather prevents these drying. The side-rake is again used to turn the windrows over and it must do this very gently so that the grain—*e.g.*, barley—does not fall out. This time the weather is fine and the dry windrows can be threshed. The header is fitted with a "pick-up" in place of its cutting blade and rolls along picking up every stalk, and threshing and bagging as it goes.



what do you think?



SIXTY THOUSAND HOUSES

When our group took the "Sixty Thousand Houses" bulletin a lot of argument arose over the illustration on page 5 of a State House with a gabled roof. "Why a gabled roof?" some members of the group asked. "Look at the wasted space, labour, and materials involved. Substitute a flat roof on a lot of houses of this type and use the material and hours of labour saved to add another bedroom to some of the houses. What we want, and want quickly, is more houses and we do not care how plain they are."

Could you get from the Housing Department information as to—

- (1) What would be the saving if a flat roof were substituted for the roof in the illustration mentioned?
- (2) Are there in New Zealand now materials suitable for flat roofing?

A third question arises, too: consumer education. Most people in the forces are householders or hope to reach that state within the next few years. Are we to accept genteel-looking houses designed for families of not more than two children, both of whom must be of the same sex, houses with small windows divided into smaller panes and a general appearance of belonging to a community too timid to move out of the 1920's? Or could we get public discussion going now on what

we want, in what order of priority, what are we prepared to pay, and what to go without?

A C.A.B. Group Leader

[On referring this letter to the Housing Department, *Korero* was given the following reply: "A flat roof is more expensive than a gable roof because of the higher cost of the bituminous roofing-material necessary and the need for additional woodwork in a parapet and in covering the rafters. Corrugated-asbestos roofs are least expensive, then tiled roofs, then flat tops. Yes, New Zealand now has a bituminous material suitable for flat roofs. As to Question 3, is that not the reason for the existence of Current Affairs Discussions?"]

LET'S STOP AT £5,000 A YEAR

At an A.E.W.S. discussion it was decided that we put down in black and white some of our views on monetary reform. Here are mine for what they are worth.

First, a system of international control because it is only through international monetary and economic control that we can ensure peace and prosperity. A country's finances must be backed purely by her natural resources, productivity, and trade, and no longer must the future security of the people of the world depend on the manipulations of

the usurers. "High finance" and "big business" which epitomise unrestricted trade in money without the slightest regard for the other fellow, must become things of the past, something to look back on with wonder that their malignant influence existed for so long. These reforms can come only through the international co-operation of the honestly elected representatives of the people of each nationality.

To allow the nations of the earth to breathe again freely and to successfully plan their national and international economies a definite settlement of debts must be made. This millstone of national debt, with the yearly toll of interest, is an economic and moral cancer which must be removed.

It is manifestly unjust that any person should receive an income of more than £5,000 per annum. For any one to hope to earn more than that sum shows selfishness, greed, and a disregard for the country that has supported him. It is surely unnecessary for me to explain the above statement because it is quite obvious that if one person has a lot, then someone else has to exist on little or none at all.

Even supposing that the motives of a wealthy man were high and that he showed a philanthropic nature—as is so seldom the case with present-day magnates—it is most unlikely that he could dispose of his fortune in the same logical and just manner as could the highly qualified servants of the State.

To suggest that this £5,000 income bar would dampen the ardour of the enterprising individual and produce a nation of drones has been disproved by the outstanding example of the U.S.S.R., where a mighty nation has been vigorously established through the enterprise of a people whose prime motive was the welfare of the State and not the pursuance of any large individual monetary advantage.

It is obvious that where a country bestows social prominence commensurate with the family bank account the lust for wealth is not as much with miserly intent as it is to reach the top-most rungs of the social ladder, together with all the influence and power money commands.

The abolition of large incomes will not, however, decrease the demands for leadership, positions of trust, &c., and the consequent public prominence; the only difference will be that this prominence will be truly justified through honest physical or mental toil—the high positions will no longer be tenable by incompetent or unscrupulous persons whose success has been due to inheritance, roguery, or the mere capacity to make money.

2/Lt. S. D. M. Smith

[2/Lt. Smith, on behalf of his discussion group, has asked A.E.W.S. for a C.A.B. on money. Well, A.E.W.S. has the text for a bulletin on money. It runs to ten thousand words. When we find a way of getting it down to three thousand words, the approximate number of words a C.A.B. usually contains, we will publish it.]

OUNCES TO A PINT

On page 20 of *Korero*, Vol. 2, No. 4, you state that 18 oz. of water is 2 oz. more than a pint. It is *many years* since Wanganui held 16 oz. beer, and even then 20 oz. constituted 1 pint. You must have been thinking of those sad, departed days when you fondly imagined that you drank a full pint of beer in your 16 oz. mug. Is the weights and measures genius in A.E.W.S. working on behalf of the pubs in trying to tell soldiers that 16 oz. make up a pint? Every schoolboy knows that 20 oz. make a pint.

Unsigned

[Thanks. 20 oz. to an imperial pint and 16 oz. to the United States standard pint.]

WHO ARE THE GURKHAS?

By N. S. LAWRENCE (late Gurkha Rifles)

THE ROMANCE of the Gurkha fighter has captured the imagination of the New Zealand troops in the Middle East as much as it had captured the imagination and affection of the British Tommy in every war, and in times of peace, ever since the days of the Indian Mutiny.

The Gurkha is generally classed as an Indian. This is incorrect, and no one would resent this classification more than Johnny Gurkha himself. The Gurkha comes from Nepal, an independent kingdom; he possesses a King of his own and a country that is more forbidden to Europeans than the mysterious Thibet.

Within the bounds of Nepal, half of Mount Everest rears its rugged shoulders, the other half is in Thibet. Like the great mountains of his country, the Gurkha takes a broad view of life. During a lengthy service with the Gurkha Rifles and a period as Military Magistrate near the frontiers of Nepal, I have learned to love and respect the Gurkha. He is a simple soul, a good friend, and a relentless enemy.

At the outbreak of the 1914-18 War the Gurkha Regiments numbered ten, of two battalions each, and the heavy casualties they were later to sustain made recruiting very difficult. These difficulties were only magnified; they had always been great. The custom before the Great War had been for each regiment to send trusted Gurkha N.C.O.s into Nepal to exhibit their uniforms, exploit their medals, praise the British Raj (King), and extol their white officers' virtues. No white man accompanied these N.C.O.s—the entrance of Europeans of any kind not being allowed. These recruiters would sometimes be absent many months and return each with a few recruits—hardly sufficient to cover the wastage of pensioners occurring in each unit every year.

There are six fighting castes of Gurkhas—namely, Khas and Thakur, Magar and Gurung, Rai and Limbu. I have stated these in pairs because these pairs are

those who will serve together happily, and consequently the battalions are so comprised.

The rate of recruiting in peace, which was barely sufficient, was totally inadequate to cover the casualties of war. Lord Kitchener (at one time Commander-in-Chief in India) wrote a personal note to the King of Nepal asking special permission for British officers to enter Nepal for recruiting purposes. This request was refused, but the King offered to have a form of conscription in Nepal for the Indian Army. This scheme comprised the conscripting of every second son, it being the custom of the country that the first born son served in the Nepalese Army, a very considerable fighting force. So successful was this conscription that during the Great War 100,000 Gurkhas served in the Indian Army.

In addition to this great conscription scheme the King of Nepal sent 12,000 of his own standing Army, including his own bodyguard, the Khalibahadur Regiment, for garrison duty in India. This contingent saw service in the North-west Frontier and was officered by officers of the Indian Army as well as Nepalese.

