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AUSTRALIAN ARMY JOURNAL

A periodical review of military literature

No. 211, DECEMBER 1966

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PAPUAN CAMPAIGN. A forward section post in the Sanananda area, December 1942. The fall of Sanananda on 22 January 1943 to the Australian 18th Brigade marked the end of the fighting in Papua, the end of six months campaigning in which the Japanese lost more than 12,000 men while inflicting 8,546 casualties on the Australian-American force, and the end of an experience which none of the hardened soldiers who survived it will ever forget.

Photograph: *Australian War Memorial.*

Infantry Hollow-Charge weapons and the Tank

*Captain M. A. Count,
Royal Australian Armoured Corps*

'HITLER is reputed to have said in 1942 that the development of hollow-charge projectiles would ultimately mean the end of the tank.'

'Such innovations as the M72 light anti-tank weapon have brought tank hunting into the class of being a mere sporting venture. The Carl Gustav anti-tank round has clinched the issue.'

'By the end of 1945 the end of tank warfare was in sight. Modern infantry anti-tank weapons have since ended the tank bogey.'

The above statements have been drawn from two articles written by Lieut-Colonel R. S. Garland and published in the July and August issues of the *Australian Army Journal*. They appear to reflect the author's views of tanks anywhere — not merely in South Vietnam. It is my opinion that these views are unsound because they are based on an unreasonable faith in the hollow-charge projectile as found at battalion level and a lack of knowledge of Soviet (and Chinese) armoured capabilities.

Here is another quotation:

'VC has long since distributed 57 and 75-mm recoilless rifles, 3.5-inch rocket launchers and 82-mm Chinese "Panzerfausts" to battalion level in considerable quantity . . . A goodly number of M113s are penetrated from time to time, but less than one out of seven penetrated vehicles is destroyed and the eight-to-twelve man crews suffer only about .8 personnel losses per penetration.'¹

There is no significant difference between the VC weapons quoted above and the Carl Gustav other than the latter's greater accuracy but I would like to examine the question of killing an AFV in detail. Before doing so, readers should note that Lieutenant-Colonel Battreall was talking of a thin-skinned APC and not a tank. He was also talking of South Vietnam where opening ranges are short.

To destroy a tank we must first hit it. All weapons have a certain first-round chance of a hit which is primarily based on the range of engagement. Chance of a hit is a complicated business, being effected by the chosen projectile's weight and shape, the muzzle velocity, the system of range finding, progressive wear, human skill, cross-winds and gustiness, and many minor factors. Combat factors

¹ Lt-Col R. R. Battreall, Senior Advisor, Armour, Command, United States Military Assistance Command, Vietnam, in *Armor*, May-June 1966.

such as fatigue, anxiety and obscuration of target by vegetation, smoke, dust and small arms fire must be added to produce a realistic chance-of-hit for a weapon system.

Without becoming technical, I hope I am making the point that there is a considerable difference between a warrant-officer instructor firing a Carl Gustav at a stationary tank hull, at a known range, probably after rehearsal, and Private Smith firing the same weapon at one of a large pack of firing tanks moving in on him at 25 miles per hour under heavy covering artillery fire.

If the chance of hit was 90 per cent at 350 yards in the case of the warrant-officer, one could justifiably argue that for Private Smith it has now been reduced to 60 per cent. For example, a tank gun which under range conditions has a 90 per cent chance of a first round hit at 1,000 yards, quite often drops to 70 per cent merely by keeping the crew awake for 24 hours and making them fire over strange ground. Tank crews are not as affected as infantry by enemy bombardment.

But supposing we hit the tank with a hollow-charge projectile. This mysterious term relates to a certain weight of TNT with a cone-shaped cavity at the front end which is 'stood off' from the armour surface by a nose probe and detonated by a base fuze activated by the nose-probe. The TNT develops a jet of gases usually around 3000°C in temperature and travelling at 30,000 feet per second. This jet burns through the armour and successive layers of air, metal, flesh etc. until its energy is dissipated. It is very difficult to keep a HEAT jet completely out of a tank by placing enough armour in its path. Once in, it may pass through an ammunition case containing propellant and cause an ammunition fire, and this usually causes the tank to 'brew'. Or it may penetrate the fuel tanks causing a fuel fire and this may cause a 'brew' — but not always.

The jet may go through a crewman's body and this is bad for him. But the lethality of hollow-charge projectiles cannot be relied upon for these reasons:

- (a) The fuzing system is far from 100 per cent reliable and many blinds occur because of a lack of impact velocity or because of strikes at an intolerable angle as a result of the lofted trajectory of some types of HEAT projectile.
- (b) The jet may not strike a vital part of the tank — and this is a considerable part of the surface area, i.e. it may ventilate the turret by boring a hole from above the gun mantlet

Captain Count graduated from OCS in December 1956. He was a troop leader with 1 Armed Regt. (1957-59) and with 'A' Sqn 4/19 PWLH (1960-62). After qualifying at the United Kingdom School of Tank Technology in 1963-64 he was posted as OC Gunnery Wing, Armoured Centre, an appointment he still holds.

to the rear of the turret, or through the track and front idler and may be a roadwheel as well. The 'spalling' or molten displaced metal from the armour travels in the direction of the jet and does not ricochet round and round like the shattered 'scab' of High Explosive Squash Head (HESH) or the large pieces of armour and shattered projectile of the kinetic energy rounds APDS, APCBC and APHE.

- (c) The transference of chemical energy in sufficient force to deform the tank by causing the transmission system to be misaligned or the turret to jam usually only occurs with HEAT projectiles containing over 3 lbs. of TNT, i.e. those generally over 100-mm calibre. HESH and kinetic energy rounds usually cause deformation of the hull or turret. The tank must now be replaced, usually from outside the theatre of war. (There are many recorded cases of tanks and APCs from Normandy through to South Vietnam which have finished the campaign with HEAT jet holes blocked up.)
- (d) The jet is progressively degraded by the thickness of metal it passes through. Most infantry weapons can penetrate 8 to 10 inches. It is the diameter of the exit hole which matters. After 6 inches, a common thickness on tanks, the hole is about the diameter of a pencil. This indicates the amount of lethal spalling which has occurred and the fact that the jet has not far to travel at this stage. Silicious-cored armour and certain alloyed metals can keep such infantry war-heads out altogether although there are none yet in service. For lethality, there must, therefore, be a considerable overmatch of the armour by the jet. Again, this is usually only found in warheads of calibre in excess of 100-mm.

(At the Armoured Centre there is a plate at which all in-service anti-tank weapons have been fired, including the Carl Gustav. It is of interest to anyone comparing lethality of projectiles.)

Lethality combines with the chance of a first round hit to become the percentage chance of a kill. In the case of hollow-charge weapons, the chance of hit must always be considerably reduced by the lethality factor.

Private Smith may be lucky but his chance of a kill with Carl Gustav may now be near to 40 per cent. I am not playing with figures. The whole question of hollow-charge lethality has been thoroughly investigated and documented by many agencies. Lieutenant-Colonel Battreail's report would come as no surprise to anyone who has done research in this field.

It is now time to turn to the tanks — the outmoded target. Here we must forget the old Centurions trundling around Puckapunyal

Range in twos and threes, and look instead at Soviet doctrine which is followed closely by communist countries including China.

The main battle tank may be the early T54, the later T55 or the Chinese T59. All are identical in that they are heavily armoured, mount a 100-mm gun and two machine-guns, are fast, reliable and have exceptional cross-country mobility. They are used in mass attacks preceded by heavy bombardment by conventional artillery and direct fire from self-propelled guns. Infantry may be sent ahead to the objective in carriers while the tanks stand off and fire direct or envelop the objective. Or if the opposition is easy, the tanks drop the infantry on the objective as they push through. The tank battalion is the smallest unit considered in the manuals.

If the tank bogey is ended the message has apparently not reached the communist nations whose proportional increase of armour since 1945 has been staggering both in quantity and quality. China, according to the Press, has just donated 200 T59 tanks to Pakistan. If tanks appear on the other side we all have a desperate problem. We in the RAAC know better than any other corps the destructive potential of tanks correctly handled. We know that you must destroy tanks quickly and totally at the maximum range of your weapon system. If possible this should be beyond the effective range of your opponent.

Therefore for any anti-tank weapon the most vital questions are:

- (a) What is the maximum range, under battle conditions, at which I have a worthwhile chance of a kill? (chance of hit combined with terminal lethality).
- (b) What is the sustained rate of fire?

The destruction of tanks has been my primary interest for over four years, both as student and instructor. I know how difficult it is to hit a tank with the first shot of even a tank gun, because the target exposes little of itself and is moving. Having fired all and instructed in most of the anti-tank weapons, I would not place the infantry weapons high on the effectiveness list and still less would I put my trust in them except in close country.

The Carl Gustav and its equivalents are last resource protection when all else has failed. In close country they are suitable for ambushing tanks provided the firer is well trained and very brave. □

Extracts from an Air Support Officer's Diary

*Major E. C. Beacroft MBE,
Royal Australian Infantry*

Introduction

THE 'Air Support Officer (ASO)' whose 'diary' provided the material for this article, has had a chequered career. During the war he flew high performance fighters; later he was transferred to large strategic transport aircraft and later still spent two years with short range transport aircraft. After twenty years with the RAF he joined the RAAF in 1961.

Immediately prior to his appointment as an ASO he had taken up his first staff appointment which, with some justification, he accepted as a reward for his long and distinguished flying career.

