

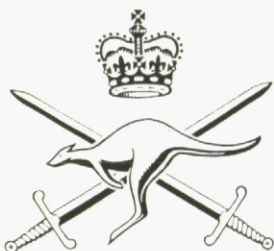
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ARMY JOURNAL

A periodical review of military literature

No. 318, November 1975

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(United Nations/Y. Nagata)

Members of UNDOF look on while Israeli forces redeploy. (See article on page 37.)



NATIONAL MORALE and NATIONAL SURVIVAL

Part 1 -- THE NEED

Brigadier J. H. Thyer, CBE, DSO (RL)

DEFINITION: National morale can best be defined by paraphrasing a portion of the chapter 'Morale' in 'Conduct of War' published by the War Office in 1950.

'Of all the forces that influence the national spirit of a nation, the morale of its citizens is the most important. Morale is a state of mind. It is that intangible force which moves men and women to endurance and courage in the face of hardship, fatigue, and danger. It makes each citizen give his or her last ounce to achieve the common purpose. It makes men and women feel that they are part of something greater than themselves.'

Brigadier Thyer was born on 30 September 1897 and was commissioned as a Lieutenant in the PMF on 1 January 1918. Since retiring from active duty in 1945, he has maintained his interest in the Army as Colonel Commandant of RA Sigs.

Brigadier Thyer served pre-World War II with 1 Div, 2 Cav Div Sigs, 4 Div Sigs, at Army HQ, and as BM of 8 and 9 Inf Bdes. At the outbreak of World War II he was GSO2 HQ 7 MD, when he was seconded to AIF and served as Asst CSO1 Aust Corps, Comd Sigs 8 Aust Div and as Col GSO1 HQ 8 Aust Div. Brigadier Thyer spent three years as a POW in Changi. He now lives at Erindale in South Australia.

If national morale is to be maintained over a long period it must be based on certain firm foundations. These foundations are:

- a. Spiritual
- b. Intellectual
- c. Material

in that order.

The spiritual basis of morale is not so much religious in the strict acceptance of the word as belief in our democratic form of government. If the leaders by their own example and direction build the morale of the people of our nation on spiritual, intellectual, and material foundations, it will endure.

By implication if national morale is allowed to decline a nation cannot survive.'

This definition makes urgent the discussion of this vitally important ingredient in our security.

In May 1975 a document proclaiming to a world beset with extremes of poverty and over-population, a world heavily armed and belligerent, that 'By any international comparison Australia is rich in resources and on a per capita basis is fantastically rich' was tabled in the Federal Parliament. Simultaneously there was published a survey by CSIRO scientists revealing that Australia could ultimately support a population of 60 millions, that our population is now 13½ millions and only by modest government measures could a stable population of 30 millions be achieved in fifty years.

These two closely related facts which together may give us some superficial gratification, on closer analysis must make us realize how perilous is our strategic position and how tenuous is our hold on this vast continent; unless, unhappily we are still afflicted with the 'God's chosen people' syndrome expressed succinctly in the long discarded hymn:

'The rich man in his "Fortress"
The poor man at his gate
God made them high or lowly
And ordered their estate.'

The 20th Century has been one of catastrophic events; the collapse of empires, the rise of republics, the disappearance of subject races and their replacement by minor nations striving for recognition

and security; and with it all devastation, destruction and appalling loss of life.

It seems certain that this global turbulence will continue and will be exacerbated by disparity in population densities, by disparity in the basic necessities of life, and above all by unequal distributions of energy resources.

We in Australia are in too disadvantageous a strategic situation to indulge in wishful thinking, to insulate ourselves in the fantasy that 'it cannot happen to us', to blithely say 'she'll be right mate'. The call for a realistic appraisal and purposeful response can only be ignored at our dire peril.

'The boast of heraldry, the pomp of power, and all that beauty all that wealth e'er gave' may become bitter memories to those who survive defeat to endure the degradation of slavery, as well I know.

One optimistic note arises from the recent conflict in South East Asia and one that should give us inspiration. The Lord no longer sides with the large battalions, with the devastating bombs, and the powerful navies, but with the small nations that have a strong national spirit, that have a high national morale; nations whose people can endure hardship and who can make sacrifices in the common good.

It would pay us to reflect on the question of national morale. It is an unpleasant thought but blunt honesty will be necessary to pierce the crust created by affluence, permissiveness, and a completely unwarranted national conceit.

The first decades of this century saw the British Empire in its final glory, saw the declaration of the Commonwealth by H.R.H. the Duke of York accompanied by his Duchess, saw the triumphal world cruise of the Royal Navy in 1923, and its awe-inspiring Spithead reviews; but also saw the devastating World Wars in which the Empire made major sacrifices, particularly in the flower of its youth.

It is important in the context of this problem that we should reflect on what the Empire has meant to us. In my early youth we lustily sang 'Land of Hope and Glory' emphasizing the line 'God who made thee Mighty make thee Mightier yet'. We felt secure under the protection of the armed forces of the Empire.

England was referred to as 'home', the birthplace of our legal, our financial, our cultural and our social institutions. As a boy I felt

grateful to Divine Providence that I had been born into the Empire and not into one of the lesser breeds.

The fact that the Empire has now dissolved, that the power and the glory has faded almost into oblivion, and that the Britain that has meant so much in our development and our absolute protection is now floundering on the brink of collapse has made little or no impact. A general feeling that someone will protect us lingers on like a conditional reflex. The great proportion of our people seem to be completely oblivious to the fact that we are virtually alone in the Pacific, that there are nations to our North not particularly in love with us, that there are potential and well armed alliances that would threaten us, that our wide open spaces, our rich mineral resources, and our sparsely occupied arable lands could be coveted.

If we were suddenly confronted with a serious threat to our security it would be a terrifying shock to realize that the false optimism and neglect of the 1920s had been repeated, that we have few ships to concentrate, inadequate aircraft to guard our skies, only a handful of men to mobilise, that we were beyond helping ourselves and too far removed from those who might have the desire to help us, and above all; that our will to resist had been eroded by affluence, permissiveness, and a neglect of social disciplines.

A nation-wide collapse of morale more devastating than that which occurred with the bombing of Darwin by the Japanese in 1942 would result. The consequences would be hard to predict, but they could well be catastrophic.

If we allow ourselves to be reassured by the fallacy of the 'foreseeable future' the repercussions of a rude and inevitable awakening will be all the greater.

The foreseeable future is a demonstrable fallacy: Chamberlain, England's Prime Minister in 1938, returned from Munich waving a scrap of paper and proclaiming 'Peace in our time'. A five-year global war began twelve months later.

In mid 1939 if anyone had dared to foretell that a year later the Japanese armies would take over protective custody of French Indo-China and establish an operational base within 200 miles of Malaya, he would have been certified.

Later in 1939 I presented a plan for Air Raid Precautions (ARP) to the then Administrator of the Northern Territory in Darwin. The

plan required £60 for the purchase of a siren for sounding the 'Air Raid' warnings. He told me the plan was very good but added 'who in the world is ever going to bomb Darwin'. I did not get the £60. Darwin was bombed by the Japanese in early 1942 and the resulting panic called for a Royal Commission.

These are not isolated examples. History is crowded with them. The wise men jeered at Noah as he built his ark. No doubt they said in chorus 'There has not been the semblance of a flood here for centuries'. They, at least, were justly rewarded.

The future of Portuguese Timor is in doubt. A plebiscite could be permitted to the local inhabitants to determine their future. It could become a Russian satellite. Again it could be annexed by Indonesia. Each probability would weaken our strategic situation. It is quite impossible to say what will happen to Timor in the next twelve months, so how can anyone foretell what will happen to our strategical situation in the next ten years. The Minister has stated publicly that if by some prescience his advisers shorten their foreseeable future below thirteen years we will have ample time to make adequate defence preparations.

It would probably take two years to train instructors, prepare accommodation, equipment, clothing and camp stores from the moment it is decided to reintroduce National Service before any recruit could be enrolled. If it is proposed to enlarge the Air Force ten times it would probably require ten years to prepare the ground staffs and ground facilities. *If we were depending on the support of the U.S.A. Air Force* it would require fifteen years to prepare strategic air bases and the necessary logistic infrastructure. The time required to bring our Navy to the required strength would be similar.

The claim by the Minister, considered by many to be incompatible with the requirements of our security, was made as late as April 1975. The fact that it has not been challenged in Parliament, in the Press, or by any public protest, is witness to what I consider to be a dangerous lack of concern for our security and a lowering of our national morale. We must rouse ourselves from an apathy and see to it that we are adequately prepared to defend ourselves and that our national morale is raised to a standard that will fit us to endure the trials and tribulations that must certainly be ahead of us. More particularly we must ensure that the youth of the 1970s, who will most probably be called upon to shoulder the heavy burden, will be properly developed both mentally and physically.

It would pay us to reflect on the part morale has played in decision issues over the last sixty years. The course of events between 1914 and 1945, the rise and fall of nations, the defeat and victories of conflicting armies, and more obviously recent events in Vietnam, must impress on all thinking people the vital necessity for a high national morale.

The humiliating defeats of the Russians at the hands of the Germans at Tannenberg and the Massuria Lakes in 1914 combined with the serf status of the Russian peasant and confounded by a dissolute government destroyed national morale and triggered the revolution which ushered communism into the world polity.

Lenin pledged a world revolution and if there is any validity in the domino theory its genesis was in Russia in 1917.

The morale of the people of Great Britain in the 1914-18 War was sustained firstly by the reassuring protection of the Royal Navy, later by the leadership of Lloyd George, and during the last years by the presence of fresh young servicemen from the Dominions and the United States.

After the complete destruction of the German morale in 1918 it should be observed how it was restored by an evil person, Hitler, for an evil purpose. During this period the morale of the English people was being eroded by false optimism and anti-military attitudes particularly in the universities. In France it was further eroded by Communist infiltration on the one hand and a German fifth column on the other. It was reliably reported at the time that French soldiers in the Maginot Line were singing the 'Red Flag'.

In 1940 the German *blitzkrieg* came close to complete success. Their soldiers were better equipped, better trained, with a high morale, but the complete collapse of the French nation in a few short weeks is clearly attributed to the collapse of their national morale which was at a low ebb before the hostilities commenced.

Fortunately Hitler's strategy gave the British pause to evacuate Dunkirk and to reform in England. While Hitler directed his strength to Russia, Britain came under the inspiring leadership of Winston Churchill. He gave his people purpose and direction. He inspired them with confidence. He restored their morale and lifted it to the level that sustained them through three years of merciless bombing,

through the agonising losses and shortages from a vicious submarine blockade to ultimate victory.

Coming closer to home and to our own time we have the lessons of Vietnam. The particular lesson is that the U.S.A. Command tried to conduct the War from a base, Saigon, that was corrupted politically, socially, and economically. The purpose of the American intervention was to protect democratic government in South Vietnam, yet no steps seem to have been taken to insist that the government progressed rapidly and with sincere intent towards democracy.

In South Vietnam there was a lack of purpose and direction. There was little trust in a corrupt government. After the U.S.A. Armies were withdrawn what little morale the South Vietnamese had, disappeared and the fighting troops lost their spirit.

In North Vietnam the Communist Government gave purpose and direction to the people and inspired their trust. The fighting troops were dedicated and resilient and their morale was high. There was a high national morale even after nine years of devastating bombing and relentless pressure by a sophisticated enemy. The final result was inevitable. The deciding factor was unquestionably national morale.

History could well be seen as a treatise on the meaning of national morale, particularly the history of England. It is a sequence of the rise of weak countries by the building of a high morale and the collapse of materially strong countries by the erosion of their morale through affluence and easy living. More particularly it shows that a country with a strong national morale will be well prepared to resist aggression and its leaders will be timely and courageous in their decisions.

Our Australian people are exhibiting undeniable evidence of a declining morale. We are living in a world of false securities fortified by a fond belief that 'it simply could not happen to us'.

What then must be done? ✕

To be concluded in the December issue.

Part II — Ways and Means

THE AUSTRALIAN COMMUNITY FELLOWSHIPS and DEFENCE



Lieutenant Colonel A. R. Howes
Royal Australian Corps of Transport

Mr L. E. Ludovici
Department of Defence

"Unlike other large employers, the administrators of the Defence Force have unique responsibilities for the supply, training, housing, welfare and morale of those in employment. Moreover, efficiency standards have to be found by the administrators and managers of annual Defence outlay of around \$1,650 m. by means other than commercial accounting and profit results. All these matters create challenges to good administration."

Sir Arthur Tange, CBE, 'Departmental Organisation and the Profession of Arms — A Civilian Perspective.'¹

Background

THE current nature of the Australian defence task, its size and complexity is an obvious challenge to military and civilian administrators in the Australian Defence Department. This challenge is intensified by accelerating social and technological change and uncertainty in international events.

This is also a time of maturing community attitudes towards Australia's future. Political changes in our region, growing realisation of 'Third World' priorities, nationalistic aspirations, relationships with allies and moves to greater self-reliance all cause a greater appreciation of the Defence task to be evident among the Australian community.