Whereas the old-time Gurkha came from the Province of Gurkha in Nepal, these conscripted Sepoys came from other parts of the same country. It was an experience to meet these recruits at Gorghpur near the Nepalese frontier. They had never seen a white face; never seen a railway train; and had never heard any other language except Gurkhali or Nepalese. They were long-haired, unshod, and, apart from a native blanket, unclothed.

The training of the Gurkha recruit is at first a difficult and lengthy process.

The first thing to do is to teach them to walk, not march. So accustomed to hilly climbs are they that they walk in the manner of a man going up or coming down a stairway in the dark, who, when he reaches the top or bottom, treads on a "step that is not there."



Nepal is the home of the Gurkha.

Moreover, they have to accustom themselves to boots, to the wearing of which all Gurkhas are at first antagonistic. Once their walking is achieved their training goes on apace. They are natural soldiers. The hours which Indian troops spend in gossiping or gambling, the Gurkha spends drilling his mates and being drilled in turn by them, their voices faltering over the strange English words of command.

All words of command in the Indian Army are given in English, but convey nothing except sounds to the Sepoy. If you met a Sepoy in the bazaar and said "About turn," he would not understand you because there is no association with a military parade on the barrack square.

The Gurkhas speak Gurkhali with many variations of dialect, and until a British officer can speak, read, write, and *think* in Gurkhali he is little use to the regiment, as all his lectures, instructions, and side commands must be given in the vernacular.

The language is a difficult one to acquire as there is no Gurkhali literature with the exception of one elementary childlike book called "Barsakir," which is the life of a parrot. The written language is phonetic and comprises many characters unknown to the British

alphabet, including such sounds as "pbh," "bhd," "ng," and others too numerous to mention, but each of which have a character in the Gurkhali alphabet.

I suppose the best-known attribute of the Gurkha, next to his inherent bravery, is his knife, called "the Kukhri."

There are many fictitious ideas about the use of the Kukhri, and Johnny Gurkha, a born leg-puller, himself is responsible for some of them. One of these ideas is that every time the Gurkha draws his Kukhri he must draw blood. Another is that the Gurkha throws his Kukhri. These ideas and many other are false. The Gurkha uses his Kukhri for all purposes—chopping his curry-bhat, cutting his firewood, even shaving the parts of the body that in a

Hindu (which the Gurkha is by religion, although lax) are becoming.

The story of the Gurkha throwing his knife arose in this way: Lieutenant-Colonel the Hon. Bruce (of Mount Everest Expedition fame) was commanding a Gurkha battalion during the last war when the Gurkha had become famous because of the German dread of the Kukhri.

Col. Bruce was pestered by war correspondents for stories of the Gurkha for their newspapers. Tired out with answering questions and getting irritable, as senior officers do sometimes, he was asked the final question:

"How do Gurkhas use their knife?"

"Anyhow you damn well like!" said the Colonel. So the correspondent told the world next morning that the Gurkha threw his Kukhri.

The Kukhri is made in Nepal of native steel. It is brought down to a regimental depot as a pack on the backs of hill ponies—the only means of transport, with the exception of elephants, known in Nepal.

When they arrive at their destination a Board of Gurkha N.C.O.s has to pass each individual Kukhri. It is a lengthy procedure. A large, flat surfaced stone is prepared, and on this level surface is

placed a "pice," a copper coin about the size and thickness of a half-penny. The Kukhri is then raised in the air and by an effortless stroke, relying only on the balance and weight of the knife, is allowed to drop on the "pice."

To be a perfect weapon (and only perfect weapons are acceptable to the Board) the "pice" must be cleanly halved without a bend in the coin in any way or damaging the keen edge of the Kukhri.

One of the exhibitions a Gurkha will accomplish with his Kukhri is interesting. Obtaining a pole of hard and dry male bamboo about the diameter of a tea-cup, he will cut it so that it has a clean level end. The other end is staked in the ground. On the top of this stake he will place, up-side-down, a "pill-box" hat.

With many blows of the Kukhri a pile of shavings accumulates at the foot of the stake whilst the hat drops lower and lower without otherwise moving its position on the stake.

It is not only the Kukhri which makes the Gurkha the valuable soldier he is. He is generally a marksman with the rifle, he can stalk his foe unheard and unseen, and he knows no fear.

In appearance he is no beauty. His height, 4 ft. 10 in. to 5 ft. 6 in. in most cases, is out of all proportion to his breadth. He generally has an enormous chest and limbs in proportion. He is an ugly little devil, but "beauty is only skin deep," and "handsome is as handsome does," and one of his most redeeming features is his habit, both in peace and war, of chuckling his way along.

NAVAL LOSSES IN COMBINED OPERATIONS

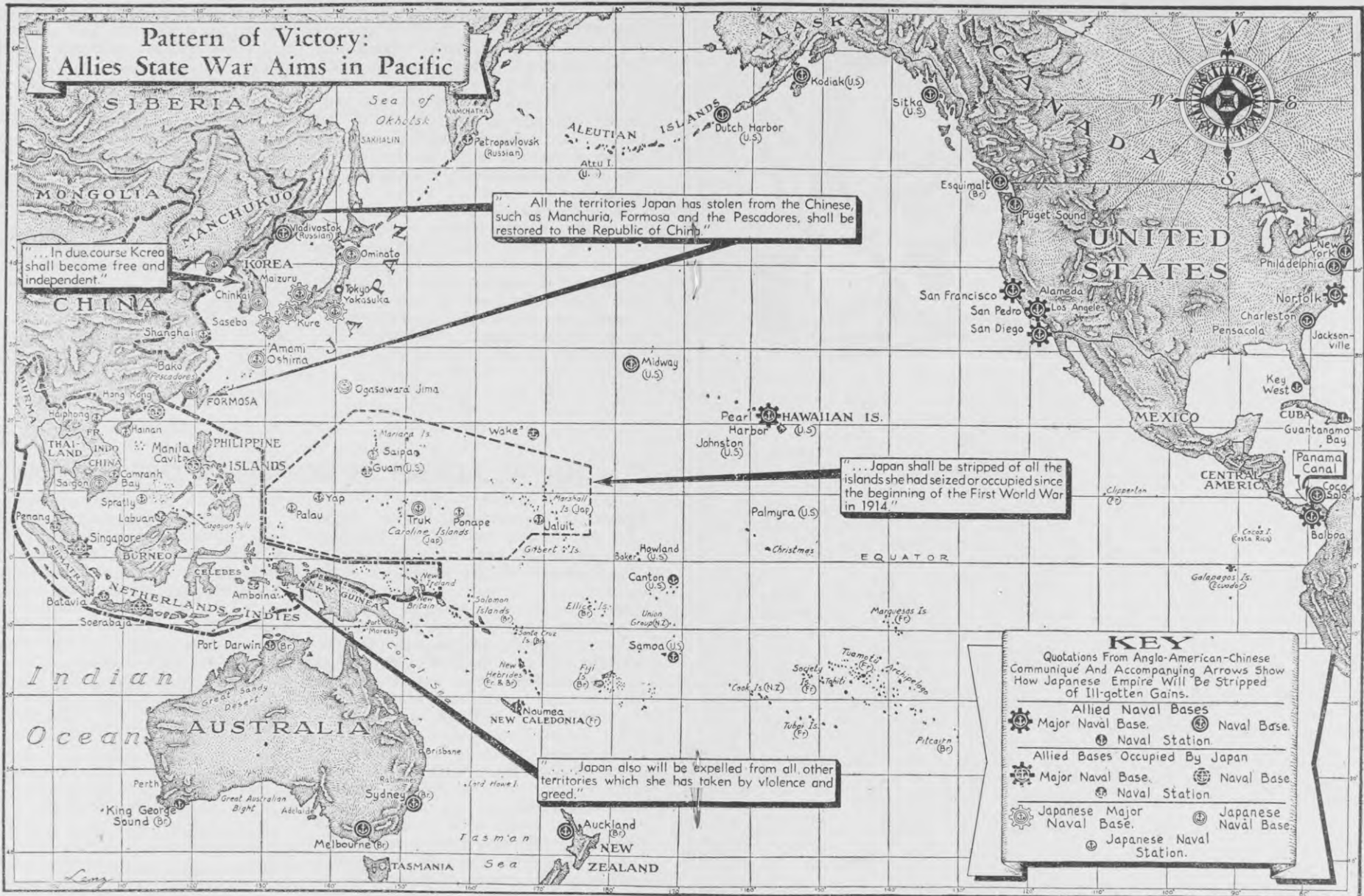
THE MAGNITUDE of the effort needed to mount a major combined operation has not always been understood. It may therefore be of value to give a few facts about naval losses in some of these major operations so that the task that lies ahead of the Service Chiefs who are planning the entry into Europe may be better understood.

