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The Managing Editor
Defence Force Journal
Building C Room 4-25
Russell Offices
CANBERRA ACT 2600
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Contributors are urged to ensure the accuracy of information contained in their articles: the Board of Management accepts no responsibility for errors of fact.

Permission to reprint articles in the Journal will generally be readily given by the Managing Editor after consultation with the author. Any reproduced articles should bear an acknowledgement of source.

The views expressed in the articles are the authors' own and should not be construed as official opinion or policy.
The Governor-General Sir Zelman Cowen and author George Odgers on board HMAS MELBOURNE for the launching of the Royal Australian Navy - An Illustrated History. (See Book Reviews p60).
AN ALTERNATIVE RESERVE FORCE

Dear Sir,

In reference to the article published by DFJ (No 32) on the Alternative Reserve Force, written by LT. COL J.P.F. Dixon, I have discussed the article with friends of mine, who have nothing whatsoever to do with the Regular or Civilian Reserve forces. They have all expressed an interest in the program, and would like to see such a system brought into being as they have no desire to enlist in either of the above mentioned forces.

As with all such ideas, this one could be improved upon, and, in a pessimistic light, it could be torn to shreds. I would think, though, that the pros of the scheme would far outweigh the cons. If the people who do the knocking sit down with a map of Australia, and figures of Defence Force membership, they would probably realize that, for a country this size, the Defence Force, Reserve included, is not adequate enough to cover the entire continent sufficiently at this time. Some people might say, that we are in no danger of an attack because of the American military establishments in various parts of the country, but to be pessimistic myself, why should they become involved unless their bases were actually physically threatened? I am not saying that they would stay out of a conflict, but that is an option open to us when discussing Australian Continental defence.

To move on to a more constructive topic, the author noted that the sections could be formed in groups of six or eight men, working from a 4-wheel drive vehicle, and could be provided with a para-military type uniform. On the other hand, if the vehicles were provided to units from Army stocks, or were placed at the disposal of the units instead of being sold at auction, then the units would have a contact with the Regular Army or Reserve Units in the way of parts for the vehicles, or they could be obtained through local dealers. In this way more units could be raised, as the main drawback that I have found, through speaking about this scheme, is the acquirement of a 4WD vehicle from a dealer, as prices are a little too steep for the average wage earner. This really only applies to those people living in the major cities, as most land owners and farmers have at least one 4WD for farm uses. Alternatively, units could acquire a 4WD vehicle on a subsidy loan system, whereby the units buy the vehicle, and repay the loan at a fixed amount to either the Government, or to the manufacturer. In this way, uniforms could be purchased by the unit members at a fraction of the cost of the vehicle that they also require.

Weapons as has already been said in the original article, would be personal weapons of the unit members apart from special weapons required for specific tasks.

I realize that this, like the original article, can be pulled apart to illuminate the weaknesses of the scheme, but if ideas are continually put forward, then someone eventually will combine the good, discard the bad, and have one efficiently running, Alternative Defence Force to holster the existing Forces.

*DAVID J. GABEL*

PTE
2MDPD

Dear Sir,

I would like to congratulate LTCOL J.P.F. Dixon on his article 'An Alternative Reserve Force' in Defence Force Journal No 32.

The topic of the defence of Continental Australia is very close to most of us in the Army Reserve and it is refreshing to have a new slant on it.

Casting one's mind back to WWII stories of the Long-Range Desert Group and Poposi's Private Army, it is clear that local knowledge of an area before hostilities, the ability to navigate, fight and survive in desert terrain and the mastery of communications between small units when doing so is a most valuable asset when the situation demands it.

Colonel Dixon's list of Tasks, Specific Tasks and training objectives (together with the annual training in a shadow area) seem to me to be excellent examples of original thought.

Casting at from the medical stand point I would like to add two things which appear to have been overlooked and while we are thinking in terms of original approaches to problems I feel they should be given serious consideration.
Firstly — troops involved in exercises so far from other units and towns must have good First Aid training — the aim should be for every man to be up to St. John Certificate standard.

Secondly — a point which I firmly believe is a first class disincertive to current recruiting in the ARES and also the ARA is true tradition of not allowing beards in true Army. The Navy have a tradition of having them and the argument that discipline and hygiene would be poor if they were allowed is rarely no longer tenable. In the sort of troops Colonel Dixon speaks of it is likely to be a much more attractive concept to the likely security if beards were allowable.

I think that the development our army 4-wheel drive vehicle and light managcete transceiver type of radio - book designed and produced in Australia with facts available at any gainage or radio shop would be beneficial to the automotive and radio industries without resort to overseas manufacture for such basic military equipment and where successful this could then be built into a useful export market as has the production of the 'Nomad' aircraft.

I.C. RODDICK
Lt. Col.
Director of Medical Services
Tasmania

BOOK REVIEWS

Dear Sir,

I have been a subscriber to the Journal for some time now and wish to congratulate you on an excellent and entertaining publication. I might add that your book reviews are extremely well done; the review of the recent book on the Canadian Air Force was particularly good and well received here in Ottawa among the cream of Canada's military historians.

Brendon N. Bulger
OTTAWA, CANADA.

BEST WISHES

Dear Sir,

For many years I have been a gratefully happy recipient of the Defence Force Journal. The publication has held a great number of articles of an educational and interesting character, without question.

However, I am now at an age far beyond that of being able to make any positive contribution to the wellbeing and welfare of the Army. My reading of the Journal in the future would be of a purely self-centred nature; such reading would be also in the sporadic field.

Will you please delete my name from your postage list and accept my truly deep thanks for your past generosity.

I am now in the course of editing the MS, after eight years original research, of my work on Chaplaincy in the Australian Military Forces.

Best wishes for the continued success of your excellent editorship and the splendid Journal.

Rev. A.E.E. Bottrell

COVER

Dear Sir,

Without wishing to detract from the fine effort expended on the cover of the Defence Force Journal number 30, I noted with dismay that not one of the ships depicted even vaguely resembled one of HM Australian Fleet units.

Surely with Exercise K81 being Australian sponsored, your cover could have given recognition that the RAN will be there too.

R. J. R. PENNOCK
RAN
Director of Naval Recruiting
GREAT SOLDIER - GREAT CHRISTIAN

LIEUT. GENERAL THE HONOURABLE SIR EDMUND HERRING

K.C.M.G., K.B.E., D.S.O., M.C., E.D., K.St.J., M.A., B.C.L.,
Hon. D.C.L. (Oxon), Hon. L.L.D. (Monash), Q.C.

By

J.P. BUCKLEY, O.B.E.

EDMUND HERRING was born at Maryborough, Victoria on 2nd September, 1892, where his father was a solicitor. He never lost his interest and affection for his birthplace. Even in the last year of his life he discussed it many times with the writer, who in his youth lived in nearby Castlemaine. Sir Edmund’s ashes were buried in the Maryborough Cemetery in February, 1982.

At the time of his childhood, attending a private school in Maryborough, no-one could have foreseen that in later years, Sir Edmund by his service, achievements, selflessness and dedication, would take his place with other great Australians, such as Monash, Deakin, Blamey, Curtin and Menzies. In fact the versatility of his talents would make it extremely hard to march in one person.

In 1905, after receiving his early education in Maryborough, he joined his older brother Jack at Melbourne Grammar School, where he remained for five years. During this period he was an outstanding scholar, sportsman and leader. He was Dux and Captain of the School, Public Schools’ Tennis Singles and Doubles Champion and grouped with A. E. V. Hartkopf and R. L. Park as exhibition ticket holders for the M.C.C. for the 1909-10 cricket season for his achievements in the Public Schools’ XI Competition.

His scholastic record was first class leading to exhibitions and prizes and finally to the Millear and Perry Scholarships to Trinity College, Melbourne University. During his period at Grammar, Edmund Herring became interested in the School Cadets — an interest in the Army which remained with him until his death. Even in the last month of his life, he was receiving visits from the C.O. and Officers of the Melbourne University Regiment of which he was Honorary Colonel. He always was glad to receive the young Officers who had just been commissioned. His last duty for the Regiment was to autograph his biography for Lieut. Louise Bennett who was just about to be commissioned. His intense interest and success in the Army will be dealt with more fully in the later paragraphs.

His all round brilliance at Trinity College led to his selection as Victorian Rhodes Scholar for 1912, at the very early age of 20 years.

He chose New College for his studies at Oxford. His admiration for New College and Oxford University, remained throughout his life and firmly displayed on the wall of his bedroom at the hospital, were the insignia, in colour, of all the Colleges at Oxford.

In 1913 he joined King Edward’s Horse, a Territorial Cavalry Regiment and later in December 1914, he transferred to, and was commissioned in the Royal Field Artillery. He was posted to the 22nd Division. The reports from his training at the School of Artillery, Lark Hill, Salisbury Plains, told of an exceptionally good officer. Following on service with the R.F.A. on the Western Front at the end of 1915, the 22nd Division was transferred to the Balkans.

Herring remained with the 99th Field Brigade, except for home leave in Australia, until early 1919. For his service in the Balkans, he had been awarded the D.S.O. and M.C. and had been mentioned in Despatches. He received his decorations from King George V at Buckingham Palace in February, 1920. He had
reached the rank of Major at age 26. He had the reputation of being an outstanding "gunner" officer. He was to return to the Balkans 22 years later again as a soldier, but this time as a Brigadier.

On demobilisation, he resumed his studies at Oxford and was elected Captain of Oxford Tennis Team. His scholastic record speaks for itself. In mid 1920 he graduated M.A., B.C.L.

On his return to Australia, he helped out with his father's law practice in Maryborough whilst he was awaiting admission to the Victorian Bar. Sir Edward Mitchell moved his admission before Sir William Irvine C.J. in March, 1921. Thus began a brilliant career at the Bar.

After a lengthy courtship, interrupted by war and study, Herring married Mary Lyle (later Dame Mary Herring) daughter of Sir Thomas Lyle, Professor of Natural Philosophy at Melbourne University in April, 1922. Thus began a partnership of service to the community which is probably without parallel in Australia.

Whilst busily engaged in building up his law practice, he also returned to his great interest in the Army. In 1923 he was appointed to command 44 Bty. of 22nd Bde. A.F.A. By mid 1939, he was Commander Royal Artillery 3rd Division with the temporary rank of Colonel.

On the outbreak of World War II he was appointed C.R.A. 6th Division A.I.F. In spite of the equipment problems, the C.R.A., through his great energy and drive, was able to ensure that his troops were trained to the maximum possible standard before they embarked for the Middle East. In April, 1940, Brigadier Herring sailed with the 6th Div. H.Q. staff to Palestine. They disembarked at Kantara in May. Then followed the rush to equip and further train his regiments, in spite of the grave shortage of guns and stores. Anyone who served in the Middle East will remember the problems and the improvisations necessary to train troops. In the A.I.F. there was always a chronic shortage of equipment and spare parts. By October 1940, the 6th Division was trained for battle and located west of Alexandria. By the first week in January it was poised for the attack on Bardia. The rest is history. Herring had command of all the artillery, including 4 British regiments. The total guns deployed during the battle was 138 (field, medium and anti-tank). Chester Wilmot later wrote that "the way Herring solved the artillery problems at Tobruk and Bardia marked him as an outstanding Commander".

Brigadier Herring was awarded the C.B.E. for his work which was described as being comparable with the work of a Corps. Commander Royal Artillery of a Corps. "High praise indeed".

Following the success in Libya the 6th Division was earmarked for Greece, an adventure which was doomed from the start. Herring embarked in Egypt at the end of March 1941. From the beginning of operations the gunners, directed by their capable C.R.A. under deplorable conditions did more than could have been expected of them. They were always in the thick of the fighting. He had in addition under his command, the 2nd Regt. Royal Horse Artillery and the 64th Medium Regt. R.A. The U.K. Army Commanders had no hesitation in putting their gunner regiments under the operational control of Brigadier Herring.

The 6th Division was ordered to evacuate Greece and Herring embarked on the "Glenearn" on the night on 24th April, 1941. After many hair raising experiences, he arrived in Alexandria on 28th April. A few days later he was back in Palestine where much remained to be done. All of his regiments had suffered severe losses in men and they had lost all of their equipment. At this time the 7th Division had been ordered to prepare for the occupation of Syria and Lebanon. 6th Division was expected to help out where possible. Shortly after the end of the Syrian campaign, Sir Iven Mackay was appointed G.O.C. Home Forces in Australia. On the 4th August, 1941, Brigadier E.F. Herring was appointed to succeed him as G.O.C. 6th Division A.I.F. with the rank of Major-General.

Shortly after, he was to receive another very important appointment. All through his life Herring's strong religious beliefs and inherent Christian principles were interwoven with his Army and law duties. It was fitting that whilst on active service in the Holy Land, he was advised that Archbishop Head had invited him to become Chancellor of the Archdiocese of Melbourne to succeed Sir Edward Mitchell - the highest honour in the Archdiocese available to a layman.

He was to serve four Archbishops — Head, Booth, Woods and Dann over a period spanning forty years. Whilst in the Middle East he
took every opportunity to visit the Holy Shrines — a true Christian Soldier by word and deed. His Bible was never far away; but he could never be described as a "Bible Basher".

In October 1941, the 6th Division now re-equipped, re-grouped and trained, moved into Syria and Lebanon to replace Major-General Jack Evett's 6th British Division. General Herring selected the historic town of Baalbek for his H.Q. During this period the Australians were busily engaged in preparing defences against a possible German advance through Turkey. This operation was interrupted by the entry of Japan into the war, resulting in the return of the A.I.F. to Australia.

General Herring arrived back in Australia on 11th March, 1942 at Fremantle and by this time Darwin had been bombed. He arrived in Melbourne on 16th March. In view of the serious situation in Darwin, the Chief of the General Staff, Lieut. General Vernon Sturdee appointed Herring as G.O.C. Northern Territory with orders to get there forthwith and to rectify the mess. He arrived on 24th March to assume absolute control over Naval, Military and Air Forces and any U.S. troops in the area. After several months of driving work, it was considered that Darwin was in a position to defend itself if that need arose. His work had been so successful that he was appointed to succeed Lieut. General John Northcott as G.O.C. II Corps. He joined II Corps at Esk in Queensland on 25th August, 1942; but he was not to remain there for long.

General MacArthur was unhappy about the situation in New Guinea. He suggested to the Prime Minister that Blamey should go to Port Moresby to take personal command. The result of this action was the well known dispute between Generals Blamey and Rowell ending with Rowell's removal from the Command. General Herring was appointed to succeed Rowell in the very tricky situation in Port Moresby, with the C.-in-C. also there, being prodded by General MacArthur and Prime Minister Curtin, who were both edgy about the Japanese advance.

When General Herring took command of the N.G. Force, which now included the 32 U.S. Division, the Japanese had reached the limit of their advance towards Port Moresby. Supply was the critical factor for the troops now forcing the Japanese back towards Koko-da and the North Coast. It was hard slogging warfare in deplorable conditions, but gradually the enemy were driven back to the beach heads at Buna, Gona and Sanananda. The battles for these places were fought in nightmare conditions of swamps and jungle where tropical diseases were rampant. The enemy fought with fanatical dedication — it was hell for the Australian and American Forces. Herring with a small staff, had opened an Advanced Headquarters in the forward area at Popondetta, from where he handled this series of battles with success.

General Robert L. Eichelberger, U.S. Army, later wrote in "Our Jungle Road to Tokyo" as follows:-

"When the going is tough, in a brawl or battle, there is no better fighting partner than the man from Down Under — my immediate superior in the field was Lieut. General Herring and the friendship we established in the wilderness, will, I'm sure, last our lifetimes".

It did, a very close friendship indeed. They had exchanged letters and visits to each other until the death of Eichelberger in 1961.

On the capture of the Buna-Gona area in January '43, General Herring was awarded the American Distinguished Service Cross. The relationship between Blamey and Herring throughout these operations was mostly one of harmony and understanding. The same with MacArthur.

After these battles, Herring returned to Melbourne for a well earned leave. Sir Iven Mackay took temporary command of New Guinea Force. After leave, Herring resumed duty on 23rd May, 1943. At this time he had over 90,000 U.S. and Australian troops under command. Shortly after he was awarded the K.B.E. This was the first award of a knighthood for an Australian by the Labour Government. It was also one of the last conferred in World War II by the Australian Government.

Blamey had arrived earlier to take command of the operations leading up to the capture of Lae and Salamaua which meant the separation of New Guinea Force H.Q. and Australian Corps. H.Q. Herring moved to Corps H.Q. at Dobodura. Salamaua was captured on 11th September. Lae fell a week later. Blamey returned to Australia and for the time Mackay was G.O.C. New Guinea Force with Herring as G.O.C. Australian Corps. — where all the action was.
Sir Edmund had been planning the capture of Finschhafen for some time. On the day before Lae fell, he flew to Moresby to discuss the proposed landing with Blamey and the related operations in the Markham and Ramu Valleys. Vasey's 7th Division was to prevent Japanese penetration into the Markham Valley whilst Wootten's 9th Division captured Finschhafen. The battle had its trials and tribulations, especially for General Herring; but as usual his drive and dedication won the day over some interference from elsewhere.

At this period he was lucky to survive an aircraft crash. Brigadier "Butch" Sutherland, his B.G.S. who was sitting next to him, was killed. Finschhafen was captured on 2nd October, 1943.

Lieut. General Sir Leslie Moreshead with II Australian Corps. H.Q. arrived to take over command from I Australian Corps, on 7th October. Herring returned to the mainland for leave and later to take command of I Australian Corps. in Queensland, to prepare for the next phase of operations in New Guinea. However, the Premier of Victoria had other ideas. The Chief Justice position in Victoria was vacant and the premier considered General Herring to be the outstanding man for this appointment if he was willing and could be released by the Army. Fortunately, General Blarney and Mr. Curtin with some reluctance, agreed to the proposal, although it meant the loss to the A.I.F. of one of its most experienced and capable commanders.

There are some misguided people who have suggested that General Herring had reached his peak as a commander and this was the reason for his appointment as Chief Justice. The answer to this is given in Norman Carlyon's book "I remember Blamey", Page 129. Carlyon wrote as follows:-

"Blamey had been thinking of another tour of operational command in New Guinea for Herring; but listened to Gorman's proposal* and endorsed it. After much deliberating and conferring, Herring agreed that this name should be put forward. By February 1944 the appointment was his."