When, after only a few weeks of luxury, he was ejected from his comfortable haven to be faced with a rapid descent, at the end of an inadequately constructed parachute of knowledge, and an inevitable landing in a foreign environment, he reacted violently. At this stage, by no stretch of the imagination could it be said that he was pro Army or pro joint operations. He did not know then, but learnt later, that his wide experience was responsible for him having been chosen for the role. The transition from airman to airman/soldier may have been easier had he known sooner.

Later entries in his 'diary' indicate that he is now dedicated to the task of helping the 'brown jobs'.

'Existing and burrowing' with the soldiery has done him more good than harm and one gains the impression that he actually enjoys his 'camping holidays'.

Diary of Wing Commander J. A. Blueblood, DFC, AFC, RAF

7 Aug 61: Peace perfect peace—at last an office I can call my own, a comfortable chair and a table with glass top to safeguard trousers from polish. Duties not too exact-

Major Beacroft is Army Instructor at the Air Support Unit, Williamtown, N.S.W. Earlier contributions on joint land-air warfare appeared in the June 1965 and November 1966 issues of the AAJ. This is the first of a series of articles which Major Beacroft is writing about different aspects of joint operations. Others will describe the work of the Gound Liaison Officer and the Forward Air Controller; another will be devoted to Close Air Support for Ground Operations.

ing—should be time to relax. Typist easy on the eyes and makes a good cup of tea. Quite a change from cramped cockpits. Never thought the old firm's pension scheme would include this pre-retirement conditioning period.

- 31 Aug 61: Should have known it was too good to be true. Awakened from 'pipe dream' this a.m. by telephone call from Postings Branch—reposted to Far East as an ASO, whatever the hell that is. Shall know tomorrow as I am to report to School Land/Air Warfare for briefing, then off to the East three days later. Obvious someone higher up does not approve of a life of ease for aged aircrew. Typist not going to be happy when I cancel dinner date for 10 Sep.
- 1 Sep 61: Heard the worst today—more depressed than before. Apparently I am to act as adviser to Army Commanders, represent the Air Commander, co-ordinate aircraft movements in the battle area and supervise the activities of forward air controllers. The various tasks don't frighten me but the thought of flogging around the countryside, and particularly the hot, humid jungle, on legs that get rubbery after eighteen holes of golf, certainly does. Damn the Army, why can't they plan and fight their own battles? If they can't, why don't they get out of the way and let our bombers do the job for them? Time to wash away the bitter taste with a few pale ales.
- 2 Sep 61: Obviously too outspoken last night re Army's inability to look after itself. First blood to the opposition when Junior failed to side-step a ham-like fist propelled by a Colonel's son at school today. Kids should learn not to repeat conversations they overhear.
- 4 Sep 61: En route to Singapore—have read Army and Air publications since we took off.
- 5 Sep 61: They are certainly adept in the art of brainwashing out here—I've suffered all day. First it was the importance of the ASO—'Don't forget, you have two services depending on you'. Next came the acid drop—'when you're with the Army you must conform to their way of life, failure to do so will prevent you from gaining their confidence.' Sensed an air of sadistic delight as an Army major referred to his commander as 'old deerstalker' who, he implied,

suffers from a dermatitis-prone rump and will have nought to do with vehicles if he can avoid them—an over-statement I'm sure.

- 6 Sep 61: Never a dull moment—received green combat clothing and equipment this morning. Lost appetite for lunch when Wing Commander Operations announced at the bar, 'Sorry to have to tell you old man, but it's local policy to make sure our ASOs get the message early—you and your team are to take to the ulu (jungle to the uninformed) for a ten-day exercise with 77 Brigade. You report to Brigade HQ by 0700 hours on the 9th. There's a signal on the way'. If it wasn't serious it would be quite amusing—I know practically nothing of Army methods of moving, living or fighting except what I've seen from the air and read. In addition, I'm not yet sure of what I am expected to do. Guess I'll learn and they will just have to tolerate me until I do. Morale near rock bottom at present.
- 7 Sep 61: Managed a quick trip to Brigade HQ to meet the Commander and his staff. Was welcomed with open arms as they have not had an ASO before. Very poor lunch as it was all out of tins and beer was hot—fridge had gone on the blink. Even though they have some weird and wonderful ideas regarding the employment of aircraft, one must admit they are dedicated to put up with such conditions. Brigade Commander indicated that he requires me to live and move the same way as his own officers, i.e., when not moving, a hole in the ground for protection, a pup tent to sleep under, hard rations and to be able to move without my vehicle when the HQ operates away from the airfield—there are no roads in the area. Might be all right for the mad infantrymen but it does not appeal to me.
- 9 Sep 61: D Day—flew into exercise airfield this morning. Brigade HQ established and battalions deployed by 1400 hours. My communications tested and all OK. Not invited to conference held to plan tomorrow's activities—rather disappointed as the Commander requires a lot of offensive and transport air support. Feel I could have suggested additional tasks for some aircraft and helped to arrive at better plans for some of the operations. However, they know I'm here and if they don't want my advice that's their loss. Now

1815 hours, dark at 1830—tired and dirty but no bath tonight; into the bush bunk, boots and all—what an existence!

- 10 Sep 61: I know now why the soldiers emulate the birds and go to bed with the sun. Tiredness overcame the strange noises about 2100 hours and I finally got to sleep—not for long though. Was awakened at 2100 hours by a cursing duty officer stumbling over my tent ropes—the Brigade Commander wanted me immediately. When I arrived an irate brigadier thrust a signal message into my hand, held the pencil torch beneath a blanket and commanded, 'Read that'. The Joint Operations Centre had refused about 50 per cent of his requests for the following day. The reasons for refusal included, 'not a suitable target'—'insufficient information'—'too close to own troops'—'no aircraft available'—'unable to complete lift within time scale'. My attempt to explain that had I been consulted during planning much of the trouble would have been obviated was useless. He stormed off to the operations tent muttering, 'blasted air force never wants to co-operate'. First light was at 0500 hours and at 0510 hours I again incurred the wrath of the commander as I heated water for a shave—when he told me that Army personnel were expected to shave each morning, my informant forgot to mention this 'stand-to' nonsense which takes place twice a day. Attended to my own business during the day and kept out of everyone's way—no one asked for advice nor did I offer any. I'm learning fast—only wish the 'opposition' would do likewise. Again no invitation to the evening conference.
- 11 Sep 61: Much better night—refusal signal arrived before I went to sleep. Similar pattern, large number of requests refused. Signal through Air Channels asking that I remind the Commander of the close air support available for immediate tasks as aircrew getting tired of having nothing to do. Passed message but no apparent reaction; all efforts seem to have been directed towards getting artillery into positions from which they might be able to help ground troops. By 1500 hours I'd had enough—decided to place my cards on the table in the hope that I might be accepted as part of the organization—and informed the Brigade Major that if I was not wanted I would recommend

to my headquarters that I be withdrawn as I could find a job and live far more comfortably at the main rear airfield. My bold action produced results. A conference was called for 1600 hours and I was asked to attend. Now agreed that a fire support co-ordination cell, staffed by a G (Operations) officer, an artillery representative, an Army Light Aircraft Liaison Officer and myself, will co-ordinate air support matters. We may co-opt Q and A staff officers as required and all are to attend the evening planning conference. Must say the 'old man' got the message quickly and was most helpful. Off to the planning conference now.

- 12 Sep 61: Success—a full night's sleep. Most requests submitted were accepted, refusals were due to non-availability of aircraft. Had interesting session with the Commander, Brigade Major and Artillery Commander after evening conference last night. Whilst consuming a bottle of Scotch we discussed many joint problems and generally learnt a lot about each other—brigadier now uses my christian name. Good day apart from minor communication troubles. Kept busy answering queries. Flew on a reconnaissance with the Commander in an Army aircraft—a welcome break and was able to advise on suitability of a proposed dropping zone.
- 13 Sep 61: An even better day. Our cell now working effectively. Co-operation within the HQ could not be better. No complaints from my own HQ so assume they are happy too. We move early tomorrow morning.
- 18 Sep 61: Back at airfield ready to fly home tomorrow. Last few days have been hard but interesting. Was able to observe troops in action in the jungle and now know what it takes to make a good infantryman: guts, hard training and stacks of enthusiasm. I've also an idea, for the first time, of why they place so much reliance in air support, particularly transport support which saves them so much effort. Have never been so tired but the results achieved and the complimentary comments of the Commander and his staff have made it worthwhile. We shall be a better team next time. When compiling my report I must include these hints for future ASOs:
- (a) The job is just as important as people make out and it can be extremely rewarding.

- (b) A detailed knowledge of procedures is essential.
- (c) Although the soldier is a peculiar animal — he likes to burrow and is satisfied with a minimum of creature comforts—remember that he is a fellow human and a good operator in his own environment.
- (d) Don't underestimate the soldier's dedication to his calling, his insatiable appetite for walking or his capacity for co-operation once you have gained his confidence.
- (e) Army commanders may have a tendency to plan in isolation. If they do, adopt a policy of 'slowly, slowly catch a monkey'. After they have had a few plans rejected or support refused, suggest the solution—they are quick to learn.
- (f) Be physically fit and travel light or be prepared for the consequences.