In November, 1942, 850 ships took part in the landing in North Africa. The whole force, including 350 warships, sailed in three major convoys. The armada carried 56 per cent. of the entire list of British Army and R.A.F. equipment, in addition to its own landing-craft and locomotives—*i.e.*, the 700,000 items of equipment which were distributed to British ports by over 1,100 special trains. Despite the time required to organize and escort the armada, German U-boats, aircraft, &c., failed to sink a single ship from the two convoys from Britain. Of the warships, 10 were lost during the landing—*i.e.*, less than 3 per cent. However, the actual landing was not fully opposed.

For the invasion of Sicily on July 10, 1943, 85,000 tons of merchant shipping in a force totalling 2,500 warships and merchantmen were employed. Seven thousand vehicles, 300 tanks, 700 guns, and 80,000 men were landed in the first forty-eight hours. The losses were confined to 2 submarines, 3 motor torpedo-boats, and 1 motor gunboat.

Five hundred warships and merchant ships were used in the Salerno landing. Among these were 94 British warships and an immense fleet of small craft. The supply operations were considerable, and many minor amphibious engagements took place. The total loss, however, in the Sicilian landing, and in subsequent amphibious and supply operations up to the time of the Nettuno landing, was 8 destroyers, 1 minelayer, and a maximum of 6 other warships in minor classes.

The Nettuno landing cost the Navy 2 cruisers, 2 destroyers, and 5 major assault vessels. Since then, supply operations have been extensive.



An official communique issued in Cairo on December 1 last year announced that President Roosevelt, Generalissimo Chiang Kai-shek, and Mr. Churchill had completed a conference in North Africa. This map, reproduced from the *Christian Science Monitor*, is based on those sections of the communique stating the aims of the three Allies in the Pacific.

GOLD

A KORERO Report

THE CLAIM MANAGER was bearded, with a battered hat falling in carefree curves over his greying hair. He must have been nearly seventy, but the fresh glow of his complexion was that of a much younger man, and the twinkle in his eye told of experience and humour rather than age. Clad in a rough, grey shirt with fraying braces supporting strong twist trousers, he might well have been one of the early diggers who panned for gold in the rush days of the Coast during the latter half of last century.

As he stood beside the roaring race with darting fork assisting the boulders that rolled down the muddy torrent it needed little imagination to picture him bending over a pan beside a bush-edged creek, washing the dirt with skill and patience, until in the bottom of his dish appeared the dull flakes of yellow gold that eighty years ago brought thousands of eager adventurers to the wild hills of Westland in search of sudden fortune.

With typical West Coast willingness to assist, he led the way down the large pipe-line that brings the water from high in the bush down to the sluicing claim. In a shallow creek beside his hut he panned out a few colours from a dish of dirt, dried it over his fire, and blew it on his copper pan until the gleaming flakes of gold lay nestling against the bottom lip. And then the years that have changed the outward face of Westland rolled back and gold yielded itself not to mine or dredge, but to the courage, patience, and skill of the individual digger who sought it with his two hands in the days when the Coast was young.

To-day this digger manages a large sluicing claim where modern methods tear the gravel from the hills and send it hurtling down a narrow wooden race



to lose its precious cargo as it goes. But he has seen the Coast in other days, days fast imbedded in the memories of the old-timers, days which live again only when a couple of them meet in the convivial atmosphere of a "pub" and retell old stories of sudden riches and sudden deaths, of great difficulties and hardships and the courage that overcame them, of heroism, hospitality, and stout hearts.

Gold was found in Westland in 1864, and within a year thousands of diggers had flocked to the Coast. Communications were negligible in those days. Transport by sea was the usual method, with treacherous river-bars to be negotiated before a digger landed amidst the other innumerable difficulties of an almost virgin country. Food-supplies were irregular, mountain torrents dangerous, and many a man lost money and life in the wild bush country that drops so steeply from the Alps. But hopes were high, and though comparatively few found the dreamt-of El Dorado, many fortunes were made and lost as the adventurers scoured the Coast. Four men collected 1,200 oz. of gold in four months, nearly half the quantity shipped from the Coast in 1864. The next year gold to the value of over a million pounds was exported. 1866 was the record year, when over 500,000 oz. was won from the fields at a value of over £2,000,000.

Since then the hopes of the early diggers have been continuously fulfilled, and up to 1938 over 6,500,000 oz. had been won in Westland, valued at almost £26,000,000. One thousand pounds' worth of gold has been won from Westland fields each and every day of their existence.

Little individual prospecting is done in Westland to-day. Perhaps there are a few rich strikes yet to be discovered, but, as the claim manager put it, a floating population of 60,000 people, all with one end in view, prospected the possible goldfields fairly exhaustively. But by the old manual methods claims were not completely worked out, nor were they followed to any great depth because of numerous difficulties facing the early digger. Modern machinery has enabled the old fields to be reworked more intensively as well as economically, and new methods of treatment still encourage the earth to yield up a payable amount of gold. Although rich strikes are no longer the usual thing, quartz-mines, gold-dredges, and large sluices all win gold from places which would not have been accessible to the methods of the early digger, though nearly all these locations were first worked by the pan-handlers of the last century.

Sluicing is the oldest of these methods and was used extensively in the early days. Modern improvements have increased its effectiveness, but it retains more of the atmosphere and romance of gold-seeking than the other methods do. This is because its processes are simple and it is conducted outdoors.

Gold-bearing wash exists in the earth's strata at varying depths. As free gold it is found in a stony gravel from depths of 1 ft. or 2 ft. to over 100 ft. On the flat, bucket dredges can tear out this large gravel. In the hills it is collected by sluicing. At Moonlight Creek gold was found in quantity in the early days; some large pieces, known as nuggets, weighing up to 79 oz. To-day, where the old workings stood, a huge jet of water tears out the hillside 70 ft. below its surface and washes the earth down into a race, which carries it away. Here in the quiet bush where the old diggers found some tons of gold, a 2 ft. 6 in.

pipe-line descends the hill from a creek 300 ft. above and carries its volume of water two miles into a cliff-face, where it is forced out through a 6 in. nozzle at the rate of 35 cusecs a minute.