Further in "Blamey Controversial Soldier" John Hetherington wrote as follows:-

"Herring's retirement was a different matter. At 51, he was still physically fit and mentally flexible, and Blamey intended sending him back to take over the field command from Moreshead after Madang was captured". (Page 326)

Sir Edmund's appointment as Chief Justice received prompt and unqualified approval in the Press because of his legal attainments and those human qualities which the ideal judge must possess.

Menzie's spoke of "my distinguished and most learned friend, General Herring, than whom no man could be better qualified to be Chief Justice".

General MacArthur signalled "Whilst your American comrades in arms are deeply reluctant to lose you yet we feel a deep pride as to your selection for so important and distinguished a civil position."

General Herring's active service with the A.I.F. finished on 10th February, 1944 but his activities with the Army certainly did not finish there. "More about that later".

On 10th February, 1944, Sir Edmund was sworn in as Chief Justice of Victoria. He was to occupy this position for 20 years. The changes and the progress of the Supreme Court under his leadership are well covered in "Ned Herring" by Stuart Sayers. It also tells of Herring's relations with his brother judges as being excellent from the outset and remained so for his term of office. He became Lieut.-Governor of Victoria on 30th July, 1945 and held this office for twenty seven years — a record term. Sir Edmund was to deputise on many occasions for lengthy periods during the absence of the Governor or whilst awaiting the appointment of a new Governor. Many Victorians, including the writer, often wondered why it was necessary to seek overseas appointees for the position when an ideal appointee was "sitting on the doorstep". Sir Edmund was well qualified to meet the requirements of a State Governor. He and Dame Mary Herring had given untiring service to the people of Victoria. In fact, many prominent Australians considered that Sir Edmund could have made a popular and successful Governor-General. They still think so.

Following his appointment as Chief Justice, Sir Edmund was often seen in his military
GREAT SOLDIER — GREAT CHRISTIAN

Lieut. General Sir Edmund Herring
uniform at important parades, dinners and other activities. On 31st March, 1944 he and General Sturdee were chief guests at a dinner given by General Blamey. On Anzac Day 1944, Sir Edmund, mounted on horseback, led the marchers to the Shrine. At a Town Hall Reception in his honour, he commended military service as one of the highest duties of a citizen.

On 24th August, 1945 Herring led a Victory Parade estimated at 20,000, through Melbourne streets. During the period following, Sir Edmund was appointed Chairman of Trustees of the Shrine of Remembrance, to succeed another great soldier General Sir Harry Chauvel. It was fitting that many years later, Sir Edmund was in turn to be succeeded by his great friend and helper, Colonel Sir Alfred Kemsley, who has also rendered conspicuous service to the State of Victoria. In passing, it may be added that Sir Alfred was a dedicated assistant and advisor to both Field Marshal Sir Thomas Blamey and Sir Edmund Herring.

Sir Edmund’s other activities included Chairman on the Board of Management of the Australian War Memorial, President of Toc H, President of the Boy Scouts Association of Victoria and also Founding President of the Scout Association of Australia, President of the “Old Melburnians” — the list goes on and on.

Sir Edmund received a further honour in June 1949, being made a Knight Commander of the Order of St Michael and St. George. Shortly after he received the Greek Military Cross which was awarded in 1951.

The year 1950 brought the Korean War and the Australian Government quickly resolved to send Australian Forces to assist. This required an immediate boost in recruiting. Prime Minister Menzies requested that Sir Edmund Herring be made available as Director General of Recruiting in the Department of Defence. This was agreed. To those of us serving in the Defence Department at the time, we could not help but recall that General Blamey had occupied a similar position before the outbreak of World War II. The distinguished Secretary of the Defence Department at the time, Sir Frederick Shedden, who played an important role in the appointment of all senior officers in the Armed Forces for several decades, was known to regard Sir Edmund as a priority candidate for any top job in war. Perhaps this was in mind if the war in Korea developed into a larger conflict. The mantles of Monash and Blamey would have rested lightly on Herring.

Sir Edmund drove his officers very hard from the start. The pressure to obtain recruits was apparent to everyone. Much had to be done quickly. Whilst expecting total dedication from his staff, he was always compassionate and understanding. He was always regarded with affection and respect.

During his period as Director General, General herring was always on the move; visiting all States, setting up committees and calling on State Governors to assist in the recruiting activities. He found ready help from some of his former A.I.F. colleagues, Sir John Northcott, Governor of N.S.W., Sir John Laverack, Governor of Queensland and Sir Willoughby Norrie in South Australia, who had served with Sir Edmund in the Middle East. At the peak of the recruiting drive, over 600 local committees had been set up to assist in the work. At the end of August 1951 Herring stepped down from the Director General’s job to return to being Victoria’s Chief Justice.

Prime Minister Menzies warmly commended the splendid service he had given. He was succeeded by Lieut. General Sir Horace Robertson.

Concurrent with his activities on recruiting, Sir Edmund was concerned with ways and means to restore national morale and to counter disruptive organisations in the community. Menzies introduced Sir Edmund to Paul McGuire who had similar views. Together they produced a document named “The Call”.

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In this work they were assisted by the Victorian Chamber of Commerce. “The Call to the People of Australia” was launched by a nationwide broadcast on 11th November, 1951.

“The Call” had the approval and support of leading Churchmen, State governors, Chief Justices and the Victorian Chamber of Commerce. Many people will remember the terms of “The Call”; but for full details see “Ned Herring” by Stuart Sayer (Page 313).

This was another telling example of Sir Edmund’s life-long interest in the welfare of people and the propagation of Christian principles in a law abiding community.

Another return to military duties occurred in January 1953. Sir Edmund was invited to lead the Australian Services Contingent at the Coronation of Queen Elizabeth II. His great
friend Brigadier David Whitehead was to be commander of the contingent. Whilst in London, Sir Edmund was to give the Anzac Day address in St. Paul’s Cathedral. On Coronation Day, dressed in uniform including a slouch hat with emu plumes, he was a very conspicuous mounted figure in the procession with top British and Commonwealth Officers. The following day he was to command the Commonwealth contingents’ parade at Buckingham Palace where the Queen inspected about 2,500 troops. He was also invited to address the Toc H Festival in London. “Tubby” Clayton, the founder of Toc H described Sir Edmund as “a man who is utterly significant of good ... a man of simple speech whose every word is simple and straightforward”. On the 1st July, he had the Honorary D.C.L. conferred on him at Oxford. A few days later he was made a Knight of St. John in an investiture at Buckingham Palace.

The Herrings returned to Melbourne in late November 1953. The Queen and Prince Philip arrived in Australia in February, 1954 and Sir Edmund was to be in the forefront of many of the functions, such as the visit to the Australian War Memorial in Canberra and the Shrine of Remembrance in Melbourne. He deputised for the Governor several times during the following year and spent much time on “The Call”, Boy Scouts, Empire Youth Sunday and anything to do with exservicemen and their dependents. Church affairs always played an important part in his activities. By this time he had been invited to become Vice President of the British and Foreign Bible Society, London.

Sir Edmund commenced a function which became known as the “General’s Dinner”. Its purpose was to get together the Generals of World War II and the C.M.F. Generals appointed since the war. The Chief of the General staff was always present. Sir Edmund was Dining President and he always opened his remarks by indicating that the purpose was to help both the A.R.A. and the C.M.F. Because of his standing in the services and in the community, Sir Edmund was an influential figure whose advice was listened to by the politicians. The dinners continued for many years; in fact until Sir Edmund began to feel no longer able to preside. Much good for the Army came from these functions. He was always happy in a military environment and he always had a fund of advice for younger officers. He was looked on as a father figure with affection and respect.

General Herring was always highly regarded by General MacArthur and the American Generals who had fought in the South West Pacific. In 1973, he was invited to the memorial service and dinner held in Washington on the anniversary of MacArthur’s birthday, which was given by a group of U.S. Army Generals who had served under MacArthur. The following year Sir Edmund was able to persuade the Labour Government to subsidise holding the MacArthur Dinner in Melbourne in January 1974. Herring presided over the dinner which was attended by a group of over 20 American Generals and their wives. There were also commemorative functions in Canberra and Sydney.

Whilst Sir Edmund was always very proud of his Army service, he never lost the opportunity to laud peace. Speaking at the 25th Anniversary of the end of World War II at the Shrine of Remembrance in 1970 he said: “The fact is there are no greater lovers of peace than those who have faced the horrors of war”.

Sir Edmund continued to deputise for absent Governors over the years. This he did with success and dedication, ably supported by Dame Mary. In August, 1964 he reached the retiring age for Chief Justice, but he was to continue as Lieut.-Governor for another eight years. Retirement from the Supreme Court did not seem to lessen the activities of Sir Edmund. In fact it gave him more time to concentrate on his other public interests - the Church, Carry on Club, Toc H, British Ex-Servicemen’s Legion, Legacy, R.S.L., Commando Assoc., M.U.R. of which he was Honorary Colonel until 5th January, 1982, Scouts, The Inter-Church Trade and Industry Mission, British and Foreign Bible Society, Council of Christian Education in Schools, Salvation Army, Australian War Memorial and his much loved Shrine of Remembrance were some of his interests. In many he was patron or president.

Robert Coleman wrote in the Melbourne “Herald” (9/1/1982): “It would be impossible here to list the high officers he held and the distinctions he achieved. That one man in one lifetime could have done so much is almost beyond belief”. Very true words indeed.
At age 80, Sir Edmund decided that he should retire from the office of Lieut.-Governor, a position he had adorned for 27 years with great distinction, dedication and success. A State Reception was held for the Herrings in the Great Hall of the Victorian National Gallery on 22nd August, 1972. At the conclusion of his speech in reply to Sir Henry Bolte, Sir Edmund said:

“For us it is not the end; it is but the end of a chapter in our lives. We still have, both of us, a number of activities in which we hope to have your help and co-operation as in the past. So long, that is, as we are able to carry them on. Perhaps, we may venture into some new fields . . .”

They did carry on their activities at the same pace, interest and resolve for almost nine years. Dame Mary, a qualified Medical Practitioner, busy with her many interests in work related to the benefit of women and children, was always available to help any worthwhile cause. Her life story could make an excellent study for a good author. It should be done!

Sir Edmund likewise, busily engaged and always ready to help or promote some good cause. He continued his great interest in the Army. He was to be principal pall bearer at nearly all the military funeral services for his wartime friends, even up to the last five years of his life.

He was a frequent visitor to hospitals to see old Army friends — he was to see most of them out. The Melbourne University Regiment and the Commando Association were always attentive. General Herring was the ideal Honorary Colonel for the M.U.R.; he attended parades and camps as often as possible until age began to intervene. He took his last parade in uniform at age 86. This was to celebrate his 30 years as Honorary Colonel. The fact that it rained and that he was to become drenched did not deter him from doing his duties. There was always great rivalry among the young Officers as to who would be selected to look after “The General”. The Commanding Officers, Lieut. Col. Jim Wood and Lieut. Col. John Henry were devoted and attentive to Ned until the last. Henry was to be one of the insignia bearers at the State Funeral. Lieut. Col. Des Cox was the other. At the insistence of the regiment he was Honorary Colonel till the end. It must be a record.

His work for the Church and many other organisations continued apace. He was still being consulted when it became necessary for him to enter a private hospital about eighteen months ago. He remained very interested in the Army. Close friends Brigadiers Sir William Hall, Les King and David Whitehead visited him regularly to pass on snippets of news. From time to time other senior officers called, including the Chief of General Staff, Sir Donald Dunstan, now Governor of South Australia. His interest in his Church continued as ever. Often the writer found him reading his Bible or his favourite Prayer Books aloud. The visits of his great and loyal friend Archbishop Sir Frank Woods were always something very special. Likewise the visits of Rev. Evan Wetherell, his Vicar from Christ Church, South Yarra were always something to look forward to.

Sir Alistair Adam, ex Supreme Court Justice, was a weekly visitor from the Law, so as he gradually faded away — as all old soldiers do — Sir Edmund was surrounded by a loving family and devoted friends. On 2nd September, 1981, Dame Mary although very frail, organised a small birthday party for him at his hospital. Surrounded by a few close friends and the ever present family, he enjoyed his 89th birthday. The death of Dame Mary late in October, 1981 was a dreadful blow. Their partnership had been a lifetime of service to others. Dame Mary was tirelessly attending to her favourite organisations, in spite of her own serious health problems, until a few days before she died.

In mid December, 1981 Sir Edmund had a stroke which prevented him from talking and left his left side paralysed; but he was still able to understand what was being said to him. On Christmas Day surrounded by some members of the family, he appeared to enjoy pulling the Christmas cracker and wearing the Christmas party cap. Thereafter, the fading of the old soldier hastened and Lieut. General Sir Edmund Herring simply faded away on 5th January, 1982.

Although it was a difficult time of the year for a State Funeral, all organisations and authorities were determined that the great man would have the best possible acknowledgement for his outstanding, and in many ways, unique services to the community and to Australia. The Premier and his Department, Army,
Police, Church, State and Municipal authorities and Lieut. Rob Allison (a gunner) and the Funeral Director, all combined to provide a moving spectacle for a remarkable gentleman. The guiding hand of his friend, Sir Alfred Kemsley was present to make sure everything went smoothly.

The State Funeral Service, attended by the Governor Sir Henry Winneke and Lady Winneke, was held in St. Paul’s Cathedral at 2.00 p.m. on 11th January, 1982. The Cathedral was packed to overflowing when Brigadier Sir William Hall read the First Lesson. (He had been Sir Edmund’s adjutant in 1934-35.) Chief Justice Sir John Young read the Second Lesson. The main address was given by Archbishop Sir Frank Woods, a very dear friend of Sir Edmund. It was one of the most moving sermons a congregation has heard on such a sad occasion. Sir Frank said:-

“...He did not wear his faith on his sleeve, but nor did he hide it under his coat... But we can say that he walked in faith. He didn’t drive at people or confront them. He never thrust his belief on anyone, but he never hid his own; And he walked humbly with ambition, without one-upmanship, without self-assertion. He was genuinely surprised when honours were heaped upon him.”

One who had known Sir Edmund well had said:-

“The odd thing about him is that he was a great success, had reached almost the top in everything he did without apparently having anything of crude ambition or killer instinct in him”. Sir Frank went on to say that “Edmund Herring had a deep concern for children and had put his strength behind the Scout and Guide Movements. Likewise, he had been very active in helping ex-Servicemen, their wives and children.

His Christian faith had given him ‘untold riches of mind and spirit’. So he became one of the founding members of the Council for Christian Education in Schools. Also he became first president of the Council of Inter-Church Trade and Industry Mission. He rejoiced that this Council, which sends chaplains into industry, is also fully ecumenical.”

The leaders of all the Churches in Melbourne were present to honour this great man. The blessing was given by Archbishop Dann.

Melbourne’s early afternoon traffic was stopped for nearly an hour to allow the casket conveyed on a gun carriage to pass from the Cathedral to the Shrine of Remembrance, which had played such a very important part in Sir Edmund’s life. In hot summer weather the military procession was led by the 3rd Military District Band and a Guard of Honour provided by the Army, which included many members of the Melbourne University Regiment. In spite of the 41° temperature, the troops gave an excellent display of precision marching. Lieut. General Sir Donald Dunstan, Chief of the General staff, was included in the group of distinguished pall bearers. Admiral Sir Anthony Synnot, Chief of the Defence Force Staff was present, as also was Lieut. General Sir Thomas Daly representing the Australian War Memorial. Two former Victorian Premiers, Sir Henry Bolte and Sir Rupert Hamer were present as also was Premier Lindsay Thompson. Sir Phillip Lynch represented the Commonwealth Government.

At the Shrine of Remembrance, the casket was transferred from the gun carriage to the hearse for movement to a private family service at Springvale Crematorium. The writer was very honoured by being invited to be with the Herring Family for the funeral service. The service at Springvale was taken by Rev. Evan Wetherall, Vicar of Christ Church, South Yarra, in the same Chapel where he had taken the service for Dame Mary only two months earlier. In his final address, Rev. Wetherell recalled that one afternoon, some years ago, he was with Sir Edmund and Dame Mary at their home. The conversation got round to what would be a suitable title for the biography being written by Stuart Sayers. Dame Mary wonders how Ned would be remembered — as a soldier, as a Chief Justice, as a Lieut.-Governor or perhaps something else? When Evan Wetherell was departing later, at the front gate, Sir Edmund suddenly turned to him and said, “I would like to be remembered as a Christian”.

Sir Edmund will always be remembered as a Christian; but he will always be remembered for his outstanding work in so many fields — to the Army he will be remembered as a great soldier who always held the affection and
respects of his subordinates. The younger members of the Army and those who will follow should find in his work an inspiration and an example of loyal, selfless and devoted service. The writer is conscious that in a Journal usually devoted to the military topics, he has covered the Christian work of Sir Edmund as well as his military talents. It is impossible to separate his outstanding work, as the Churchman and the General. In Sir Edmund’s case the talents were inextricably mixed. He would not have wished it otherwise.

Her Majesty the Queen and Prince Philip had a long association with Sir Edmund and Dame Mary, both in Australia and in the United Kingdom. It is well known that Sir Edmund and Dame Mary were held in high regard and affection by the Royal Family. It was fitting therefore that Her Majesty graciously sent messages of sympathy to the Herring Family.

In conclusion, it is hoped that the Minister of Defence and the Army could perhaps give some thought to the means by which the memory of this outstanding soldier could be honoured.

Acknowledgements

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John Hetherington’s “Blamey Controversial Soldier”. Rev. Evan Wetherell, Vicar Christ Church, South Yarra.

Brig. Sir William Hall, K.B.E., D.S.O.

Brig. L. D. King, O.B.E., E.D.

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EDITORS NOTE

The author was a member of the A.I.F. and regular Army, reaching the rank of Colonel at age 33. His war service included Middle East, New Guinea, France, Holland, Belgium and Germany. In 1949 he resigned from the Army to become as Assistant Secretary and later a First Assistant Secretary in the Department of Defence. He was awarded a SEATO Leadership Grant in 1958 by the U.S. State Department for advanced studies in the U.S. He retired from the Department of Defence in September, 1974.
HIGHER MANAGEMENT
of
DEFENCE COMMUNICATIONS

By Commander St John Herbert, OBE, RAN

"C' is the central nervous system of our military forces. Without effective C' our armed forces are merely an armed mob."
Admiral Dan Murphy, United States Navy Deputy Under Secretary of Defense for Policy Review

INTRODUCTION

The present structure for the higher management of Australia's defence communications generates a degree of concern, confusion, misunderstanding and sometimes frustration for those who are involved in that structure. Additionally, although instructions have been issued on the responsibilities of various authorities for defence communications, these problems reflect down through single Service offices, through operational Commanders to communication elements in the field. Essentially those are an admixture of confusion, misunderstanding, divided loyalties and a lack of overall purpose which, it can be argued, is generated by the fragmented management at higher level.