In a time of change sweeping through institutions and concepts related to Australian Defence, the need for innovation and professionalism in undertaking the Defence task — as a common Departmental cause — is now clearly recognised as greater than before.^{2, 3, 4}

Aim

The aim of this article is to propose an innovative measure that will assist and stimulate the growth and maintenance of such professionalism in our Defence administration. Authorization of Australian Defence Fellowships would enable selected men and women, regular Defence service officers and civilians who have a keen intellectual interest in problems of defence, to pursue for up to one year a chosen subject of study or research at an advanced level in a University — or similar tertiary education establishment — atmosphere.

Approach

This article briefly explains a potential Australian Defence Fellowship scheme, listing possible subject areas, and gives overseas practice — particularly from Britain — in this type of applied study. Early adoption of such a scheme is favoured, albeit on an initially small scale, and some examples are provided of other Fellowship awards currently available to Department of Defence employees as members of the Australian community.

Clarifying the Proposal

The scheme is not intended to be confused with, or cover attendance at, a standard post-graduate course; indeed graduate degree status should not be a prerequisite. The study should be capable of completion within the time limit of the Fellowship and should lead to completion of a thesis, or other contribution to knowledge, of direct Australian defence value.

¹ Address to the Royal Institute of Public Administration (ACT), 26 June 1975, and reprinted in *Army Journal*, No. 316, September, 1975, pp. 3-18.

² See address by the Governor-General of Australia, RMC Graduation Parade — 10 Dec 74, *Army Journal* No. 315, August 1975, pp. 19-23.

³ The Committee of Inquiry Report into the Citizen Military Forces, March 1974 (Chairman; Dr T. B. Millar), Australian Government Publishing Service, is recommended reading: it is noteworthy that recent issues of *Army Journal* have reproduced chapters from this Report.

⁴ For a Canadian viewpoint see Byers, R.B., 'The Nature of Military Professionalism', *Canadian Military Professionalism: the search for identity*, Canadian Institute of International Affairs, 1973, pp.7-25.

How might such a proposed Australian Defence Fellowship scheme flourish in Australia? It seems of great importance that a really high quality of applicant be sought. A personal concern in the Selection Panel deliberations by top level Service and civilian Heads would do much to ensure the ongoing success of such a scheme; advice from personnel staff and Directors of Education should be readily available. The award of a symbol 'adf', on satisfactory completion of such a Fellowship, should carry due weight in considering an officer's, or civilian's suitability for promotion, or a particularly challenging appointment in or beyond Australia.

Candidates eligible to apply for the award of Defence Fellowships may be in appointments from which they cannot be easily spared, or they may be disinclined to apply out of concern for their career prospects. Applicants should have minimal cause for career misgivings, given personal encouragement and high selection standards for Australian Defence Fellows.

Likely Areas of Study

The subject chosen should have an application to, or influence on, national defence in its widest aspects: in so doing it is likely to have direct relevance to an individual's specialisation or planned career. Studies could cover any relevant area e.g. strategy, logistics, administration, command and control, personnel management, arms control, economics, history, technology or psychology.

The biographical details for Lt Col Alan Howes, Dip. Tpt. Admin, FCIT, a graduate of RMC Duntroon, are contained in previous issues of Army Journal (No. 285, Feb 73; No. 254, Jul 70). Currently he is Staff Officer (Logistic Concepts) in the Directorate of Logistic Development — Army Office, Canberra, after regimental duties in Australia, Malaya and Borneo from 1958-1968, the Technical Staff Officers' Course at RMCS Shrivenham in 1968-69, and Staff College at Queenscliff in 1972. He spent three months on civil attachment to the University of Melbourne in 1971 studying 'Transport Education for RACT officers.' Lt Col Howes studied in North America and England from May-September 1973 on a Churchill Fellowship, investigating transport education developments and the contribution of professional institutes. His subsequent report to the Churchill Trust has been recently published as a hard-cover book 'Improving Transport Management.'

Mr Ludovici is Chief Executive Officer in the Defence Force Industrial Branch. He joined the Department of Defence in 1970 after service as an Industrial Relations Officer in the Department of Labour and — during 1971-72 — was employed in the Secretariat of the Kerr/Woodward Committee. He holds a B.A. degree in Economics from the University of Western Australia.

Further specific areas could include the problems of Defence Force or Defence Department recruiting; the planning of training whether single-service, tri-service or multi-national, or joint Defence Force/civilian training activities; the balance between ratios of the Defence Force arms and service units; a sociological study of professional servicemen and servicewomen in Australian society; regionalism involving New Zealand, Papua New Guinea and Indonesia; the relevance of training simulation for complex equipments; and civil-military relationships in disaster relief activities — to name but a few.

Suggested Application Procedures

It is envisaged that candidates would seek initial guidance from appropriate authorities in their Service and departmental area before deciding on a particular subject or making an approach to a university. Subsequently candidates would have contact with the universities of their choice. As is customary in such schemes applicants would submit a synopsis giving their proposed programme of study or research accompanied by a note from the head of the tertiary education department concerned that he is prepared to accept the candidate, if a Defence Fellowship were awarded, and to supervise his study.

The choice of university or college of advanced education — abroad, or preferably at home — should basically be made by the Australian Defence Fellowship applicant. However counselling would be particularly helpful, especially in the early years of such a scheme. There already exists at the Australian National University (ANU) a Strategic and Defence Studies Centre. This does not mean that applicants should feel obliged to study at the ANU, but simply that a link already exists with the Department of Defence with programmes specifically devoted to some aspects of defence studies.

Number and Duration of Australian Defence Fellowships

Initially the number of Fellowships to be awarded is a matter for Departmental decision; a possible basis could be one civilian award, and one to each of the three Defence Force Services. Given proven success of the scheme, consideration might be given to up to six Defence Fellowships to be awarded annually. Each Defence Fellowship would normally be tenable for one academic year only, but applications for slightly longer or shorter periods might be considered.

Overseas Practice

The proposed scheme could draw inspiration from the Defence Fellowships awarded annually by the Ministry of Defence in Britain.⁵ The first awards in Britain were made in early 1967 for the 1967/68 British academic year (September 1967 — August 1968). The awards to date, since inception, are as follows:

BRITISH DEFENCE FELLOWSHIPS

Year	Awarded To					Total Awarded
	Army	RN	RAF	Royal Marines	Civilian	
1967/68	1	—	1	1	1	4
1968/69	3 ⁶	2	2	—	—	7
1969/70	2 ⁷	3	1	—	—	6
1970/71	2	2	1	—	1	6
1971/72	2	3	2	—	—	7
1972/73	2	1	1	—	—	4
1973/74	2	1	2	—	—	5
1974/75	2	1	3	—	—	6
1975/76	2	—	2 ⁸	—	—	4
Totals	18	13	15	1	2	49

To illustrate the type of subjects approved for study, details of recent British Army awards follow (as this article primarily circulates to Australian Army readers).

1974/75

Lt Col J. R. G. N. Eveleigh, RGJ — at Magdalen College, Oxford
To study the development of the constitutional and legal position of soldiers engaged in aid to the Civil Power.

⁵ Current details are contained in *Defence Council Instruction T63/75* 'Defence Fellowships 1976/77'.

⁶ See Book Review, 'The Soldier in Modern Society', by Lt Col J. C. M. Baynes, *Army Journal*, No. 281, October 1972.

⁷ See Book Review, 'Low Intensity Operations — Subversion, Insurgency and Peacekeeping' by Brig. Frank Kitson, *Army Journal*, No. 280, September 1972.

⁸ Some link exists between the recent Australian ETASC (Educational Turbulence Among Servicemen's Children) Project, and one of the RAF awards.

Col M. G. L. Roberts — at King's College, University of London

To examine the evolution of defensive works and artificial obstacles, including mines, up to the present day and draw conclusions as to what should be done by NATO to make greater use of them.

1975/76

Lt Col A. V. Claydon RA — at University of Lancaster

To study conflicting trends in British Society and their consequences.

Lt Col J. H. Skinner RAOC

To study the changes within British Army organisation which may be recommended as a result of studying and comparing the organisational structure of NATO and other Armies with which we work closely in peace, and will have to operate alongside in the event of war.

Since 1969 there have been Canadian Department of Defence fellowships for 'military and strategic studies of interest to Canada'⁹ (although for graduate and post-doctoral studies), and there is an Army Research Associates Program for officers of the United States Army as an option in lieu of attendance at their National War College, to read, think and write in the field of national security affairs.

Further Clarification

Current Australian opportunities in this area of applied defence studies *for non-academic graduates or holders of basic degrees without honours standing* are minimal. Since early 1974 two non-tenure posts have been filled at Research Fellow or Senior Research Fellow level, in the Strategic and Defence Studies Centre at the Australian National University; to date these have been civilian appointees from outside the Australian Department of Defence.

The possible introduction of a Degree of Master of Defence Studies (M.Def.S.) course in the Faculty of Military Studies at the Royal Military College, Duntroon should be complementary to the proposed Australian Defence Fellowship scheme. The M. Def. S. Course is restricted to one University, would normally require prior possession of a degree, and would take at least 18 months compared to less than 12

⁹ Dyer M. G., 'Military History and War Studies in Canadian Universities, *Military Affairs*, December 1969, p. 385.

months for the proposed Defence Fellowship scheme with its emphasis on applied studies and research. Neither should be regarded as equating to any form of sabbatical leave.

Current Defence and Community Awards

Peter Stuckey Mitchell Trust Awards are available for competition among Commonwealth Armies (specified Staff Colleges and an open essay competition) and four Australian Army competitions — travelling awards annually for both RMC Duntroon and OCS Portsea, and an annual award to both the CMF and WRAAC OCS.¹⁰ Unlike the proposed Australian Defence Fellowship scheme these do not enable servicemen and women and their civilian¹¹ Defence counterparts — to complete an approved study task, of Defence value, in a university or similar environment.

The term Post-graduate studies is often misleading, as it implies studies for people already holding academic graduate standing.¹² There is also some confusion with the terms 'scholarship' and 'fellowship' — the Oxford Dictionary aptly defines the former as an award to an 'undergraduate or child', while a fellowship is a post-graduate award. Hence an Australian Defence Fellowship scheme is to be preferred to Australian Defence Scholarships, so far as terminology is concerned.

¹⁰ Details contained in Army Routine Order 97/1973.

¹¹ The Public Service Board has offered ANU Research Fellowships since 1957, details of which are contained in the Board's 1970 Annual Report, p. 219, with statistics in the Board's 1974 Report, p. 197. These are not necessarily awarded to persons undertaking a course leading to a higher degree; similarly the proposed Australian Defence Fellowship scheme does not have a bias to academic qualification, and would not be tied to a particular university.

¹² For example the Second Edition of the Handbook of Grants (Part 2, 1974) *Awards for Post-graduate Study Overseas* (The Graduate Council of Australia in association with the Australian Vice-Chancellors Committee) lists all scholarships, fellowships and grants for study leave open to Australians for study overseas — under fifty headings! The Editor's Note explains that the Handbook includes 'other awards, including those open to persons not necessarily holding a tertiary qualification'.

Among this type of award are Churchill Fellowships awarded annually since 1965 by the Winston Churchill Memorial Trust; two Australian Army officers were recently awarded Churchill Fellowships for overseas studies in 1976 (Army Newspaper, 24 July 1975, p. 3). A vital point with such Fellowships is the staff work and lead time involved in preparation of applications and proposed work programmes — supported by evidence of likely acceptance at relevant overseas centres. Information is available from the Trust, P.O. Box 478, Canberra City, A.C.T. 2601. Assuming intending applicants from the Department of Defence have joined the United Services Institute of Australia, they are advised to join a civilian professional institution relevant to their interests.

Towards a 'Defence Community'

The core of a 'Defence community' is seen to comprise those who are committed by career to the Defence task. Essentially, they may be grouped as:

- the Defence Force staff, and
- the Defence civilian staff.

Of necessity they must interact with a wider community, the main elements of which comprise members of other Government departments e.g. Foreign Affairs; Politicians, other concerned citizens; academics; members of the various media; and citizens' groups. Informed concern about Defence and beneficial discussion of its varied aspects is also pursued by interested bodies such as the United Services Institute (U.S.I.) of Australia.

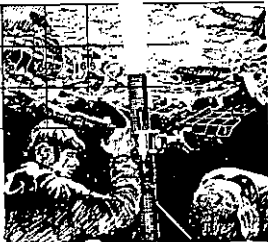
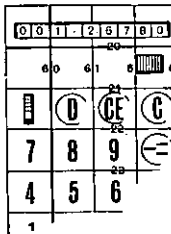
The existence and growth of these interested groups is indicative of a widening appreciation of Defence in the community. It is timely therefore to consider means by which appreciation of the Defence task may be deepened to match the growth in diversity and complexity of the problems involved. The proposal in this paper for the institution of Australian Defence Fellowships is one means by which this may be achieved.

CONCLUSION

It has been suggested in this article that the innovation of an Australian Defence Fellowship scheme is timely and justifies consideration at least on a trial basis.

As co-authors we invite comment, in addition to correspondence to the Editor of this journal.