A huge arc of water like that of a gigantic fire-hose roars at the base of this 70 ft. cliff, undermining higher portions as it washes out the rocks at the foot. Its projector, called a telescope, is more like a piece of small artillery than a hose. The telescope, which forms the barrel, is based on a swivel at the end of the pipe-line and can also be lowered or raised in elevation. Rough rifling in the barrel concentrates the jet. One man directs its fire, all the time endeavouring to keep a square edge to the cliff face and not allow a curved face to show up. Thus he aims at a clean cut from the cliff rather than a huge oval bite.

Where the 30-yard stream lands, a cloud of yellow dirt, like the burst of artillery fire, rises up. The stream tears at the boulders, loosening them and washing them down over the solid rock that forms the cliff base. In time the overhang created brings down the earth above, so, and by keeping at the base, the whole cliff face ultimately finds its way to the race.

In the old days where water of sufficient pressure was not available to work hard ground, tunnels 40 ft. deep were bored in the cliff base about 6 ft. apart and gelignite placed in the intervening pillars to blast the face down. To-day, as the power of the jet tears out the cliff, it also washes dirt, gravel, boulders, and clay down over the limestone base, to an artificially formed bottle-neck built of large stones, which leads into the race, down which the rubble travels.

A torrent of water washes the dirt along, and just as a fall provides the method of getting the water to the claim at high pressure, so a fall in the race takes water and boulders away. The race is like a large wooden gutter, 2 ft. 7 in. wide and 2 ft. 4 in. deep, running back 200 yards from the claim and distributing the "tailings" or rubble out into the valley behind. The water moves fast down the race (as it must do to keep the larger boulders moving),



A modern sluicing claim. The large pipe-line in the foreground is carrying water up to the cliff face. In the bottom right-hand corner can be seen the race down which the water and the gold-bearing wash travel.

and if you drop a twig into that yellow roaring torrent it is gone in a flash. Put your hand in and you realize that things are moving. Large stones threatening to block the race are broken by hammer.

As the gold-bearing wash and rubble are washed into the sluice-box the gold, being nineteen times heavier than water, sinks to the box-floor where it is caught in "ripples." These ripples are flat, perforated, steel plates, covering the bottom of the box, and set at a slight angle to the floor. The water boils over the raised edges of these plates, dropping the concentrates containing the gold. The plates extend some way down the race, but most of the gold is collected in the first few yards of the sluice-box. Below the plates is a carpet of coconut matting, to which the concentrates adhere. In the old days, and still in some claims, wooden blocks instead of iron ripples were used.

The sluice is kept going day and night for a month and then turned off to allow the wash to be collected. Sufficient water is used to build up the wash against a dam in the race after the plates have been lifted. The heavy concentrates

fall to the floor of the box, and the waste sand and gravel is allowed to flow over the top of the dam, which is gradually lowered until only the concentrates remain. These, after a month's sluicing, may only fill half a bucket, but they are literally almost worth their weight in gold. Mercury is added to them to form an amalgam with the gold, and this is heated in a crucible, driving off the quicksilver which is re-collected in a condenser and leaving the cone of pure gold.

Sometimes the tail-race carrying the rubble down into the valley is blocked with large stones, and the man at the foot of the race signals to his mates at the sluice-head in an ingenious, if primitive, manner. An overhead wire runs up through the bush and is slung over a cross-wire, and attached to a piece of wood below a kerosene-tin. On pulling the wire, the man at the tail race attracts his mates' attention above the roar of the sluice by the noise of the wood on the tin. If they are away and find the wood pulled over the cross-wire on their return, they know that there is a blockage farther down. A man stationed halfway up the race signals in similar manner.

The race is then blocked some twenty yards below its head and the water overflows the sides until the obstruction is removed.

The pressure of water from the telescope is illustrated by the fact that when the nozzle is elevated a 300 ft. arc is possible. Twenty-three men could be profitably employed in the claim. At present five are working it. Still, over the past eighteen months an average of over 100 oz. a month has been collected. This is fine gold ranging in the scale of purity from 989 to 1,000 fine. Other golds average about 950. This is considered a satisfactory return, as the sluice moves only about 100 yards of spoil an hour.

It's hard work, but it's enthralling, especially when the yield is good. Even the claim manager, who has chased gold since 1898 and who refers to those who seek it as "mugs" and "suckers," would find it difficult to give up the chase even so late in life. There is still a gleam in his eye as, peering and blowing into the bottom of his old copper pan, he spots the dull colours.

Dredging

They tell a story on the Coast of an inquisitive tourist who asked where the Pancake Rocks at Punakaiki came from. A Coaster replied that the glacier brought them. Rising neatly to the bait, the tourist exclaimed, "Where's the glacier now?" "Gone back to get some more!" shot back the Coaster.

But the inhabitants are easier on the visitors who inquire the reason for the huge heaps of stones that are often seen when travelling through the country districts of the Coast. The non-committal and unqualified reply "Tailings" is not very enlightening, so the Coaster will go on to explain that these "tailings" are the spoil left after an alluvial dredge has worked over gold-bearing ground. These great piles, up to 60 ft. high, cover acres of land and are furrowed as though they had been worked with a huge plough. Desolate grey mounds, occasionally coloured with a red fungus, they are unsightly blots on the face of a green and bush-clad countryside—monu-

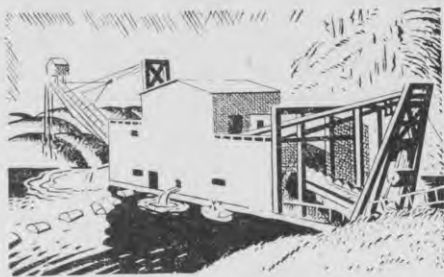
ments to man's search for gold with modern machinery.

Alluvial gold is carried in a gravel "wash," and to free it the "wash" must be passed through some process which will separate the gold from the rubble. The main-spring of this process is water. Wash the gravel with water and the heavy gold will sink. The remaining sand and stone is cast aside as "tailings."

The old diggers in sluicing, left tailings beyond their race. Modern sluices with greater power leave behind a proportionately greater amount of spoil. But the huge gold-dredges treating thousands of yards of ground a day, leave behind them a huge hill of grey stones. Because much of the early sluicing was done in hills and creeks and terraces, these scars are not easily visible. The dredge works on flat or semi-flat land, and its despoliation is open for every one to see. If you've ever tried to put back in a slit trench or fox-hole the amount of spoil you took out of it (which isn't likely), you will understand the difficulty experienced in leaving the land level. Approximately one-third of the spoil remains over the surface.

Many of the locations now worked by the dredges were previously prospected by the early diggers (some were passed over), but where the early miners were looking for rich strikes and left alone land which would require too much capital to work, or would yield only small returns per yard treated, the dredge, because of the amount it handles can be run economically if it returns 6d. per yard.

Wooden dredges were first used in New Zealand by a Chinese in Central Otago many years ago and were most successful. They have since been developed, until to-day the modern steel dredges, electrically powered, weigh 3,000 tons and handle about 400 cubic feet of ground per minute. They look very like ordinary harbour or river dredges with huge buckets that bite deep into the earth, depositing the gravel inside the dredge for treatment and ejecting the spoil on a conveyer belt at the other end. They also float on the pond they dig. Where they are working above water-



An alluvial gold-dredge of the older wooden type. The "tailings" piles are in the left background below the elevator.

level, water must be carried to the site by means of a flume or race.