- 21 Sep 61: Attended post-exercise conferences this afternoon. All agreed that first three days were wasted. Latter stages produced the desired results. Deficiencies in procedures and communications revealed but these can be overcome now that the 'team' is established. Received invitation to dinner with 77 Brigade on 30 Sep.
- 24 Oct 61: Visited 77 Brigade HQ to assist in planning battalion test exercise. Was invited to join brigadier and brigade major as third member of directing staff. Renewed acquaintances with battalion commanders at the bar and during lunch—a most enjoyable day.
- 12 Nov 61: Have just returned from three day reconnaissance for next brigade exercise. Am now a fully fledged member of the brigade planning team—a unique honour but I'm sure one which should be bestowed on every ASO. The Brigade Commander obviously welcomes 'interference' from his birdman these days.
- 14 Nov 61: Heard a whisper that my application for transfer to the RAAF has been approved—family will be pleased. I hate the thought of leaving here now that I have established such a good relationship with the Army. However, the experience should prove invaluable if I happen to be fortunate enough to obtain a similar appointment down under.

*Continuation of the Diary of Wing Commander J. A. Blueblood,
DFC, AFC, late RAF now RAAF*

10 Dec 63: When I started to write my report on the ASO's role in exercise HIGH ALTITUDE, I turned to notes I had made over two years earlier (9-17 Sep 61) and was amazed at the similarity of errors and omissions which occurred during my first experience as an ASO and those encountered during the last three weeks. For the first three days, the ASO was again treated like the plague—isolated from the Army HQs, denied a part in the planning and the conduct of joint operations and forced to observe, from a distance, repeated mistakes in the use of aircraft. As before, however, on the fourth day, the sun broke through the clouds. The fire support co-ordination centre was activated, the ASO was welcomed into the fold and joint operations commenced to follow the approved pattern. In an effort to guard against a repetition of the 'three day blackout' I have included in my report the following suggestions:

- (a) Army field headquarters should all be aware of what they stand to lose by not properly employing their ASO.
- (b) To be effective, an ASO must be accepted as an important cog in the machine.
- (c) Air Force officers selected for ASO duties are widely experienced and consequently, their advice should be sought and respected.

Conclusion

The 'diary' contains no entry later than 10 Dec 63 probably because there has been no major joint exercise of sufficient magnitude to enable an assessment of ASO employment since that date.

From the comments available we are justified in arriving at the following conclusions:

- (a) Army commanders can rest assured that any Air Force officer appointed as an ASO will have the necessary knowledge to discharge efficiently all duties associated with the appointment.
- (b) The ASO is a valuable asset and should be treated accordingly.
- (c) He must be accepted as a member of the team and be correctly employed.
- (d) The ways of the soldier differ greatly from those of the airman but the latter adapts quickly with encouragement and assistance. □

The Disease Pattern of South East Asia

*Captain R. D. Spooner,
Royal Australian Army Medical Corps*

Introduction

A KNOWLEDGE of the 'disease pattern' of an area is important because past experience has taught that much of the sickness among our troops in tropical regions has been due to their entry into the communicable disease pattern of the local peoples. It is equally important to have some knowledge of the people themselves: their origins, way of life, social customs, politics and religions.

Although present interest is focussed primarily on South Vietnam, with its population of 12 million people in 66,000 square miles of territory, there is of course far more to South-East Asia than that country. It embraces North and South Vietnam, Laos, Cambodia, Thailand (which was Siam), Burma, Malaysia (including North Borneo, Brunei and Sarawak), Singapore, Indonesia and the Philippines. The total population is 200 millions and the total area 1½ million square miles. In comparison, Australia has a total population of about 12 millions occupying an area of 3 million square miles. In 1960 the total population of Asia, including China, was 1,500 millions. By the year 2000, it will have reached 4,000 millions. In the year 2000 the population of Australia will be 30 millions. The implications of these figures are obvious.

South-East Asia today is an anthropologist's paradise. The whole area is a chaos of races and languages. In the mountains and jungles live the remnants of a great variety of peoples representing the early stages of their ethnological history. There are pigmy negritos living as primitive nomads (akin to the Australian aborigines) and others who seem to be Indonesians in a backward stage of development. Traces of a Melanesoid type, called 'Veddoid' after the Vedda tribes of Ceylon, have been found in Indo-China (in Northern Annam, Luang Prabang and Thailand), and in Malaya and parts of Sumatra. Present examples are the Senoi and Sakai hill tribes of Malaya and other backward peoples of Southern Celebes and on Enggano and Mentawai Islands off the west coast of Sumatra.

How can one briefly characterize the 200 million varied peoples of South-East Asia? People have been growing rice there for 3,000 years; and because of this staple food there has been a build-up of dense population. Between 80 and 85 per cent of the present population is rural and rice growing. Again, by way of comparison, 80 to 85 per cent of the present Australian population is urban.

Many peoples and cultures have passed this way. It has been called 'the passage way of the East'. The history of South-East Asia is one of population movements along river valleys towards their deltas and the sea; and of the warfare, plague and pestilence that have resulted. These migrations were slow, long-drawn-out movements, with much assimilation of conquerors and conquered. Rarely was there annihilation or eviction, and seldom displacement of great masses of people. For example, the basic element of the population of the Indo-Chinese mainland today remains Indonesian.

Most of this vast area has been subject to Chinese and Indian influences from early times; and in Annam and Cochin China there was an intense struggle between them for supremacy. But they are not merely cultural appendages of India and China. They have their own strongly marked individuality. Names such as 'Further India', 'Greater India' and 'Little China' are misleading. Even the names 'Indo-China' and 'Indonesia' are open to certain objections. The art and architecture which blossomed so gorgeously in Angkor, pagan central Java and the old kingdom of Champa are different to that of Hindu and Buddhist India. The caste system, fundamental to Hinduism, has had notably little influence; and woman has largely maintained the high place accorded her before the earliest impact of Indian culture (and higher than ever in India during recorded history). Even the Vietnamese who were under Chinese rule for 1000 years (100 B.C. to 900 A.D.) developed a culture that preserved its identity with roots going back to a pre-Chinese past. The principal ethnic groups today still occupy their original habitat: the Dyaks of Borneo, Alfurs of Celebes and the Moluccas, Bataks of Sumatra and the Malays off the coasts of Sumatra, Sunda Java and Bali (called by the Chinese 'Kun-lun' and by the Indians 'People of the Islands').

Their religions are almost as numerous: Hinayana Buddhism on the Indo-Chinese mainland; Shia Islam on most of the Malayan Peninsula, Sumatra, Java and North Borneo; tribal religions among the more primitive peoples of Borneo, Celebes, central Sumatra and New Guinea; and Roman Catholicism in most of the Philippines.

The Indigenous Disease Pattern

The world's commonest illnesses are malnutrition and malaria; and South-East Asia, rather than being an exception, exemplifies them well. Of the countless millions of souls who have so far lived on the surface of this globe, probably 95 per cent never had enough to eat. Of the present 3000 millions 85 per cent never get enough to eat. One out of every five deaths is due to malaria. In other words, of the 3000 million people alive today, 600 million will die of malaria. Malaria is endemic in the whole of South-East Asia. Our more effective control of malaria (following the establishment of

a Research Centre in Cairns) during World War II was one of the four major factors in the Allied victory in the South-West Pacific.

Diseases due to Insufficient Food

(a) *Insufficient Calories*

Prolonged general starvation results in thinness, loss of physical strength and energy, mental apathy and lowered resistance to other diseases.

(b) *Insufficient Vitamin B1*

Vitamin B1 is present in rice polishings and disease due to its deficiency may occur in those peoples whose diet is mainly polished rice. Vitamin B1 deficiency also occurs in white populations among those who drink excessive alcohol and eat insufficient food containing Vitamin B1. The resultant disease is called beriberi and takes two main forms:

Dry (with numbness of and weakness of the legs and feet, and to a lesser extent the arms and hands); and *Wet* (with breathlessness, swelling of the feet and legs, and heart failure).

(c) *Insufficient protein*

Red meat, poultry, fish, eggs, cereals and dairy products are the main sources of protein. Deficiency results in retarded growth in children, impaired function of muscles and glands, illness during pregnancy and lactation, and certain specified disease entities.

(d) *Other Insufficiencies*

Minerals, and vitamins other than B1, if lacking from the diet, may result in a number of conditions such as rickets, blindness, various rashes, scurvy and insanity.

Diseases transmitted by Insects

(a) *Malaria*

The high incidence and importance of this disease have already been stressed. It is transmitted from man to man by the bites of mosquitoes. Being endemic throughout South-East Asia, the native populations form a vast reservoir of disease. It takes the form of a remitting fever with shivers and sweats, prostration, anaemia and enlargement of the spleen. 'Black-water fever' and cerebral malaria are two forms of the condition which are sometimes fatal. Preventive measures include avoidance of contact with native populations, regularly taking suppressive medication in the form of tablets (chemoprophylaxis), self-protection against mosquito bites (with clothing, mosquito nets and insect repellants) and the eradication of mosquitoes and their breeding places. Treatment consists of tablets or injections to kill the responsible parasite

(a single-celled structure called a protozoon); and hospitalization is often necessary.

(b) *Plague*

Transmitted from rats to man by fleas. Dead rats in a village are therefore a warning that plague may be about. Both urban and sylvatic plague occurs. The disease classically takes two forms: bubonic (with grossly enlarged glands in armpits, groins and elsewhere) and pneumonic (with pneumonia). The disease is highly fatal without treatment, and catastrophic pandemics ('the Black Death') are recorded throughout history. However, response to treatment, with modern antibiotics, is good. Prevention takes the form of eradication of rats and fleas; and vaccination may be indicated in some circumstances.