Conscious of interest concerning the development of the Defence Fellowship scheme in Britain, such an article is planned (with expanded authorship, including RAN and RAAF participation) for a subsequent issue of *Army Journal* or an early issue of the proposed *Defence Force Journal* in 1976. With the further possibility that a *Journal of the U.S.I. of Australia* will appear, Australian Defence Fellows should have no difficulty in finding a medium for the results of their applied studies — broadening communication between the Defence community, their fellow Australians and the wider international sphere. ✕



A Calculator

for the

Mortar Fire Controller's Pocket

*Lieutenant Wayne Fitzherbert, Australian Army Reserve
Hugh Sargeant*

Introduction

IT did not take long after the introduction of desk calculators before the electronic industry's predilection for miniaturisation made technically possible the production of the pocket calculator.¹ The industry's motivation stemmed from the recognition of the huge potential market for such machines. Versatility and cost were the two major parameters that would govern the extent of this market. Intense competition has resulted in better and cheaper machines and the day is perhaps not far off when the pocket calculator will become more ubiquitous than the transistor radio.

For some time now, professional people, especially scientists, engineers and businessmen, have experienced the advantages of having, wherever they may be, this means of solving in a few seconds problems that would otherwise consume a considerable amount of their time and effort.

Currently, an effort is successfully being made to attract the attention of the general public to calculators. The housewife, for example, is effortlessly checking the tally the cashier at the supermarket hands her and verifying in a few seconds the electricity and gas bills with their burdensome sliding scale of charges.

Lieutenant W. Fitzherbert was commissioned in 1971. In May, 1974 he attended a mortar course at the School of Infantry, Singleton. Prior to the reorganization of the metropolitan battalions of the Royal Victoria Regiment he was mortar officer of the 6th Battalion of that Regiment.

Mr. H. Sargeant served in the Melbourne University Regiment from 1966 to 1971. He is at present a programmer with the Government Statist Office, Melbourne.

The authors wish to record their thanks to Hewlett-Packard Australia Pty. Ltd., and in particular to Mr. Peter Philipp of that Company for generously making available a calculator for this project.

In contrast, the military uses to which calculators are being put, at least in the Australian Army, would appear to be few if any at all. Generally, it is probably true to say that the military purposes for which calculators can be advantageously employed are far from being fully explored.

Our Purpose

It is our thesis that calculators would be a useful item of equipment for the Australian Army. In writing this article we hope, therefore, to achieve three things. First, to demonstrate by way of example a military use to which existing and commercially available calculators can be put. Secondly to outline the advantages of using a calculator in the example we depict. And thirdly to encourage generally a feasibility study of using calculators for military purposes and in particular for the purpose we demonstrate.

An Example

Before mortars can engage a target the information given by the Fire Controller (FC) to the command post (CP) must be converted into firing data. This data consists of two elements — the range or elevation, and the bearing from the base-plate position² to the target.

Firing data is computed with the aid of a plotting board. This function of the plotting board can easily be duplicated by a pocket calculator and it is our contention that considerable advantages would result if this were done. In the following paragraphs we explain how the calculator is used to compute firing data.

The Calculation of the Elevation

The fire mission ordered by the FC will usually contain the grid reference of the target³ and the FC's direction (that is, the bearing from the FC to the target). Only the grid reference of the target is needed to compute the actual firing data; however, because of the characteristics of mortar fire it is generally necessary to make adjustments to the fire produced in order to achieve a belt of fire that will cover the target area and effectively neutralize it when sufficient rounds are called down.

¹ To avoid an inordinate use of the word "pocket" we will use calculator to mean pocket calculator unless the content indicates otherwise.

² That is, the actual position on the ground of the mortars. The CP is generally located a few metres to the rear of the mortar line.

³ There are other methods of giving the location of the target; however, this method, the grid and direction method, is predominately used.

Most of our readers who did some high school analytical geometry will probably recall (with horror) the formula for calculating the distance between the points whose co-ordinates are (x_1, y_1) and (x_2, y_2) . It looks like this:

$$\text{distance} = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

If you are wondering what all this has to do with the price of fish we hastily point out that eastings and northings on a map provide a useful co-ordinate system in which the distance formula described above can be used. For example, suppose the grid reference of the base-plate position of our mortars is 347631. What this really means is that they are located at the intersection of easting 34.7 and northing 53.1. It is important to remember that the distance between consecutive eastings and northings is 1000 metres or yards depending on whether the map has a metric or imperial scale. Continuing the example: if the target is at grid reference 359642 then applying the distance formula we get:

$$\begin{aligned} \text{distance} &= \sqrt{(35.9 - 34.7)^2 + (64.2 - 63.1)^2} \times 1000 \\ &= \sqrt{(1.2)^2 + (1.1)^2} \times 1000 \\ &= 1628 \end{aligned}$$

With a 3" mortar,⁴ for example, it is only possible to set an elevation on the sights to the nearest 50 yards. Since in the Army we use metric maps, the answer above must be converted to yards (by multiplying by 1.09) and then rounded off to the nearest 50 yards. Steps 18 to 22 and 23 to 33 of the programme to calculate distance (extracted in the appendix) achieve conversion and round-off respectively. When this is done we arrive at an elevation of 1750 yards.

The Calculation of the Bearing

The calculation of the bearing is in theory just as simple. The slope of the line that connects the points already mentioned is given by the formula: $\Theta = \arctan(y_2 - y_1 / x_2 - x_1)$ (see footnote 5).

The practical difficulty is that two particular angles can have the same tangent. $\tan 60^\circ$ for example, is the same as $\tan 240^\circ$. It is, therefore, necessary to test which particular angle is the right one. The

⁴ The 81mm mortar is not as yet available to Army Reserve units. Because the sight of the 3" mortar is calibrated in degrees (bearing) and yards (elevation) it is necessary to use programme space for these wasteful conversions. This problem would not arise with the 81mm mortar.

⁵ That is, the angle whose tangent is defined by the ratio $y_2 - y_1 / x_2 - x_1$.

test involves determining whether $(y_2 - y_1)$ and $(x_2 - x_1)$ are positive or negative in value. The angle can be uniquely determined when this information is known.

The initial bearing on which mortars are brought into action is called the zero line (ZL). Normally the ZL will be chosen as the bearing from the base-plate position to some enemy target or, if no particular targets are known, then the general direction of the enemy.

In practice the bearing to the target is achieved by the mortars traversing left or right of the ZL so many degrees. To illustrate: suppose that the ZL is 0950 μ r and that the actual bearing to the target is 1020 μ r. To be able to engage the target the mortars must swing through 1020 μ r — 0950 μ r = 70 μ r. As bearings on the three inch mortar sight are calibrated in degrees we must convert from mils to degrees by dividing by 17.78 and then round off to the nearest degree. In this example the bearing given to the mortar line would be RIGHT 4 degrees. The programme which calculates the bearing is also extracted in the appendix with side notes to explain the various steps.

One can see that to avoid large switches the ZL should be at least in the general direction of the enemy.

Adjusting Fire

After the first round is fired the FC begins the adjustment process. This consists of first correcting fire onto the OT line⁶ and secondly bracketing. The necessity for bracketing arises because of the impossibility of the naked eye accurately gauging the distance between two points a long way off. If, for example, you see a round land between yourself and the target 3000 metres away, you cannot tell accurately what the distance is from the round to the target and hence you cannot give an accurate correction. The idea of bracketing is to overcome this problem.

For the FC's corrections to have any meaning to the CP the latter must be able to look, as it were, in the same direction as the FC. Mathematically this is achieved by rotating the CP's co-ordinate system so that it coincides with the FC's direction. Corrections can then be entered.

Corrections onto the OT line are entered into the calculator observing the convention that left corrections are subtracted from, while

⁶ The imaginary line from the FC and defined by the FC's direction.

right corrections are added to, the "X" co-ordinate. Firing data is computed when the CP's co-ordinate system has been re-oriented. To clarify these ideas we will take an easy example to show how (not why) this works in practice. Let us take the grid reference of the target and base-plate position previously referred to (359642 and 347631 respectively) and suppose that the FC's direction is 4800 μ — ie, the FC is due east of the target — and that the first correction ordered by the FC is RIGHT 300 (thus the first round fell 300 metres to the left of the OT line).

A clockwise rotation of 90° about the base-plate position will align the CP's co-ordinate system so that it corresponds to that of the FC's. Left, right, add and drop will then have the same meaning for both the CP and the FC. If this is done the co-ordinates 359642 transform to 358619. A correction of RIGHT 300 using the convention explained above simply adds .3 to the "X" co-ordinate so that 358619 becomes 361619. When the latter is rotated back through 90° it becomes the point whose grid reference is 359645. This new grid reference of the target now becomes the basis for calculating the new firing data.

Summary

From the above it can be seen that to calculate firing data there are essentially three steps — the calculation of the elevation, the calculation of the bearing, and the adjustment. There is a preliminary step which is equivalent to gridding up the plotting board and this entails entering four bits of information into the calculator; namely the grid reference of the target, the grid reference of the base-plate position, the ZL and the FC's direction. With the calculator used the three steps are achieved by programmes A, B, and C. These programmes are executed on the machine by depressing the desired key (ie, A, B or C).

In practice the CP, or for that matter the FC and anyone else with a calculator and in radio communication with the CP, after entering the preliminary data simply presses the key marked "A" and immediately gets the elevation. Pressing key "B" will give the bearing. This information would then be given to the mortar line as a fire order (for example, section: No. 1 adjusting; bearing left 30; elevation 1400; charge 2; fire). The CP would then press "C" in order to be ready to key in the correction given by the FC. Once this was done he would

again activate A and B to get the new bearing and elevation necessary to effect the correction given by the FC. This process would continue until the correct firing data was achieved.

The Calculator

In addition to having the usual arithmetic functions, the calculator, needed to perform the mathematics outlined above, has to possess at least the following technical features; it has to:

1. Be programmable with a facility of interrupting the programme to enable new data to be entered after which programme execution continues.
2. Have a device for easily recording and running the programme.
3. Have sufficient memory; not only memory for intermediate calculations but also addressable memory registers for use in the programme and storage for the programme steps.
4. Be capable of carrying out conditional testing, in particular numerical comparisons.
5. Have sub-routines for evaluating trigonometric functions and their inverses.

The military purpose to which it is being put requires the calculator to be completely portable and capable of running for sustained periods on batteries.

There are probably several calculators commercially available that would satisfy these requirements; however, the one generously made available to us and which produced excellent results was the Hewlett-Packard 65 (HP 65).

Advantages

As mentioned earlier in this article firing data is computed with the aid of a plotting board. We do not propose to describe this piece of equipment except to say that it is bulky, cumbersome to carry and relatively difficult to use in the field.

In comparing the calculator to the plotting board, we see the former having the following advantages over the latter.

First, size: the calculator can be easily carried not only by the CP but also by the FC. The ability of the FC to function as a CP

means firstly that the time to get rounds on the ground is considerably shortened and secondly that his security is enhanced.⁷

We do not intend to attempt to list all the advantages flowing from any particular property of the calculator; however, some further consequences of its size are that while on the move between base-plate positions data can be entered into the machine ready for use as soon as the unit arrives at its new base-plate position. It is practically impossible to grid up a plotting board while on the move.

Secondly, speed: firing data is computed much faster. Again this means that it is possible to shorten the time to put rounds on the ground. To give an idea of the time involved: it takes less than 10 seconds for the bearing and elevation to be worked out.

Thirdly, accuracy: it is probably possible, if one is careful, to plot to an accuracy of 25 metres on a plotting board. However, one is always faced with the problem of cumulative errors. Because of the workings of the calculator accuracy is not a problem and cumulative errors are eliminated.

Fourthly, ease of use: this is to some extent a consequence of size but in any event it is worthy of special mention. Trying to accurately plot in wet conditions can be a frustrating task. Little problem is encountered in such conditions with a calculator since it can be easily kept in waterproof material.

Fifthly, training: although this point is far from being free from doubt, it is our view that it is easier to train calculator operators than plotters. There is no point in discussing this further because we would hope that a special CP's calculator will in due course be designed. In the meantime there is little value in speculating how easy (or how difficult) this machine will be to operate.

Sixthly, errors: because one need only manipulate a few keys on the calculator to compute firing data, it should be the case that less errors are made. Certainly there can be no error of calculation. The only real possibilities for error result from incorrect data being keyed into the machine. With a little care it should be possible to eliminate

⁷ Because one must assume that the enemy are monitoring all our radio transmissions a FC compromises his location by giving the grid reference of the target and his direction to it. However, when acting as a CP as well all the FC needs to transmit to the base-plate position is the bearing and elevation for the target thus making his detection much more difficult. A FC would not normally expect to be the subject of an enemy radio detection finding search unless he was causing considerable damage.

this. It is possible on the HP65 to recall data stored in the various addressable registers so that errors can be easily rectified.

Limitations

We have no idea of the cost of the plotting board together with its CES; however, for the sake of argument we will assume that it is significantly less than the cost of the HP65 — \$760 retail without sales tax. On this assumption one must demonstrate on a cost/effectiveness basis that one piece of equipment is better than the other. It is impossible at this stage for us to do this, but we would be surprised if a calculator could not be developed that is better by this criterion than the plotting board.