First the ground is prospected by boring and the results assayed. If the ground is found to be payable, the 12 ft. steel pontoon is erected and floated and the superstructure built. Just how huge the dredges are will be realized by the fact that on the biggest of them the stern gantry, carrying the elevator, is 104 ft. above the pond-level. A massive steel ladder carrying the bucket-chain can be raised or lowered from a huge bow gantry by large blocks, each with twenty-eight sheaves of $1\frac{3}{8}$ in. steel cable. A 250 h.p. winch controls the ladder.

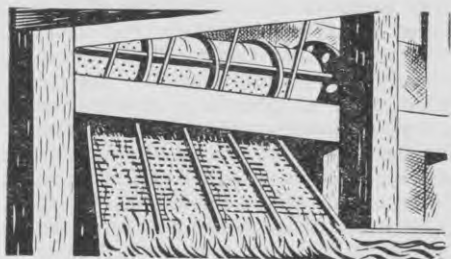
The buckets, of which there are 94 on the largest dredges, each carry 18 cubic feet of spoil and tip at the rate of $21\frac{3}{4}$ per minute. Tearing into the shingly earth they rip the ground from top to bottom to a depth of over 100 ft. With groans and wails (they cannot be lubricated) the buckets steadily climb the ladder, and with an especial shriek crash their boulders and rubble into a huge steel hopper. A strong jet of water flushes each bucket as it deposits its load.

Inside the dredge is like the engine-room of a gigantic ship. Steel riveted plates form the deck, and strong steel girders the framework covered by corrugated iron. Long ladders lean up to the heights where the buckets can be watched as they deposit their spoil.

From the hopper the wash passes into an immense revolving cylindrical screen perforated with $\frac{1}{2}$ in. holes. Strong jets of water play on the protesting

stones as they slide down the angle of the screen. The finer wash drops through into a distributor, while the larger stones pass over a nugget screen of larger perforations and out on to a long elevator belt which carries them out to the tailings pile at the back of the pond. The fine wash is sent out by the distributor to the ripple tables below the screen—twelve to each side. Each 12 ft. table carries 200 ripples of angle iron on a wooden base, and over these the gravel is washed by a continuous stream of water boiling over the slight elevations of the ripples and depositing its fine gold. The distributor ensures an equal proportion of wash to each ripple table, where most of the gold is caught in the first few feet of ripples. These are locked off with a wire grid.

In the older wooden dredges the ripples are 1 in. wide, and 1 in. apart, and $1\frac{1}{4}$ in. deep. Without the distributor the first three tables collect the majority of the valuable concentrates. On the modern dredges a pulsating screen is used in conjunction with the ripples, the wash flowing first over the ripples, then over these "jig boxes," and on to further ripples. On the older dredges mercury is scattered about the ripples to amalgamate with the gold. The modern type collect the wash first, by lifting the ripples out and washing them, collecting the sand by shovel and passing the resultant wash through the "streaming-down" box over fine ripples and coconut matting. To these concentrates is then added mercury to collect the gold.



The revolving screen on a small dredge. Below the screen are the ripple tables. The angle of the tables is not as acute as is suggested by the picture.

The screen of one of the smaller dredges is 35 ft. long by 5 ft. in diameter. That of a modern dredge is almost twice this size.

The method of manœuvring the dredge differs in the newer types, which have two great steel spikes at the stern known as "spuds." These are over 100 ft. in length and are driven into the pond-bed alternately to provide a pivot on which the dredge swings in a 300 ft. arc.

Bowlines attached to anchors ashore are used to pull the dredge around on this pivot. The old-type dredges used head and stern lines as well as bowlines to manœuvre because they take a straight cut. The tailings can be directed down to the spud, instead of up to the elevator, to provide firm ground to hold the spud. Huge double springs press against the spud to take the kick while the dredge is working.

Up in the control room, where the winch-man controls the dredge, the

scene is similar to that of a signal-box with huge levers controlling the winches set in the floor. A clock shows the depth at which the dredge is working, while an automatic recorder shows both depth and time on a rotary graph.

The noise of a large dredge is terrific. The ring of boulders on steel, the wail and groan of the buckets, the creaking of the structure as the dredge works, can be heard a mile away.

Yet from these masses of boulders torn up from the depths of the earth comes sufficient gold to make dredging a payable concern. Gold that the old diggers would have scorned as requiring labour out of all proportion to the return is dug out regularly to the tune of 800 oz. a month. Admittedly, many yards of waste spoil are handled, but dredging pays well at a return of 6d. a cubic yard. The old-timer would have laughed at such a revenue. Companies with capital of several hundred thousand pounds pay dividends on it.



WAR MATERIAL FROM SCRAP

The United States Navy's programme for recovering and reconditioning material from war's scrap-heap has resulted in 25,000 tons being converted to usable condition and another 25,000 tons being shipped back to the United States for reclamation from the South Pacific area. The value of the scrap retrieved from this one theatre is over \$1,000,000, the Navy announces.

Material Recovery Units, operating from fourteen overseas bases, move in as soon as a battle is over. Usable material is repaired and cleaned in the field; the rest is returned to the United States for remelting or reclamation.

Results obtained in the South Pacific are typical of the success with which the programme has operated on other fronts. At Oran the crews recovered \$50,000 worth of Diesel-engine parts, and at Palermo 20,000 tons of steel plates for ship-building. At one African landing-point, fifteen damaged invasion craft, almost covered by sand, were spotted by a crew member. They were dug out and several tons of usable parts and equipment salvaged. Twenty heavy-duty trucks, in various stages of demolition, were recovered from one gravel-pit.

Sailor



OFF THE PAMIR

A KORERO Report

HE WAS A sailor off the "Pamir," and proud of it. Not just proud of being a sailor, but proud of his ship, the "Pamir," the only square-rigged sailing-vessel New-Zealanders see these days. When he talked, it was to tell you something about his ship—the significant dates in her history; her length, 316 ft.; her beam, 46 ft.; her masts, 168 ft. off the deck. She carries 45,000 square feet of canvas; a good sailer in light winds; all steel and can take anything that's going. And much more similar detail. But if you wanted to know anything about himself you got it only by a process of persistent question and reluctant answer.

This young New-Zealander was working for an insurance company in Wellington a couple of years ago. The life was a quiet one, and he didn't like it. Then a chance came to sail in the "Pamir," and he took it. The life there is a tough one, comparatively at any rate, but it's the kind of life that appeals to this young

man, and he intends to continue with it until he can sit for his ticket.

A four-masted barque of 2,799 tons gross register, the "Pamir" is a small ship by comparison with the great steam and motor liners that carry on New Zealand's overseas trade to-day. Yet the sight of her masts and yards towering above her modern sisters is one that fascinates and stirs the imagination. Steam has been used at sea for little more than a century; but sails were used to propel the excellent ships developed in the Mediterranean 2600 B.C. The people of the British Isles understood the advantages of sail before the advent of Julius Caesar. The British Empire was largely built in the sailing-ship era. And the "Pamir" is one of the few survivors of that age.

The "Pamir" was launched from the Blohm and Voss yard in Hamburg in October, 1905, for F. Laiesz, of that city. Laiesz had a great fleet of sailing-ships which were for many years the chief

ships in the Chilean nitrate trade. His ships were well-built, well-found, well-manned and hard-driven. Among seamen the world over they were noted as fast passage-makers. P was the initial letter of the names of all the ships in the fleet, which was generally known as the "Flying P. Line."