(c) *Typhus*

There are various forms of this disease. Scrub typhus is that usually encountered in military operations. It is transmitted by the bites of ticks or mites which are usually confined to circumscribed 'pockets', often just inside rain forest on the edge of more open savannah country. The disease, a feverish illness, is often fatal without treatment; but again there is usually good response to modern antibiotics. Prevention takes the form of thoroughly impregnating the clothes with mite repellent around ankles, crutch, waist, armpits, neck, shirt front, wrists and along the seams.

(d) *Dengue*

A virus disease transmitted by mosquitoes. It occurs in epidemics and, although the mortality is negligible, the high incidence during an epidemic with much illness amongst troops could be militarily disastrous. It takes the form of a feverish illness lasting one to three weeks with considerable prostration and severe aching of the muscles. Prevention takes the form of mosquito control. There is no effective treatment (apart from general nursing measures and the relief of symptoms).

Diseases of Faecal Origin

This group of diseases is due to the contamination by human sewage of food and water consumed by humans. Occasionally the bacteria are conveyed from sewage to food by flies. Bacteria may also be conveyed from sewage to food on the unwashed hands of cooks. A soldier may convey bacteria to his own mouth by his own unwashed fingers or dirty eating utensils. This group of diseases has been the scourge of armies throughout history and the decisive factor in many battles. Most of the hygiene precautions enforced in army life are designed to prevent this group of diseases.

(a) *Cholera*

This illness takes the form of a profuse watery diarrhoea with fever and death due to loss of water and body chemicals in the diarrhoea. There was an epidemic in Thailand a few years ago. Prevention takes the form of ensuring a safe water supply (especially in the vicinity of native villages), the use of water sterilization tablets in water bottles and the boiling of drinking water. A vaccine is available but it is of uncertain effectiveness and of short duration. Treatment is a chemical problem of replacement of fluids and electrolytes; but this is often difficult because of the many cases and the lack of laboratory facilities in the field. The outlook is unaffected by antibiotics. There has been much recent discussion about the status of a form of the illness due to the 'El tor' vibrio which is serologically similar to *Vibrio cholerae*, but haemolytic (destroying red blood cells and causing anaemia). The 'El tor' vibrio may cause only mild vomiting and diarrhoea, or an illness resembling the dysenteries, or an illness indistinguishable from fully developed cholera. Recent outbreaks in Indonesia, Sarawak, North Borneo, the Philippines, Hong Kong and Makao have resulted in 20,000 cases with 3,000 deaths. The World Health Organization has advised that this disease should be quarantinable.

(b) *Typhoid*

This is the classical fever used in teaching to exemplify all others. The temperature rises gradually day by day to reach its highest level in seven to ten days and if death does not occur, in muttering delirium, falls spontaneously over the ensuing three to four days to recovery. However, since the advent of modern antibiotics, response to treatment is fairly good. Prevention consists of vaccination, and the ensurance of safe water supplies.

(c) *The Dysenteries: Bacillary and Amoebic*

A likely source of these diseases is food prepared by the local people (in restaurants, snacks in market places etc.). Amoebic cysts are destroyed by the effective chlorination of water; but the Americans have recently been favouring the use of nascent iodine. Bacillary dysentery usually responds well to treatment with sulphonamides and antibiotics. The treatment of amoebic dysentery is more difficult, especially if the disease involves the liver as well as the intestines.

(d) *Infectious Hepatitis*

Most cases are mild, and many pass unrecognized or may be attributed to other causes. In 5 to 15 per cent of cases, however, there is considerable illness with fever, general malaise and

loss of appetite, upper abdominal pain and jaundice. There is no effective treatment; but with adequate nursing care, recovery is the rule although convalescence may be prolonged. In a minority of cases the disease may become progressive and result in cirrhosis of the liver. The other common cause is alcohol in excess.

The Zoonoses

These are diseases of animals which may occasionally be transmitted to man.

(a) *Leptospirosis (Weil's disease)*

We are familiar with this in North Queensland. Water contaminated by the urine of infected rats and other animals causes diseases through small abrasions in the skin. It is therefore likely to be encountered in such places as cane-fields, rice-fields and on water fronts. In Europe it may occur among sewer workers. The symptoms are fever, rash, enlarged glands, cough, headache and conjunctivitis. The disease may affect the heart, the liver (with jaundice) and kidneys. Some forms of the illness may be highly fatal, but response to treatment with antibiotics is usually good.

(b) *Melioidosis*

(c) *Rabies*

Australians tend to adopt dogs and care for sick ones. It is not necessary to be bitten by the dog to acquire the disease. The administration of hyper-immune serum within 72 hours may prevent its onset. (Active immunization is time-consuming and painful.) There is no recorded instance of recovery from fully developed rabies (but a recent approach to treatment has been made with the administration of muscle relaxants and intermittent positive pressure of artificial respiration).

Others

(a) *Bilharziasis*

This is the world's third commonest disease, affecting about 200 million people. It is due to various species of blood fluke, the embryonic forms of which (cercariae) are free swimming in water, having emerged from snails. Part of the fluke's life cycle occurs in the snail, the other part in man. The embryo attaches itself to the skin and penetrates as the water on the skin evaporates. In bilharzial areas water is dangerous for swimming, wading, bathing, washing clothes, washing vehicles; and the disease can also be acquired by drinking infested water.

Dermatitis due to the skin penetration of cercariae of water buffaloes may be acquired in rice-fields, and is known as 'swamp itch'. After three to ten weeks a fever develops, and there may be abdominal discomfort and cough; at this stage there may also be extensive urticaria (hives). Next occur abscess formation and ulceration in the intestines and bladder and the liver becomes enlarged. The fever then usually settles over the next three to ten weeks, but relapses may occur for many years. Prevention is by avoiding entrance into infested water, the use of water sterilization tablets, the proper disposal of sewage, and the eradication of snails. The disease is resistant to treatment which takes the form of prolonged courses of injections in hospital.

This list is not exhaustive. Other diseases are filariasis, encephalitis, smallpox, Kala azar, yaws, leprosy, the venereal diseases (gonorrhoea, syphilis, soft chancre, lymphogranuloma inguinale), tuberculosis, clonorchiasis, paragonimiasis, trichinosis, the bites of snakes and spiders, various stinging plants etc. Some of these conditions are of little importance to the local people but may be important to non-immune foreigners.

Effect on Foreign Troops of Indigenous Diseases

In New Guinea during World War II a small local population was able to manoeuvre around the engaging forces. The medical lessons learned are therefore only partly applicable to the remainder of South-East Asia which is much more densely populated and where the people are socially and culturally less removed from us than are the Melanesians.

Take for example the experience of the French forces. During the Tongking campaign of 1885 the mortality rate was 256 per thousand per year and the sick rate 1,072 per thousand per year. During the war of 1945-1954 a total of 1,600,000 troops, with varying periods of service, was put into the field by the French.

During this time there were 700,000 admissions to hospital with skin disease, 200,000 with venereal disease, 200,000 with dysentery, 70,000 with malaria (and another 300,000 reputed cases treated in the field by R.M.O's) 33,000 with beri-beri, 10,000 with tuberculosis, 7,000 with typhus, 4,000 with typhoid, 2,000 with alcoholism, 1,000 with smallpox, 600 with Leptospirosis, 400 with leprosy, 100 with cholera and 20 with plague. There were also cases of Kala azar, infectious hepatitis, trichinosis, heat casualties, asthma, degenerative disease, meningitis, mumps, measles, diphtheria, encephalitis and mental illness (on account of which 1,000 men were repatriated to metropolitan France). The total dead from all causes including killed in action numbered 15,000. A total of 34,000 was repatriated for medical reasons.

Lest it be assumed that these French forces including black Africans and other colonials differed very much from Australian troops, let us compare the medical record of one of the Australian battalions in Malaya in the 1960s. Out of 1,313 men there were 788 admissions to hospital, or 600 per 1,000 per year. Of these admissions nearly 300 were due to venereal diseases (the Diggers obviously didn't keep all their weapons secret!), 150 to various fevers, 90 to skin diseases, 65 to injuries, 35 to malaria, 30 to amoebic dysentery, 25 to other dysenteries, 10 to leptospirosis, 8 to psychiatric disorders, 5 to bronchitis and 2 to typhus.

Conclusions

It seems to me that the following are the lessons to be learned from the above:

- (1) The experience of the French, especially with regard to mental illness, teaches us that strict medical pre-selection is essential to ensure that the fighting forces consist of only first-class material.
- (2) The importance of malaria control.
- (3) The importance of *psychological factors and mental health*.

The above figures regarding populations and disease incidences could produce a reaction of fear. And in an Army fear is a bad thing. But let us remember what has been done in the past by a few against many. Let us remember, for example, the Spanish conquest of Mexico (leaving the morals for the issue aside) where an army numbering a few hundreds conquered a population numbering millions. Let us remember the British conquest of India. Let us remember that Britain, with a population of only 10 to 40 millions ruled the world for three centuries. Despite the glossings of the history books, we Australians are descended from a pretty fierce and blood-thirsty stock.