The problems are well recognised by the single Services at senior level, but the fragmented central management which gives rise to the problem also tends to act as a barrier to the rational solution.

AIM

The aim of this article is to study the problem of fragmented higher management of defence communications in Australia and to indicate the solution to the problem.

The C3 Principle

The command and control of military forces are inextricably combined with the communications needed to exercise these functions and in modern war communications are as much a part of the armoury of an operational commander as are ships, tanks or aircraft. The recognition of this principle evolved into the C' (Command, Control and Communications) concept in the United States in the 1960's and has extended today into higher defence management structures in a number of overseas military organisations. Similarly, C' systems have been developed where the traditional command and control and communication systems have been melded into an overall system where the previous demarcation lines have virtually disappeared.

Much has been written of the advantages of the C concept in military operations where unified command, control and communications have been represented as a "force multiplier", essentially maintaining that a smaller force with sound unified command, control and communications can equal, if not better, a larger force without a C3 capability. Certainly, there is little doubt that historically the lack of a C3 capability has been responsible for a significant number of military disasters, the charge of the Light Brigade being an oft-quoted classic.

The structure of Defence Communication Networks

Until the 1950's, the communications of the three services were discrete networks, individually procured and managed, and often paralleling each other between significant fixed nodal points. As technology advanced it was natural that there should be some attempt, in the interests of economy and standardisation, to rationalise the strategic links of the three networks into an integrated common user network. This was achieved first in the United States with the DCA (Defence Communication Agency), in the UK with the DCN (Defence Communication Network) in 1965, in NATO with NICS (Nato Integrated Communication System) in the early 1970's and in Australia.
with DEFCOMMNET in 1979. However, while all other fixed systems were placed under unified military management, in Australia management was fragmented among a number of Defence Central Authorities. In all cases tactical communication systems (ie, those between the operational commander and his assigned forces) remained with the single Services. In toto, defence communications basically now comprise the fixed network, and three single Service tactical networks.

Antonomy of Control of Tactical Communications

Whatever the organisation for the overall management of defence communications, it is axiomatic that the operational commander must control his tactical communications since, in a real time situation, it is only the operational commander who will be aware of the immediate priorities for tactical communications at any one time and who must have the necessary hands-on control to configure his communication assets accordingly. While such a statement is merely an extension of the C³ principle, it bears repetition since control of elements of tactical communications may at times come under threat from those who believe that centralisation is more important than effectiveness.

HIGHER MANAGEMENT STRUCTURE

The basic concept

If the basic principles for defence communications are accepted, it follows that, since command and control of forces are in the hands of the military, communications must be under similar control, albeit responsible to political, financial and similar factors and to the requirements of other members of the Defence community. This posture has been adopted in the majority of overseas countries starting with the United States where the DCA is headed by a military officer responsible to the Director C³ (3 Star) on the staff of the Joint Chiefs of Staff.

UK Structure

In UK, control of the DCN is vested in the Controller DCN (CDCN) who is a Group Captain RAF. This is a non-rotatable post, so determined since Air Force act as the design and procurement agency for all DCN projects. CDCN commands HQ DCN with staff drawn from the three Services with Navy and Army officers as his service deputies. CDCN is responsible to the Assistant Chief of Defence Staff (Signals), to whom the three Service Communication Directors also have responsibilities, being dual-rolled with central staff and single service responsibilities. As a result, while the single services retain control of their tactical networks, overall management of all defence communications is vested in one authority responsible to the Chief of Defence Staff. There is thus a unified management of the totality of defence communications, including such matters as SIGs and of distribution within the MOD complex.

NATO structure

In NATO, control of the NATO Integrated Communication System (NICS) is in the hands of a Central Control Operating Authority (CCOA) established at Supreme Headquarters Allied Powers Europe (SHAPE) run by SACEUR with representation from the two other Major NATO Commanders, SACLANT and CINCHAN. Regional Control Centres are set up in Northwood, UK and Norfolk Virginia, controlled by CINCHAN and SACLANT respectively.

Design, procurement and installation of the NICS is the responsibility of the NICS Management Agency (NICSMA) comprising civil and military engineers. Overall policy for the NICS is determined by the Nato Joint Communications — Electronics Committee (NJCEC) on which sit the three senior communication officers of the Major NATO Commanders and the Chief Signal Officer of each of the NATO nations.

Canadian Structure

In Canada, control of the integrated network is vested in Communication Command, a unified military organisation responsible to the Director General of Communication-Electronics Operations (DGCEO).

Australian Structure

In Australia, the concept of unified management has not been adopted no doubt for reasons which appeared valid at the time. The C³ concept does not apply to fixed communications, and there is no one communication authority to manage the totality of defence communications. While DGJCE (1 Star) is
nominally the adviser to CDFS on Defence Communications, he has no executive responsibility for the management of communications as a whole and indeed is outranked by a civilian engineer (GMDCS) who controls DEFCOMMNET. Single service communication directors have no definitive line of responsibility to DGJCE, while matters of communication policy and management are also fragmented among such other central authorities as FASPC and FASIND.

THE PROBLEM AREAS
This structure has resulted in the problem areas indicated in the introduction to this article. These stem from lack of unified management of defence communications, itself exacerbated by transfer of control of the fixed element from the military.

Fragmented Management
The lack of overall management by one military communication authority has, and continues to result in, misunderstandings and conflict over responsibilities and tasking. This has shown itself in confusion where communication facilities have been tasked by a number of different authorities with conflicting instructions. The demarcation lines between various authorities tend to be so vague that while duplication occurs on one hand, other communication tasks are not progressed. In some instances, tasking by one authority without reference to the others has resulted in delays to operational traffic which have proved embarrassing in a peacetime environment and could well be disastrous in war.

Control of DEFCOMMNET
The problems of control of the fixed network stem directly from the violation of the cardinal principle that command, control and communications are indivisible. The prime purpose of DEFCOMMNET is to provide facilities for command and control of the Australian Defence Force, yet the present arrangements place control of DEFCOMMNET outside the military chain of command. Instead, control of the vital element of defence communications has been vested in Defence Communications Systems (DCS) Division (itself a misnomer since it embraces only the fixed communications element) managed by a civilian engineer, with no military operational experience.

It is perhaps not surprising that the military have found it difficult to wholly embrace such a control structure. The sensitivities that have been generated have reflected in operational command and control problems at all levels in the defence communication structure. Problems of dual and conflicting tasking, countermanding of the orders of one authority by another, misunderstanding and confusion over lines of responsibility, and the almost legalistic wording required in any documentation in order to preserve the autonomies of the various authorities have been a continuing feature of the control of DEFCOMMNET over the last two and a half years since the transfer of control to DCS Division.

TOWARDS A SOLUTION
In retrospect, it is curious that such a management structure was developed ignoring the experience of overseas countries whose unified management concepts for defence communications had been proven over many years.

The solution now is clearly to adopt a system of unified management based on the C³ principle that command, control and communications are inseparable. This would involve giving DGJCE (perhaps with a more appropriate title) responsibility for the overall management of the totality of defence communications in consultation with the three single Service communication directorates. DGJCE would be responsible through a Director of Network Operations for control of the fixed network while the single Services would retain autonomy of control of their tactical networks. Single Service communication directors would have dual responsibilities to both DGJCE and the single Service authorities.

Such a solution would provide the unified management required and place the control of DEFCOMMNET back into the military chain of command. Much of the misunderstandings that result from the present fragmented structure would be removed and the way open to a more harmonious and effective management of Defence communications.

Sadly, the present fragmented management structure which gives rise to the problems itself acts as the handicap to the rational solution. A recent review of the control of DEFCOMMNET by the three Services resulted in a general concensus that as a first step the Directorate of Network Operations should be
transferred from DCS Division to Defence Central as a directorate under DGJCE. However, without an overall manager of defence communications to grasp the issue, the recommendation has fallen prey to the central committee structure where the urgency and the need for change would appear to have been diluted. Indeed, it has been argued that DCS Division should retain control of DEFCOMMNET in order to guarantee the correct system design of DISCON, a philosophy that must be considered invalid in the light of the NATO experience where NICSMA successfully plans the NICS while the CCOA controls the network. Whatever the future developments in this area, it could well be that sensitivities among the many authorities now involved in the management of communications will militate against any timely solution.

CONCLUSION

The basic principles for defence communication management adopted by the fourteen nations of the Western Alliance suggest that Australia’s higher management structure is incorrect. This is borne out by the problems arising at all levels in Australia’s present communication management structure.

The following measures are required to ensure that the management structure of defence communications conforms to the C³ principle, and that unified overall management of defence communications is provided:

a. DGJCE should be given executive authority, in consultation with single Service communication directors, for the overall management of defence communications.

b. Single Service communication directors should be dual-roled. The senior single Service communication director should act as DGJCE in his absence.

c. Defence communication responsibilities now held by other central authorities (eg SIGs, liaison with Foreign Affairs, Control of message traffic in the Russell complex) should pass to DGJCE.

d. The Directorate of Network Operations in DCS Division, including the Central Network Control Centre (CNCC), should be transferred from DCS Division to the staff of DGJCE as soon as practicable, if necessary without co-location though this should remain the aim. The CNCC should be located within or close to the ADF Command Centre.

e. DCS Division should be reformed into the DISCON Project Office responsible for planning, procurement and installation of DISCON.

Such action would ensure that Australian higher defence management for communications was in a credible posture to face the challenges of the present day and of the future.

AWARD: ISSUE NO. 33 (MARCH/APRIL 1982)

The Board of Management has awarded the prize of $30 for the best original article in the March/April 1982 issue (No. 33) of the Defence Force Journal to Colonel G. Hellyer, for his article The Australian Government, Japan and the Approach to War.
FIGHTING FOR THE UNITY OF THE EMPIRE
which is our strength and common heritage

By Maggy Cooper, Defence Regional Office, Melbourne.

In St. Kilda Road, Melbourne, beyond the noble memorials of later wars, there stands on a small quiet island of trees and lawn, a simple obelisk guarded by four imperial lions, known mostly as a convenient place for nearby office workers to sun themselves during their lunchbreak. This is the memorial to the Australians who fell in the South African War 1899-1902. The memorial like the war it commemorates is mostly either unknown or forgotten. It is overshadowed by the Great War, against which the number of Australian participants and the number of dead and wounded of the Boer War fade into insignificance. Yet there was nothing insignificant about the conflict at the time. The inscription from that memorial provides the title of this article. It expresses the main ideals which formed the common attitude to the war. This article explores the attitude of the Australian people to the South African War throughout the period of conflict.

There was little real interest in the prospect of war and the possibility of Australian military participation, in the period before the outbreak of hostilities. The picture of the evil Boer mistreating loyal British colonists seems to have interested Australians very little. The position of the Uitlanders, although a considerable number of them were Australian, produced little public support, although official British accounts of the war emphasize the connection. Australians are said to have had strong feelings over the Uitlander grievances. Yet public meetings called by the mayors of Sydney, Melbourne, Adelaide and Perth in support of the Uitlanders drew little support from the community, the numbers attending being only small. Sympathy with the Uitlander grievances against the Kruger government was not sufficient to stir up any great enthusiasm for taking part in a war which might occur in South Africa.

If the public was not showing any great enthusiasm for the war, the parliamentarians of the colonies were not overkeen either. An Imperial request for support in the Transvaal was received by the colonial governments, and their replies were guarded and non-committal. New South Wales and Victoria were both very evasive on the issue. Neither was prepared to take any initiative. Their response was that there were men who would volunteer to go to the war, but the colonies were not prepared to foot the bill. The Imperial government would have to pay all expenses and the colonies would not make any decisions without the assurance of funding.

Queensland was the first to make a definite offer. The offer was made by the Premier without consultation with his parliament, and his own ambitions were important. The British Government was most anxious to have a show of support from the larger colonies of the Empire, and they wanted the response to be spontaneous. This was not the case. The colonies were generally rather reluctant to get involved in any war. Even in Queensland, whose spontaneous offer of a contingent in the event of a war in the Transvaal had so delighted the Colonial Office, the Parliament, when the debate was finally held in October, was not strongly behind the Premier. There was an attempt by the Opposition to censure the Government over the issue. In South Australia, too, the motion to send a contingent was only passed with difficulty. The casting vote of the President in the Legislative Council was vital.
The unenthusiastic approach to possible war of the parliaments and people was not shared by the military, at least not by the officers. Morale in the colonial forces was low. The colonial armies had no military traditions to support them. There was no imminent threat to Australia, and they had no battle experience. To make life harder, they were often ridiculed by the press and the public as featherbedders and swashbucklers. It is not surprising that the military saw the problems in the Transvaal as an opportunity to improve their image and prove their worth. The senior officers lobbied the governments in every colony to send a contingent. Civilians, too, like Alfred Deakin, saw the value of battle experience for a fledgling army. The experience gained on the veldt would be of great value to the new Defence Department after Federation. The first official move towards military participation was a conference of the officers commanding all six Colonial Defence forces in Melbourne on 29 September 1899. The conference decided that an Australian contingent should be sent to South Africa. This should retain its Australian identity and fight as an intact unit. This indication of a nationalistic base to Australia's idea of participation was soon dashed by the War Office's direction that the colonies only send units of 125 men. This meant that the colonial troops were to be incorporated into Imperial units.

Once the decisions had been made to send Australian contingents to South Africa, support for the war became almost universal. The idea that the unity of the Empire was at stake changed the attitude of those who had been previously uncommitted. There was what Deakin called "an outburst of patriotic spirit". The conflict was seen as a direct danger to the Empire. Any damage done to the Empire would have repercussions in all colonies. Therefore the Empire must close ranks and fight for the safety of the British race. For most Australians the issue was simple, Britain and the Boers were enemies, and Australians were Britons. The first contingents to leave Australia were farewelled by enormous crowds. Over two hundred thousand people turned out in Sydney to cheer the troops as they marched from Victoria Barracks to Circular Quay on 28 October 1899. The city was decorated with red, white and blue bunting, the trams were covered with ribbons, the crowd cheered and sang, and passed bottles of beer to the departing men. There were brass bands and the soldiers were kissed by many girls. There were similar scenes in every capital. People were proud of their soldiers, proud that they were Australian, and anxious that they do their best and give Australia a good reputation. But the dominant theme was not of Australia, but Britain. Our men were marching off to war to defend the glory of the Empire. The Bulletin, however, poured scorn on the patriotism of the crowded street. Is said that people would turn out to cheer a three-legged calf; all that was needed was some advertising, some decoration, brass bands and a public holiday, and they would cheer anything!

The dominance of Imperial loyalty and enthusiasm for the British cause over Australian nationalism and pride in the locally-raised troops is shown particularly in the celebrations for the relief of Mafeking. The only Australians connected with it were a small group of Queenslanders who arrived as the siege was lifted. Yet the Australian people celebrated the event for one whole week. There were services in churches, patriotic speeches, gun salutes and parades. The earlier British setbacks had been reversed, defeat had been prevented, and the relief that Britain was again supreme was felt by all loyal Australians. The celebrations, however, got out of hand, and patriotism became associated with drunkenness and mob hysteria. The most respectable patriots were seen to behave in a manner quite out of character, lifting girls' skirts over their heads and turning over tramcars.

Recruiting for the war began before the war itself began, and before the parliaments had approved the despatch of contingents. At Victoria Barracks, Melbourne, volunteers from the services were accepted in September 1899. Generally, there seems to have been no shortage of volunteers throughout the conflict, although the initial selection of the first contingent seems to have been rather slow. The first contingents were recruited from the existing defence forces. In New South Wales this consisted of some regular mounted troops with the remainder made up of Militia and volunteer battalions. Thus, all the members of the first contingent had received some military training, although in the Militia and volunteer battalions this was apparently almost negligible. Subsequent contingents were recruited from volunteers with...
no military experience. The raising of the Bushman Contingents indicates the enthusiasm in the community for the war. An appeal to subscribe for a Bushman's Contingent in New South Wales was over-subscribed within a week.\textsuperscript{2} The number of volunteers was decreased by medical examinations and riding and shooting tests. They were given a crash course in military procedures and despatched untrained to the veldt. Five contingents were filled and, while some States had difficulty filling quotas sometimes, the number of volunteers Australia-wide was more than sufficient. More than 16,000 Australians formed the official contingents, but hundreds more made their own way to South Africa and joined locally-raised units.\textsuperscript{2}

The enthusiasm for the war and the unquestioning support for the British led to a jingoistic aspect in the attitude of Australians. There was a lack of tolerance and understanding for anyone who believed that the war was wrong or who was unwilling to volunteer for the Army. It was the intolerant attitude toward the New South Wales Lancers who did not disembark at the Cape but returned to Sydney, which led to the unnecessary death of Trooper Harkus. He was forced by public opinion to go to South Africa where he died of enteric fever within a short time.\textsuperscript{28} The South Australian Government warned public servants that they could be dismissed if found to be disloyal.\textsuperscript{9} Boer supporters were hunted out, and many government bodies threatened dismissal for those who opposed the war.\textsuperscript{6}

The Bulletin reported that the jingo had two attitudes — that Australia is the finest country and everyone should be grateful to live here, and because of that, everyone should approve of the war, and there should be no freedom at all.\textsuperscript{12} Where was the opposition to the war, those who were so viciously accused of being disloyal? The opposition was not strong and had little effect beside the wild patriotism of the multitudes. Most of the people branded as 'pro-Boer' were loyal British subjects. They loved Britain and her Empire, but they did not favour further expansion. They believed that the Boer was misrepresented and that it was not a justifiable war, but they did not necessarily hope for Boer victory.\textsuperscript{32} In the parliament of each colony there was opposition to the sending of Australians to the war. Moran in Western Australia, Price in South Australia, Dawson in Queensland, Higgins in Victoria and Holman and Hughes in New South Wales were a few of the most outspoken critics of the war.\textsuperscript{33} Many of the politicians, though, who had initially opposed the war, either changed their minds or kept their silences later when faced by the huge public demonstrations of support for the war.\textsuperscript{4} The publicity given by the jingo crowd to disloyal public figures also influenced their stand. The press generally supported the war, although sometimes with reservations.\textsuperscript{9} The more radical press was, however, outspoken in its abhorrence of the war. The Bulletin ridiculed the contingents and the public support, and supported the Boer against the Uitlanders whom it saw as grasping robbers and financial hawks.\textsuperscript{6} The Catholic press was strongly against the war, as was the Brisbane Worker.\textsuperscript{7} The most important elements of the anti-war movement were found in New South Wales. It was here that the opposition was strongest, and it was sustained throughout the duration of the war.