It is convenient although not strictly relevant to this section of the article to mention a couple of things about the programme developed for the HP65. We are acutely conscious of its shortcomings. Because of programme space it is not designed to work where the target is located in rear of the base-plate position. Also odd results⁸ for the bearing are sometimes produced when the target and ZL are in different quadrants.⁹ Nevertheless what has been achieved is, we believe, in conformity with our aim. We have developed a programme for a CDC 3200 computer which solves the general case irrespective of where the target is or where, in relation to one another, the ZL and FC's direction are. Initially it was our hope to develop such a programme for a calculator; however, because of a number of constraints it has not been possible to do this.

Conclusion

It is symptomatic of the age we live in and in particular the nature of modern warfare that the faster something can be done the better. And if in doing something faster one eliminates unnecessary work and achieves more accurate results, then not only has a refinement been added but a more efficient system has been created.

We believe that using calculators in the role we have described would add a refinement to the present system of computing firing data. Ideally a special calculator should be designed for such purpose but if this were not immediately possible to do, modification of an existing

⁸ It is possible and with little inconvenience to correct these results by adding or subtracting 360° from the answer produced.

⁹ The quadrants are the first and second using the conventional mathematical meaning of these terms.

calculator together with suitable programming might substitute until the special one is produced.

APPENDIX

In this appendix we include a few notes on the operating procedure for use on the HP65 together with a listing of the programmes and side notes to explain the various steps.

The firing data is entered as follows: grid references are converted to two numbers — the easting and the northing — and divided by 10. Directions are in degrees.

<i>Item</i>	<i>Stored in Register</i>	<i>Called</i>
Easting of base-plate position	1	x_1
Northing of base-plate position	2	y_1
Fire controller's direction	3	FCD
Zero line	4	ZL
Easting of target	7	x_2
Northing of target	8	y_2

Programme A is called to calculate the elevation; programme B to calculate the bearing; and programme C to enter corrections. Suppose we wanted to enter the correction Left (Right) 300. The sequence is as follows:

press C
 enter .3
 — (+)
 press R/S

The sequence for an add (drop) correction would be as follows:

press C
 press g: $x > < y$
 enter correction
 + (—)
 press g: $x > < y$
 press R/S

After any correction is entered pressing the R/S key will automatically give the new elevation. The new bearing is calculated by pressing B.

**PROGRAMMES A, B AND C—CALCULATION
OF FIRING DATA**

<i>Step</i>	<i>Code</i>	<i>Key Stroke</i>	<i>Description</i>
1	23	LBL	Programme A
2	11	A	
3	34 07	RCL 7	Recall x_2
4	34 01	RCL 1	Recall x_1
5	51	—	Subtract
6	33 05	STO 5	Store $x_2 - x_1$ in register 5
7	32	f ¹	
8	09	\sqrt{x}	Calculate $(x_2 - x_1)^2$
9	34 08	RCL 8	Recall y_2
10	34 02	RCL 2	Recall y_1
11	51	—	Subtract
12	33 06	STO 6	Store $y_2 - y_1$ in register 6
13	32	f ¹	
14	09	\sqrt{x}	Calculate $(y_2 - y_1)^2$
15	61	+	Calculate $(x_2 - x_1)^2 + (y_2 - y_1)^2$
16	31	f	
17	09	\sqrt{x}	Calculate $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
18	01	1	
19	00	0	
20	09	9	
21	00	0	
22	71	X	Multiply by 1090 to convert to yards
23	02	2	
24	05	5	
25	61	+	
26	05	5	
27	00	0	
28	81	÷	
29	31	f	
30	83	INT	
31	05	5	
32	00	0	
33	71	X	Round-off to nearest 50 yards
34	24	RTN	Programme ends
35	23	LBL	
36	12	B	Programme B
37	34 06	RCL 6	Recall $(y_2 - y_1)$
38	34 05	RCL 5	Recall $(x_2 - x_1)$
39	00	0	

<i>Step</i>	<i>Code</i>	<i>Key Stroke</i>	<i>Description</i>
40	35 22	gx < y	is $(x_2 - x_1)$ greater than zero
41	31	f	
42	51	SF1	if so set flag 1
43	61	+	if not skip steps 41 and 42
44	81	÷	Calculate $(y_2 - y_1) / (x_2 - x_1)$
45	35	g	
46	06	ABS	
47	32	f ¹	Calculate angle whose tangent is $(y_2 - y_1) / (x_2 - x_1)$
48	06	TAN	
49	31	f	is flag 1 set if so make register negative
50	61	TF1	
51	42	CHS	
52	35 01	g NOP	
53	35 00	g LST X	if flag 1 is not set skip 51 and 52
54	00	0	
55	35 24	gx > y	Remaining steps test which particular angle is the correct one
56	01	1	
57	08	8	
58	00	0	
59	35 09	g R↑	
60	61	+	
61	09	9	
62	00	0	
63	61	+	
64	34 04	RCL 4	
65	35 07	gx > y	
66	51	—	Calculate switch
67	21	DSP	Display answer to the nearest whole number
68	83	•	
69	00	0	
70	32	f ¹	
71	51	SF1	
72	24	RTN	Programme ends
73	23	LBL	
74	13	C	Programme C
75	34 06	RCL 6	Steps 75 to 84 effect a rotation of the CP's

A CALCULATOR FOR THE MORTAR FIRE CONTROLLER'S POCKET 29

<i>Step</i>	<i>Code</i>	<i>Key Stroke</i>	<i>Description</i>
76	34 05	RCL 5	co-ordinate system so that it coincides with that of the FC
77	31	f	
78	01	R → P	
79	35 07	$gx \succ y$	
80	34 03	RCL 3	
81	61	+	
82	35 07	$gx \succ y$	
83	32	f ⁻¹	
84	01	R → P	
85	84	R/S	Corrections are entered
86	31	f	Steps 86 onwards:
87	01	R → P	re-orientates the CP's co-ordinate system so that firing data can be calculated
88	35 07	$gx \succ y$	
89	34 03	RCL 3	
90	51	—	
91	35 07	$gx \succ y$	
92	32	f ⁻¹	
93	01	R → P	
94	34 01	RCL 1	
95	61	+	
96	33 07	STO 7	
97	35 07	$gx \succ y$	
98	34 02	RCL 2	
99	61	+	
100	33 08	STO 8	

* * * *

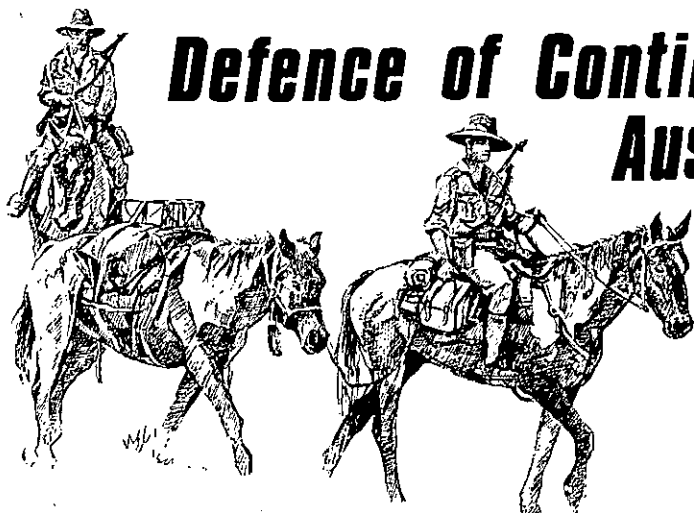
MONTHLY AWARDS

The Board of Review has awarded prizes for the best original articles published in the July and August 1975 issues of the Journal to:

July: Major J. R. Clarke (Mounted Infantry and the Military Motor Cycle), \$10.

August: Lieutenant Colonel D. R. Overstead (Joseph Stalin the Man), \$10.

Defence of Continental Australia -1942



Captain A. Vane

Royal Australian Army Medical Corps

THE study of the defence of continental Australia is topical today. Through the years there have been serious appreciations of its problems. These involve the contemplation of the defence of some three million square miles contained within a coastline which is 12,000 miles in length, a continent set within a strategic picture.

There may be some interest in a review how an aspect of one such appreciation was developed into a fully detailed operation, which was placed with secrecy into the field, an operation so secret that even today its existence is little known and concerning the manifestation of which there is no published account.

This article will outline that operation. It begins with a flashback in time, from 1975 to April 1942.

The Open Doorway

At that time, as McCarthy has indicated in his volume of the official history of Australia in the War of 1939-1945, the Chiefs of Staff

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The author wishes to acknowledge his gratitude for help in many of the details received from the Director, Australian War Memorial, Canberra, including the extracts from the war diary.

had decided that part of northern Australia would have to be left undefended and the north-west of Australia would have to remain open, an open door to the enemy. If the enemy, possibly the Japanese forces in Timor, came, the way for a series of steps southward by him would be left unobstructed.¹

Concerning this decision, it should be kept in mind that Millar has recently stated that even today it is logical for government or military planners to think in terms of a mobile defence conducted from the south-east corner of the continent to whichever part of Australia may be attacked. It was inevitable that the same logic should prevail in April 1942 when the Australia-Papua New Guinea axis was attracting urgently the available troops.²

A Requirement of the Decision

The decision of the Chiefs of Staff implied a requirement of the highest priority; the military observation of the critical area of the Australian continental coastline beginning at the south-east corner of the Gulf of Carpentaria and extending continuously westward to the far Kimberleys and ending in the Yampi Sound area in Western Australia.

To implement this requirement, Army Headquarters in May 1942 issued a secret memorandum in connection with the raising of a special unit to carry out the proposed observation duties. The unit was not given a traditional military title. Instead, it was called conveniently the 'North Australia Observer Unit', or briefly the 'NAOU'.

The unit was approved by LHQ as having AIF status. Hence, being an AIF unit raised prior to the cut-off date for AIF regimental titles (which was in September 1942), it was entitled to use the prefix '2/'. Quaintly but correctly it was the '2/1 NAOU'.

At this stage the NAOU was regarded as being in the nature of an Independent Company and was for this reason allocated the double diamond-shaped colour patch of the Independent Companies. The original colour patch worn in 1942 was yellow and mid-green; in 1943 the patch was altered to orange and mid-green.

The Observer Task

This has been briefly stated above as the 'military observation of the critical area of the Australian continental coastline'.

¹ McCarthy, D., 'South-west Pacific, First Year', in the official war history series. (With regard to the decision of the Chiefs of Staff.)

² Millar, T. B., 'Australia's Defence', 1965, p. 144.

The urgent drama involved in this task is revealed in the terse words of the operational instruction received by Commander, NAOU, from Commander, Northern Territory Force. This instruction read:

'Your role will be to watch for and to report to HQ NT Force, by the quickest means, any landings of the enemy on the Australian coast between Normanton, Queensland and Yampi Sound, West Australia and you will report any subsequent enemy movement including movement of his aircraft.'

The observer task is thus seen to encompass the patrol of the critical coast itself, the maintenance of watching posts at the geographical approaches in bays or inlets or at the mouths of rivers and as well as these the provision for a guerilla warfare type of contact with the enemy once he had landed. When information from observer personnel was to hand it was to be reported by a rapid and reliable wireless telegraphy network which was to be laid with speed across the north of Australia.

From the date of the secret memorandum in May 1942, the mobilisation of the NAOU was directed to take place within weeks and not longer. It did so and by the sixth week the Advance Party had left for the north, with the remainder of the unit preparing to follow immediately. To meet this schedule special authority was issued to recruit personnel, obtain equipment and purchase horses and boats.

The Observer Establishment

The initial War Establishment was for 20 Officers and 400 Other Ranks. These postings were based on an estimate of personnel needed for the observer task. Later, the Establishment was found to be insufficient and an over-strength unit of nearly 700 all ranks was required and the NAOU eventually reached this figure.

Personnel

Recruiting teams calling for volunteers for the special unit hurriedly visited AIF training depots in all states and members of Militia units who were willing to enlist in the AIF were also canvassed.

Although men were wanted urgently, a strict selection was made so that applicants met the criteria decided upon:

- be volunteers aged 20 to 40 years;
- have medical fitness class 1;
- have had bush experience in private life;

- horsemastership; and
- possess initiative, resource and intelligence.

With regard to the selection of personnel the original memorandum warned that:

'The personnel of this unit will be called on to undertake, in the north of Australia, adventurous duties requiring a high degree of endurance and the ability to act independently.'

Many fine types of men were recruited for the NAOU and included a large number of experienced bushmen and also a number with service in the pre-1939 Militia Light Horse regiments. A group had 'DX' regimental numbers, having enlisted in the AIF from Darwin and already knew the Northern Territory well.

Organisation of NAOU and Geographical Distribution

This is outlined in the diagram. From this it will be seen that fundamental to the NAOU activity were the inclusion in the War Establishment of a fleet of seagoing schooners and motor yachts on the one hand and the large number of riding horses, pack-horses and even donkeys, on the other. The fleet consisted of approximately six vessels including *Lady Yetive*, *Lady Ruth*, *Toorbul*, *Hurricane* and others. The total number of horses reached almost 1,500 and made the NAOU probably the largest mounted unit in the history of the Australian Army.