If Australian soldiers are inspired by the reputation and traditions of previous Australian armies on Gallipoli, in France, the Middle East and New Guinea, and if they fight with the knowledge that they are fighting for the physical survival of themselves, their families and of Australia as a nation, fear will be dispelled. Even though outnumbered, a small Australian army of fit, fearless, fierce and efficient soldiers can acquit itself well, and thus, even should the worst come to the worst, we are not without hope. □

A Lightweight Close-Support Weapon for Tropical Warfare

*Captain C. V. L. Palmer,
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Introduction

OPERATORS in Vietnam and Borneo have confirmed the need for a truly light-weight close-support weapons system.

Reports indicate that the weapon should have the following characteristics, listed in a suggested order of priority:

- (a) Lethality.
- (b) An acceptable range/mobility relationship.
- (c) Accuracy and consistency comparable with that of current field artillery.
- (d) Ability to engage reverse slope targets.
- (e) Short response time.
- (f) Ability to switch targets quickly through 360° azimuth.
- (g) A sustained rate of fire of 6 rounds per minute and a rapid rate of about 15 rounds per minute.
- (h) A reasonable cost effectiveness figure.
- (i) Robustness and reliability.

The problem is discussed with reference to the following possible solutions:

- (a) The conventional gun or howitzer.
- (b) The mortar. This term embraces those weapons which transmit their recoil forces to a baseplate, and not through a cradle and carriage as in a gun. The modern mortar may be smooth bored or rifled.
- (c) The recoilless gun.
- (d) The unguided rocket.
- (e) The guided rocket. This term includes ballistic missiles which incorporate inertial correction devices.

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He is an Associate Member of the Institute of Engineers, Australia.

Aim

This article discusses the light-weight close-support weapon problem and examines some possible solutions.

Lethality

Optimum lethality is produced by a large number of small fragments of high velocity. This is best obtained from a projectile having a thin ductile wall containing a maximum of high explosive.

Lethality and the Delivery System

High rates of acceleration, as occur in high velocity guns, demand substantial projectiles. Most shells are designed primarily to withstand the firing stresses, and so have thicker walls than is desirable for optimum fragmentation. A lower acceleration delivery system, such as a mortar or rocket, allows the use of a more lethal high-explosive warhead.

Lethality and Optimum Weight

The minimum weight of projectile for adequate lethality is a controversial subject. It should produce a balance between the smaller lethal radius necessary for safe intimate support, and the greater lethal radius required to cause a maximum of enemy casualties.

Some authorities consider that a modern projectile of total weight 30 pounds, with a high charge to weight ratio, is the optimum for close support.

Lethality and Angle of Descent

For percussion fuses, low angles of descent tend to waste a considerable proportion of fragments on the ground beneath. A high angle of descent tends to produce a more efficient distribution of lethal fragments, particularly against troops in the open or in low cover.

Optimum Overall Lethality

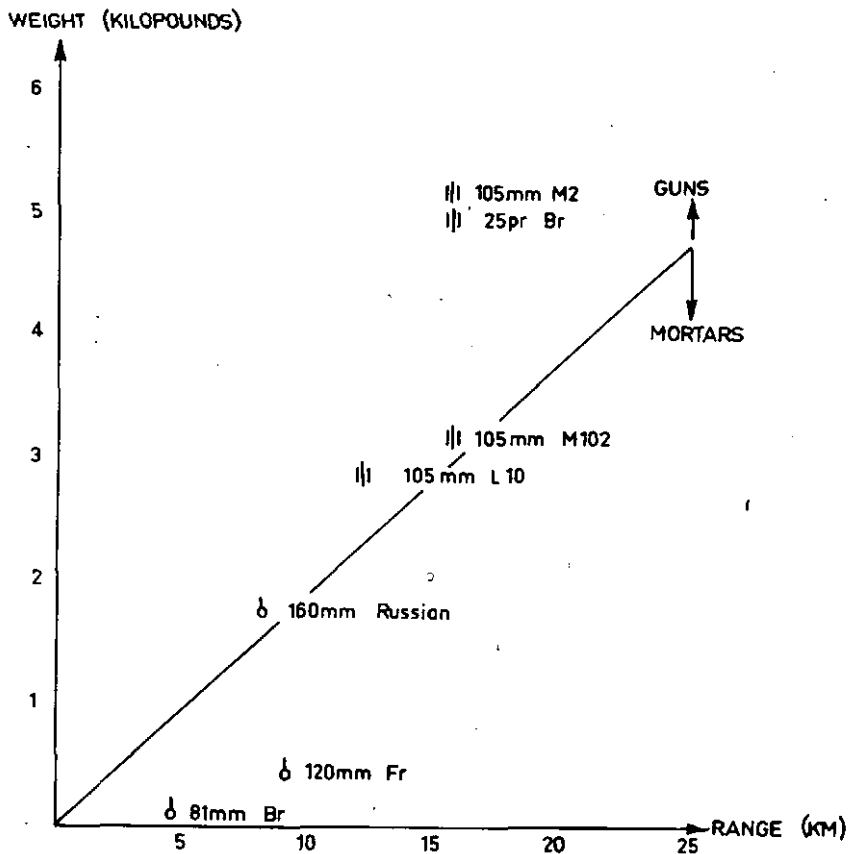
The high-velocity shell, to withstand accelerations of up to 60,000 g, tends to give a reduced lethality to total weight ratio. Proximity fuses can improve the shell's lethality under favourable conditions. The mortar or recoilless gun, with considerably lower accelerations, can use a more lethal design of projectile. The rocket, with both low acceleration and high angle of descent, allows the use of a maximum lethality warhead.

Range and Mobility

These factors are considered together because, in practice, they are intimately connected. A light weapon with a comparatively short range but having superior mobility may well be preferable to a heavier weapon with a longer range but inferior mobility. The graph shows some typical variations of weight with range.

It reveals that:

- (a) The longer the range, the heavier the equipment required.
- (b) The greater rate of increase of weight for comparatively small increases in range after 10,000 metres.
- (c) The favourable weight to range ratio for modern mortars.



Relative Weights of Delivery System and Projectile

The delivery system to projectile weight ratio for a conventional gun is about 100; for a recoilless gun, mortar, or rocket between 20 and 30. Clearly, a true light-weight weapon ought to be either of these three.

Ammunition Weight and Bulk

All rockets offer a poor warhead to propellant-system weight-ratio, because the rocket must also carry its motor and an ever-diminishing quantity of propellant. Recoilless gun ammunition is also poor because a large quantity of propellant, about four-fifths of the total, is used to counter the recoil. QF gun ammunition is heavy due to the weight of the cartridge case. The lightest propellant weights are provided by bagged-charge gun ammunition, or mortar ammunition.

Accuracy and Consistency

Current guided rockets have probable errors of about 2 per cent of range. Future developments may reduce this error to about 0.5 per cent, without the use of complex guidance systems. It is thought that, despite the greater dispersion, the higher lethality of a rocket warhead gives the rocket and gun similar effects against a large area target. Recoilless guns have relatively poor consistency due to the variation of muzzle velocity. Traditionally, the mortar gave a probable error of up to 4 per cent, of range, but recent designs have reduced this to 0.5 per cent, and eliminated entirely the sporadic short round. The modern gun, with a probable error of only 0.25 per cent, remains the most accurate and consistent weapon on the battlefield, with the mortar following closely.

Engagement of Reverse Slope Targets

The effective engagement of all reverse slope targets entails:

- (a) A high trajectory.
- (b) The ability to select the optimum trajectory for maximum target effect.

High Trajectory

Most weapons can be designed for high angle fire but in the gun this usually involves additional weight due to the need for balancing gear and a trawl strong enough to withstand the firing loads. The mortar saves this weight, but its configuration makes low angle fire impossible. The recoilless gun and rocket need only a light carriage, but the rearward blast presents problems of concealment and crew protection.

Selection of Trajectory

In the solid-fuel unguided rocket, variation of the motor charge in the field is difficult due to the adverse effect which small variations of temperature will have on the performance of the motor. Liquid fuelling would be equally difficult, although the quantities of fuel and oxidant could be accurately measured. Guided rockets require complex equipment. Gun and mortar charges, because of simple increments, remain the only easy field method of selecting a weapons trajectory.

Short Response Time

Gun, mortar, and unguided solid fuel rockets can all have similar short response times. Guided rockets, even those with simple inertial systems, require checkout before launching. The gun and mortar are still favoured for speed into action.

Engagement of Targets through 360°

Complete 360° traverse in most weapons means an increased weight due to the need for a mounting about which the weapon can pivot. The ability to engage targets quickly in any direction can be achieved without this weight penalty.

The lightest gun configurations resemble those of the 25-pounder British, or the 105-mm M102 US. The rocket launcher and recoilless gun can use a very light carriage for 360° engagement, provided that crew and ammunition can be shielded from the backblast. The mortar does not have this problem, and can be designed so that the crew can traverse the mounting quickly without disturbing the baseplate.

Rate of Fire

Rockets, in multiple launchers, can be preloaded to produce a high rate of fire for a short period, but require appreciable time to reload. Guided rockets require an even greater reloading period. The gun and mortar are limited only by barrel heating.

Cost Effectiveness

Cost effectiveness is the summation of all the above discussion related to cost. As such, it is difficult to determine quantitatively. In the author's opinion, there are two basic rules for assessing relative value:

- (a) A relatively economical weapon which meets the major service requirements is better value than a more expensive one which with greater complexity, incorporates a number of features which may or may not be lesser priority service requirements.
- (b) A seemingly economical weapon which does not meet all major service requirements is not a good buy, no matter how attractive the savings might appear.