Labor supporters were against the war because they saw it as the result of capitalist ambition. Following the depression and strikes of the 1890s there was sufficient hatred of capitalism among Labor people for this belief to take a strong hold among the party's supporters.\textsuperscript{38} The war in South Africa had been caused by the British capitalists who were greedy both for the gold and diamonds of the Rand and for the expansion of British territory, so that the Empire would eventually control all of Africa. The Boers were fighting to preserve their hard won independence.\textsuperscript{39} It was an unjust war. One of the best known opponents of the war from the Labor Party in New South Wales was W. A. Holman. He was extremely vehement in his abhorrence of the war. He unfortunately was indiscreet enough in the heat of an argument in parliament to say that he hoped the British would be defeated. He brought down upon himself and his cause the wrath of the people. A meeting at which he was speaking in Hobart was broken up and Holman assaulted. He was also burnt in effigy during Mafeking celebrations in his own electorate.\textsuperscript{40} He managed narrowly, however, to retain his seat in the House and maintained his opposition throughout the war.\textsuperscript{41}

Another prominent opponent to the war was G. A. Wood, Professor of History at Sydney
University. Wood objected to the war because he believed that treaties had been breached. The British had recognized the complete independence and autonomy of the South African Republic in 1881, and again in 1884, but were not now prepared to honour their commitment. Wood’s response to the war was based on his Christian principles rather than any political ideals. He believed that the war betrayed the nature of the Empire and that the British people were betraying their own principles of honour, and justice. He also believed that the Australian people were supporting the war simply because it was an Imperial war, and they did not care whether it was a just or unjust war.

Late in 1901, the Boers began to use guerrilla tactics. The British retaliated by burning farms and holding Boer women and children in concentration camps where thousands died. The opponents of the war were appalled by the British actions. The opposition to the war broke out again and a petition calling for the termination of the war was presented to the House of Representatives in January 1902. An Anti-War League was formed soon afterwards. This brought together Holman, Wood and others, whose only common interest was their opposition to the war. These energies were largely directed towards obtaining signatures for a petition to the British Parliament. The League was fiercely attacked by Government and people. Wood nearly lost his post at the University. The Anti-War League lost its fire though, with the end of the war in June 1902. Its members had the satisfaction of seeing their aims achieved.

In considering the attitudes of Australians to the Boer War we have, so far, only looked at civilians at home in Australia. But what of the soldiers, the volunteers who went to South Africa? What did they think about the war? Did they volunteer out of loyalty, to defend the unity of the Empire? Most of them probably did not. Most seem to have gone off to war to seek adventure and sport. The Bulletin was probably quite right in the belief that there are always plenty of ‘young bloods’ who will go anywhere and shoot anything for the fun of it, and if the pay is good enough. There is always a fascination for war and the gamble with death. The soldiers knew well that the Empire didn’t really need them to conquer the Boer, but they were still keen to go. What did they think when they arrived in South Africa and began the real work of soldiering after the glory of their departure from Australia? The soldiers in the ranks are like the working classes — no one knows very much of what they thought. Abbott is one of the few writers who gives any clear description of the feelings of the men, the frustration of being issued useless equipment, the resentment of their treatment by the British, the dirt, the cold and the hunger on the veldt. He considers the war to be a shabby one, but he still feels privileged to be there, proud to fight alongside the great British regiments, and proud to have been selected for service.

The members of the Australian contingents seem to be like the Australians at home in that they were loyal both to Britain and to Australia. They tend to think of themselves as British troops. Yet their Australian identity remains strong, and there seems to be a much greater feeling of nationalism among the troops than at home. There are mixed feelings about fighting as separate units though. Some thought they should have had the chance to fight as a separate regiment under Australian command. However, others were afraid that if they were able to have that, they would not see much action. They felt they had a better chance of fighting with the Imperial units. They do seem proud of their identity, and this can be seen in their reluctance to exchange their slouch hats for helmets because they would be like the British. This probably led to the fixing of a large ‘A’ on their helmets as a need for national identity.

The great public enthusiasm for the war diminished as the time passed. The crowds farewelling departing contingents were small and no public holidays were granted. The war dragged on for two and a half years, and war weariness and the casualty lists took their toll. The novelty had worn off, and the Boer had been discovered to be an admirable foe, and not the lying, cunning cheat he had been thought to be. The end of the war was celebrated quietly in Australia, there were no wild celebrations as there had been for Mafeking. The war was already becoming forgotten.

The participation of Australian troops in the South African War was more a reflection of Imperial loyalty than Australian nationalism. The people of Australia supported the war with great enthusiasm, but their thoughts were
mostly of the need to defend the Empire so that the British race should be united and great. The idea of a few Boer farmers fighting the might of Britain was abhorrent. The opposition to the war was rather weak and generally lay low during most of the war in the face of the jingo crowd. In New South Wales, however, the opposition was maintained by a few throughout the war. The combination of Imperial loyalty and native nationalism is summed up on the war memorial in St Kilda Road. The inscription, which forms the title of this article, expresses the dominant theme of Imperial loyalty, but around the obelisk joined to the inscription there is a narrow frieze of gum leaves. Pride in Australia was definitely present but always subordinate to pride in the Empire. This idea of unity and strength of the Empire, and its significance in the world, is expressed in the words of the poet and war correspondent, Banjo Paterson:

His column was five thousand strong — all mounted men — and guns:
There met, beneath the world-wide flag,
the world-wide Empire's sons;
They came to prove to all the earth
that kinship conquers space,
And those who fight the British Isles
must fight the British race!

NOTES
15. Wallace, R. L. The Australians at the Boer War, Canberra 1976, p. 35.

BIBLIOGRAPHY
THE ARGUS, Melbourne.
THE BULLETIN, Sydney.
THE SYDNEY MORNING HERALD, Sydney.
COMMONWEALTH PARLIAMENTARY DEBATES 1901-2
BEDFORD, R. Naught to Thirty-three. Sydney, 1944 (repr. MUP 1976).
MacDONALD, D. "The Australian Contingents in the South African War, their work for Queen and Empire". War in South Africa. Melbourne (n.d.)

WILKINSON, F. Australia at the Front. London, 1901.
DEAKIN, A. Federated Australia (ed J. La Nauze) MUP, 1968.

BOOKS IN REVIEW

The following books reviewed in this issue of the Defence Force Journal are available in various Defence Libraries:
INTRODUCTION

TRAINING in peace aims to prepare individuals and units for war. Training should be as realistic as possible, but use the minimum of training resources in the process; i.e., training needs to be both effective and efficient.

There are numerous factors which can degrade the effectiveness or efficiency of training:

a. Effectiveness
   - Constraints due to safety requirements or environmental considerations (e.g., damage to terrain or vegetation).
   - Lack of realism in depicting the activities of enemy or supporting forces and/or the results of those activities (e.g., assessing casualties to men and material; the effects of suppressive fire).

   — Imperfect transfer of peacetime training to a wartime environment because of the inadequacy of peacetime training (e.g., inability to simulate all aspects of battle such as traumatic injuries and death).

b. Efficiency
   - Lack of time available for training at all levels: basic training, training for skills acquisition and retention, and collective training; whatever training is conducted needs to employ the most efficient training methods available.
   - Shortage and cost of equipment and expendables (such as ammunition); training should make optimum use of the hardware available.
   - Cost of buying and maintaining operational equipment; wear and tear on this equipment should be minimised to ensure a high level of operational availability.

These are some of the reasons trainers have continued to seek ways to achieve more efficient and effective training. One important training technique that has the potential to contribute towards this goal is simulation: the physical, symbolic or procedural representation of a real-world system.

In this article, the authors explain some of the important issues to be considered in designing and evaluating simulation for training.
THE NEED FOR SIMULATION

Simulation is not necessarily a panacea for all training problems, and should not be contemplated without first conducting a thorough analysis of the actual need for it. Otherwise, money can be wasted on equipment or systems which are either inadequate for the purpose intended or unnecessarily expensive. A systems approach to training should be at the heart of any attempt to acquire or evaluate simulation.

Most military personnel accept that simulation has a place to play in training (eg, blank ammunition, sub-calibre devices, command post exercises); few, however, can provide quantitative data to justify the acquisition of simulators or to specify the place of simulation in training. A common attitude is “simulation is alright up to a point, but there’s no substitute for the real thing. You have to use the real equipment and train with the noise, the dirt, the discomfort of battle”. Such an attitude is not always well founded — and it should be noted that, short of actual warfare, field exercises are but simulations of battle, anyway.

The issue is a complex one. On the one hand, the penalties for deploying ill-trained forces into battle are high; on the other, the demands made on the defence budget during peacetime are numerous, and the relative merits of the competing demands for operational and training equipment are often difficult to assess.

From a purely cost viewpoint it may be possible, in the commercial world, to justify the purchase of a training device such as an aircraft flight-simulator in terms of direct savings in overall operating costs (in this example, savings in aircraft flying hours), whereas the worth of military training often cannot be expressed simply in monetary terms: it may ultimately be measurable only in terms of success in battle — a measurement that most would prefer not to have to make. However, commercial airlines also place great store on safety and crew competence under adverse conditions; these factors are harder to quantify in financial terms, but nonetheless rate highly in decisions to purchase simulative equipment.

FIDELITY OF SIMULATION

A major issue to be addressed in the design and evaluation of simulation is the level of fidelity required to maximise training effectiveness in the most cost-beneficial way. To this end, an understanding of the relationship between such factors as fidelity, transfer of training, categories and stages of learning and task complexity is required.

The term ‘high fidelity’ will be familiar to most readers as one used (often deceptively) to describe a sound reproduction system whose reproduced sound closely matches that of the original performance. ‘Fidelity’ has connotations of both faithfulness and realism, and the term ‘fidelity of simulation’ is used to describe the degree to which the simulation replicates that which is being simulated (the reproduction of the ‘1812 Overture’ in one’s loungeroom being a simulation of the original orchestral performance). Fidelity has both physical and psychological components:

a. Physical Fidelity. Physical fidelity comprises equipment fidelity and environmental fidelity.
   — Equipment fidelity is the degree to which the appearance and feel of the operational equipment are duplicated.
   — Environmental fidelity is the degree to which cues in the real world are duplicated. This relates to factors which affect the senses, including, for example, noise, weapon flash and motion.

b. Psychological Fidelity. Psychological fidelity is the degree to which the trainee perceives the simulation to be a realistic duplication of the operational task situation, and the extent to which the psychological demands of the real world are replicated.

TRAINING EFFECTIVENESS

Transfer of Training

Transfer of training is the effect of a preceding training activity upon the learning of a given task. It is used more narrowly here to refer to the carry-forward of performance in the training situation to real-world or on-the-job applications. The effectiveness of training is largely a function of the extent to which transfer occurs.

The problem is how to assess the quality of transfer. Several factors which contribute to transfer of training can be identified, but the state of the art and the nature of simulation itself are such that the effectiveness of simulation cannot be determined without conducting evaluative trials of an experimental kind (Ref 1). Methodologies for doing so are avail-
able, but the professional input of physical and behavioural scientists is required.

**Sequencing Simulation in the Training Cycle**

Transfer of training impacts upon three phases in the development of knowledge and skills, viz:

a. **Acquisition.** The initial training of knowledge and skills to a predetermined standard of performance.

b. **Retention.** The maintenance of the required standard performance once the knowledge or skill is acquired.

c. **Reinstatement.** Having deteriorated, the restoration of the knowledge or skill to the required standard of performance.

When evaluating simulation as a training method — or any other training method — it is not sufficient simply to assess the quality of transfer after a period of initial training. This does not tell the trainer the degree to which the newly acquired knowledge or skill is retained; nor, having later deteriorated, how easily it can be reinstated.

It is this information that enables the most effective sequencing of simulation in the training cycle (i.e., when to use simulation and when to use the real equipment or technique) to be achieved. It cannot adequately be determined, however, without conducting evaluative trials.

**Training Effectiveness Criteria**

The contribution that simulation can make to effective training may be considered under two broad headings:

a. **Limitations or Restrictions on Use.** Simulation can contribute to effective training when, because of restrictions, it is the only feasible way to learn or practise a task. Restrictions may be due to the possibility of damage to equipment, injury to trainees or instructors, destruction of property, pollution of the environment, or equipment shortages, as well as the cost of using the real equipment.

b. **Learning.** Simulation can contribute to effective training by facilitating the learning process in the following ways:

- **Quantity of Practise.** It can provide more opportunities for practise and the capability for repetition of functions and procedures.

- **Reliability of Practise.** It can make practise more reliable by eliminating distractions such as irrelevant noise, movement and interaction with other parts of the system which detract from the learning process.

However, where these distractions impinge upon the successful performance of a task, they should be represented in training.

(3) **Feedback of Performance.** Learning is greatly enhanced when the trainee is given feedback about the consequences of his actions ('knowledge of results'); often, however, this feedback is scant or ambiguous. Simulation can overcome this by providing artificial feedback ('augmented feedback'). In this way, prompt correction of errors is possible.

(4) **Manipulation of Dimensions.** Manipulation of dimensions, including deliberate time deviations from reality, malfunctions, emergencies and demanding or critical task situations, can facilitate learning. Simulation allows real time to be compressed or expanded. Where events in the real world are slowly paced, compression of real time can enhance the learning process. Similarly, instruction can be facilitated by expanding the time-scale for events which occur rapidly in real time. Of particular importance is the ability to train students in critical or demanding situations, as opposed to those that occur routinely or are less difficult.

(5) **Explanation/Demonstration.** Instruction can be facilitated by the provision of cutaways, student/instructor stations, etc.

(6) **Self-Paced Learning.** Simulation can often provide a self-paced learning mode, which is of particular value in catering to individual differences in trainee skills.

(7) **Non-Quantifiable Costs.** Simulation also contributes to a number of important factors which are difficult to quantify, including maintenance of interest, motivation and realism in training.

**TRAINING EFFICIENCY**

Simulation has the potential to contribute to the efficiency of training in a number of ways, including:

- savings in resource costs (e.g., ammunition, POL)
- saving in wear-and-tear on operational equipment
- savings in training time
- reduced damage to the environment

An additional pay-off is the indirect contribution that such savings can make to training effectiveness. When training resources can be preserved during the earlier stages of learning,
greater effect can be achieved by utilising them later, when the trainee has become more proficient. Use of sub-calibre ammunition, during the learning of basic firing skills, is a good example of this application.

Efficiency of training is also significantly affected by the fidelity of simulation. Other things being equal, the lower the fidelity, the greater the efficiency is likely to be, because less expensive equipment and resources will be required. The problem is then to determine what reduction in fidelity can be tolerated without unacceptable loss of transfer.

LEVEL OF FIDELITY, TRANSFER OF TRAINING AND COSTS
Theoretically, the closer simulation resembles reality, the more effective the transfer of training will be. In order to obtain optimum levels of both effectiveness and efficiency in training, however, it is necessary to establish a balance between the cost of training resources on the one hand and effective transfer on the other. Fidelity of simulation impinges upon both the effectiveness and the efficiency of training. This hypothetical relationship is illustrated in Figure 1, and is discussed below.

a. Low Fidelity. At low levels of fidelity, relatively small gains in transfer value can be expected with increments in fidelity.

b. Increasing Fidelity. A point is reached where large gains in transfer can be expected for small increments in fidelity.

c. Higher Fidelity. As fidelity becomes higher, the gains in transfer diminish with further increments in fidelity.

d. Point of Diminishing Returns. A ‘point of diminishing returns’ is reached where transfer value is outweighed by higher training costs.

Design and evaluation concerns itself with determining this point of diminishing returns. However, it should be noted that different applications of simulation dictate different relationships between fidelity, transfer and costs. This will depend on such factors as the stages of learning involved, the complexity of the task, and the type of knowledge, skill or attitude to be learnt.

CATEGORIES AND STAGES OF LEARNING AND TASK COMPLEXITY
Varieties of knowledge, skills and attitudes are referred to as ‘learning categories’. The Army Training System classifies learning categories in the following way:

a. Knowledge.
b. Skills:
   (1) Mental Skills.
   (2) Physical Skills.
   (3) Interpersonal Skills.
c. Attitudes.

The learning category to be simulated will partly determine the level of fidelity required.

In addition, training is usually associated with different stages of learning; these may be classified in a variety of ways, depending on the type of knowledge, skill or attitude to be learnt. For the purpose of illustration, the acquisition of a physical skill is achieved over five stages of learning, viz:

a. Indoctrination. Indoctrination training occurs early in the training process. The trainee learns what the task involves, and how it is performed.
b. Procedural. Procedural training provides the trainee with the essential nomenclature and knowledge of sequences required to perform the task.
c. Familiarisation. Familiarisation training provides the trainee with the opportunity to practise procedures and learn about the dynamics of the task (usually performed in stages).
d. Skill. Skill training enables the trainee to develop proficiency in performing the task.
Transition. Transition training allows the
trainee to transfer skills developed on one
model of an equipment or technique to
proficiency on another. (Adapted from
Reference 3)

As with the learning category, the stage(s) of
learning involved will partly determine the level
of fidelity required.

The complexity of the task to be learnt is
also significant in terms of the level of fidelity
required. In this respect, a broad distinction
is made between ‘fixed procedural’ tasks and
those that are more complex. A fixed proce­
dural task is one for which the correct sequence
of action is all that has to be learnt for
satisfactory performance to be achieved.

FIDELITY REQUIREMENTS
Psychological Fidelity

Psychological fidelity is an elusive concept,
and difficult to measure. For the most part,
it seems to be a function of the level of physical
fidelity that is achieved. Thus, the more faith­
fully the equipment and environment are repro­
duced, the more realistically they will be per­
ceived.

The limiting factor is the human operator.
Often, physical fidelity need not be high simply
because the human operator is either incapable
of discriminating among different levels of
fidelity, or because he is prepared to accept
the differences he can perceive. Some research
has shown, for example, that maximum realism
for a particular kind of simulation was achieved
with environmental values substantially differ­
ent from those in the real world’.