Central control of the unit was from Unit HQ at Katherine while Advanced HQ at Adelaide River supervised the coastwatching posts to the east and west of Darwin, with a Coastwatch HQ at Winellie. Control from Unit HQ covered the NAOU fleet and the three companies, 'A', 'B' and 'C'. Each company through its Company HQ, was responsible for a geographical area of the critical coast.

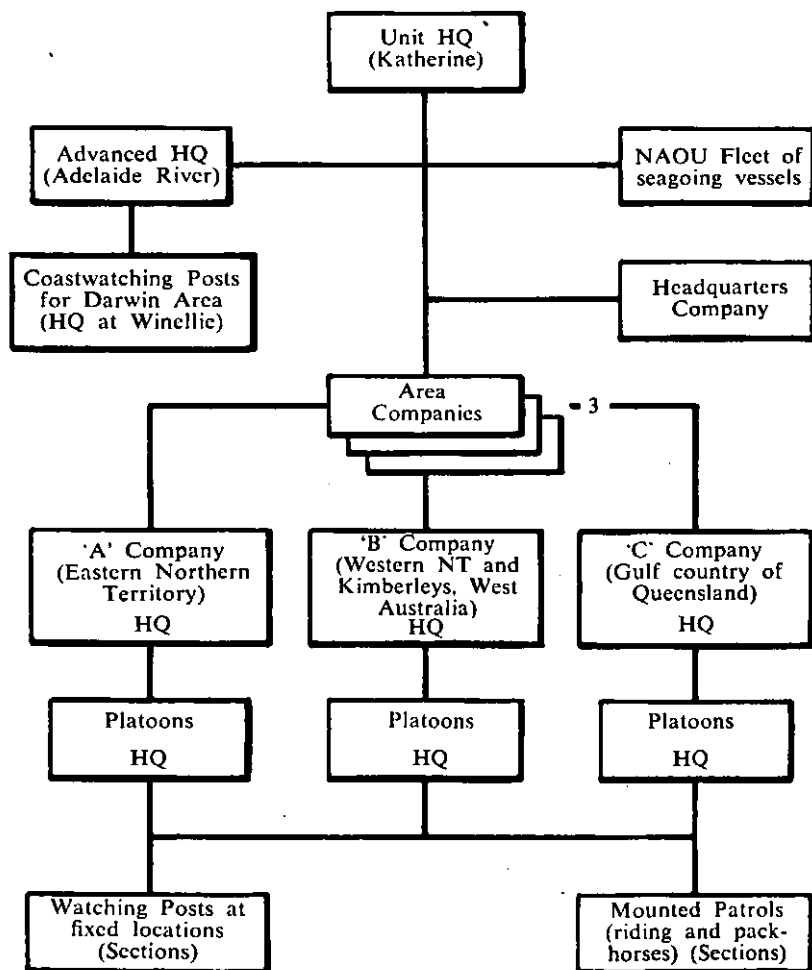
'A' Company was responsible for the eastern Northern Territory, especially around the Roper River. 'B' Company's area was the western Northern Territory, especially the Daly and Victoria Rivers and included north-west Australia, with Wyndham and the Kimberleys as far as Yampi Sound. 'C' Company had the responsibility of all the Queensland Gulf country to its eastern corner and extending to link with 'A' Company in the Northern Territory.

Each company area was subdivided into 'Platoon Districts' each of which was still some thousands of square miles in extent for any area of coast had to be observed in depth; for example, 300 miles of

coast covered to some 50 miles inland involved observer responsibility for 15,000 square miles. Each Platoon District was covered in two ways: firstly, by watching posts of section strength at key points, such as the mouths of rivers, and secondly, by continuously moving patrols mounted on horseback and carrying their supplies on pack-horse.

ORGANISATION OF NAOU AND GEOGRAPHICAL DISTRIBUTION

DIAGRAM OF THE UNIT STRUCTURE



The Signals Network

The function of the NAOU depended upon the reporting, by signals communications, the results of observer activity carried out by the mobile patrols, the fixed watching stations and the fleet of coastal vessels.

The chosen method of communications was by wireless telegraphy using pre-arranged alphabetical and calendar code blocks in messages transmitted in Morse Code.

Special consideration was given to the problems of long-distance communication. This need is indicated by the geographical distribution of the NAOU companies as is shown in the unit structure diagram. The equipment had to be capable of both local net usage and infra-continental communication.

Company Area and Platoon District Nets

These nets consisted of Net Control Stations at each Company HQ with substations at each Platoon HQ belonging to the particular company. The peripheral substations at the Platoon Sections were carried on pack-horses with each mobile patrol, (being set up at each halt on the way), or were located at fixed watching posts at the key observer position. Similarly, the sets on the NAOU coastal vessels could be brought into company or platoon nets.

Main Unit Nets

The Net Control Stations (NCS) for these nets were located at Unit HQ at Katherine. Two networks operated as follows:

- Main net WITHIN NAOU.
- NAOU RAAF/ARMY Net.

The main net within NAOU consisted of:

- NCS at Unit HQ, Katherine.
- 'A' Company HQ, NT, Roper River.
- 'B' Company HQ, NT and WA, Ivanhoe WA.
- 'C' Company HQ, NT and Qld.
- Advanced HQ, Adelaide River.
- NAOU vessels.

The NAOU RAAF/ARMY net consisted of:

- HQ NAOU, Katherine.
- HQ NT Force.

- HQ NAOU Darwin Coastwatch, Winellie.
- RAAF Darwin.
- RAAF Townsville.
- HQ YORKFORCE, Qld.

Ancillary Signals Role

In addition to its proper observer and communications role, it became apparent that the very large NAOU network also was able, by varying the intensity of traffic, to create another impression. This was a signals deception role, carried out, at least initially, unofficially. Australian Intelligence recognised that all NAOU transmissions were liable to be intercepted and that the use of the intercepted material depended on the standard of enemy crypto-analysis. This enemy interception provided grounds on which to expect the enemy would conclude the nets referred to formations in the different geographical areas rather than only observer stations.

The Signals Equipment

The equipment was well chosen. The combined transceiver was Set No FS6. This set measured approximately 24" by 15" by 8". It was accompanied by a vibrator measuring 18" by 12" by 6". (The sizes are mentioned because of the problem of carrying the sets on pack-horses.) Each section required its own Briggs and Stratton battery charger and a minimum of two accumulators, all in special containers for fitting onto the pack-saddles, as well as the sets themselves and petrol for the charger. All the sections on horse, on boats or at fixed posts were so equipped to link into the network, as already outlined.

Summary

The above outline presents the organisation which was effected, during 1942, when the possibility of an invasion of Australia was considered to be best met, at that time, by a concentration of defence resource in the south-east of the Australian continent; a decision which left the north-west undefended but covered over the critical area of the coastline by an observer screen to report the approach and movement of the enemy.

As the outline is not in any way a history of the NAOU, no mention has been made of any of the actual work done or of the personnel, whether officers or other ranks, who made up the unit. Likewise the story of the considerable subject of military horsemastership in the NAOU has not been included. ☞



*Captain J. F. Crossman
Royal Australian Armoured Corps*

IT is warm and stuffy in the Operations Room, the air thick with the fumes of the oil stove and the smoke from a succession of cigarettes. It has been a quiet and long night in the Qnaitra Operations Centre of the United Nations Disengagement Observer Force (UNDOF) on the Golan Heights. The duty officer sits reading in front of his dormant battery of communications gear. He flicks his eyes to the clockface above him — 0345 GMT — in another fifteen minutes he will initiate the first all stations call of the day.

The convoluted paradox which is the Middle East is evident on the table before him — copies of the Beirut 'Daily Star' and the 'Jerusalem Post'; 'Playboy' and the 'Soviet Military Review'. The

Captain Crossman joined 4/19 PWLH (AAR) in 1960 and entered OCS in 1965. After graduation he served with two cavalry units before joining A Squadron 3 Cavalry Regiment in South Vietnam in 1968. During his tour in SVN he served as a Troop Officer, a Squadron Liaison Officer and a Task Force Liaison Officer with American and South Vietnamese Units. On return to Australia he served as an instructor on Battle Wing at JTC and at the Armoured Centre before taking over as second in command of B Squadron 3 Cavalry Regiment on that unit's return from South Vietnam in 1972. He is currently serving in an operational staff appointment with the United Nations in Syria. He has previously contributed to the Army Journal.

VHF telephone sits mute — he has only to punch the buttons and a Russian in Damascus, an American in Tiberias or a Frenchman in Jerusalem will answer and call him friend. The operations map on the wall to his front tells its own story. Damascus and Syria to the east, Israel and the occupied territory to the west, and between, stretching from The Lebanon in the north to Jordan in the south lies the Area of Separation (AOS), an irregular corridor some 90 km long and varying in width from 1 to 10 km. Within the AOS, marked with brightly coloured pins are the observation posts (OPs), and positions of UNDOF. Outside the sky is growing lighter, while the wind from the Golan moans through the rigging wires of the tall radio antenna. The officer knuckles his smarting eyes and walks to the window. The familiar scene which greets him is one of utter devastation, made perhaps more stark by the grey half light. The once bustling city of Qnaitra is now a graveyard of wrecked dreams (Plate 1).

Above the ruins to the north the mountain towers, remote, superior — its topmost ramparts edged salmon pink by the impatient sun — Jebel Sheik — old man mountain — better known as Mount Hermon.



(United Nations/Y. Nagata)

Plate 1 — "A graveyard of wrecked dreams."

It is cold on the mountain — very cold (Plate 2). The keening, numbing wind charges across the Golan Heights and hurls itself against the volcanic crag as if to drive it to the east. Failing, in frustration it worries the dunes of frozen snow and whips cascades of stinging, whirling glass into the air. His eyes slitted against the wind, the soldier from Upper Austria stands sentinel in the dawn. Some metres away his comrades sleep in the warmth of their shelter partly enveloped by the creeping snow. He watches from his vantage point as the daily breathtaking beauty of the dawn ritual begins. The sun's rays begin to probe across the terrain, driving back the darkness and causing subtle continuous changes of colour. The terrain below loses its soft grey mantle and the true jagged harshness of the country becomes apparent, a broken ravaged plateau scoured by wind, rain and man. The huge crimson orb rises ponderously in the east, the surrounding snow is tinged with blood; the flying particles of snow a myriad of maniac fire-flies against the sun.

Thirty kilometres south and two thousand metres below, a corporal from Lima watches likewise in the pre-dawn chill. The country around him has now revealed its true character. A rubbish-strewn wilderness



(United Nations/Y. Nagata)
Plate 2 — "It is cold on the mountain — very cold."



(United Nations|Y. Nagata)

Plate 3 — "A rubbish-strewn wilderness."

(Plate 3) gouged as if by giant's trowel into deadly rock castles and huge drains sited to slow, frustrate and hold. A landscape embroidered with cruel wire and impregnated with impersonal traps — Israeli to the west and Syrian to the east. Just to his west, within the AOS, he can now make out some of the wreckage of war — a line of dead tanks; the



(United Nations/Y. Nagata)

Plate 4 — "Israeli forces redeploying west."

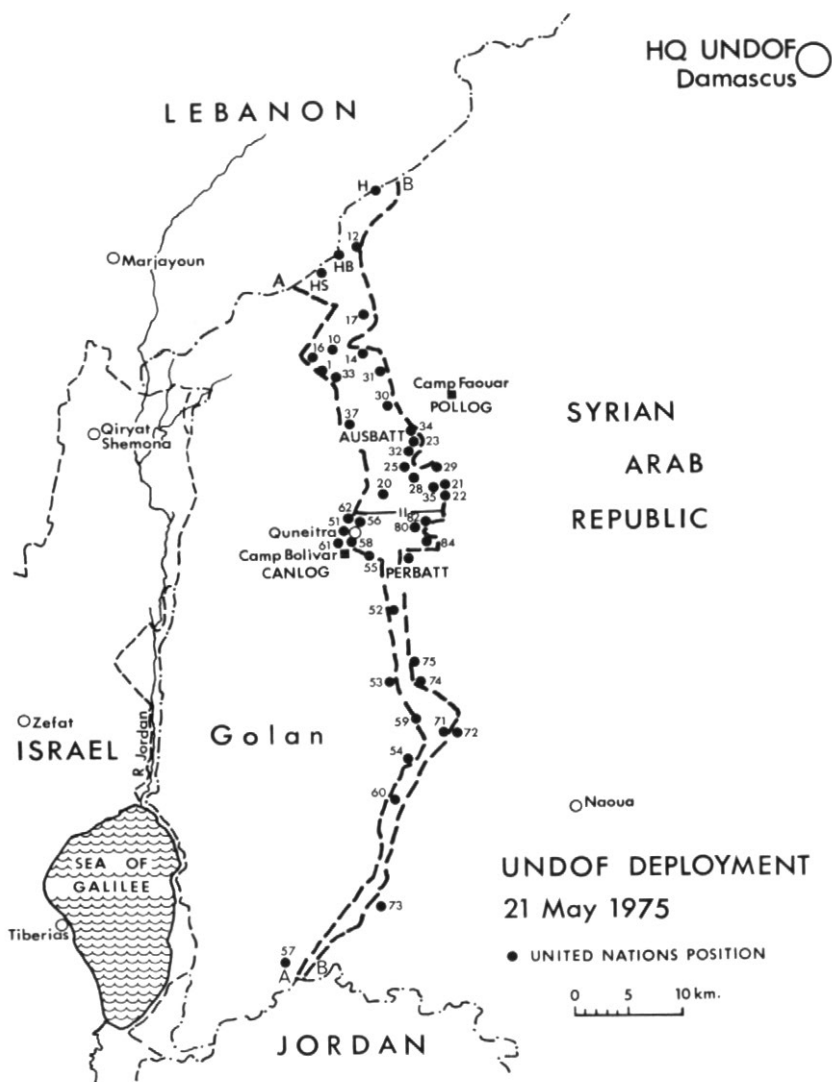
vicarious chariots of the mighty hurled by the hating against the hated — pinned and butchered where their bodies now rust. Some of the anguish and ferocity of that past moment reaches the boy and he shivers in the half-light. He stands, a neutral speck betwixt two legatees of hate who face each other across a kilometre of starved land afflicted with a rash of black stones.