The gun is expensive, and its ammunition relatively cheap. A gun can meet the Close Support Weapon requirement, but it is heavy, and needs a heavier shell for equivalent lethality with lower velocity weapons. The unguided rocket is cheap and lethal, but requires further development to improve consistency and to allow flexibility of trajectory. The guided rocket is more ac-

curate, but is expensive. The modern mortar system above offers a combination of cheap weapon and cheap ammunition, and provided that the range requirement can be met, wins on a cost-effectiveness basis.

The Possible Solutions

The Air-to-Surface Weapon System

This concept would include the use of automatic cannon or rockets from an aircraft. Current problems include the weather, target acquisition, stability of firing platform, vulnerability, and limited ammunition capacity. The air-to-surface close-support weapon is still, unfortunately, some time away.

The Gun or Howitzer

For this solution, the requirement must be more clearly defined. If a range of 15,000 metres is necessary, then a weapon weight of about 3,000 pounds must be accepted, along with the obvious penalties of reduced mobility. If mobility is of higher priority than range, then the weapon must be one which is manportable by components over limited distances, and which can be lifted by a light helicopter. This gives the maximum one-piece breakdown weight of 150 pounds. A gun to this specification would resemble the German and Japanese infantry guns of World War II, having a range of only 5,000 metres. In the author's opinion, for tropical warfare, mobility of the close-support weapon is more important than range, and clearly, the gun or howitzer is not the answer.

The Recoilless Gun

The recoilless gun could meet the mobility requirement. The problems of accuracy, back blast, and ammunition weight eliminate it as a close-support weapon.

The Rocket

The guided rocket is still too difficult to deploy as a close-support weapon. The unguided rocket is too inaccurate at present, but may well provide the answer in the near future.

The Mortar

In modern mortar design, the heaviest breakdown piece can be the barrel, because the other assemblies can incorporate a high percentage of aluminium alloy: A mortar barrel weight of 150 pounds can accommodate a calibre between 105 and 120-mm. Such a barrel, suitably mounted, could give a range of 8,000 metres with a probable error of about 0.5 per cent, using conventional ammunition. If a supplementary rocket motor were incorporated in the projectile, a range of up to 12,000 metres would be feasible.

This projectile would have a greater probable error, perhaps about 2 per cent, and would be only slightly less lethal than the conventional due to the reduced HE content.

The conventional mortar, then meets all requirements except range, but, in the author's view, increased mobility compensates for this. The rocket-assisted mortar would very nearly meet the range requirement also, but the reduced accuracy of this projectile, at extreme range, would have to be accepted.

Conclusion

In tropical warfare, mobility is paramount. In the author's view, a mortar of total weight 600 pounds with an accurate range of 8,000 metres is more useful than a gun weighing five times as much with only twice the range, particularly when development of a rocket-assisted projectile might reduce the range discrepancy further in the very near future. □

THE ADVANCE TO EL ARISH, DECEMBER 1916

This movement, in which the 1st Light Horse Brigade was the advance-guard, although it passed without incident, marked a decisive stage in the campaign. It released the mounted men from the sands of the desert and gave them firm foothold upon the extreme fringe of southern Palestine. No night ride in the whole campaign gave the light horsemen so much satisfaction. They left behind them one of the harshest regions in the world, a region devoid even of elementary civilisation, inhabited by one of the most wretched of peoples, and offering no sustenance beyond the dates from the palms and scattered water which was unfit for consumption by Europeans. Through the prolonged summer, with its continual blistering heat and blinding sand-storms and its myriads of flies, the horsemen of the two Dominions had ridden and fought and worked incessantly. And now in the magical, idyllic atmosphere of a Sinai night in December, with the heavens thickly sprinkled with stars peculiarly brilliant and seemingly very near, the riders rejoiced as their horses stepped suddenly off the dunes on to the wide firm flat which flanks the great Wady el Arish.

—H.S. Gullett. *The Australian Imperial Force in Sinai and Palestine* (1941).

The Battle for Asia

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Introduction

THE danger of a global war appears to dominate every political issue. All the free world efforts to promote economic or social progress are dependent upon peace, and even while our present precarious peace remains, they must largely be frustrated by increased armaments expenditure, and by the diversion of the greater part of public attention to foreign policy.

With the Communist bloc nations, however, this is not so — they enjoy an advantage in that their maximum strength is more completely mobilized for use; that centralized command permits instant action in either diplomacy or war; that they can at once inspire fear by their strength and their known ruthlessness to all within reach.

Evidence of this can be found in practically every country of South-East Asia. At present it is the most restive region of the world. Africa may be more explosive — Latin America more unpredictable — Europe (in Berlin) possibly dangerous — but South-East Asia with its land masses and populations, its great civilizations and traditions, is painfully and inconclusively in turmoil.

South-East Asia has undergone many significant changes since the end of the Second World War. Many peoples have achieved independence, and nations which were already independent have had to adjust themselves to the facts of an entirely new global political and economic situation. Few areas of South-East Asia have been fortunate enough to enjoy peace during the past 15 years.

It is during these times of rapid changes that the leaders of international communism have seized their chance to foment trouble. They have skilfully switched their tactics: sometimes hoping to capture control of countries by open war, at other times employing the weapons of subversion or economic pressure to undermine democratic governments from within. The peoples of South-East Asia have been subjected to every form of pressure. In some cases, as

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in Laos or Vietnam, they have been victims of open conflict, inspired and directed from outside with the object of spreading world communism.

The lines in Asia are not yet drawn, and it is very doubtful whether they will be drawn in the clear way that has divided Europe into two blocks — one communist, and the other anti-communist. One side has countries of varying interests, with Japan, Indonesia and India forming a triangular perimeter pressed from the outside by the West, especially by the United States. On the other side is the huge penetrating influence of mainland China with some varying degree of backing and support by the international power of the Soviet Union.

In the more violent trouble spots like the Indo-Chinese area, an effort is being made to draw a line, but so far there has been no understanding between the outside Powers as to where it should be drawn, or indeed, how it should be drawn.

At the present time the danger of open conflict — other than that in Vietnam — seems to have receded slightly (China has some rather violent internal troubles), but subversion and pressure, applied in many subtle ways, continue. World communism — the 'new imperialism' — will not easily give up its efforts to control this strategically important and great area of the world.

The Battle

The sign for the Battle of Asia to commence was given in Peking in November 1949. In that month, 177 communist delegates from 13 different countries in East Asia met in Peking in a so-called 'trade union conference'. The matters discussed were not such as are usually debated at trade union gatherings. They were, rather, measures for the conquest of Asia.

Chairman of the conference was Liu Shao Chi, then second in command to Mao Tse-tung. In his address to the delegates he enumerated the countries to be subdued by 'legal' or 'illegal' means. He assured the communists in Korea, Vietnam, Burma, Malaya, the Philippines and Indonesia that 'behind you stand the mighty Soviet Union and the New Democracies', the latter having special reference to Communist China.

That conference, which was in reality a council of war, or more correctly for war, marked the beginning of aggression. Five months later, in April 1950, the Chinese communists seized the strategic island of Hainan, in preparation for the planned invasion of Indo-China. Two months later, June 1950, South Korea was invaded. Again, five months later, November 1950, Moscow and Peking signed a secret agreement, the full text of which found its way into the *Yih Shih Pao*, a weekly published in Hong Kong.

Article III of that agreement reads as follows: 'The high contracting parties agree that the Central Peoples' Republic of China shall take the leading responsibility in the struggles going on in Japan, Korea, the Philippines, Indo-China, Indonesia, Malay, Thailand, Australia, Burma and other places in accordance with the plan laid down by the Far East Cominform and with the assistance of the Union of Soviet Socialist Republics. The Central Peoples' Republic of China undertakes to use the most effective guidance and support to initiate struggles in the aforementioned places, to assure their victory and at the same time to promote solidarity among them so that they may participate in total war at the opportune moment.'

From then on, the Communist aggression directed from Peking has gained in intensity. At times the strategy has changed or appeared to change, but always the one single objective has remained: the conquest of East Asia and this as the first section of the larger objective — the domination of the world by international communism.

The Formation of SEATO

This basic threat of armed force and subversion working towards the overthrow of lawful government, led to the establishment of SEATO in 1954. SEATO was born from the determination of certain nations in Asia to preserve their freedom and way of life, and to choose their independent path into the future. They were joined by other nations outside Asia who share these aspirations, and who actively oppose communism in other spheres. All these nations — Australia, France, Thailand, Pakistan, the Philippines, New Zealand, the United Kingdom and the United States — met at Manila in the Philippines in September 1954, to sign the South-East Asia Collective Defence Treaty.

The purpose of the Treaty is clearly set down in Article II, which states:

'... the Parties, by means of continuous and collective self help and mutual aid, will maintain and develop their collective capacity to resist armed attack, and to prevent and counter subversive activities directed from without against their territorial integrity and political stability.'

Again, in Article III, they undertook:

'... to strengthen their free institutions, and to cooperate with one another in the further development of economic measures, including technical assistance designed to promote both economic progress and social well-being, and to further the individual and collective efforts of Governments towards these ends.'

SEATO was, therefore, a defence alliance, whose members were committed to the democratic way of life, and to progress through cooperation with one another. It was formed as a necessary instru-

ment of security in a world threatened by communism. It was to help preserve stability and security to safeguard national freedom.

SEATO Today

SEATO — with cracks in its structure, not yet strong enough to resist an attack, and unpopular in wide areas of South-East Asia — is in danger because we have made no effort whatsoever to defend ourselves in the psychological war; let alone to counter-attack. We are spending vast sums on an organization which we have not made effective, and which we allow the enemy to undermine without resistance.