There are obvious cost benefits to be derived
from ascertaining levels of psychological fidel­
ity, but to date insufficient research has been
devoted to the problem. Until it is, there will
be a tendency to request higher physical fidelity
as a precaution’.

An important principle that may help to overcome this tendency is to
encourage trainers to demonstrate to trainees
the differences between task demands for the
simulator and the real equipment, and not to
attempt to convince trainees of their similarity’.

Physical Fidelity

Equipment and environmental fidelity are
more tangible concepts. The effect of physical
fidelity on transfer of training is easier to
quantify than that of psychological fidelity,
and more is known about it.

As a general guideline, environmental fidelity
is more important for effective transfer than
equipment fidelity. However, different levels
of each are required depending on the stages
of learning involved, the complexity of the
task, and the type of knowledge or skill to be
learnt. This relationship is illustrated for the
specific case of a physical skill in Figure 2.

Levels of fidelity for a physical skill can be
varied on the following basis:

a. Procedural. During the early stages of
learning, the trainee does not benefit
from high levels of either equipment or
environmental fidelity.
b. Familiarisation. As skill is acquired, the
requirement for physical fidelity increases,
with the requirement for environmen­
tal fidelity increasing at a faster rate.
c. Skill. During the later stages of learning,
increases in both equipment and environ­
mental fidelity are desirable, with a
requirement for a higher level of envi­
ronmental fidelity. (Adapted from Ref­
erence 3).

Physical fidelity is likely to be especially
important for training perceptual and physical
skills, and unimportant for training decisional
skills, interpersonal skills, and attitudes. Fur­
ther, devices of low physical fidelity have been
shown to be suitable for training skills involv­
ing fixed procedural tasks*7*.
In general, high fidelity simulation is required for effective transfer when the trainee must learn to make difficult discriminations between cues in the environment, and where performance is either difficult or highly critical to system operation. Even so, research has indicated that effective training can be as much a function of the way in which the simulation is used, as the actual level of fidelity employed. Because of the obvious cost savings involved in using low fidelity simulation, it should always be considered. In the final analysis, however, all simulation must be subjected to evaluation for its effectiveness to be determined.

TRAINING SETTINGS

In attempting to evaluate simulation, it is necessary to consider the similarities and differences among various training settings. Training attempts to facilitate the acquisition and retention of individual knowledge, skills and attitudes, and collective skills. The goal of all training should be to achieve success in war. The crucial aspect in applying simulation to this end is, therefore, to create conditions that will provide effective transfer of training to the operational situation.

Individual Knowledge and Skills

In this respect, the training of individual knowledge, skills and attitudes may be thought of as a succession of transfers to more and more realistic scenarios, as the trainee progresses from individual to collective training settings. The most realistic setting, short of actual combat, would be a two-sided free-play exercise.

In this context, most training can be conceived of as 'simulation' of one kind or another, and individual and collective training as part of a continuum. However, this continuum can break down when, for whatever reason, certain individually trained skills are not transferred to the collective setting.

Small arms marksmanship is a good example of this. For safety reasons, live ammunition can be used with relative impunity during individual training, but rarely so in a collective setting. As a result, marksmanship skills never really progress beyond the individual training level and are not therefore subjected to the environmental and psychological pressures that exist in combat.

Although this problem is not easily solved, simulation is one way of bridging the gap between individual and collective training. In the case of marksmanship, for example, use of a laser-based tactical engagement simulation system such as MILES (Multiple Integrated Laser Engagement System) would be one way of achieving more realistic collective training.

Collective Skills

Individual training is aimed at individual skills, knowledge and attitudes. Collective training, however, has at least two purposes: a. practice and external validation of individually trained knowledge and skills; and b. training, practice and evaluation of collective skills.

To achieve these goals, simulation is used in the collective setting to replicate both individual and collective task demands.

Training should be subjected to external validation, inter alia, to determine the effectiveness with which knowledge and skills are transferred from training to real-world or on-the-job applications. Within Field Force Command, individual and crew-trained knowledge and skills would most appropriately be validated during collective training. However, the effectiveness with which knowledge and skills transfer from the collective setting to the operational situation remains largely academic. Similarly, the simulation of collective task demands provides a special problem for evaluation, because, in the absence of combat, it is difficult to demonstrate that effective transfer occurs at all.

Two principles suggest a means of addressing this problem: a. collective training is itself a simulation of combat; and b. the higher the fidelity of simulation, the more effective the transfer to the operational situation is likely to be.

Higher fidelity of simulation in collective training is therefore likely to contribute to more accurate validation of individually trained knowledge and skills, and potentially more effective transfer of collective skills. For collective training, simulators and simulative techniques should be evaluated largely as means of improving the simulation of combat, and especially the environmental and psychological demands of combat. The effective transfer of
individual and collective knowledge and skills to the operational situation can then be inferred from the fidelity of simulation that is achieved.

**SUMMARY**

This article has discussed the design and evaluation of simulation, and cautions against contemplating simulation without first conducting a thorough systems analysis of the actual requirement for it.

The effectiveness of simulation in training is the extent to which knowledge, skills and attitudes learnt through the use of simulation transfer to the real-world. This is largely a function of the level of fidelity that is achieved. However, varying elements and levels of fidelity are suitable depending on the stages of learning involved, the complexity of the task, and the type of knowledge, skill or attitude to be learnt. Furthermore, research indicates that effective training can be as much a function of the way in which simulation is used, as the actual level of fidelity employed.

A number of factors which contribute to effective training can be identified, but the absolute effectiveness of simulation cannot be determined without conducting evaluative trials of an experimental kind. It is also necessary to assess the quality of acquisition, retention, and reinstatement of knowledge, skills and attitudes to determine the most effective sequencing of simulation in the training cycle. It is suggested that the application of simulation to collective training may best be evaluated in the context of improving the simulation of combat.

**NOTES**


**COPIES OF BACK ISSUES**

Copies of back issues of the Defence Force Journal are available for distribution on request to the Editor.
THE ROLE OF OCCUPATIONAL ANALYSIS IN DETERMINING TRAINING REQUIREMENTS

By Wing Commander Ken Goody

INTRODUCTION

OCCUPATIONAL analysis is defined as 'the procedures whereby samples of work positions are analysed in order to infer job requirements'. The terms occupational analysis and job analysis are often used synonymously. Traditionally, job analysis has concentrated on studying and reporting on the operations and responsibilities of each specific job. While this is done in the Australian Defence Forces, we are usually more concerned with describing the nature and requirements of groupings of jobs. Hence the implicitly broader 'occupational analysis' is perhaps more appropriate in this context.

All three Arms of the Australian Defence Force now regularly conduct occupational analysis using a task-inventory approach pioneered by the USAF in the late 1950s, and subsequently refined and enhanced by their Human Resources Laboratory. In parallel with the evolution of their concepts and procedures they devised and developed a large, flexible suite of computer programs for their data processing. This package, known as CODAP (an acronym for Comprehensive Occupational Data Analysis Programs), was made available to the Australian Department of Defence and became fully operational there early in 1977. Full operational status of CODAP did not mark the birth of occupational analysis in Australia. Both the RAAF and the Army began their occupational analysis programs in the late 1960s. The RAAF based their work on the USAF concept and used locally-written, limited versions of some of the key CODAP programs for their analysis. The Army, drawing heavily on CODAP but deviating from it, developed their own procedures and programs. There was enough commonality with CODAP for them to easily convert to it when the complete package became available.

Although occupational analysis has a variety of applications, a major 'payoff' stems from its use as an aid in determining training requirements. So far this has been its main use in the Australian Defence Forces. While some agreement exists on the broad concept of how this powerful tool can be used as an aid for training design, its full potential and limitations for this purpose are not universally understood.

THE RELATIONSHIP BETWEEN TRAINING REQUIREMENTS AND TASKS PERFORMED IN THE FIELD

A Short Fable. The relationship between training requirements and what is done in the field is illustrated by the following fable:

'The very first Basic Training School was established by a remote tribe during the Paleolithic ages. Then, as now, the productive activities of the adults were directed towards provision of food, clothing and protection. Fish abounded in the streams and were the primary source of food. The water being crystal clear and the fish being generally lethargic, the method of harvesting was to wade in and grab the fish using bare

Wing Commander Goody joined the RAAF in 1966 as an Education Officer. After postings to RAAF School of Technical Training, Headquarters Support Command and Base Squadron East Sale, he spent 1975-76 as an exchange officer with the United States Air Force. During this period he worked as a Behavioural Scientist with the Occupation and Manpower Research Division of the Air Force Human Resources Laboratory. On return to Australia he served two years in Computing Services Division and then completed RAAF Staff Course. His current appointment is as Director of Information Requirements in Defence Information Services Branch.

Wing Commander Goody has previously contributed to the Journal.

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hands. A second adult activity was to club little woolly horses, thus providing meat as the other form of food, and skins for clothing. The only predator of these primitive people was the sabre-toothed tiger, but they raided only at night and were easily scared away by waving fire-brands. Fish-grabbing, horse-clubbing and tiger-scaring were thus the three activities performed by the adults. Initially the adolescents learnt these three basic skills on-the-job, but eventually the benefits of full-time, formal training were recognized. Accordingly the Basic Training School was established and three subjects were taught: fish-grabbing, horse-clubbing and tiger-scaring.

Had the environment not been gradually changing, these halcyon days could have lasted forever. A new ice-age resulted in glaciers encroaching upon the headwaters where their melting turned the steady, crystal clear streams into fast-flowing, muddy rivers. For fish generation on fish generation, the fish that had been the victims of fish-grabbing had tended to be the stupid, clumsy, brave fish. The average intelligence, agility and timidity of the fish population had been gradually increasing. Hand-grabbing smart, agile, timid fish in opaque, muddy water was impossible. The climate had become damp and the formerly dry flats where the little woolly horses had roamed became wet and marshy. The horses migrated to drier climes and were replaced by shy deer, far too agile to be clubbed. Those tigers that did not succumb to pneumonia from the damp atmosphere also migrated, only to be replaced by ferocious bears that roamed day and night and were unafraid of fire.

Necessity being the mother of invention, new technologies were developed to meet the changed circumstances. Fish nets were invented, snares were developed to catch the deer, and bear-traps were made by digging and concealing deep pits along the approaches to the village. Actually the tribe had an enhanced capability to provide food, clothing and protection: more fish could be netted than could ever have been grabbed by hand, venison was tastier than horse-flesh, the bear-traps did not require constant vigilance, and when captured bears were dispatched: their flesh and hides supplemented the food and clothing supply. On joining the productive work-force the graduates of the Basic Training School now performed three entirely new tasks, namely fish-netting, deer-snaring and bear-trapping. However, the Basic Training School continued to teach fish-grabbing, horse-clubbing and tiger-scaring.

The Onus of Proof for Course Content. Clearly, there is a relationship between what should be taught on training courses and what is being done in the field. If many of the members of the work-force are using a skill it should probably be included in the training program, but if few or none are using it training on it is probably wasteful. This is not to say that the proportion of the work-force using a skill is the sole consideration in determining whether or not to train on it. Should this be the case, we would not teach firemen to fight structural fires and we would not teach the crews of high-performance military aircraft to operate the egress system. Rather, the proportion of workers using a skill establishes the onus of proof for training-program content. If the training designers want to teach a rarely used skill, the onus is on them to show why resources should be allocated to teaching it. Conversely, if a skill is regularly used in the field its omission from the training program must be justified.

Occupational Analysis as a Source of Information. Despite the fable related in paragraph 6, there is no suggestion that any Defence course is grossly out of balance with what is being done in the field. What is being asserted is that no individual or small group has enough knowledge of what is being done by all members of any particular trade group to be sure about what should and should not be taught. This deficiency is even more pronounced when a number of allied trade groups are being considered together with a view to developing common courses to meet overlapping training requirements. Occupational analysis provides an economical means for describing quantitatively what is being done, to what extent, by whom, and where. This, with other information about the tasks being done, can be displayed in formats suitable for aiding decision makers in determining what the training requirements really are.
THE DATA PROCESSED BY CODAP AND THE USE OF THE INFORMATION PRODUCED

The Data Gathered

The Occupational Survey. An occupational survey is conducted to gather the data for processing by CODAP. Of prime importance are data about individual work positions. These data are provided by the incumbents of a sample of work positions completing a survey questionnaire. If the number of work positions in the occupational area of interest is small, a 100 percent sample may be sought. Secondary data may also be gathered by having a sample of first-line supervisors complete similar, but different survey questionnaires.

Using Incumbents as the Source of Primary Data. The use of incumbents to provide the primary data sometimes elicits surprise and even concern. Such concern is unfounded. The USAF has found that better information about the content of a job is obtained from an incumbent than from his supervisor. Admittedly there are dangers in assuming that USAF findings are completely applicable to Australian settings. Statistical tests conducted by the USAF to demonstrate that incumbents gave reliable data could readily be applied to existing Australian CODAP data, and they should be applied. In the meantime, proponents of CODAP are quietly confident that such research would confirm that Australian Servicemen also provide reliable data about their jobs.

The Task Inventory. The crux of each survey questionnaire is the task inventory. This is a list of all the tasks that could be expected to be performed by any of the personnel working in the occupations being surveyed, a task being a specific unit of work which can be described using a single verb. The tasks in the inventory are grouped into duties, a duty being a broad category of work involving a number of related tasks. This allows an option to produce less detailed information if required. Each questionnaire makes provision for the respondent to score each task against a numerical scale in accordance with the provided instructions.

Background Information. The other major component of the survey questionnaire is the background information section. Here the respondent provides data about himself and about his job in general. In the data sought about the individual may include his rank and employment category, his experience levels (such as time in rank, time in employment category and time in present job), and courses completed. He provides general information about his job such as his unit, his workplace, types or equipment worked on, and what tools he uses in his job. Further, by rating each against a scale provided he indicates how he feels about a variety of job factors. Some of these are essentially indicators of morale while others indicate the demands the job makes on the incumbent. The content of the background information section of the questionnaire varies among the users of CODAP, and the nature and purpose of the study will dictate variations in what is sought by way of background information.

Uses of Background Information. The purpose of the background information section is twofold.

a. Selection of Groups of Jobs. In using the task-inventory data to describe what is done in groups of jobs, we use the background information to identify which incumbents fit into each group. For example, we could describe the work done by all corporal electrical fitters in the RAAF, or alternatively all corporal electrical fitters in the RAAF who work on Macchi aircraft.

b. Information in its Own Right. The background information has value as information in its own right. Germane to the subject of this article, knowledge of what tools are used in various groupings of jobs is important for training design. Beyond the scope of this article, the morale and job demands factors have implications for job redesign, and combinations of items can be used to build profiles of the work-force.

Time-spent — The Primary Factor

The Individual Job Description. By far the most important and most universally gathered CODAP factor is the time spent on each task. Each respondent indicates those tasks in the task inventory that he performs in his present job and then, by rating it against an appropriate scale, he provides a measure of the relative amount of time he spends on each of these tasks. A CODAP program then uses
these ratings to compute an estimate of the percentage of his working time each individual worker spends on each task. Although we are rarely interested in describing individual work positions, individual job descriptions could then be printed. They would take the form of a list of all the tasks performed by the respective incumbent together with the percentage of his time he spends on each task. The tasks would be listed in descending order of percent-time-spent so that the tasks near the top of the list are those that occupy most of the incumbent's time while those near the bottom consume little of his time.

The Rationale for Using Present Job Only. Opinions have been expressed that each respondent should indicate and rate those tasks performed in previous jobs as well as those performed in his current job. This is unnecessary. As the study is designed to include also the persons now doing each of his previous jobs, or at least jobs very similar to them, we gather data on all relevant jobs while restricting each respondent to his present job. More importantly, requiring each respondent to report on his previous jobs as well as his current job would be most undesirable because: a. completing the questionnaire would be more difficult; b. occupational surveys are conducted to determine what is being done in the field now, not what has been done in the past; and c. we would be unable to describe the present job because the CODAP programs would not be able to distinguish between what the respondent is doing now and what he has done in previous jobs.

Group Job Descriptions. Group job descriptions are among the most useful of CODAP products. Because they describe what is being done in a selected group of jobs (e.g., all aircraftman cooks), they can be used to establish the onus of proof for training requirements as discussed in paragraph 7. They are computed from the individual job descriptions of all the respondents in the group of interest. A group job description comprises a list of all the tasks that at least one member of the group performs, plus information on the extent to which each is performed by the group. The three key items of information printed for each task are the percentage of members in the group that perform it, the percent-time-spent on the task by those members who perform it, and the percent-time-spent on the task as a whole. Perhaps a simple, hypothetical example will clarify the relationships among these three statistics. Suppose there are 20 respondents in a group and 15 of them report performing a particular task, and the average of these 15 individual percent-time-spent values is 12. We conclude that 75 percent of the group perform the task, and that those members of the group who do perform it collectively spend 12 percent of their work time on that task. When this is averaged over all 20 members of the group, we deduce that the task accounts for nine percent of all the work time of the group as a whole. The tasks in the group job description are printed in descending order of percent-time-spent by the group as a whole, and during printing a fourth statistic is added beside each task, this is the cumulative percent-time-spent by the group as a whole on all tasks up to and including the one being printed.

Group Difference Descriptions. While group job descriptions are valuable aids in determining the training requirements for a group, group difference descriptions help highlight the difference in training requirements between two groups. For example, we may wish to emphasize the differences in work content between corporals and sergeants in a work category or between members of two allied work categories. For each task, the group difference description program computes the difference in the percent-members-performing values for each of the groups and the difference in the percent-time-spent values for each of the groups. If the task is more typical of the first group these differences will be positive, and negative differences indicate that the task is more typical of the second group. The printed report comprises a list of tasks and six statistics for each task, namely both values of percent-members-performing, both values of percent-time-spent, and both differences. As the tasks are printed in descending order of one of the differences, the tasks near the top of the listing are more typical of the first group and those near the bottom are more typical of the second group. The tasks for which the differences are small would be printed in the middle, but for ease of interpretation and for economy there is an option to suppress printing any tasks for
which the difference is less than a predetermined value. For training purposes, there is a *prima facie* case for those tasks near the top to be taught to the first group and those near the bottom to be taught to the second group.