Back in the Operations Room the smooth calm English voice of the BBC commentator tells the world that it is now "04 hours Greenwich Mean Time". The officer sends out an all stations call and records the replies in English accented with a dozen mother tongues, telling him that all is well. The day has begun.

The Cease-fire Agreement (See Map)

The agreement signed in Geneva on 31 May 1974 called for a cease-fire between Israel and Syria. The cease-fire also included agreement that:

- all Israeli forces would redeploy west of the line Alpha except that in the Qnaitra area Israeli forces would move west of the line Alpha One (Plate 4);



- the area east of the Alpha line return to Syria and that Syrian civilians be permitted to return to the area under local civil administration (Plate 5);
- the area between the Alpha and Bravo lines be an AOS of forces, into which UNDOF would deploy;

- all Syrian military forces would be east of the Bravo line;
- the area between the Alpha and Alpha One lines come under Israeli civil administration and accordingly should contain no military forces;
- the respective air forces could operate up to their respective AOS boundary without interference; and
- two equal areas of limitation of forces and armaments be established east and west of the AOS.

In order to supervise and enforce the agreement UNDOF was established by the Security Council on 31 May 1974.

The Deployment of UNDOF (See Map)

The military situation on the Golan at the time of cease-fire was briefly as follows:

The Israeli and Syrian military forces were heavily engaged in a war of attrition. The Forward Defended Localities (FDLs) ran from Mt. Hermon in the north curving to the east into a bulge near Saassa (the much publicized Saassa salient) and south to the Jordanian border on the Yarmouk river. Intense exchanges of artillery, tank, mortar and rocket fire took place daily. Offensive air activity was less frequent.

The only military UN presence in the area was in the form of unarmed officer military observers from the long established United Nations Truce Supervision Organization (UNTSO). These officers manned the observation posts (OPs) along both the FDLs and through their reporting apparatus kept UN HQ informed of the military situation.

During their deliberations the parties (ie, Israel and Syria) agreed that the strength of the force to be interposed into the AOS would be about 1250 men. It was appreciated that the force would be required not only to inspect and enforce the terms of the cease-fire, but also to provide a credible physical deterrent to a further outbreak of hostilities. The situation also called for the speedy deployment of the force to take advantage of the political breakthrough which had been achieved. Accordingly, with the consent of the contributing nations the units and sub-units of the force were drawn from the United Nations Emergency Force (UNEF) which was deployed (and still is) in the Suez Canal sector.



(United Nations/Y. Nagata)

Plate 5 — "Syrian civilians returning to Qnaitra."

The force became operational on 3 June 1974 and concurrently advance parties of UNDOF moved into the area. The move of the major elements from the UNEF area was completed by 18 June 1974. The initial task of the force was to achieve a smooth and orderly disengagement and redeployment of forces. This was achieved using a forward headquarters at which the military representatives of the



(United Nations/Y. Nagata)

Plate 6 — UNDOF forward Headquarters.

parties conferred continuously with HQ UNDOF to co-ordinate the carefully phased and delicate troop relocations (Plate 6). With the complete co-operation of the parties this major first step was accomplished by 25 June 1974 on which date all Israeli forces were west of the Alpha and Alpha One lines and Syrian forces had redeployed to the Bravo line. UNDOF was in. Concurrent with the troop movements UNDOF assisted the parties in the hand-over of prisoners of war and body search operations (Plate 7).

Composition of the Force

The force deployed consisted of a headquarters, two infantry battalions, two logistic companies and a group of military observers

assigned from UNTSO. The map shows the deployment situation as at May 1975, viz:

- HQ UNDOF in Damascus.
- The Austrian Battalion (AUSBATT) deployed in the northern sector of the AOS with its headquarters at Camp Fouar in Syria.
- The Peruvian Battalion (PERBATT) to the south with HQ PERBATT at Camp Bolivar just to the west of the Alpha line.
- The Canadian Logistics Company (CANLOG) providing the force with supply and transport support, co-located with the Peruvians.
- The Polish Logistics Company (POLLOG), which provides transport and engineering support, is in Camp Fouar.

The 90 military observers provided for in the UNDOF establishment give the force a unique character. It is believed to be the first time that a UN force comprising armed troops and unarmed officer observers has been raised. All the military observers are assigned to UNDOF from UNTSO. They perform the following tasks:

- man observation positions in battalion areas;
- carry out the inspections of the Limited Forces Areas (LFAs) as provided for in the agreement;
- conduct investigations;
- carry out routine or special patrols, and
- serve in staff positions.

Current Activities

After disengagement was completed UNDOF established a series of positions in or proximate to the area to provide observation coverage and to regulate access into the AOS. Periodic adjustment of these positions is necessitated by weather conditions or in order to improve observation or communications. At present UNDOF mans a total of 43 positions. Additionally, units have their own patrolling programme within the AOS. This combination of static observation positions and mobile patrols enables UNDOF to inspect the cease-fire, the basic provisions of which were listed earlier. One aspect of UNDOF responsibility under the agreement which requires explanation is that of the inspection of the LFAs. Under a protocol to the agreement UNDOF

is required to conduct regular, (not less than once each 15 days), inspections of the equal areas of limitation of forces. These extend from 25 km west of the Alpha line to a corresponding distance east of the Bravo line and within these areas force limitations have been imposed on the parties. In co-operation with military representatives of the parties, UNDOF officer observers carry out the regular physical inspections of these areas to ensure that the agreed limitations are not exceeded.



(United Nations/Y. Nagata)

Plate 7 — "UNDOF assisted in body search operations."

Conclusion

It is obviously fruitless to speculate on what might have eventuated without the presence of UNDOF in the Israeli/Syrian sector. Similarly to prognosticate on the future of the area would be fool-hardy. What may be said is that during the first year of its existence UNDOF has kept the peace. Its effectiveness lies not only in the fact that the

force is deployed with the bilateral agreement of both camps, but for the following practical reasons:

- Firstly the physical separation of the parties greatly reduces the very real possibilities of an accidental clash. Additionally, the AOS precludes the corrosive friction which would result from the constant physical proximity of the respective FDLs.
- Secondly, international public opinion may be fickle and often apathetic but once stirred it demands a hearing. Both parties and their supporters are well aware of this. The predictable effect on world opinion of the killing of large numbers of lightly armed UN soldiers would be universal censure, and as has already been demonstrated, to forfeit surprise in an attempt to retain a good global image is militarily unprofitable.

On 21 May 1975 the Secretary-General of the UN presented to the Security Council his report on UNDOF for the period ending on that date. In the last portion of that report he stated: "I consider that the continued presence of UNDOF at the present crucial time is essential, not only to maintain quiet in the Israel/Syria sector but also to provide an atmosphere conducive to further efforts towards the achievement of the just and lasting peace called for by the Security Council and to assist in such further efforts, as required."

UNDOF is a product of war. It is an organization born out of the concern of nations that war should not recur — an international group of military men entrusted with giving peace a chance. Perhaps the fact that UNDOF is truly international gives grounds for some hope for the future. ✂

* * * *

SUBJECT FOR AMF GOLD MEDAL ESSAY FOR 1934

During the past 12 months, various proposals have been made by outside authorities as to the manner in which the Defence Forces of Australia should be organised. These range from one suggestion that a large force of aeroplanes, together with a few submarines, should be provided, to another which holds that any navy we can maintain would be inadequate to deal with a first class power and that, therefore, we should only maintain an army.

Having in view the limitations of finance and population and bearing in mind the requirements of both Imperial and local defence discuss the organisation you consider best suited for the Defence of Australia.

INDIA..



ROLE in SOUTH ASIA



Major I. M. Wells
Royal Australian Engineers

Introduction

BEGINNING with the Sino-Indian border war of 1962, and continuing through the Indo-Pakistan wars of 1965 and 1971, the regional political relationships of the South Asian states and the global Super-powers have been in a state of flux. The emergence of Bangladesh added another actor to the South Asian stage, but it did little to solidify the regional structures as a basis for greater co-operation and reduction in tension.

The aim of this article is to review the political, economic and military role for India in the sub-continent, its peripheral regions and Indian Ocean zone.

Indian Foreign Policy

The post independence implications of their new position in the world dawned on most Indians very gradually. They felt safe and sheltered behind the mountain ranges in the north and ocean to the south and there was widespread conviction that no major upheavals possible in the world would touch them. The major goals of Indian foreign policy appeared simple and uncontroversial: friendship with every nation, attachment to no bloc, sympathy with struggles for freedom and opposition to racial discrimination everywhere.

Maj I. M. Wells, psc, BE (Civil), MIE Aust, graduated from the Royal Military College Duntroon in 1962. After serving in a variety of staff and regimental postings including AATTV (1966-67), OC District Engineers Office RAE in Papua New Guinea and OC 22 Construction Squadron, he attended the Pakistan Command and Staff College at Quetta in 1974. Major Wells' present posting is with the Directorate of Combat Development, Department of Defence (Army Office).

This sense of security was soon disturbed by the war in Korea, unrest in South East Asia and the march of the Chinese Communist armies into Tibet. It was soon realized that friendly relationship cannot be established unilaterally and that remaining aloof from blocs would not guarantee friendship with everyone.

The original concepts of Indian foreign policy survive but their content is undergoing change due to the increasing complications in Asian politics. The foremost aim is still peace for, lacking a reserve of agricultural capacity to maintain let alone improve the standard of living, India is preoccupied with development projects. Peace is a prerequisite of their realization.

The second aim is to wipe out imperialism and racism everywhere. This sweeping aim is advanced in the belief that there can be no real freedom for any nation, and no equality for Indians in particular, as long as racial discrimination continues. They also expect that India will accrue prestige for the championship of the freedom of all peoples. Closely related to this aim is equality of status for Asian nations in international councils.

The third aim of India's foreign policy is the maintenance of her freedom of political manoeuvre for she wants to be able to determine her foreign policy as independently of external commitments as possible. This has been called a policy of neutrality when it is actually defined as a policy of positive peace. Neutrality implies a refusal to take sides whereas the Indian government is not refusing to take sides as a matter of principle — *it merely refuses to do so when there is nothing to be gained.*

Cold War and the Third War

With the onset of the Cold War the US declaratory policy was of comprehensive and consistent opposition to both Russian and Chinese foreign policy and local Communist parties. This policy supported a "call to arms" directed to new governments in the post colonial world and an "alliance diplomacy" designed to stiffen the confidence and capabilities of third world governments in facing indigenous and neighbouring Communist adversaries. Successive US Administrations created incentives for non-Communist governments to become anti-Communist governments and States willing to join vague alliances were offered the protection of American arms, military assistance for their local forces, diplomatic support in regional quarrels (sometimes), and

economic assistance. States that decided to stay outside the alliances were generally given access to the same kind of resources but in lesser amounts or of more restricted scope.

On the Indian sub-continent, Pakistan was a "joiner" and India was a "negotiator" with some of the bordering States trying to strike a balance between India and China, and India and Russia.

Indo-Pakistan Conflict

Within Pakistan, American alliance assistance came to have three effects: to strengthen the armed services within the political system; to strengthen the central government against other centres of authority in the society; and, to strengthen Pakistan against India.

In 1962, simultaneously with the Cuban missile crisis, war broke out between China and India along the Himalayan frontier giving the appearance that the Communist states, though divided, had begun to militarize their policies towards the Third World States thus causing the United States of America to launch a major assistance effort for India for, although the Chinese had proclaimed a unilateral cease fire and had withdrawn to their claim lines, India's security appeared to be hostage to China's intentions.

As soon as military assistance began flowing to India to meet the Chinese threat, Pakistan protested. It argued that the Sino-India border clash was small, that India had been truculent in negotiations, and that the Chinese could not mount and sustain a major cross-Himalayan adventure in India even if they chose to. The military assistance India sought, it was argued, was directed against Pakistan. Moreover the assistance would trigger an arms race to the detriment of both countries' development programmes.