In its palmy days, before the last war, the Laiesz fleet included two famous ships, the five-masted barque "Potosi," of 4,026 tons gross register, and the five-masted ship "Preussen," of 5,081 tons. The "Preussen" was 433 ft. long and carried a cargo of 8,000 tons. Her five masts crossed thirty yards, and she spread forty-eight sails, measuring 59,000 square feet of canvas. Her main mast was more than 210 ft. in height from keel to truck, her lower yards were 102 ft. long, and her royal yards just short of 50 ft.

The "Potosi" was one of the few sailing-ships that ever rounded Cape Horn four times in twelve months. Between March 15, 1900, and March 6, 1901, this splendid ship completed two round voyages between Hamburg and Iquique (Chile). She went out in ballast and home with full cargoes of nitrate, eleven days in each voyage being her "turn-round" in Iquique. On the second of these voyages she discharged her cargo of 6,000 tons in seven days, completing on 13th March, just within the twelve months.

The "Pamir" joined a company of proud ships when she made her maiden voyage in 1906, and she proved herself as fast as any of them. She went out from Hamburg to Valparaiso in sixty-four days and home from Iquique in seventy-five. And her subsequent voyages in the nitrate trade were consistent with the reputation of the Flying P Ships for good sailing.

The last war meant for the "Pamir," with the rest of the Laiesz fleet, more than four years of idleness in port. Then, in 1919, the P ships became spoils of war and were distributed among various ownerships. The "Pamir," with three others, went to the Italians.

But Laiesz was not defeated. He bought back as many of the ships as he could get and set about building others.

The "Pamir," with "Parma," "Peiho," "Passat," "Pinnas," and "Peking," returned to their old flag, and by 1922 the famous P line was once more in existence. In 1919 Laiesz built the "Priwall" and as recently as 1926 the "Padua." The "Pamir" celebrated her return to the fleet by making, in 1925, the smartest outward passage round the Horn since the war—from Hamburg to Talcahuano in seventy-five days.

But the days of sailing-ships in the nitrate trade, even those of the P line, were numbered. Once more the Laiesz fleet, except the four-masters built after the war, was dispersed. The "Pamir," and several of her kind and age, passed to the ownership of Captain Gustav Erikson, of Mariehamn, and the flag of Finland. They became Ishmaels of the oceans, sailing many a long passage in ballast to find a modest freight.

Occasionally the "Pamir" sailed in the so-called "grain race" from Australia to the Channel, but for a year or so she earned her keep and a little over carrying cargoes of guano from the Seychelles Islands in the Indian Ocean. It was one of these voyages that brought her to Wellington early in 1942. It was bad luck for her owner that his country was on Germany's side in the war: the Pamir was transferred to the New Zealand flag, a prize of war for the second time.

The "Pamir" was in a sad state when she was taken over—poverty-stricken and "parish-rigged." Her hull was sound enough, but her standing and running rigging was in bad shape. She needed a special survey and a thorough refit, and she got them. There was plenty of freight available, and even an old sailing-ship would serve to carry some of it in an ocean whose vast expanse kept war hazards within bounds.

And so the "Pamir" in her old age was rejuvenated by a general overhaul at considerable cost. All defects revealed by careful survey—and they were many—were made good, much of her rigging was renewed, and the accommodation for the crew was considerably improved. As handsome as ever, the "Pamir" was sound and seaworthy and thoroughly well-found when she once again proudly

put to sea. In her crew of forty, Finland still has one representative. There is also one Dane. But the other thirty-eight, including the master, are New-Zealanders.

Since the "Pamir" fell to New Zealand she has made slow passages and some not so slow. Her shortest period at sea has been fifty-eight days; her longest eighty-two days. And in all her voyages under the New Zealand flag she has seen not more than three or four ships at sea. For the crew, life on board is very good when the trade winds help the ship along, but in the doldrums the men have to work most of the time swinging the yards to catch whatever wind there is. Most of the spare time they do get in the doldrums they spend in sleeping, but they do take time out sometimes to fish and play.



Water on the deck !

Besides sharks, they catch a fish called bonita, which probably holds the speed record among the aquatic population. The bonita is a streamlined fellow, blue on both sides and silver underneath, and he's very good to eat. His flesh is like fresh steak, so you can imagine how welcome a few meals off him would be after some weeks at sea. He needs his speed to live because he eats flying-fish, which he will follow, and catch, above the surface of the sea. All that's needed to land him is a piece of cotton on a hook dragged just above the water.

Occasionally, to help pass the time in the doldrums, the sailors catch an albatross. The trap for these birds is a triangular piece of tin with meat fastened round it. This is tossed overboard on the end of a line, and the albatross obligingly puts his beak through it. Since the beak is soft, the tin sinks into it and the albatross is a prisoner. He is hauled up on board; perhaps his wing span is measured, and presently he is allowed to fly away again. Sailors don't kill albatrosses. Apparently they still remember the fate of the Ancient Mariner!

An interesting fact about the Common or Wandering Albatross, apparently, is that the only place it is found north of the line is in the seas that wash the coast of Asia to the south of Behring Strait. According to the sailor off the "Pamir," you can't take an albatross alive from the southern to the northern hemisphere. He says the National Geographic Society offered a useful sum of money to any one who managed to do this, and attempts had been made, by aircraft and by ship, but the albatrosses always died once they had crossed the line.

What is it like to go aloft in a sailing-ship? "Well, you're scared stiff at first. You think everything you touch is going to break. You think that every roll is going to pitch you to the deck or into the sea. But nothing breaks, and nobody gets hurt."



By Dr. PETER V. RUSSO, in *Salt*, Journal of the Australian Army Education Service
Now a Melbourne Journalist, Dr. Russo was Professor of Modern Languages, Imperial University of Commerce, Tokyo

WHEN WE felt we might be getting into a rut in those days in Tokyo we would go and watch the British Empire being shattered for the equivalent of 1s. 7d. By paying a trifle more we could take in also the sinking of the American Fleet, and there was no extra charge for annexation of California and two cups of green tea.

It all happened daily on the stages of Asakusa, the theatre centre of Tokyo. The military boys were keen on selling the idea of what a push-over the Anglo-American combination would be, and they mobilized script-writers and actors to help them do it.

The theatres were always crowded, probably because there wasn't much else to do. Pretty well everything in the way of entertainment, such as billiards, mah jong, cabarets, dancing, and foreign sport, has been found lacking in virtue, and banned.

Of course, there was always the Happy-Willow-and-Joyous-Frolic quarter, providing a traditional relaxation and therefore conforming with New Order require-

ments. But the gentlemen were quick to discover that too much devotion to the ancestral hobby, without the replenishments of good food they were once accustomed to, tend to diminish their already depleted reserves of vitamins.

So they went to the theatre, which was probably more expensive but less exhausting. And there was a good deal of pleasant titillation to be had in anticipating the happy times in store when the Army turned from stage presentations to real action.

Under the supervision of Government producers, the playwrights wrote drama that described past victories and made accurate forecasts of victories to come. Commander Ishimaru's restrained writings on how to restore order in the British Empire and America formed a colourful background to the finale of bring Eight-Corners-of-World-Under-Japanese-Roof, a world-salvation process known as Hakkō-Itchu.

But the people who were most moved to receive official recognition were the actors. And to understand why we must

know something of the background of the popular theatre in Japan.

During the old Japanese regime actors were included in the census under the heading of live-stock, a designation much resented by pious Buddhist farmers with a high regard for animals. Indeed, the general opinion regarding actors seemed to be that their proper animal-grouping was something between a skittish monkey and the more debauched species of tom-cat.