**Accuracy of Percent-Time-Spent.** Before leaving time spent, the primary CODAP information, some comment is warranted on its accuracy. Firstly, CODAP computed percent-time-spent values cannot be simply converted into hours-per-week. Not all workers spend the same number of hours-per-week at work (eg, unrecompensed overtime, sick leave, etc). Even if they did, the proportion of their time at work devoted to their primary jobs, jobs covered entirely by the tasks in the inventory, varies because some activities that consume time may not be included in the inventory. Examples could be 'wait for item from the store', 'wait for the arrival of an overdue aircraft', or 'visit Medical/Dental/Padre/etc'. Further, CODAP estimates percent-time-spent from relative time ratings; no pretence is made of absolute accuracy. However, this inability to simply convert percent-time-spent into hours-per-week does not detract from its usefulness for most applications. Tasks near the top of the job description consume most time, those near the bottom consume less time, and those not even listed are not performed. As a second point on the accuracy of percent-time-spent, group job descriptions are used for most applications, and USAF research indicates that 'group job descriptions are relatively imperious to possible minor inaccuracies in time-spent on task estimates in each individual job description'.

**Secondary Task-Factor Information**

**Collecting Secondary Task-Factor Data.** Secondary task-factor data are gathered using a survey instrument based on the same task inventory used for collecting the time-spent data. The respondents rate each task on the relevant factor against a scale provided and the arithmetic average of all raters' ratings on each task is taken as the measure of the factor for that task. The respondents are normally required to rate all tasks in the inventory rather than only that they personally perform and, in order to tap a broader knowledge of the entire occupation being surveyed, first line supervisors are used as raters. The CODAP program involved also provides a statistic indicating the reliability of the measures obtained, plus other statistics which allow a trained analyst to identify any rater who for some reason has not obeyed the instructions. Other CODAP programs can then display the secondary task-factor information alongside the primary factors of percent-performing and percent-time-spent. A variety of secondary task factors have been measured by various users of CODAP, but the three discussed in the next two paragraphs have particular significance for training requirements.

**Task Difficulty — The Enduring Secondary Task-Factor.** One of the first secondary task-factors to be measured by the USAF was task difficulty. It is defined as 'the amount of time it takes for individuals to learn to perform the task adequately', and it is now measured routinely by many users of CODAP. Task difficulty can be used for research into a variety of problem areas including differential use of manpower, job evaluation, training requirements, aptitude requirements and job satisfaction. Research has yet to definitely determine the role of task difficulty in determining whether or not training should be provided on a task. However, when the decision has been made to include a task in the training program its difficulty, by definition, has definite implications for the amount of training to be devoted to it, and it may even help decide where and/or how it should be taught.

**Consequences and Delay Tolerance.** Two secondary task-factors of particular significance for training design are consequences of inadequate performance and task delay tolerance/need for immediate performance.

a. 'Consequences of inadequate performance are a measure of the seriousness of the probable consequences of inadequate performance of a task. It is measured in terms of possible injury or death, wasted supplies, damaged equipment, wasted man-hours of work, etc'.

b. 'The task delay tolerance of a task is a measure of how much delay can be tolerated between the time the airman becomes aware the task is to be performed and the time he must commence doing it. Must he commence immediately, or does he have time to consult...
a manual, seek guidance, or even be taught how to do it?" Usually, the lower the score on a secondary task-factor the less demanding the situation (eg, low task difficulty), but for task delay tolerance low scores represent the more demanding situation (ie, delay cannot be tolerated). As this anomaly unnecessarily complicates interpreting task-factor information, the RAAF has inverted the scale and changed the name to need for immediate performance.

These two secondary task-factors may be used to discharge the onus of proof referred to in paragraph 6. Rarely performed tasks that would probably result in serious consequences if inadequately performed, and which cannot be delayed when the need for their performance arises, should probably be taught by way of insurance. Conversely, more often performed tasks could be omitted from formal training if they are inconsequential and the airman has plenty of time to learn how to do them when the need arises.

From Information to Training Requirements

**Formating the Information for Training Management.** To be useful to training management, the quantitative CODAP produced information must be presented to them in a format suitable for them to apply their professional judgement and determine the training requirements. One such suitable display that can readily be produced is a list of tasks performed with up to about 10 items of primary and/or secondary task-factor information printed beside each task, the listing being ordered on any one of the task-factors listed. By way of illustration, the information printed for aiding in the design of entry level training for a RAAF mustering could be the percent-performing and percent-time spent for all aircraftmen, for all leading aircraftmen and for all corporals, plus the measures of consequences of inadequate performance, need for immediate performance and task difficulty. As this illustration is addressing entry level training and as percent-performing establishes the onus of proof for train/don't train decisions, the listing could profitably be printed in descending order of percent-performing for aircraftmen. Of course, the listing could be repeated any number of times using a different factor to decide the order of printing at each iteration.

**Further Refinement of the Information.** Armed with suitably formatted occupational analysis information the training designers are able to make, with less difficulty and more confidence, far better training decisions than previously. Attempts have been made to develop models to further refine the information and so reduce their level of decision making. Two types of models have been tried, one based on algorithms and the other on regression analysis.

a. **Algorithms.** For the algorithmic approach a cut-off value is assigned to each task-factor, and on the basis of the respective cut-off each task is designed as either high or low on each task-factor. The dichotomized information so produced is then subjected to a series of predetermined decision rules which automatically indicates whether or not each task should be the subject of training. No universal sets of rules and cut-off values have yet been devised and validated. Thus, despite the image of rigorous objectivity, the process is quite subjective. Further, identification of borderline tasks for closer scrutiny is difficult. Algorithms therefore have limited applicability for determining training requirements from CODAP-generated information.

b. **Regression Analysis.** Extensive research has been conducted by the USAF Human Resources Laboratory in an attempt to use regression analysis to derive a universal equation for differentially weighting the various task-factors in order to compute a training priority index for each task in the inventory. Had this succeeded, the tasks in the inventory would have been listed in descending order of the computed training priority index, the tasks near the top being those that require training and those near the bottom being those that do not. Training designers would then have to closely scrutinize only the borderline cases in the middle. The research was generally well documented (16,17,18,19,20) and will not be detailed in this article. In essence, promising results were obtained within specific work areas but a universal equation was not derived.

**Training Emphasis — A Tertiary Task-Factor.** A by-product of the USAF research seeking a universal regression equation was the emergence of a new task-factor, field recom-
mended training emphasis, which is ‘a measure of the task’s recommended formal training emphasis . . . based upon ratings of tasks by . . . field NCOs’. Quite simply, a larger than normal sample of supervisors provide ratings on recommended training emphasis which is then processed like the secondary task-factors. This factor developed from a similar factor, called field training priority and measured in the same way, which was developed for use as a criterion in the regression analyses. Research using field recommended training emphasis is continuing at the USAF Human Resources Laboratory and the reliability with which it can be measured there is generally good. Provided that it can be reliably measured in the Australian Defence Forces, training emphasis could be used in the same way the computed training priority index was to be used. Time-spent and the three secondary task-factors described in paragraphs 19 and 20 should continue to be measured, however, as they could be used to explain the bases for the training emphasis ratings (using regression analysis) and would thus be useful in deciding on the borderline tasks. A suitable format for presenting the information to training management would be as suggested in paragraph 21, except that field recommended training emphasis would be added as an additional task-factor and the task listing would be ordered on it.

Using Inventories Other Than Task Inventories. As a final comment on how CODAP generated information can be used in determining training requirements, brief mention must be made of at least one example of the use of an inventory other than a task inventory. Perhaps the most fruitful survey of this nature so far conducted in the Australian Defence Force is known as the RAAF Electronics Principles Inventory. In lieu of a task inventory, the survey questionnaire contained a list of about 1500 statements of electronic principles and the respondents indicated which principles were of use to them in their current jobs. Nine RAAF technical mustering were surveyed, the data were processed by CODAP, and the results have been of considerable use in determining training requirements.

What Occupational Analysis Cannot Do. Occupational analysis quantifies what is currently being done in the field, not necessarily what should be being done, when there is a difference, it at least indicates to the specialist officers what the situation is, thus facilitating detection of such discrepancies. Another limitation is that occupational analysis cannot predict the future. Training requirements to meet the needs of new equipment yet to be introduced into service must continue to be identified by specialist officers. Any training requirements that will discontinue with the retirement of equipment nearing end-of-life may also be identified by specialist officers, but if they are not they will be dropped when the next cycle of occupational analysis on the trade group is conducted.

CONCLUSION

Occupational analysis is a powerful tool for providing information which can be used in determining training requirements. The most basic form of information is the group job description which establishes the onus of proof for train/don’t train decisions, and secondary task-factors can be used by training designers in discharging this onus of proof. There seems to be potential for introducing a tertiary task-factor, field recommended training emphasis, which could further enhance and simplify the determination of training requirements. However good the information base available, however, the final decision must reside with training management.

NOTES

2. Many of the events and dates in this article stem from the author’s personal involvement with occupational analysis in general and CODAP in particular. In 1970-71, although not directly involved with occupational analysis, he served in the section within Headquarters Support Command responsible for it. As an exchange officer, he served 1975-76 as a research scientist with the USAF Human Resources Laboratory. On return to Australia, he served 1977-78 as CODAP Interface Officer within computing Services Division, Department of Defence, In this role, he was responsible for providing technical advice to all Australian users of CODAP, for debugging and developing the programs, and for advising production programmers on how to meet users’ requirements.
3. This fable is presented with apologies to J. Abner Peddiwell’s ‘The Saber-Tooth Curriculum’ (McGraw-Hill Book Company, Inc, New York, 1939). Peddiwell is generally regarded as a pseudonym used by Professor Harold Benjamin, former Dean of the Colleges of Education of the Universities of Colorado and Mary-
land, and Emeritus Professor of Education at the George Peabody College for Teachers. He presents his 'Saber-Tooth Curriculum' as part of his overall treatment of the role of education in a changing society.


5. Ibid, p 79.

6. Some evidence as to whether or not incumbents provide reliable data could be obtained from a few fairly simple, although unusual computer runs on each of a few larger CODAP studies that have been conducted.

7. This confidence stems from the face validity of results that have been obtained. As by-product some of the programs identify significantly inconsistent respondents, and so far the incidence of this has been quite negligible.


11. Ibid, pp 14-49.

12. Christal (ibid) makes the point that if a task is very simple it can probably be mastered without formal training and therefore need not be included in the training program. In 1975, the author performed regression analysis on data gathered in a pilot methodological study conducted by the USAF Human Resources Laboratory, the results of which are included in a larger paper presented that year to the Military Testing Association (see Mead, D.F. in bibliography). Within the limitations of that study, there was a suggestion that task difficulty interacts with the percentage performed in determining training requirements: if the task is extensively performed, the more difficult it is the more the need to train on it; but if the task is rarely performed, the more difficult it is the less the desire to train on it, possibly because of the relationship between task difficulty and perishability of skill.


14. Ibid, Appendix B.

15. Alternatively, each task-factor could be split into three categories (high, medium and low) by assigning two cut-offs. This would not alter the subsequent argument about the limited value of algorithms in this context.


21. Ibid.

22. Personal conversations with Dr Raymond E. Christal, Technical Director, Occupation and Manpower Research Division, Air Force Human Resources Laboratory during his visit to Canberra, 16-28 September 1979.

Bibliography


THE TYPE 22 FRIGATE: DESIGN AND RUNNING EXPERIENCE, Hoskin, P.J. Journal Of Naval Engineering, June 81: 216-220 A former MEO of the first of the Type 22 frigates explains the major marine engineering characteristics of the warship. RESTRICTED DoD PERSONNEL ONLY.

IS THE MX IN JEOPARDY? Barlow, Jeffrey G. Military Engineer, Nov/Dec 81: 389-392 After eight years of MX systems development, the US has apparently moved back to square one on the question of how to base the missile.

UNCONVENTIONAL WARFARE AFLOAT, Crossland, Roger L. United States Naval Institute Proceedings, Nov 81: 36-41 Proposes, on historical grounds, that a co-ordinated campaign should be implemented which exploits the full range of sea-going guerrilla warfare options.

THE TARGETING CELL: A REALITY TODAY. Guy, Earl P. Field Artillery Journal, Sep/Oct 81: 38-40 In keeping with the 'extended battlefield' concept, the Targeting Cell co-ordinates corps and division level interdiction efforts against enemy second echelon forces.

THE BRITISH ARMY'S NEW LAW 80 ANTI-TANK WEAPON, Hewish, Mark International Defense Review, 11/81: 1503-1506 The LAW 80 is designed to defeat latest Soviet main battle tanks head-on at short range; to be cheap enough for issue in large numbers; to be operated by one man and to be aimed and fired as easily as a pistol or rifle.

THE SLEP ALTERNATIVE. George, James L. Navy International, Dec 81: 733-737 The USN's Service Life Extension Programme (SLEP) extends by 15 years the normal 30-year life of the four 'Forrestal'-class aircraft carriers. The USN has indicated that the four 'Kitty Hawk' -class and the nuclear-powered 'Enterprise' will also undergo SLEP.

NAAL DIPLOMACY IN THE PERSIAN GULF, Jordan, Kevin B. United States Naval Institute Proceedings, Nov 81: 26-31 Captain Jordan USMC, contends that the role of the US Sixth Fleet in the Middle East is based on the global scope of US interests. The coupling of Soviet land and sea power in this crucial area has effectively challenged American naval power as the ultimate arbiter of international events.

NAVAL FORCES ARE RAPID DEPLOYMENT FORCES. Quinlan, David Anthony United States Naval Institute Proceedings, Nov 81: 32-35 Naval forces, including the Marine Corps, provide unique capabilities that suit them best to the roles for which the US Rapid Deployment Joint Task Force (RDJTF) has been created.

FIELD ARTILLERY SURVIVABILITY: THE SOVIET PERSPECTIVE. Dayton, Keith W. Field Artillery Journal, Sep/Oct 81: 44-50 Having identified the threat as coming from enemy artillery, air, and ground forces, Soviet artillerymen have been undertaking a reappraisal of their traditional artillery practices in an effort to decrease artillery vulnerability on the modern battlefield.

BAJEL GROUP TACTICAL PROFICIENCY. Knuth, Dean L. United States Naval Institute Proceedings, Dec 81: 108-111 Recommends the steps to be taken if USN officers are to match the battle group tactical proficiency demonstrated by RN officers.

THE NAVY'S ENERGY FUTURE — CAUSE FOR CONCERN. Earner, William A. United States Naval Institute Proceedings, Dec 81: 86-88 US Navy-sponsored plans for energy conservation will be necessary if needed operational flexibility is to be maintained, and prearranged allocation plans for energy needed in the manufacture of Navy systems, may be essential to ensure a smooth path for mobilization.
A MODULE IN FAULT FINDING
WITHIN ADMINISTRATIVE AND
TECHNICAL SYSTEMS

By Major B. D. Copeland, BA BEdSt RAAEC

INTRODUCTION

I
n the past century, there have been massive developments in promoting the efficient mechanization of work. This has been achieved by development of machines and of procedures established to support the operation of machines. The mechanization of work involved the establishment of systems of machines and procedures designed to operate in predetermined ways.

From this practice, there arose certain procedures for the operation, design, maintenance, repair and evaluation of machines and processes. The most cost-effective way of maintaining continued operation was the promotion of fault finding procedures together with modular back-up and replacement systems.

A result of increased technology has been the removal of many workers from the operations and their replacement with machines. This state of affairs will continue at an accelerated rate into the future. We have already witnessed the expanding use of computers in the operation of all aspects of Decision Making. Perhaps it is understandable that some workers show certain resistance to using the techniques that have developed from the associated technology.

Modern technology has found a place in the administration of ‘Education’ and ‘Training’. There has yet to be a general application of such technology to the processes of ‘teaching’ and ‘instruction’ and to the skills passed to students.

AIM

A case will be made for a module in ‘Fault Finding’ to be made available for courses in ‘Education’ and ‘Training’.

REFERENCES

This article has been prepared in conjunction with three articles that have appeared in the Defence Force Journal.

‘A Programme in Problem Solving’ (DFJ No. 14 Jan/Feb 79) outlined the use of:
• A categorized series of ‘problems’ to be solved by the students
• Mastery learning of a series of component skills
‘Network Analysis and the Training Officer’ (DFJ No. 25 Nov/Dec 80) set down the application of:
• ‘Problems’ categorized according to system type
• ‘Education’ in support of ‘Training’
• Techniques of Decision Making applied to ‘Education and Training’
• Network Analysis as a means of promoting the concept of ‘whole’ and ‘part’
‘A Framework for Education and Training’ (DFJ No. 32 Jan/Feb 82) set down the concept of:
• A formal link between courses in ‘Education’ and ‘Training’
• A Taxonomy of Tasks for ‘Education’ and ‘Training’
• ‘Fault Finding’ as an integral part of Decision Making

‘FAULT FINDING’ — ‘PART’ OF THE ‘WHOLE’

‘Fault Finding’ is an integral part of Decision Making. Application to courses in ‘Education’ and ‘Training’ will be facilitated if student
personnel have achieved success in a range of related skills. These include:

- Representation of given systems, sub-systems and processes in diagrammatic form
- Checking and double-checking within given systems, sub-systems and processes
- Establishment of ‘cause’ and ‘effect’
- Establishment of ‘evidence’ and ‘conclusions’
- Establishment of the fault/check points within given systems, sub-systems and processes.

SYSTEMS

The term ‘systems’ offers us the concept of the ‘whole’ and ‘parts’. It also requires those involved to set down the systems, sub-systems and processes at required levels of generality. The skill is not unlike that of a scientist who makes effective use of the various lenses of a microscope in studying a specimen.

There are three types of systems — self organizing, probabilistic and determined. To recognize these groupings is to have the means of categorizing the related ‘problems’ with precision.

Determined systems relate to the operation of machinery and certain administrative processes. With the entry of the human factor and other variables, the predictability of success of the operation is lessened somewhat. Even the process of a worker pressing a button at a given time, is ‘probabilistic’ even if the probability of success is 99.9%. All administrative and technical systems involve the human component. When the human component comprises the major source of activity then the ‘probability’ of outcome may be more difficult to predict, due to the ‘self organizing’ character of the related systems.

FAULT POINTS

Within every working system, there is a range of possible fault points. There are four general areas in which faults may occur as follows:

Within the person

Faults may be cognitive, affective or psychomotor. On a more personal plane, faults may involve family, spiritual, moral, physical or psychological factors. From the organizational standpoint such ‘faults’ may be reduced by effective selection, training, leadership, counselling, discipline and social welfare.