India on the other hand felt that they were being blackmailed by Pakistan through the western countries when their survival was at stake. When their request for high performance American aircraft was refused they turned to an unlikely ally, the USSR, for assistance. Moscow was eager to forestall the anti-Communist opportunity the Sino-India War had opened and, in a somewhat confused but precedent breaking policy, not only agreed to supply the aircraft requested but also agreed to build plants in India for their manufacture.

Military assistance to India was greater than Pakistan had hoped it would be and in the absence of a Kashmir settlement Pakistan turned to both the USSR and China for assistance. The more important

overtures however being with Peking, India's adversary, thereby restoring a somewhat dubious balance of power in the sub-continent.

1965 Indo-Pakistan War

This trend was sealed in the 1965 Indo-Pakistan War, the roots of which lay in three factors:

- the peculiar problems of Pakistan's political system,
- the apparently weak regime in India, and
- the weakening relative military strength of Pakistan which was worsening due to the major Indian build-up underwritten quite modestly by US and British aid and Soviet sales and development commitments.

The war fought in September ended in a stalemate. This meant a political defeat for Pakistan primarily because they had miscalculated the American response which was in effect to apply an arms embargo applicable to both sides and suspend all shipments of military and economic assistance. This policy fell heavily on Pakistan which had no alternative sources of supply and very little foreign exchange.

Post 1965 War

The US policy after the war also disappointed both India and Pakistan, propelling India into greater dependence on the USSR and Pakistan into much closer relations with China in order to retain a balance related more to their apparent threat to each other rather than to an overall strategic situation. Military equipment also came from other sources diverting substantial funds which might otherwise have been used for economic development — by far the more important problem. Pakistan bought in France (Mirage aircraft), Italy (small submarines), the USSR (helicopters, trucks, tanks) and China (tanks, MIG 19 aircraft, an ammunition factory, small arms). India continued its large purchases from the USSR (submarines, Petya class destroyer escorts, patrol boats, SU-7 fighter bombers, MIG 21s and helicopters — both MI-4 and MI-8).

The late 1960s brought hard times to the sub-continent. India suffered severe food shortages occasioned by three poor monsoon seasons. The closure of the Suez Canal had deprived Indian industry of traditional markets and sources of supply and had increased freight costs. The military costs of recruitment, development and deployment were high. Foreign exchange remained very expensive, dependent as

much on the Aid India Consortium of the International Bank for Reconstruction and Development as on the policies of the government of India. India's political life was also unsettled: Shastri died in Russia after signing the Tashkent agreement and Mrs Gandhi was struggling for control of the Congress Party.

In Pakistan the economic picture was better but the political situation was worse. After Tashkent Ayub Khan had decided to embark on a military build-up cutting all "social overhead capital investments" with a resultant dire effect on popular support and law and order. The Ayub Khan regime fell in 1969 and it was replaced by a military government led by Yahya Khan.

East Pakistan — Road to Indian Intervention

Coupled with the breakdown of the political system in Pakistan was the rise of the movement by the Bengalis seeking consideration of the needs and aspirations of East Pakistan.

General elections were held in Pakistan on 7 December 1970 which resulted in the Bengali Awami League winning a majority of 167 National Assembly seats of the 169 allocated to East Pakistan whilst the Peoples Party won 81 of the 143 seats allocated to West Pakistan. Between 7 December 1971 and 25 March 1972 Pakistan's political leaders looked for a basis of co-operation that would not sacrifice the interests of their constituents or their own position with their followers. The goals of each seemed irreconcilable.

The talks failed and rioting and civil disorder broke out in East Pakistan. International interest in the conflict increased: the USSR made a strong plea for political settlement whilst the USA stressed the humanitarian concerns and maintained the arms embargo on Pakistan. Peking however, much to the consternation of other powers, fully backed West Pakistan's stance.

By July the Indian Government found itself in a difficult position. Its semi-open support for the Mukti — Bahini guerillas, for the government in exile, for a "Radio Bangladesh" in Calcutta and for the Awami League cause internationally, had not achieved the aims nor did there seem any likelihood of doing so in the immediate future. Moreover millions of refugees were on Indian soil producing a grave financial crisis and an even more explosive political problem.

The other factor in New Delhi's calculations was the regional strategic balance in the sub-continent. Ever since 1954, and the

beginning of US arms assistance, Pakistan had countered Indian actions and frustrated Indian efforts to play a wider role in world and regional politics. The placement of a large Pakistani army at the approaches to Kashmir forced India to immobilize a substantial part of its army in a static defensive posture and moreover, Pakistan had consistently involved other great powers in the quarrels of the sub-continent, most recently and dangerously, China. The Pakistan army of about 350,000 men was supported by a society of over 120 million and its foreign exchange earnings were large. Without East Pakistan, the country would shrink to 55 million, and approximately half its foreign exchange earnings would be lost thus making it difficult to afford to maintain such a large army. It was therefore, a golden opportunity for India to eliminate the "Pakistan threat".

Through careful diplomacy India then undertook to get USSR backing for military intervention to offset both the US and Chinese roles — the Chinese by presenting them with a Soviet "guarantee" in support of India and the Americans by cancelling out such UN activity as Washington might attempt. On 9 August 1971, India and USSR announced the signing of a 20 year Treaty of Peace, Friendship and Co-operation and accompanied it with the news that Russia would provide India with more arms.

Indo-Pakistan War and Birth of Bangladesh

The stage having been set by India the war followed a predictable pattern. Indian troops, with excellent intelligence on fortifications and transport facilities and with the support of the local population, moved into East Bengal. They also imposed a full blockade on all ports, and took command of the air. Pakistan responded by launching an attack towards India's Kashmir interests which, though initially successful, weakened as it ran into very strong resistance. Pakistan kept a large percentage of its first line aircraft in reserve and had to maintain a strong defensive force in West Pakistan to meet the Indian strikes along the Sind and Punjab frontiers. It was a replay of the 1965 war with the exception that East Pakistan was brought into the battle and taken by Indian forces.

The war ended on 17 December 1971 with the unconditional surrender of all Pakistani forces in East Bengal and with a cease fire along the western frontier from Sind to Kashmir. The West Pakistan military junta collapsed as General Yahya Khan surrendered the government to a civilian Zulfikar Ali Bhutto.

India emerged from the crisis as a newly purposive, powerful and skilfully managed regional power.

India-Pakistan-Bangladesh Relations

The government of India made it clear that its victory in the field would be followed by a diplomacy that would reorganize relations between the three principal countries of the sub-continent. While noting that it would do nothing to violate the independence of Bangladesh or the territorial integrity of West Pakistan, it would insist that regional relationships be entirely devoid of third party interference. That is, it aimed at restoring the Indian hegemony that existed prior to the Pakistani-American arms agreement of 1953-54.

In the first phase of postwar diplomacy, India was uncompromising but failed to achieve its objectives due to the persistence of Mr Bhutto who thwarted Mrs Gandhi's attempts to bring him to the conference table by force. A more conciliatory phase followed the Simla Conference in July 1972 when India agreed to separate the India-Pakistan and Pakistan-Bangladesh issues. India wanted the "status quo ante" along the western front except in Kashmir, where it wanted some favourable modification of the cease fire line and a Pakistani agreement to end the evocation of external powers in the Kashmir dispute.

The third phase of the resolution of the India-Pakistan-Bangladesh relations began with the efforts to resolve those inconclusive aspects of the Simla Accord that dealt with Bangladesh: disposition of assets and liabilities, interned personnel, Pakistani POWs, alleged war criminals, trade and currency assets, evacuee property claims and compensation for destruction during the Civil War. India held the POWs to improve Bangladesh's bargaining position with Pakistan and Pakistan stalled on significant negotiations while the world opinion developed against India's clear violation of the 1949 Geneva POW Accords.

By skilful manipulation Indian involvement in engineering Pakistan-Bangladesh relations was neatly finessed by Mr Bhutto at the time of the Pan Islamic Conference in February 1974 by using the "Muslim brotherhood" approach and influential Muslim leaders to finalize details rather than India. These actions by Mr Bhutto thus effectively reduced the political ascendancy that India had apparently achieved in 1971.

India — Potential

Of all the underdeveloped countries, India is perhaps the best endowed with resources, capital, infrastructure and trained manpower.

Its population and continental scale are both assets and liabilities, but, on balance, they offer the prospect of a development pattern that is basically autonomous making it the most important country in the region.

There is no prospect for a "rich" India in the 1970s or 1980s or even, perhaps, in the twentieth century. The country is plagued by the kinds of problems and tensions which can shake its central institutions and produce domestic turbulence on a very wide scale as the 1974 rail strike, riots in Bihar and recent suspension of "democratic institutions" illustrate. Development for India requires the creation of management institutions and economic productivity capable of providing a marginally better existence to a rapidly growing population and having enough surplus to sustain a defence force, an advanced science and technology, and an increasingly egalitarian social life.

Increases in Indian defence strength, especially in defence industry are incompatible with these goals. India threatens no non-South Asian country with its present or projected strength, and it has no serious revisionist goals that would entangle it in war with either China or USSR. However, the main problem for India remains China — in which the Indo-Soviet friendship remains a problem as well as an asset, and it is probably the prime reason for India's efforts to develop a nuclear capability at considerable cost to both national development and international relations.

India's historic foreign policy has been more introspective than expansionist, and while it is possible New Delhi will continue to mobilize resources for modest growth and self-management, it is most unlikely that there will be an export surplus available to power an "imperial India".

It is in India's interests to keep a viable but weak Pakistan as a buffer on its western border and to achieve this condition it can be anticipated that India will support internal dissidents in Pakistan, border disputes in Kashmir and possible Afghan territorial claims. Similarly a viable and friendly Bangladesh is a buffer on the eastern border but it is also a potential hazard as an example for Indian dissidents to follow suit. Whilst India acknowledges the requirement for Bangladesh to be viable it is unable to afford to subsidize its economic rehabilitation and development.

The further fragmentation of Pakistan, a most unlikely development, is of special concern to Iran and would almost surely prove

threatening to India. It would require an active Indian and/or Iranian effort to prevent Soviet or Chinese client states from being established in the sub-continent, an expensive and thankless task wholly unnecessary if Pakistan remains united.

The possibility of integration of Bangladesh into India, no matter how attractive economically, is unlikely because of Bangladesh nationalism, and a residual anti-Hindu sentiment. India is unlikely to welcome such a move as it would only add to that country's own pressing burden. Bangladesh poses a security problem to no country, nor does it represent a major prize in the competition between world powers. Its own defence is almost entirely dependent on India and in short Bangladesh must be viewed as an Indian protectorate — a relationship which is perhaps of mutual benefit to both.

In the Indian Ocean zone, India is in favour of the Sri Lanka proposal for a zone of peace and it is interesting to note that as one of the most influential countries in the Ocean, India has to date resisted Soviet pressure for military facilities despite its heavy dependence on the Russians for aid.

Conclusion

The realities of the concentration of power places India at the apex of the security system of the South Asian Region but with domestic constraints that limit its foreign capabilities and aspirations. There is no prospect for a rich India and limitations on expenditure for defence purposes are in the national interest.

India foresees China as the major threat to its hegemony in the region and the establishment of "normal" relationships between India and Pakistan would be to both countries mutual benefit. ✕

• * * *

Statement showing action to be taken with regard to List of Changes in War Material, and of patterns of Military Stores and Local Modifications to Equipment etc, issued with Army Orders dated 30 September 1934.

<i>Equipment</i>	<i>Nature of Change</i>	<i>Instructions</i>
A. 8303 Spurs, Jack, ordinary	New pattern	
1. Approval is given for all existing spurs to be modified to appropriate the new pattern by cutting off the points of rowels.		
2. Spurs on issue will be modified forthwith under unit arrangements. The points of rowels are to be cut off close to the boss with wire cutters.		
3. Stocks in Ordnance will be modified before issue as opportunity offers.		

Letters to the Editor

Dear Sir,

The Derby Rangers

In his article in the August issue of *Army Journal* ("Some Thoughts on a Proposal for a Military Presence in North-West Australia") Lt Col Stein raised some controversial points concerning the concept of continental defence. There are a variety of theories as to how continental defence can best be achieved, and I would suggest that the term itself is somewhat esoterically utilised in defence circles with seldom an accompanying definition. Lt Col Stein stated no estimate of the nature of Australia's threat(s) — neither foreign 'capability' nor foreign 'intent' — but I would presume that he considers the north-west cape to be sufficiently important and significantly vulnerable as to warrant the immediate deployment of ground forces there.

This concept, which might well be considered by some as the thin khaki line of *Fortress Australia*, serves only to further disperse the meagre quantum of forces at our disposal. Until the services can be clearly directed to opposing a definite threat in a definite military region the concept of continental defence must remain totally flexible. In this sense the only practicable solution for achieving continentality is one of timely and vigorous response: in other words, we must be able to quickly deploy and logistically support a force (or forces) capable of dealing with the situation at hand. The keynote to success implied here is, of course, inter-service co-operation at all levels, and it is in this direction that future exercises should be planned and conducted.