Curiously enough, the founders of the Japanese popular theatre, or Kabuki, were two women, named O-Kuni and O-Tsu. O-Kuni, being a priestess by trade, was naturally a good girl and remained faithful to her husband and the priests of the temple which employed her.

O-Tsu, on the other hand, second leading lady of Japan's first popular troupe, was what might be called a good sort, with a strong affirmative reaction to characteristic male queries. It is not surprising then that the unlicensed activities of these ladies soon attracted the notice of the authorities. The Tokugawa Government, deploring the loss of revenue resulting from unregistered backstage performances of actresses, thereupon prohibited women from exhibiting themselves on platforms or stages.

But the show had to go on; and some one had to play female parts, particularly in the favourite scenes where the conscientious samurai killed off his wife and her spare parts before going to the wars. So producers looked round for comely young men with the required inclination and aptitude. There was a surprising response from types who had hitherto blushed unseen behind haystacks or in less conservative monasteries.

This originated the Kabuki tradition of "Onna-Kata," or male actors taking the part of females. They were known as Wakashu, and began to perform in Kyoto, the old Imperial capital, under the famous producer Dansuke.

So skilfully did these lovely young men portray the graceful turns, side-twists, and knock-knee trot of the lady of fashion that ambitious young damsels, eager to qualify for matriculation at the

higher-class frolic quarters, became regular Kabuki patrons in order to learn how to comport themselves gracefully and seductively. And, as we shall see, the popularity of these male actresses brought more than mere box-office returns.

Japanese laugh affably over the way we do things back to front. A foreign practice that has amused them more than others is the one that prompts elderly but enterprising gentlemen to hang around backstage entrances. In Japan, obviously because of respect for the Onna-Kata tradition of male actors, this sort of thing is done only by wealthy widows and prosperous geisha. The enraptured ladies first win their way into the heart of a female impersonator by sending him a gift of flavoured seaweed or a carton of raw fish, and then pick him up after the show to take him to supper, or elsewhere.

When the New Order got well under way, the custom was frowned upon, but it did not bring down official wrath until the famous Tsuneko case in 1938. Tsuneko was an alluring geisha of rather jealous disposition who had bestowed her heart and seaweed on Zaemon, a note male-female. Arriving one evening at the stage door, she was pained to discover that another lady had got there first. Tsuneko, spurred on by a base passion, forgot the seven rules of gentle persuasiveness, and struck her rival harshly and frequently with a heavy parasol.

Tsuneko's side of the argument was taken up and supported by the *Yomiuri Daily* (circulation 1,000,000), while the rival found enthusiastic, though numerically inferior, support in the *Teido Daily* (circulation 250,000). It was not, however, until leading critics and stage managers, violently controversial in their reactions to the Tsuneko case, began taking up space which should have been used for reporting the final annihilation of China, that officialdom stepped in and forbade further backstage penetrations.

The official repertoire restricted subjects from which playwrights might draw inspiration. Boy-meets-girl-wacko! themes were definitely out, as the militarists wanted to direct their ardent young men into more warlike channels.



Traditional Japanese warrior

But virtuous emotion as exemplified in the famous Kabuki story "Komatsu, or War Horse" was highly approved. It showed the spirit to be encouraged in warrior-women as well as men.

If we tell you the story, we know you will understand.

Rescuing damsels fair and plighting troths used to be a full-time job for our romantic knights of old. In far Nippon the gallant samurai also had his sentimental moods, although his attitude towards his lady-love was far more practical. The story unrolls:—

Ikuzo, a samurai of the Tsushima clan, was invited to a battle that was being held some distance away, but his horse was old and weary, and he could not afford to buy another one befitting his rank. Besides the reluctant horse, his only possession was a beautiful common-law wife, a Niigata maid with lovely black tresses that reached to the ground, and about which he loved boasting to his friends.

His anger was terrible, therefore, when he returned home one day and found that Komatsu, his love and pride, had cut off her hair. Her only reply was to point sadly outside at a magnificent champing steed that was being led

through the courtyard by a groom from the famous Yuri stables. Komatsu had sold her beautiful hair so that her master might have his horse and not be late for the battle.

(Let us sip a little green tea while the huge Kabuki stage revolves to the second act. We need the refreshment, for it is now that the inspiring part of the drama begins.)

Alas, Ikuzo's satisfaction was short-lived. His new charger was so stately and handsome that it was out of the question to use the old shabby saddle and bridle. Once again he became fitful and morose, and, to escape the sneers of his friends, he seriously contemplated taking the logical way out and killing his horse, Komatsu, and himself.

Returning from another fruitless visit to the money-lenders, he found, this time, no Komatsu at all, but instead an exquisitely inlaid saddle, expertly armoured, and all the accoutrements that went with a dashing war horse. A letter nearby explained all. To make Ikuzo completely happy, Komatsu had sold herself to the local licensed quarters, naturally at some discount owing to the loss of her hair, but for enough to provide the equipment desired by Ikuzo.

The curtain falls on Ikuzo riding away in full martial splendour, soliloquising on the superior qualities of the women of Yamato (Old Japan): "If all women were as noble and virtuous as my Komatsu, what a happy world this would be."

The last time we saw this moving drama in Tokyo we were able to meet Utaemon who took the part of Komatsu and who specializes in depicting famous women of history. He was actually a very sweet boy, and he told us that the secret of his success was the many opportunities he had of rehearsing his stage parts in real life. And it is indeed only a short while ago that police regulations were enacted forbidding Kabuki female impersonators from dressing up as geisha and playing obvious practical jokes on short-sighted old gentlemen who really wanted to be entertained in an orthodox manner.

But to get back to the New Order trend of the popular theatre in Japan, let us remember that its effect has been startling even for those whose faculty for being surprised has been numbed by years of residence in various parts of East Asia. Since the outbreak of the Pacific War several cases have been reported where young Japanese, moved by a popular military stage theme, have killed their wives and children before proceeding to the front. Their excuse, nationally applauded, was that they could not concentrate whole-heartedly on the war if they were disturbed by domestic preoccupations.

And the modern Komatsu has not been wanting. Japanese women are still mortgaging and selling themselves to give male relatives the patriotic face that goes with a classical sabre of Old Japan or an extra piece of superior equipment. And the playwrights continue plugging out stories for stage and radio, all designed to strengthen those medieval samurai codes without which a militarist Japan could not survive.

The militarists have brought the Japanese stage into its own—as a war weapon.

CRACKING THE GERMAN DAMS

By Wing Commander GUY P. GIBSON, in the *Atlantic Monthly*, December, 1942



THE FLAK OVER France wasn't bad. It was

coming up all around in spasmodic flashes as some straggler got

off his course and struggled through a defended area. Otherwise the night was lovely. There was a three-quarter moon which shone brightly into my Lancaster, lighting the cockpit up almost as if it were day.

I was feeling pleased because this was going to be my last raid before going on a few days leave; for now I had done 173 sorties without having had much rest. It was almost too good to be true that after this raid on Stuttgart I should be able to go down to Cornwall with my wife and have the time of my life.

We dropped our load, and my poor Lancaster on its three engines jumped into the air as the bombs fell out of its belly and I banked around and dived for the deck.

During these moments there had been little talk, but once we were clear of the target area all the boys on board started talking.

"Leave to-morrow."

"To-morrow we go on leave."

"I'm going fishing."

"I'm going to sleep."

"To-morrow we go on leave."

"Report to C. in C. immediately." It was early when I was waked up and given this message.