At the person to person interface

Faults may involve all factors mentioned above. On a day-to-day level, faults may occur because of weakness in organization, communication, motivation and discipline.

At the person to machine interface

Faults may involve all of the factors mentioned above. On a day-to-day level, faults may occur because of weakness in design/operation/maintenance/repair of the systems involved in given machines. These faults may involve any of the components of the Decision Making process.

Within the Machine

Given correct design/operation/maintenance/repair of systems, then the machines are predictable. Faults may occur within any system — mechanical, electric, electronic or fuel.

FAULT FINDING IN ‘EDUCATION’

The task of ‘Fault Finding’ is integral to all subjects in ‘Education’ — Mathematics, Science, Clear Thinking, Business Principles and Consumer Affairs. To facilitate this, the Education Officer needs to place due emphasis on method and to explore through real situations, the ways in which knowledge may be used to assist the student to make effective decisions. ‘Fault Finding’ may be developed in the following areas:

Mathematics and Science

- All basic mathematical and scientific processes
- All applied problems

Clear Thinking

- Academic argument
- Problems related to advertising, propaganda
- Technical and administrative situations involving checking double-checking and assessment.

Business Principles and Consumer Affairs

- Systems relating to bank accounts, accounting procedures, audit problems relating to operation of a personal budget, purchase of consumer items including motor vehicles, house and land.
'EDUCATION' IN SUPPORT OF 'TRAINING'

It is highly desirable if there are links between 'Education' and 'Training'. There are two links which can be made as follows:

- The methodology of Decision Making including Fault Finding
- The specific cognitive and affective skills that may be applied in support of effective Decision Making. These involve reading, writing, speaking and computational skills.

CHECKING AND DOUBLE-CHECKING

Promotion of the skill of Fault Finding should proceed in conjunction with that of 'Checking and Double-Checking'. Fault points are also the points at which checking and double-checking must take place.

In checking and double-checking, the operator needs to ensure that every fault point in the system is scrutinized. So too, in Fault Finding, the points must be checked. However, depending upon the time available, the skilled operator may proceed from a priority of 'most likely' to 'least likely' fault points. To be able to do so, the operator needs to understand the operation of the system under scrutiny.

Skills of Fault Finding

Summarized below is a list of skills in Fault Finding. These are an expansion of those set down in the Taxonomy of Educational and Training Tasks. The classification is part of that used in the Taxonomy.

19.00 LOCATE AN ERROR/A FAULT IN A GIVEN SYSTEM
19.10 Establish the techniques of location
19.11 Establish the operation of the system
19.12 Establish the function of the components
19.13 Establish the possible fault points
19.14 Establish a priority of probability
19.15 Operate any prescribed location device
19.20 Locate an error/a fault in all processes in the taxonomy

MODULE IN FAULT FINDING (1)

A module could be prepared for application to any given course. To ensure that the student member gains maximum value from such a module, it would be necessary to promote 'Fault Finding' within the wider context of Decision Making. Summarized below is a suggested block syllabus for such a module developed through student mastery of a categorized series of problems.

<table>
<thead>
<tr>
<th>Skill</th>
<th>Period Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Whole to part</td>
<td>1</td>
</tr>
<tr>
<td>2. Illustrate a description</td>
<td>4</td>
</tr>
<tr>
<td>3. Conclusion from evidence</td>
<td>1</td>
</tr>
<tr>
<td>4. Causes</td>
<td>1</td>
</tr>
<tr>
<td>5. Effects</td>
<td>1</td>
</tr>
<tr>
<td>6. Check and double-check</td>
<td>2</td>
</tr>
<tr>
<td>7. Solve problems</td>
<td>4</td>
</tr>
<tr>
<td>8. Locate faults</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>18 periods</td>
</tr>
</tbody>
</table>

MODULE IN FAULT FINDING (b)

With the successful completion of the basic skills the student member is ready to apply these skills to the systems involved in the given work situation. The training Officer needs to decide upon which systems will be studied. Should he wish to focus upon leadership problems then he will need to consider primarily the Self Organizing systems. To focus upon the technical and administrative aspects, the Training Officer will choose the Probabilistic and Determined system. He has also the choice of presenting the relevant systems for study or of giving student members the task of establishing the relevant job-related systems and problems.

Summarized below is a suggested block syllabus developed through student knowledge of the systems, sub-systems and processes involved in his work situation:

<table>
<thead>
<tr>
<th>Skill</th>
<th>Period Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Establish the systems</td>
<td>4</td>
</tr>
<tr>
<td>10. Establish the fault points</td>
<td>1</td>
</tr>
<tr>
<td>11. Establish 'problems' at the fault points</td>
<td>2</td>
</tr>
<tr>
<td>12. Eliminate the faults</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>9 periods</td>
</tr>
</tbody>
</table>
PROBLEM TYPES
There are two types of problems that may be developed on any given course.

Task Completion Type
Such problems involve Decision Making through construction of:
• a plan
• a check-list
• a time chart
• a flow chart

Fault Finding Type
Such problems involve location of a fault/an error and the establishment of a correct procedure through completion of the tasks above.

SKILL TYPES
In framing of problems, there are two skill types — single-skill and multi-skill. In proceeding from the 'simple' to the 'complex', the Training Officer and Education Officer will find that single-skill problems precede those of multi-skill type and are progressively integrated.

Whole to part (single-skill). The student will describe:
• a person
• a vehicle
• an organization
• a technical system
• an administrative system

Illustrate a description (single-skill). The student will prepare:
• a map
• an organization chart
• a tabular chart
• a graph
• a flow chart
• a flow diagram
• a Gantt chart
• a PERT chart
• a Critical Path chart
• a FAST chart

Conclusions from Evidence (single-skill). The student will establish conclusions from the evidence given:
• The window is broken. The glass is inside the building. There is a stone among the pieces of glass.
• The map is accurate. The compass is not faulty. The bearing to the mountain is not correct.
• The generator light has switched on. It does not switch off. The operator removes the lead of the positive terminal of the battery and the engine stops.

Evidence for Conclusions (single-skill). The student is required to establish the evidence that would be necessary to establish the following conclusions:
• The door is locked
• The driver is in illegal possession of a vehicle
• The combination of the lock has been compromised
• The person is using the wrong key to open the lock

Causes (single-skill). The student will establish the range of possible causes of given situations:
• The man is dead
• The door is open
• The window is smashed
• The lock will not open
• The aircraft is off course

Effects (single-skill). The student will establish the range of possible effects of given actions:
• Spot checks are carried out at random intervals
• The treasurer did not write a receipt for a payment
• The sentry does not check the face of the visitor with the photograph on the ID Card

Check and Double-Check (single-skill). The student will establish the process of 'checking' and 'double-checking' in given situations:
He will double check the following:
• a column of figures
• the identity of a person
• the number of persons at a roll call
• a cash balance
• a ration return

Solve Problems (multi-skill). The student will solve the following problems using accepted procedures:
• The Soldier and the Car Repair — A soldier’s car has developed a bad shudder. His friends tell him that the car needs a wheel alignment. He decides to have the car repaired at the local service station. What problem exists for the soldier? Aim? Factors? Courses? Steps? Prepare a checklist. Prepare a Flow Chart.
The Notification of Casualty — A Duty Officer receives a phone call from the police to report an accident involving two soldiers. Both members have been taken to the local hospital. It was reported that Private A had died and Corporal B was seriously ill. What problem exists for the Duty Officer? Aim? Factors? Courses? Steps?

Organization of a Social Function — Prepare a check-list and a Gantt Chart

Fault Finding (multi-skill). The student will solve the following problems using accepted procedures:

The NCO and the Escort Duty — An NCO has the task of meeting a flight to escort a VIP to the Barracks. He meets the flight but the VIP is not aboard. He returns to the camp to be told that the member had taken the following flight and was waiting at the Airport. Errors? Aim? Factors? Steps?

The Non-Arrival of Stores — An NCO had sent an order for goods to a company, with an accompanying cheque. He receives no acknowledgement. He waits for two months and takes steps to cancel the cheque. He finds that the cheque had been cashed. Errors? Aim? Factors? Steps?

An Administrative System — Establish the possible fault points in a given system

An Electrical System — Locate a fault. Prepare a Check-list. Prepare a Flow Chart.

CATEGORIZATION OF ‘PROBLEM’ BY COMPUTER

It is quite possible that banks of ‘problems’ may be compiled for the development of computerized learning systems. By this means, the Service provides, for the use of the Education Officer and Training Officer, the widest range of situations with which student personnel may be confronted in the workplace. Students learn the skills by mastery learning through successful completion of categorized problems.

CONCLUSION

A Module in Fault Finding is part of a small inter-locking group of modules that may be developed in support of any practical course. Such a development could well promote confidence in all personnel that the skills they develop may be applied to a number of skill areas and that they have the basic framework in which to incorporate new techniques as these become available.

NOTES

3. Copeland B. D. Op Cit P. 25

REFERENCES

Bloom B. S. Taxonomy of Educational Objectives (Cognitive Domain), London Longmans.
Sherman J. G. PSI — Personalized System of Instruction 41 Germinal Papers , A Selection of Readings on the Keller Plan, 1974, Benjamin Inc.
Regular Officer Development Committee — Education and Training — Study Two. Australian Army.

APPEAL FOR PHYSICALLY HANDICAPPED CHILDREN

Two Central Office public servants, entrants in the Queen of Canberra Quest, are hoping to raise more than $60,000 for Canberra’s Hartley House and Hartley Street Centre. These are non-profit organisations established to provide for the care and welfare of physically handicapped children in the ACT.

Lyn Fairlie and Genelle Mills entered the Quest to help raise money for the centres, whose running costs exceeded $100,000 in 1981.

The Hartley Street Centre, located at an ACT primary school, provides educational and paramedical facilities for physically handicapped children of the ACT and surrounding areas.

Hartley House provides accommodation for physically handicapped children. Plans for a second hostel are well advanced.

Donations can be sent to:
Queen of Canberra Entrants,
C-4-32
RUSSELL OFFICES ACT 2600
Cheques should be made payable to "Hartley House".
It is generally believed that the Sydney and Parramatta Loyal Associations were the first local forces formed in Australia. There were, however, two earlier bodies of 'militia' established by Lieutenant Philip Gidley King, RN while he was Superintendent and Commandant of the penal settlement on Norfolk Island. In neither case was the threat external.

At the end of 1788 'to put the island in the best state of defence in my power' he had judged 'it proper to instruct all the free people ... on the use of firearms, in case of the marines being sick, or any other exigency'. In the following February and March he records in his Journal how the marines and 'militia' (there were six of them) fired fifteen rounds of powder one Saturday afternoon, and nine on another. A prudent action which did not persist, since no threat from the convicts eventuated.

The second incident was potentially far more dangerous. Trouble appeared to be brewing from the first arrival of the New South Wales Corps on the island in March 1792, and came to a head at the 'playhouse' on the evening of 18 January 1794. The incident led to about twenty soldiers refusing to obey orders later that evening. Part of the detachment was disarmed and nine ringleaders were confined. King believed it was necessary to take some precautions until these latter could be sent to Sydney, and in the emergency he embodied 'the marine and seamen settlers as a militia, of whom there were forty-four, who are in general very steady good men'.

The members of this 'militia' were rationed and in effect paid by the labour of two convicts for every day they mounted guard. They were disembodied soon after the mutineers were sent to Sydney.

Major Francis Grose, Commandant of the New South Wales Corps, and then acting as Governor of New South Wales, reacted strongly. After a Court of Inquiry he informed King that

The militia you have ordered to assemble are immediately to be disembodied and their arms are to be sent to the schooner for the purpose of being served out to those persons who are settled on the banks of the Hawkesbury.

The third attempt to raise a local force was somewhat more successful.

During the first week of September 1800 persistent reports of an Irish rising were current in Sydney, and Captain John Hunter RN, then Governor, ordered all 'civil officers and such housekeepers, who are free men, possessing property, and good character' in the towns of Sydney and Parramatta to assemble under Lieutenant-Governor King. Fifty were to be chosen at each place and enrolled into the Loyal Sydney Association and the Loyal Parramatta Association, under the command of William Balmain, and Richard Atkins respectively — choices which considering the state of New South Wales at that time no doubt
In the United Kingdom Loyal Associations were in the nature of Volunteers. Raised usually by some powerful local magnate, they were organized along the lines of social clubs, but for the purpose of defence. Consequently, their egalitarian nature gave plenty of opportunity for disputes, even with highly reputable bodies such as the Honorable Artillery Company. There was certainly egalitarianism in Australia since the Associations were composed of the free, those freed from servitude, and those conditionally emancipated, and consequently perhaps less scope for disputation.

It was envisaged that the Associations would assist the civil power and His Majesty's troops occasionally, in the preservation of good order and of public and private property'. They were to be drilled for one and a half hours each Wednesday and Saturday, under Sergeants Jamieson and Fleming at Sydney, and Sergeant McMullen at Parramatta until they were perfect, from which time they were to be exercised only once a month. They could not expect pay, but were to be provided with rations and clothing.

Apart from forming the Associations other precautions were taken — 'the soldiers' barrack are securing [sic] by palisading, etc., which, with some other defences that will be necessary, must divert the public labour for some time'.

By July 1801, notwithstanding that he was 'anxious ... in applauding the good conduct of [the] officers and the inhabitants they have trained and disciplined in a manner which does them the greatest credit', King was forced to disband the Associations, 'not having a sufficient number of officers in the civil department to appoint to those commands without being a hindrance to their professional duties'. It was only a few weeks earlier that the Duke of Portland had trusted that Hunter's precautionary measures 'added to the species of militia [sic] which you have formed and established among the settlers, will prevent any further attempts to disturb the peace of the settlement ... '. In August, no doubt making a virtue out of a necessity, King gave Portland a somewhat different reason for the disbandment — 'As the cause no longer existed for keeping the Association armed, I directed them to be dismissed from their attendance'. Nevertheless, Lord Hobart, who had replaced Portland as Secretary of State, believed that King should encourage, by every means in his power, the Associations 'in which it is the indispensable duty, and indeed obviously the best security of every respectable inhabitant to enroll himself'. On receipt of which King issued a General Order — the Associations were not to be dispersed with, but since there was no necessity for them to remain embodied all the time, unless an emergency occurred, they would be exercised only one month each year.

Happily for King this action was facilitated by the arrival of some 400, mostly rebel, Irish convicts. Bearing both Portland's and Hobart's comments in mind the officers were renamed, and the troops were to be embodied for one week to receive the clothing and arms sent out from England, after which they were to be dispersed, but ready in case of any emergency to assist the New South Wales Corps. The issues, however, were frustrated by the pressure of public business and were deferred until after the harvest. The clothing was not to be worn except when the Associations were under arms, and at other times was to be deposited with the arms in the public armory.

When writing to Hobart in August 1803, King allowed himself a slight purr of self-satisfaction. His Lordship would observe the good effects of embodying (with Colonel [sic] Williams Paterson's concurrence) the Associations. 'When the turbulent spirit of the disaffected Irish was subdued' they were discharged 'as the necessity no longer existed', as well as 'the saving it occasioned of the ration of provisions and clothes'.

Some six months previously relations had been somewhat strained between King and Major George Johnston, temporarily commanding the New South Wales Corps, over the appointment of King's 'body-guard of cavalry', which among other duties was 'required to carry orders to the different settlements with safety and expedition'. King briskly defended his right to embody the Associations (as well as the body-guard) and asked for Hobart's instructions on this point, 'as it may not be of the most pleasant consequences if the Governor is to be prevented calling forth those succors in times of need ... '. He left Johnston, however, under no such illusions. His horsemen had been emancipated conditionally to serve as soldiers, and there were many who had
served their time in both the New South Wales Corps and the Associations. As far as the latter were concerned 'of such they will again be composed whenever any exigency may require their being embodied', King adding in perhaps a fit of pique that 'the general good conduct of the soldiers of the New South Wales Corps renders it at present unnecessary.'

By late November, hearing of war with France, King once more embodied the Associations 'in case any emergency should require the Corps to march ... to defend their homes and properties against any invader's mistaken attention to this colony, and to guard against the first effects of any unexpected attack from the enemy'. Moreover, 'some volunteer inhabitants [had been] enrolled for the service of the batteries', under the tutelage of Ensign and Adjutant Minchin, as the Corps would not be available in case of emergency, 'although I have attached two field pieces to that Corps, for which service Lieutenant Colonel Paterson has named a sergeant and some privates'.

Viscount Castlereagh considered the enrolment of gunner volunteers highly proper and reflecting great credit on the zeal of the individuals.

The enemy was not only without the gates. In early March 1804 the Irish rebelled at Castle Hill, 'martial' law was proclaimed, and the Corps marched. The deluded and infatuated people having been subdued, and peace and tranquillity restored, His Excellency noted the alertness with which the Sydney Association was formed and the forwardness every loyal inhabitant manifested to preserve the peace and tranquillity of that settlement, and their general readiness to go wherever their services might be required in support of His Majesty's Government...

Throughout the ensuing period the Associations continued to train for two hours every Saturday, and this included those 'appointed to exercise the cannon at the batteries and field pieces'. Such training must have been realistic. The following November two ships appeared at daybreak 'and from [their] frequent evolutions were conjectured to be part of an enemy's squadron which had condescended to favour us with a complimentary visit'. The Sydney Association was ready in less than twenty minutes to second the exertions of the New South Wales Corps — 'defence ... has been equally an object of attention; and no pains were spared to be in readiness to compliment the strangers as they passed the batteries'. It was perhaps with some disappointment that they found the two ships to be an English whaler ushering in her Dutch prize.

The Sydney Association appears to have remained embodied, and although it was not called out to assist the New South Wales Corps deposing the Governor, Captain William Bligh RN, members continued to draw their rations until March 1808. At this point they seem to have gone into a state of suspended animation even though they offered to serve without rations; a disinterested offer for which Major George Johnston could not express his approbation too strongly.

A year later Lieutenant Colonel William Paterson, then acting as Governor, informed the Commander-in-Chief, the Duke of York, that the Associations were of little use. 'Should the New South Wales Corps be augmented, the expense of the Volunteers could be dispensed with, and their place supplied with efficient and disciplined men.' He does not seem to have received any reply.