The idea of rotating battalions through Derby for a four month unaccompanied tour on a two year cycle is anathema to this idea of flexible response. In the first place it would soon become nothing more than a routine movement exercise which, when repeatedly conducted, would lose most of its operational effectiveness. Secondly, it would inevitably tie down more and more equipment in a remote area that may well become inaccessible in the event of a security threat

developing somewhere along the east coast. Furthermore, a feasible army presence on the Yampi Peninsula would require the logistic support and maritime protection of the RAN: an Indian Ocean presence that will not be effectively realised until the facilities at Cockburn Sound are more fully developed.

Lt Col Stein's analogy to the existing military outstations in PNG is somewhat misleading. North-west Australia bears little similarity to PNG where, traditionally, the Army's task has been to identify isolated tribal people with the central government in Moresby — an essential requirement for an underdeveloped country seeking nationhood. In sheer military terms the capability of these outstations to provide a credible defence, either locally or nationally, has been, and is, minimal indeed — a fact to which those who have waysided at Wanimo (PNG's most sensitive border area) will readily testify.

I would also dispute the premise that a permanent military presence in north-west Australia would provide Field Force with "an important sense of purpose" and "a challenging tour of duty on a regular long term basis". More likely, with the knowledge of battalion changeovers (and eventually task force) three times each year, Field Force would become severely restricted in planning its troop deployment. And, as the third year rolled around, morale would suffer at the knowledge of a second four-month unaccompanied tour to a Western Australian 'Hols-worthy' range (Recruiting and PR might also be hard pressed to devise appealing advertisements to promote this kind of 'adventure').

In essence I believe that a military presence in north-west Australia, as proposed by Lt Col Stein, is neither relevant to, nor provides a practicable proposition for, the achievement of continental defence. That it would provide a challenging tri-Service exercise if conducted at irregular intervals under varying seasonal conditions comes much closer to achieving our overall defence aims.

Department of Defence (Central)
Canberra

M. G. Smith
Captain ✕

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Lieutenant Colonel Stein replies:

Accepting continental defence as an inadequately defined concept posing complex and unresolved problems, I purposefully chose to avoid

entering into any discussion of threats, etc. Instead, I confined myself to the pragmatic — what useful activities can Army undertake now to prepare for as yet undefined tasks.

The first activity was to display a presence in remote Australia, for Governmental purposes which I would consider to be beneficial (principally related to the intent to maintain sovereignty over those areas, and involving the day to day infringements for which a flexible response from afar would not be practicable).

The second activity was to develop a military capability to operate in an area largely unknown to the Army and offering significant logistic difficulties. I did not suggest that I would select the north-west region as a likely area for development of high intensity threats, nor that the "Derby Rangers" would be expended in the defence of Australia as part of a "thin khaki line". What I have implied is that no concept of continental defence can be complete unless Army has the capability to operate throughout all parts of the continent as required.

The adoption of an outstation concept makes both these activities possible (as it also did in PNG) and I therefore submit that the concept is relevant to the achievement of continental defence.

I suggest that Capt Smith has stated a principle of continental defence — flexible response — whereas I have discussed a means of achieving that principle. Capt Smith's concept and my own seem to me to be in harmony when it is noted that I argue against permanent bases in the area, and maintain the options of reinforcement or abandonment of temporary bases. A principle is of little use unless capable of being applied. The very act of converting unit deployments into "routine movement exercises" is surely desirable in a flexible response context? If Yampi Peninsula is acquired by Defence, it is foreseen that major joint exercises are unlikely to be held more frequently than every four to six years once transport capabilities allow, and minor joint exercises (of company/battalion group level) at one to two years interval. I doubt that such a frequency will really achieve the necessary flexible response capability.

I cannot agree with the argument that outstation duty would unduly disperse our meagre forces. In a high intensity threat situation a battalion group will be of relative insignificance to the overall defence effort. In a range of low intensity threats, such a force might itself be adequate to cope with the situation.

If I am out of date in speaking of a favourable soldier reaction to outstation duty then I suggest that the Army is in a sorry state. I don't believe that to be the case! Outstation duty appeals to me personally. Even the title "Derby Rangers", which I interpret as being used disparagingly, has a somewhat attractive ring about it.

* * * *

Dear Sir,

I would like to congratulate Lt P. A. Pedersen on his fine article "Darwin — A Platoon Commander's Experience" in the September issue of *Army Journal*. It was refreshing to read an interesting and original account of the first-hand experience of service personnel in the aftermath of what was perhaps Australia's most devastating cyclone. I must further add that enlightening comparisons may be drawn between the troops involved in the Darwin salvage operations and those previously employed in the earlier Townsville disaster. This particularly applies to the field of Army and civilian relationships.

Daily routine is what people are most fascinated with, yet it often proves a most difficult subject to tackle due to its tendency to become boring. Lt Pedersen surmounts this difficulty, however, by displaying a strong ability in his control of both idiom and amusing allusion. To me, "A soldier sat in a wheelbarrow" recalls all the humour associated with "The Dog Sat On the Tuckerbox" legend, while the comparison of Darwin after the cyclone, to Hiroshima after the bomb, conveys a startlingly vivid image of the extent of the storm damage.

But I digress from what I consider to be the most interesting part of Lt Pedersen's article, that concerning the attitude of the Army personnel towards their task. It never ceases to amaze me how the Australian soldier (especially at the lower levels of the rank structure), is able to sublimate his energies toward coping with a genuine situation. Soldiers previously considered lethargic and disinterested suddenly astounded by displaying a latent initiative and ability which up until then had lain dormant, despite countless mock exercises and stereotype initiative courses.

I am not implying that Australia requires more natural disasters in order to develop the true potential of her Army, but I am saying that such potential can be developed in an easier, cheaper and more satisfying

way. The way involves the greater orientation of Australia's Army towards an active peace-keeping role with correspondingly less emphasis on an effete exercise programme.

Further discussion on this point I feel is unwarranted in this letter but I hope that perhaps it will generate some further thought among those whom I feel certain are already contemplating such a concept.

Faculty of Military Studies, R.M.C.

C. A. Jones

Lieutenant ✕

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MBI 76 of 1934

Respirators, Anti-Gas, Facepieces, Mark III: Wearing of

The following instruction, which was previously published in MBI G24/1927, is republished:

"Attention has been drawn to the fact that discomfort has been experienced in wearing the new Mark III facepieces owing to the accumulation of condensed breath and perspiration around the chin and inside the facepiece. Such a condition will increase rather than diminish the protection offered by the facepiece, but the excess of moisture can be removed by the wearer of the facepiece bending forward until he is looking vertically downwards. The liquid will flow into the outlet vent and can then be blown out through the outlet valve."

MILITARY ORDER 390-1923

Wearing of Emu Plumes and Hat Puggarees by members of Light Horse units.

Approval is given for the wearing of emu plumes and hat puggarees by members of Light Horse units, provided supplies can be arranged regularly without expense to the public.

Emu plumes and puggarees provided as above will not be accounted for in Unit Clothing Ledgers (A.M. Book 14) but arrangements should be made by commanding officers of Light Horse units to maintain proper records of the receipt and disposal of these articles.

CURRENT DEFENCE READINGS

Readers may find the following articles of interest. The journals in which the articles appear are available through the Defence Library Information Service at Campbell Park Library and Military District libraries.

A survey of Greece (economic and political). *Economist* (London), 20 September, supplement.

The telephone tells all. (Techniques of telephone tapping and prevention.) *New Scientist* (London), 17 July, pp. 148-151.

Does Army R & D really pay off? *Armed Forces Journal International* (Washington). June, pp. 19-24.

If you're confused about "first strike" — (Differentiation of terms, and comment on significant alteration in U.S. plans for implementation of "first use".) *U.S. News & World Report* (Washington), 21 July, p. 28.

That Russian base in Somalia... (report following interview with President of Somalia and viewing of Russian military activity.) *U.S. News & World Report*, 21 July, pp. 31-32.

From Turkey to Portugal, a mass of worries for U.S. (Threat to NATO's southern flank and U.S. bases is assessed; map.) *U.S. News & World Report* 21 July, pp. 58-60.

The following articles are from *Military Review* (U.S.), July, 1975:

Somalia and the development of Soviet activity in the Indian Ocean, pp. 3-9.

Insurgency in Thailand: an analysis of the government response, pp. 10-17.

Norway's significance from a military point of view, pp. 18-27.

Down the road to Armageddon? (American youth's revulsion for the military — causes and implications), pp. 30-40.

Improved command and control for the United States Army Reserve, pp. 83-94.

Chinese relations with Burma and Indonesia. *Asian Survey* (U.S.), June, pp. 473-487.

The evolution of India's policy towards Bangladesh. *Asian Survey*, June, pp. 488-498.

The Soviets in Bangkok: undercover diplomacy. *Far Eastern Economic Review* (Hong Kong), 26 September, pp. 8-9.

Peking's day of the generals. (Real threat to China is Soviet capacity to strike strategic border areas.) *Far Eastern Economic Review*, 26 September, pp. 16-18.

The trend in naval power: a crisis of resolve. (Manpower: hardware ratio, U.S. and Soviet resources compared). USNI Proceedings, July, pp. 25-29.

The military profession in Canada: quo vadis? *Canadian Defence Quarterly*, Summer 1975, pp. 7-11.

Has new life been breathed into U.N. peace-keeping? (Canada's role, policy, problems.) *Canadian Defence Quarterly*, Summer 1975, pp. 22-28.

Un concept de force totale pour les Forces Armées Canadiennes. (Not translated.) *Canadian Defence Quarterly*, Summer 1975, pp. 29-33, 45.

Modern airborne sensors in the light of Canadian requirements. (Including review of present airborne surveillance capability in the Canadian Forces, DND requirements for military assistance in maintaining sovereignty of the Canadian North, their sensor familiarization program, suitability of sensors for regional surveillance and reconnaissance — incl. diagrs. and photos. *Canadian Defence Quarterly*, Summer, pp. 36-45.

Defence: (international equipment notes.) *Flight International* (UK), 25 September, pp. 433-436.

Defence: (international equipment notes.) *Flight International* (UK), 2 October, pp. 467-468.

Britain's aerospace industry: the research and development establishments; helicopters; military aircraft; guided weapons. *Flight International* (UK), 2 October, pp. 477-8, 482-4, 488.

A single telescope. (Japan's altered relations with U.S. and implications — includes short comment on military options.) *Newsweek* (Washington), 6 October, pp. 10-11.

[Egyptian Air Force], Technical training being geared to western equipment. *Aviation Week & Space Technology* (New York), 28 July, pp. 42-47.

Problems and prospects for a SALT II Arms Control Agreement. *Interavia* (Geneva), August, pp. 854-858. (The article will not photocopy satisfactorily, but the journal will be sent via the rounds for a one-day loan, on request.)

The following articles are from *Nato's Fifteen Nations*: independent review of economic, political and military power, (Holland), June/July, 1975.

Britain's Defence cuts: disastrous, inadequate or unavoidable? pp. 12-15.

Northern Army Group: four nations, one aim. (Functions and capabilities.) pp. 34-40.

Aircraft guns (and NATO), pp. 42-44.

ODIN: a Norwegian solution to artillery fire control, pp. 46-47.

Another eternal triangle: the Soviet Union, Communist China and Japan. *Nato's Fifteen Nations* (Holland), June-July 1975, pp. 48-54.

The Soviets and the sea. *Nato's Fifteen Nations*, June-July, pp. 56-62.

(U.S.) Navy hardest hit by budget policy. (Decision to hold annual increases to 2% spurs critical choices on future scale of carriers, other weapons systems.) *Aviation Week & Space Technology* (U.S.), 4 August, pp. 12-14.

Versatile aircraft carriers: new "tricks" from old Sea Dogs (which quietly continue to be useful while the military analysts are ever busy proving otherwise.) *Armed Forces Journal International* (Washington), July, pp. 20-21.

International terrorism: a balance sheet. *Survival* (International Institute for Strategic Studies, London), July/August, pp. 158-164.

Soviet arms and Egypt. *Survival*, July/August, pp. 165-173.

A new policy for Israel. *Survival*, July/August, pp. 174-182.

The emerging logistics system. (Latest concept under consideration by the U.S. Army Logistics Center.) *Army Logistician* (official magazine of U.S. Army Logistics), Sept/Oct., pp. 2-6.

Paying the price of enmity (recent agreement in the Sinai was rooted as much in economic realities as in broader political considerations.) *Newsweek* (Washington), 13 October, pp. 26-28.

Army R & D should pay off — but hasn't. (Follow-up to article in June AFJ, listed in CDR No. 15.) *Armed Forces Journal International* (Washington), August, pp. 24-26.

Foreign Government debts to U.S. (\$ figures). *Armed Forces Journal International*, August, pp. 26-27.

The following articles are from *International Affairs* (Moscow), 9/1975 (September).

The Soviet Union in the struggle for disarmament, pp. 13-22.

USSR — FRG: five years of the Moscow Treaty, pp. 30-38.

Spain: the authoritarian Regime in crisis, pp. 72-78.

Our Northern neighbour. (Finnish-Soviet co-operation: economic, political, cultural.)

Moscow and NATO. (A British report from Russian media.) *Intelligence Digest Weekly Review* (U.K.), 8 October, p. 4.