In South-East Asia today there is almost complete lack of interest in SEATO. Hardly anyone knows about its objectives and problems. It is unpopular in Malaya, for example. No one appears to have explained why it is vital to Malaya's security.

The concept of SEATO is first rate, but the supply of its needs appears shockingly inadequate. It seems to have little or no ideological support, and it appears to lack a psychological warfare department which should be defending the home front against insidious enemy attacks, and attacking the enemy by ideas. Founded on a negative anti-communism, it is no longer a positive alliance.

Of the Western partners, France has virtually pulled out — to the almost audible relief of the Americans. Among the Asian partners, national rivalries have superseded the common fear of China. And now top advisers to President Johnson feel that SEATO's military power may not be the answer to Chinese communist expansion; history, however, will record that SEATO was useful in preventing the communists from repeating straight-forward Korean-type military attacks. But guerilla warfare, as in South Vietnam, or an alliance of communists and neutrals as in Laos, are far too subtle for SEATO's ponderous methods. As a collective defence pact requiring a unanimous vote, SEATO has proved to be only as strong as its weakest partner.

The defence of South-East Asia against communism has been completely taken over in effect, by the United States, aided by Australia and New Zealand and by the dwindling British strategic reserves based on Singapore.

Britain's Role in Asia

Australia's doubts about Britain's military and political intentions in South-East Asia have become a lively issue. This springs basically from Britain's efforts to streamline her defences abroad in the hope of achieving not only efficiency but — and most important from Prime Minister Wilson's point of view — economy. Undoubtedly Australia and New Zealand want no lessening of their authority

on political decisions, and they have made their weight felt with the British Government in advance of any decisions to be made. But Australia is uneasy too about any contraction in British forces in Singapore, and the apparent 'vagueness' of British plans seems to be causing some concern. The influential London *Times* has said that some Australians fear that Britain is losing interest in the Far East, and the *Economist*, another well-informed British paper, has stated that if investment is necessary in air and naval facilities, it would be better done on the Australian mainland — 'the one safe base from which large-scale operations in South-East Asia could be mounted by Commonwealth Forces.' One base already under discussion is that of Cockburn Sound in Western Australia.

Australian Policy in South-East Asia

Since World War II — when we realized we were living in Asia — Australia has based its Asian policies on the need to win friends. We have applied ourselves diligently to good neighbourliness, especially through the Colombo Plan and the voice of Radio Australia. But today we are being forced to apply ourselves to Asia in more direct, less ambiguous ways. The civil aid programme in Vietnam is but one example of this.

The Colombo Plan has barely scratched the surface of Asia's economic and social difficulties. Indonesia now demands a commitment one way or the other. In Vietnam and Thailand we are having to accept military obligations of a far-reaching kind. And all this is happening when Britain is once again talking of the Common Market and our trade with Asia — including Red China — is growing.

We are no longer able to assume we have a policy on Asian affairs by exercising a choice between a British view and an American view with the idea that we are providing a bridge between the two. Our choice is either to make our mark in Asia — and make it now — or to remain a secondary power, appended to the great struggles of the northern hemisphere. Our interests in Asia have for so long been considered in relation to our 'powerful friends' that there is very little perception in Asia — Vietnam being a possible exception — of an Australian attitude.

Apart from the New Guinea issue of a few years ago, our involvement is assumed, in some general way, to be on behalf of the 'West' or the 'Commonwealth'. Our Australian image — if indeed we really have one — is blurred; our relationship with individual countries is, with some exceptions, not distinctive.

However, there are serious times ahead for Australia. We have entered into a new form of commitment — but we (as a nation) shall have to know more clearly what it is we are committed to.

We cannot stand on the sidelines in Asia, lending our moral and/or military support when we think fit. We are confronted by situations which test our policies at every point. Australia's response to appeals for help from Thailand and Vietnam is commendable, but even so, it cannot be said that the Australian public have been made fully aware of the reasons for this important step. At the moment we seem to be following the American initiative, and this, while it may make excellent sense, is not a policy.

Our aircraft in Thailand and Army instructors and fighting battalions in Vietnam are evidence that the outpost line of our regional defence has moved farther into South-East Asia. These are, perhaps, only very small enlargements of our defence responsibilities; nevertheless they represent a commitment which we may have to share with our allies for a long uneasy time. Both communist and non-communist Asians can now clearly see that Australia is identifying her interests more closely with those of the United States. Australia's fighting men are going because the Americans want to demonstrate the collective will to resist communism and because Australia must help if she expects to be helped one day herself.

Dangers of Australia's Involvement

The danger of Australia's involvement is that we — like some Americans — may get into the habit of thinking that a military solution is the answer to all South-East Asian problems. But the turmoil in South-East Asia today cannot be neatly explained as a struggle between Communism and Democracy. It is a time of unsettled new States, acute nationalism, and a population growth which retards — indeed almost prevents — economic progress.

The uneducated peasants, who form the bulk of South-East Asia's people, would put it more simply — but it would come to the same thing. They want a village well, a dispensary or a school. And, coupled with the military effort, this is what we are trying to do in Vietnam. But in addition the peasant wants freedom from the exploitation of landowner, middleman or official.

Communism's great advantage is that its promises of a fair share to all are preached by men who are of the people, who understand them, and who, in turn, are understood. The influence of white people from distant lands is limited. To begin with, their seemingly incredible wealth places them on a plane where direct contact with the peasant is difficult or even impossible. And if the whites are linked with the official or soldier who the peasant believes is responsible for his woes, Western interference may breed hatred. This is the risk the Americans have felt compelled to run, and which, in a smaller way, Australia is running.

Australia-New Zealand Defence Cooperation

In 1944 the Australian Minister for External Affairs (Dr H. V. Evatt) negotiated a treaty for post-war defence cooperation between Australia and New Zealand. In the treaty the two Governments agreed that there should be increased cooperation in defence, developed by continuous consultation, by organizing, equipping and training their armed forces according to a common doctrine, and by means of joint training and interchange of staff.

New Zealand army and navy officer cadets have been trained in Australia, commanders of naval ships have been exchanged, and the New Zealand navy has exercised frequently with the Australian navy and with British submarines based at Sydney. In addition to this, the two countries have had constant defence consultation both directly and through ANZUS and SEATO.

But closer cooperation is not only possible, but essential — particularly in the choosing of compatible weapons and other equipment, in the sharing of training establishments and in the manufacture and servicing of equipment. With closer cooperation both countries will get more for their allocations of money to national defence. What is required is not a drastic invasion of the autonomy of either country's armed Services, but a step by step development of defence cooperation.

The Pacific Quartet

Australia would do well to consider the suggestion, made some years ago by American Dean Acheson, that Australia and New Zealand should combine with the United States and Japan to form a 'Pacific Quartet of Stability'. Both in Canberra and Washington there has been an awareness that our collective and individual policies in South-East Asia have been somewhat inadequate.

The Philippines would like a Far Eastern NATO, but a scheme such as this would however, be self defeating. To begin with, it would mean the inclusion of unstable countries and controversial countries. Possibly India and other neutrals would be openly suspicious, and it is more than likely that Malaysia would have nothing to do with it. The undesirability of all this is obvious.

The first imperative, therefore, is not for a treaty organization designed to meet the threat of overt aggression, but for an examination of the causes of peasant discontent and urgent measures to eradicate those causes. This is a prime requirement if we are to be successful after the inevitable military success in Vietnam. Without this, the best guerilla fighters in the world will not achieve a lasting victory.

The breeding grounds of further communist revolts still exist in three key areas of South-East Asia — in the Philippines, Thailand

and Pakistan. (And it is worthy of note that these three are all SEATO members.)

Since poverty, neglect, lack of knowledge, and inadequate world prices for Asian rural products are among the principal factors favouring the communists, Mr. Acheson's 'Pacific Quartet' collectively possesses the talent and the means to do the job. It would mean beginning where the Colombo Plan ends, and it would involve sacrifices that most of us are probably unprepared for. But unless something of this nature can be devised and put into operation immediately it is my considered opinion (for what it is worth) that there will be little left of Asia to befriend.

Conclusion

If the Communists have long-run weaknesses, they have formidable short-run advantages. Potential sources of strength are useless unless they are made actual, and actual in time. The communist bloc dictatorship can certainly not endure indefinitely — it probably cannot endure a long conflict — but it is united and can endure a short war. Is it too much to hope that they will be tempted to gamble on one? China quite openly advocates and believes in a policy of the 'inevitability of war' and indeed, as recently as 2 September 1966 Mao Tse-Tung and other Peking leaders (AAP Tokyo) pledged that China is prepared to fight the United States anywhere, at any time. Once more then to a familiar theme — we must mobilize our full strength with all speed (and full strength means industrial, agricultural as well as military); we must cement our friendships at once, and make it impossible — and obviously impossible — that any aggressor could succeed.

But it is not enough to match strength with strength. We must penetrate the mind of the peoples who may oppose us, and weaken their will to aggression. We must constantly and clearly expound and proclaim the principles of freedom, personal liberty, self government, and humane policy on which our systems are formed. We must formulate the broad outline of world policy which we stand for in peace, which we will fight for in war, and which we will seek to embody in a peace settlement if we should win. These principles and ideals must be made known in every possible way: in published statements, by radio, through a propaganda and psychological warfare department, through the press and through personal contact. With an appeal so broadly conceived and so widely known, we should strengthen the forces on our side and penetrate the hidden weaknesses of those who may support our assailants.