The Air Marshal was very nice to me, and as I went into his room he said, "Hello, Gibson. Sit down." Then he told me quietly that I wasn't going to have any leave. He told me that I was to form a new squadron, a special squadron picked out of the best crews in the Bomber Command, the squadron which would have to undertake a most important mission. He told me that if this mission was successful, we should have succeeded in dealing to Germany in one night the most damaging blow of the war.

He spoke to me about the Möhne Dam and about the Eder Dam. He spoke to me for a long time and told me of their importance and of the difficulty which we should have in destroying them.

It took me an hour to pick my squadron. I wrote the names down on a piece of paper and gave them to a man with a red moustache who was sitting behind a huge desk. Then I got in touch with my wife and told her that our leave was postponed because I had one or two things to do before I could get away.

Next morning I got them all together. There were 25 crews, which means 175 men—pilots, navigators, wireless operators, bomb-aimers, engineers, and gunners,

and every one of them an old hand at the game.

My speech to them was short. I said: "You're here to do a special job. You're here as a crack squadron. You're here to carry out a raid on Germany which will have tremendous results. What the target is I cannot tell you, nor can I tell you where it is. All I can tell you is you will have to practice low flying all day and all night until you know how to do it with your eyes shut."

Then I went down to London, and there I met a man of whom I shall say very little. He was as much responsible for the success of this operation as all the pilots and air crews put together. He is one of the real backroom boys of whom little can be told until after the war, and even then I am not sure that you will hear a great deal of their story.

We met together in a small, dark office. He pulled out a drawing and gave me a short lecture on the science of damology—which is, of course, the science of breaking down dams.

He said: "Now you may think me a stupid old man, but wait until I tell you what I know about the Möhne Dam. It is a military objective which I have been studying ever since the war began. This dam"—and he pulled out some pictures—"is some 850 yards long, 150 feet thick, and it is as high as it is thick. You can imagine that many attempts have been made," he went on, "to try to evolve some method of breaking down these walls, but it is not so easy as it looks. When you consider that we in London here think ourselves safe from an ordinary explosive bomb when we are behind 3 ft. of concrete, you will begin to realize what I mean when I talk about shifting 150 ft. of the stuff."

At that time a certain County Council in the Midlands of England had just built a new dam to supply their town with water. We heard about it and wrote to them and asked them if we could knock down their old dam so that the water would run into their newly built one. They replied that this was fine because they wanted to knock it down anyway, and so the scientist and I went to work.

For many days this man worked and I flew. He modified and experimented, and

I watched and watched. Then suddenly one morning in April, on one of the first days of spring, I flew over and dropped one which worked. The man on the ground danced and waved his hands in the air. I could see him from my cockpit as I banked around after my run, and I waved back at him and shouted into the noise of the engines; and I believe that the man on the ground threw his hat into the air, for that was a wonderful moment.

After all that, I took myself back to my squadron. By now the boys had made themselves very proficient in flying at low level around the country-side, and they found that navigation in itself was no longer a problem. We therefore turned ourselves to practising a special form of attack, which we should have to make on the dam walls. Night after night, day after day, we went flying up and down lakes in Scotland, in the Midlands, and in Wales, practising this very special form of attack. One of our hardest problems, we found, was to fly at 45 ft. above the water: to fly at exactly 45 ft., not 44 ft. or 46 ft., but 45 ft. It is a very difficult thing for a pilot to judge his height above calm water, and many a flying-boat has crashed as a result.

After two months of continuous hard training, involving at least 150 hours of flying for each person, I considered that my squadron was fit to undertake the operation.

At the same time we had reconnaissance aircraft flying out over Germany watching these dams as a cat watches a mouse.

On 16th May, reconnaissance aircraft reported that the water-level was just right for the attack. It was a great moment when the public address system on the station said: "All crews of No. 617 Squadron report to the Briefing Room immediately."

The boys came in hushed, having waited two and a half months to hear what it was that they were going to attack. There were about 175 young men in that room, rather tousled and a little scuffy and perhaps a little old-looking in spite of their youth. But they were experts, beautifully trained, and each one of them knew his job as well as any man had ever known any job which he was to do. I let the scientist tell them all about it.

Soon it was time to take off, and we rumbled out on to the flare path in one great formation, and soon all nineteen of us were *en route* to Germany at zero altitude.

It was a wonderful sight. There was a full moon, and on either side of me stretched the two long arms of Lancasters forming a V, flying in perfect formation, each man knowing the plan, each one knowing his job.

We fought our way past Hamm, the well-known Hamm which used to be bombed so many times, and then as we came over the hill we saw the Möhne Lake. And then we saw the dam itself, and in the early light of the morning it looked squat and heavy and unconquerable. A structure like a battleship was shooting up flak all along its length. It was light flak mostly, green, yellow, and red, and the colours of the tracer reflected upon the face of the water in the lake; it reflected upon the dead calm of black water, so that it seemed to us that there was twice as much as there really was.

I spoke to my squadron: "O.K., chaps. Come in to attack when I tell you. I'll attack first."

The gunners saw us coming. It was not exactly an inferno. I have been through far worse flak fire than that; but we were very low. There was something sinister and slightly unnerving about the whole operation.

We skimmed along the surface of the lake, and as we went my gunner was firing into the defences, and the defences saw us coming and fired back. Their shells whistled past us, but for some reason we were not being hit. Spam said, "Left . . . little more left . . . steady . . . steady . . . steady . . . bombs gone!"

Then it was all over.

Trevor, the rear gunner, said, "I'll get those devils." And he began to spray the dam with bullets until at last we were out of range.

As we circled round I saw that we had not broken the dam, and so far as I could see there was not much damage, but the explosion of my mines had caused a great disturbance upon the surface of the lake and the water had become broken and furious, as though it were being lashed by a gale. I had to wait for this to calm down and it took quite a long time.

"Hello, M Mother. Hello, M Mother. You may attack now. Good luck."

Hoppy began his attack. Hoppy the Englishman, casual, keen now only on one thing, which was war. I saw him approach. I saw him drop his mines. I saw him shot down.

Many minutes later I told No. 3 to attack. He was all right; he got through. It was then that I saw that the dam wall had moved. It had moved back on its axis and I knew then that if we could only go on pushing, in the end it must collapse. Then one after the other, No. 4, No. 5, and No. 6 went in to attack.

Now we had been over the dam for more than an hour, and all the while I was in contact with my aerodrome at home. I was in contact with my Commander in Chief and with the scientist, the man who was witnessing the last great experiment in the science of damology. I am told that he sat in the Operations Room with his head in his hands, listening to my report as one by one I announced that aircraft had attacked, but that the wall had not broken.

But I knew that the structure was shifting and then suddenly, as the last aircraft attacked and as I watched the mines drop in exactly the right place, a great column of whiteness rose up a thousand feet into the air and the dam wall collapsed. I saw it go, but I could not believe that it had happened. I heard some one shout, "I think she's gone! I think she's gone!" And other voices picked up the call and quickly I said, "Stand by until I make a recco."

Now there was no doubt about it. There was a breach 100 yards across, and the water was gushing out and rolling down into the Ruhr Valley towards the industrial centres of Germany's Third Reich.

I passed the message home to my station, and I am told that when the news came through there was great excitement in the Operations Room. I am told that the scientist leaped up and danced around the room and shouted the news.

Then I looked again at the dam and at the water. It was a sight such as no man will ever see again. Down in the valley we saw cars speeding along the roads in front of this great wave of water which was chasing them and going faster than they could ever hope to go.