We should consult frequently, constantly, and frankly with all with whom we have common interests and sympathies. And we should make agreements and treaties for mutual aid where these are possible under conditions which enable them to serve their purpose. The

opportunities must be coolly and carefully assessed, with regard alike to the ultimate objective to be reached and the balance of forces at the moment of decision. We must neither lose an opportunity when it occurs, nor delude ourselves by wishful thinking into believing that it exists when it does not. We must be opportunist in the detail and implementation of our policy.

The perils of the moment occlude our vision, the problems of the day absorb our thoughts, but we must extend our vision if we are to find a goal for our efforts. And the goal must always be in our minds. We must seek ever to build and maintain collective security whether through SEATO or with a further development into some form of federation of free states such as Malaysia or the 'Pacific Quartet'. We have the talent, we have the resources, we have the ability — but we must act *now*, for what we haven't got is *time*. □

LEADERSHIP

The moment you step into the headquarters, all eyes are upon you, endeavouring to read your mind and to discern how grave the situation may be from the look on one's face. It is, therefore, essential to submerge all the feelings of anxiety that are literally tearing out one's insides, and to carry an outward appearance that radiates confidence and assurance. It is not an easy matter, but one on which morale depends. I was immensely impressed during those trying days to find the magnitude of the influence which one can exercise on subordinates by maintaining a confident and unperturbed exterior.

— Alanbrooke, Diary, 24 May 1940, (quoted by Sir Arthur Bryant in *The Turn of the Tide* (1957).



VOICES PROPHESYING WAR 1763-1984, by I. F. Clarke. (Oxford University Press, Melbourne, 1966, \$6.60)

FOR a little more than 200 years, authors have projected their imaginations into the future to forecast the shape, size and result of the wars to come. According to this learned and interesting 250-page analysis of the work of the prophets, the earliest known published account of a future war appeared in an anonymous story of 1763, *The Reign of King George VI*, 1900-1925. In this quaintly inaccurate forecast, the battles of the good King George are old-style affairs, with the infantry of the opposing armies led by their kings into battle in the oblique order of Frederick the Great, with naval engagements fought by frigates and ships of the line, and with fire-ships as secret weapons.

A hundred years later, in the early summer of 1871, another anonymous story — 'The Battle of Dorking', published by *Blackwood's Magazine* — about a successful invasion of the United Kingdom, so alarmed the nation that the British Prime Minister, Gladstone, found it necessary publicly to allay their fears. The author was a British Army half-colonel, who capitalized on soldierly know-how and skill as a writer to make what for those days in the literary field was something of a packet, and more importantly to pioneer a new type of fiction throughout Europe, in which the aim was either to alarm the reader by a merciless demonstration of the consequences of military unpreparedness or to prove the rightness of a national policy by describing the course of a victorious war.

After the Franco-German War of 1870 had changed the power system in Europe and the first iron-clads and breech-loaders had started off the arms race, the new fiction developed rapidly. As the masses of the great industrial nations learnt to read, so the number of accounts increased, until by the 1890s they had become a feature of the popular press. Almost all of them took for granted that the next war would be fought more or less in the style of the last, and that war would continue to be conducted in a relatively restrained and humane manner. Not one writer guessed that industrialism plus mass conscription would make it possible for a Falkenhayn to plan the Battle of Verdun with the intention of bleeding the French armies to death.

Today there is no comparable failure of the imagination. The world well knows what the effects of another total war would be. The brutal facts of the new military technologies and the disasters of nuclear warfare have been scientifically described in terms that fiction could hardly better. The old attitudes in which writers adopted a foreign power as the chief enemy have lapsed; today the chief target of writers is the awful destructiveness of the new weapons.

This is a serious study: learned, lucid and authoritative; in its account of the origin and development of imaginary wars it is a history of the various European attitudes to war itself. Even so, it has its lighter moments. One young Englishman in the early 1900s, then beginning his career as a writer, was quick to perceive the humorous possibilities of the flood of invasion stories then appearing. His account, titled 'The Swoop or How Clarence Saved England', has Clarence MacAndrew Chugwater, one of General Baden Powell's Boy Scouts, warning an indifferent and bored family of the perils of invasion in which the nation then stood. The news of a German landing reaches an equally bored and indifferent public in the small print of the *Stop Press*. 'Fry, not out, 104, Surrey 147 for 8. A German army landed in Essex this afternoon. Loamshire Handicap: Spring Chicken, 1, Salome, 2, Yip-i-addy, 3.' In the mood of the day, with young men being implored to join the Territorial Army, the humour of Pelham Grenville Wodehouse was not well received; the account remains one of his lesser known works. What a pity, however, that there is not someone of the Wodehouse genre around the Australian scene to exploit to the full its humorous possibilities today. — A. J. S.

THE BRAVE JAPANESE by Kenneth Harrison (Rigby Limited, Adelaide, 1966, \$4.25.)

THIS is a lively account of the 1942 Malayan Campaign and its aftermath — the painful three years and a half as a prisoner of the Japanese — seen through the eyes of a gun sergeant of the 4th Anti-Tank Regiment. Harrison was one of very few Australians to have fought the Japanese both at Gemas, where his detachment of 2-pounders was in the support of the 2/30th Battalion and in the Bakri area, where it supported the 2/29th.

The author gives a fresh if melancholy account of the attitude of the two Australian battalion commanders concerned towards the anti-tank guns. Neither it seems welcomed their support, despite the fact that Japanese tanks had spearheaded the Japanese advance all the way down the Malayan Peninsula. Harrison feels that poor intelligence, and a reluctance to accept a semi-independent group into the infantry orbit were contributing factors, but that the crux of the matter lay in the fact that both COs had an 'exaggerated regard

for rank'. An anti-tank troop commander, he says, was a 'second lieutenant' (was there such a rank in the wartime AIF?) whereas a battalion commander was a lieutenant-colonel.

Harrison describes how his gun detachment arrived at the 2/30th Battalion 'fully expecting . . . that we would be welcomed as an important addition to the force'. The CO, 'Black Jack' Galleghan, 'a forceful soldier of the old school, who wielded his rank like a battleaxe . . . in a few well-chosen and peppery phrases . . . soon put us right on this score. He made it quite clear that [the 2/30th] was more than capable of handling the situation without interference from outsiders. He also made it very plain that he did not believe that tanks would be used against his men and that he regarded the anti-tank detachment as little more than an encumbrance and a hindrance to his plan.'

This was hardly the way events turned out. In the 2/30th Battalion area the guns knocked out six tanks, and the detachment was loudly cheered by the infantry for its achievements; in the Bakri area, where the guns were made no more welcome, nine tanks were destroyed.

Harrison was cut off during the withdrawal from Bakri, and with other members of his troop lived for a time in the jungle with a group of Chinese communists before surrendering to the Japanese. He was in Pudu gaol, Kuala Lumpur, for some months before being transferred to Changi; with 'D' Force on the Burma-Thailand railway from March 1943 to June 1944 and then joined the Japan parties — the fittest survivors of the Burma-Thailand railway (except for those with red hair or freckles) who, so hopeful rumour said, were being taken to Japan for 'stud purposes'. 'If they were aiming to produce a virtually indestructible breed, they could have done worse,' drily comments the author.

The closing 15 months of the war were spent on the long and dangerous voyage to Japan by way of Borneo, the Philippines and Formosa, in the shipbuilding yards at Nagasaki, and in the coal-mines at Nakarma. The story has been told before—by R. H. Whitecross in *Slaves of the Son of Heaven* and by H. V. Clarke in *The Tub*, to mention only some of the Australian accounts — but it is worth retelling because the story of what these men endured during their long incarceration is in the nature of an Australian epic.

The title has been criticised — it is perhaps an odd one to choose for a book largely devoted to the life of prisoners of war in Japanese hands — and there are one or two errors worth eliminating in any reprint. For example, on p. 15 Harrison has the Japanese landing at Kota Bahru on 7 January 1942 when the landing occurred a month earlier, and on p. 159 the Kenyu cutting in Thailand is

described as being eight feet deep when it was nearer eighty. Such criticism as has been voiced about the use of the word 'brave' as applied to the Japanese is, however, quite irrational. Harrison writes: 'We could loathe everything they stood for; be disgusted by their cruelty; shake our heads incredulously at their stupidity; be scornful of their duplicity; laugh ourselves sick at the thought of such men believing they descended from the Sun God. But one thing we could not doubt: they were brave. . . Probably the bravest soldiers in the world . . . I knew that it was a military weakness, that often they stood and died uselessly when it would have been more effective to fall back and fight again. But to me, as a soldier, they were always — the brave Japanese.'

If the author perhaps fails to prove his point, there are others of rather more weight and far wider experience, including Field Marshal Slim, to back it. — A J. S. □

THE JAPANESE SOLDIER

The strength of the Japanese Army lay not in its higher leadership which, once its career of success had been checked, became confused, nor in its special aptitude for jungle warfare, but in the spirit of the individual Japanese soldier. He fought and marched till he died. If five hundred Japanese were ordered to hold a position, we had to kill four hundred and ninety-five before it was ours — and then the last five killed themselves. It was this combination of obedience and ferocity that made the Japanese Army, whatever its condition, so formidable, and which would make any army formidable. It would make a European army invincible.

— Field Marshal Slim, *Defeat Into Victory* (1956).

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