It was another five years before the question of local forces was raised again by the Governor, Colonel (later Major-General) Lachlan Macquarie. In the event of a foreign invasion, he informed Lord Bathurst in April 1814, the colony was "ill enabled to make a defence, for the want of a suitable establishment of artillery". He asked for half a company, and for 'about one thousand stand of small arms, which ... I would propose to place in the hands of the better and most trustworthy description of the settlers as a temporary militia on any sudden emergency or invasion by a foreign enemy'.

There was no reaction, however, and three years later he again asked Bathurst for an increased military force because of the extension of the settlement west of the Blue Mountains, and south to Shoalhaven. Bathurst was sympathetic but impotent. Reductions in the strength of the Army following the close of the Napoleonic Wars had left no strength
available for Australia, but he called Macquarie’s attention to ‘whether there is not at present in the colony a free population to such an extent as to authorise the formation of a militia force under the rules and regulations to which such a service is usually subject’. This would serve two purposes — remove any apprehension of danger, and dampen down any desire to create an internal disturbance.20

In July 1819 Macquarie informed Bathurst that he had no doubt that a Militia could be raised from ‘those free from arrival or servitude’, although such a force would be inferior to regular troops. He believed that a total of 700 men could be found, but only suggested that four troops of cavalry (each thirty-eight other ranks) and eight companies of infantry (each fifty other ranks) be raised under Judge Advocate Wylde, who was ‘well qualified, he having acquired some military knowledge in the command of a local militia, of which he was colonel’.21

Bathurst submitted the plan to Treasury, who in August 1820 replied to the effect that action should be suspended for the present as a considerable increase in the military force had been sanctioned. No one, however, bothered to inform Macquarie.22

It was not until July 1825 that the matter was again raised by Captain Edward Macarthur of the 19th, who thirty years later was to achieve prominence commanding the Australian Command and acting as Lieutenant Governor of Victoria.

In Macarthur’s view the necessity for an increased military establishment in New South Wales arose from runaway convicts (bushrangers) and Aborigines. Pressures for the increase could be alleviated by raising a Militia from among the native born and free settlers. Far too much emphasis was being placed on United States’ republican institutions, and the formation of a Militia would gradually inculcate respect for superiors and attachment to the Crown. The two regular regiments in New South Wales were widely separated and the various detachments were not mutually supporting. Moreover, there were only irregular communications between Sydney, Perth, Hobart and Melville Island. While the dispersed nature of the agricultural population did not favour a large Militia, it should be possible to form a troop of sixty light Cavalry as Yeomanry, and 200 men organized into four companies of light infantry. Such an organization, Macarthur believed, would help to overcome the dispersion, and reduce the number of reinforcements required from England. He suggested that such a force should be based on Sydney, Parramatta, Liverpool (including Campbelltown, and the districts of Appin and Airds), and Windsor (including Richmond, Emu Plans and the neighbourhood of the Hawkesbury River); have a staff of regular non-commissioned officers and privates for training, and on which they could form when required, and be trained to act as detached parties, with the light cavalry acting as mounted police. Enlistment was to be voluntary, although if this failed recourse could be made to the ballot. Officers would be appointed by the Governor, and the troops paid as regular soldiers when on duty.

Macarthur foresaw some problems. Settlers had to pay constant attention to their properties, and initially might be unwilling to be subject to military duty in time of peace. At the beginning of the scheme, therefore, careful consideration would have to be given to the periods of mustering, drilling or full-time service. Such training parades must not be frequent and should only be held after reference to the seasons, and the agricultural occupations of the officers and men.23

The plan was welcomed by Major General Macdonald, the Adjutant General. He was struck by its clearness and simplicity, and felt confident that if adopted it could not fail to answer its purpose. However, Macarthur had suggested the appointment of an Adjutant General to bring the plan into a ‘gradual and useful operation’, but in MacDonald’s view such an appointment was utterly inadvisable. The Military Secretary, Major General Sir Herbert Taylor, supported the plan although he did have some reservations. He had no doubts that the establishment of a Militia was desirable, and would reduce the dispersion of troops on duties injurious to their discipline. However, there would soon be 1500 troops in Australia, including sixty Staff Corps, and 150 embodied pensioners (organised into three veteran companies) as convict overseers. The question, therefore, was whether the infantry Militia should not be considered liable for call up to join the veterans. On the other hand, the cavalry Militia could be very useful, as there was no regular force of that description.
in the colonies. However, these were matters on which the local authorities were quite competent to give an opinion. Whereupon Macarthur’s plan was submitted to Major General Ralph Darling, then about to proceed to take up the appointment of Governor of New South Wales.

Darling, wisely, did not want to commit himself until he had obtained ‘such local information as would enable me to form a correct opinion upon it’, and consequently did not give his views to the Colonial Office until February 1827. In summary he believed it was a good plan, but not suited to the circumstances of New South Wales at that time. Australia was not the same as England: ‘what man in his senses would leave his family and his property for any length of time at the mercy of convict servants?’ Moreover, ‘the necessity of attendance would be considered a grievance’. He had talked the problem over with Lieutenant Colonel George Arthur, Lieutenant Governor of Tasmania, on the outward voyage and agreed with his view that it was important to keep people on their farms, and with the assistance of their servants induce them to protect their property against bushrangers and Aborigines. Nothing would more effectively do this than to have troops on hand in case of need. It was to this point that Arthur attributed the tranquillity of Tasmania. An efficient mounted police would be more effective and cheaper than the proposed Militia.

When speaking to Darling, Arthur probably had in mind an incident which occurred some months before when there had been somewhat of a panic in the Launceston area when bushrangers took to burning wheat and robbing houses. ‘Volunteers’ apparently believing that ‘reason is our law’, formed themselves into parties to hunt the ‘desperadoes’ with such energy that five out of a party of seven bushrangers were killed and ‘two were shot dead yesterday by two volunteer gentlemen’.

At much the same time as Macarthur was submitting his plan for a Militia, Brisbane was being worried by the depredations of bushrangers in the Bathurst area. The Executive Council was ‘repugnant . . . to recommend a resort to the use of a military force to suppress civil outrages’, but in the short term could see little remedy other than the formation of a corps of mounted soldiers — and so the Mounted Police was established (see Defence Force Journal Numbers 20 and 21, January/February and March/April 1980).

In the long term, however, the council recommended ‘the training of a body of native youth to cavalry exercise’. Brisbane agreed, although he observed to Bathurst that ‘the mounted soldiers may be made subservient to the plan of a mounted militia by forming a School of Cavalry Discipline, and may be discontinued at any time’. Brisbane left Australia shortly afterwards, leaving Lieutenant Colonel William Stewart of the 3rd, then acting as Governor, to establish the Mounted Police, but any ideas of forming a mounted Militia were quashed by Darling’s subsequent report.

Little more was heard of establishing local forces, until New South Wales was ‘a good deal disturbed . . . by bushrangers’, following the demise of that wild colonial boy ‘bold Jack Donohoe’ at Campbelltown in September 1830. A party of twelve to fifteen, driven from the Hunter River, moved to Bathurst recruiting convicts by coercion and otherwise as it went, closely followed by the Mounted Police. At a meeting of magistrates and inhabitants at the Bathurst Court House on 27 September it was resolved to form as many as chose to volunteer into a corps of well armed cavalry. With una voce twelve stalwarts nominated, and Major Macpherson, the local commander, approved the appointment of W. H. Suttor as commander. After some confused skirmishing, in which the ‘cavalry’ were forced to withdraw because of shortage of ammunition, and some Mounted Police casualties, the ‘banditti’ surrendered — ten were executed in early November. In a Government Order the Governor has experienced much satisfaction in receiving the unsolicited tender of the services of the gentlemen of the country, who have expressed a desire to enrol themselves for the protection of the districts in which they reside. The determination which this proceeding evinces, will of itself prove highly important, while, as an ancillary to the means employed by the Government, its effect on restraining the disorderly will be irresistible.
A resurgence of anti-social activity in the Central District of New South Wales in 1840, brought various suggestions to assist the authorities. If a ‘corps for mutual protection’ could be formed in other colonies (South Australia? Western Australia?) why not in New South Wales? ‘Quick March’ stated that as the local protection society of two watchmen for Maitland was inadequate, Yeomanry should be embodied ‘to oppose the bloodthirsty and daring outrages of the bandits’, believing that a fund should be set up to assist volunteers to purchase horses. The Editor of the Sydney Herald was not enthusiastic. The colonists had more to do than play soldiers, and as long as they had to pay for the expensive police establishment he could see ‘no fun at being popped at by the pets of the Patriots’ of New South Wales. Maitland was a disgrace to any civilized community ‘but as the Police Magistrate is a relative of Sir George Gipps’ patron, it is useless making any further complaints to the Government’. Elsewhere individual action took place: ‘Three Gentlemen volunteers were involved with a party of Border Police in the Clarence River area in October 1840 tracking down a party of Aborigines who had been committing ‘outrages’, while gentlemen in the Goulburn area were considering forming a Yeomanry Corps two years later, which ‘if carried into active operation must carry terror into the hearts of lawless desperadoes’.25

By the mid-1840’s there was more talk but little action. ‘An Inhabitant’ suggested that the lawless state of Sydney, and the lack of a numerous and efficient police, called for the formation of a Militia, who in addition to their normal duties would assist the police in ‘defence of the public and private weal’. Vigil, taking note of current events in New Zealand, and contemplating the colonial coast, believed that while a hostile force could probably be stopped from entering Port Jackson, there was little to prevent it landing at Botany Bay. He suggested a Royal Volunteer Rifle Corps and a Yeomanry Cavalry (or Mounted Rifles); perhaps not insignificantly stating that the former could be formed from respectable young men, and the latter from gentlemen from the town and country districts.

‘Christopher Ready’ took issue with that patriotic, native-born, Member for Sydney, W. C. Wentworth, who adduced as a proof of the loyal dispositions of the colonists that they could be left with a single troop of soldiers to maintain the authority of the Queen. He must know that such authority was sufficiently protected by the colonists’ love for her, and the institutions over which she reigned. There were other reasons, however, why a local force should be established — a foreign foe might attack and destroy the colony ‘for aught that an Engineer Governor has done to prevent it’. ‘Christopher Ready’ suggested a Rifle Corps of 600, an artillery company (100), a troop of light horse (500), and a regiment of infantry (1000) — the Australian Volunteers.30

In April 1847 FitzRoy informed Grey of his plan for meeting the direction to send ‘the whole of his disposable force’ to New Zealand, because of the outbreak of the First Maori War. He was holding 600 men in Sydney to provide the necessary guards over the Treasury, Commissariat, the convict establishments at Cockatoo Island and Woolloomooloo, and the Goat Island Magazine. Moreover, while the Sydney people were generally law-abiding, on more than one occasion troops had to be used to bolster the ability of the police to control the riots, and if they were not available he had fears for the £700,000 ($1.4 million) in specie in the banks.

The Colonial Office was little impressed. Fitzroy had not yet received instructions to break up the convict establishments and send the unpardoned inmates to Tasmania. Once this was done there was little reason why even a single regiment should be retained in New South Wales. The only legitimate reason for retaining troops lay with the hostile Aborigines to the north. Riots in Sydney or Melbourne could be handled by Militia or Yeomanry, although no attempt would be made to organize such forces as long as England provided regular troops, and by implication it was suggested that the real reason for Fitzroy’s attitude was to keep Imperial expenditure at as high a level as possible.31

Grey’s dispatches of the previous November had also directed Fitzroy to bring before the
Legislative Council the question of an adequate police force or Militia so as to retain internal order and tranquillity when the troops were removed to New Zealand. Fitzroy declined to bring the question of a Militia forward, and theoretically the discussion merely concerned whether there were sufficient police, and if not, how they could be obtained. As such it could be referred to the Select Committee on the Police.

Wentworth used the debate as a forum to further the cause of self-government. He could see no reason to prevent the formation of a Militia in Sydney — the only place where it was likely to be required, and the only place where it should be organized. What would have happened to the banks during the last election, if there had not been troops to protect them? If England would not protect the colonists, it was time to dispense with the British regiments, put guns in their own hands, and defend themselves. The Sydney Morning Herald was surprised, not only with the vehemence of the debate, but also with the unanimity of opinion expressed — to Earl Grey belonged the credit of casting the first stone into the heretofore smooth and placid water of Australian loyalty.

Concurrently, increasing international tension had generated pressure for improvement to coast defences. Fitzroy informed Grey in August, from 'the violent discontent which was very loudly expressed by a large majority of the Legislative Council' that any approach for funds for the Port Jackson defences would not only be fruitless, but add to the general excitement and discontent. In March 1848 Grey rebutted the various points of policy raised by Fitzroy. As to the necessity to man the coast defences, he observed that 'as an artillery force ... would only be required in the very improbable event of an attempted invasion, this danger might be met at a very moderate expense by forming in Sydney a Volunteer Artillery Corps'. If the principal gentlemen would exert themselves he could grant them commissions, although privately he advised Fitzroy that the judicial use of patronage in this regard would encourage loyalty, and consequently he was not to approve the raising of the unit unless he had absolute control over the appointment of officers — an injunction which was to bevel the future.  

Meanwhile the Select Committee on the Police had taken evidence on the formation of a Militia. James Macarthur was not prepared to submit a specific plan, but suggested local Volunteer Associations of horse and foot in the country districts. It was only right that every community should possess the means of repelling aggression, and to this end the colonists should be trained in the use of arms, and 'military conditions', as soon as possible. He believed in this principle so strongly that if voluntary effort was not successful he would urge compulsion, through the passage of a Militia Enrolment Act.

Colonel Despard, looking down on the Militia perhaps, as he had on the Maori, saw no problem, other than expense, in raising such local force, and the extent of this depended on the amount of unpaid duty. In New Zealand, where the Militia was based on English lines, the men voluntarily enlisted and were paid, he thought, 1/6d (15c) a day when called out. There were no problems with uniform, training or discipline, as they were only used as labourers cutting away bush.

The Speaker, Charles Nicholson, thought that the formation of a Militia or Yeomanry was merely a question of time and would achieve several results. It would supply to a considerable extent the purposes of a police force; train men in the event of invasion; would be useful in suppressing disturbances or attacks by Aborigines and in the police role would not cost much.

After outlining the grievances under which they considered the Colony to be labouring — an undefended harbour, troop reductions to give an unequal amount of protection to New Zealand, and considering its origins, the right of the Colony for the maintenance of a high troop level, all of which must create a sense of injustice, the Committee was not prepared to report that there was any immediate necessity for the formation of a Militia. However, it agreed with Nicholson that it was only a matter of time. Of the two alternatives — Militia or Yeomanry — they preferred the latter as being the least expensive and more suitable for the circumstances of the Colony,
by which they probably meant that it would never do to put arms into the hands of the convict-tainted hoi polloi of Sydney. However, without additional taxation the costs of a Yeomanry could not be met in the present state of the finances.  

Needless to say, Grey could hardly agree with the remarks passed regarding New Zealand — New South Wales was deluding itself if it believed that it had any further claim to a larger military force maintained by England.  

By the end of 1849 the New South Wales Executive Council had found Grey's suggestion for a Volunteer Artillery Corps impracticable. There was no body of men employed on public works, as in England. Doubtless there were a considerable number of respectable tradesmen in Sydney who might be enrolled and trained, and relied on to maintain order and good government. Nevertheless the long shadow of exclusives and emancipists was still discernible, and reinforced by the manning of barricades in European capitals in 1848. The Council believed it inexpedient to enrol a Militia 'considering the composition of the population, and the probability that those persons on whom the duty of serving in the Militia would practically devolve, would belong principally to a class of the inhabitants whom it would not be desirable to embody in an armed corps'. Thus, to the long standing distaste with which a large section of the population viewed any law enforcement agency, was added the fears of the property conscious.  

It was the gold discovery which made the internal security problem more acute. The 'excitement', Fitzroy informed Grey, had spread to the police, and unless an effective police force could be maintained the most deplorable results were likely to occur from 'the bad character of a portion of the persons likely to arrive' in Sydney. Confident that the Legislative Council would approve, he asked for an entire regiment, and a warship, to be stationed in the Colony. Knowing that an answer was nine to ten months away, he eagerly grasped at an offer by Mr. Pettingell, 'a respectable inhabitant of Sydney', to convert the Sydney Rifle Club, formed on a permanent basis in 1843, and in the habit of practising behind Victoria Barracks, into a Volunteer Rifle Company. This proposal was also referred to Grey because arms and accoutrements were not available, although such equipment deficiencies could have been easily corrected from local sources. If Grey agreed, he requested sufficient equipment for 200 ranks and file, to which number it would be just as well to limit the company in the first instance.  

Referring to Grey's confidential dispatch three years earlier he stated that those joining the proposed company were quite willing to forego the power to elect their own officers. From the same dispatch it appeared that the only expense to the colony would be pay and uniforms, and he asked if this would apply in this case? He foresaw no difficulty in raising, in addition, a Volunteer Corps of Yeomanry Cavalry, which would be useful in the vicinity of Sydney, assisting and maintaining order in case of emergency, and in encouraging loyalty and patriotism among that class of the community which could afford to join it.  

After discussion between the Colonial Office, Treasury, and the Board of Ordnance, it was expected that arms and equipment for 200 riflemen and 250 Yeomanry, together with twelve months' ammunition, would be shipped to New South Wales early in 1852, free of cost, although further supplies would have to be financed from colonial revenue.

Grey, however, was taking no chances, either with any unseemly behaviour by the lower classes, which had been a feature of many European capitals during the past few years, or any delusions of grandeur which might be entertained by the bunyip aristocracy. It was to be distinctly understood that the unit could only be embodied by the Governor; when called out it was to be under command of the officer commanding Her Majesty's troops; the appointment of officers was to remain in the Governor's hands, and commissions were only to be granted to 'gentlemen of the most unexceptionable character'. It was by those means, Grey believed, that 'the reputation of the respective corps can be preserved, their efficiency maintained, their popularity secured, and a solid foundation be laid for extending them hereafter to the extent to which the colony may deem expedient . . . .'

Some slight impetus was given in mid-1852 to the defence problem by the publication in Brisbane of a pamphlet on 'The Military Defences' by Captain Maurice Charles O'Connell, erstwhile ADC to his father commanding the Australia Command, but for present purposes 'Brigadier General . . . Knight
of Charles III, Knight Commander of Isabel La Catholica, Knight of the 2nd Class of San Fernando; formerly commanding British Legion of Spain'. Even here, however, there was far more emphasis on internal disturbance arising from the large influx of gold-seekers than on external threats.

In O'Connell's view the presence of gold would involve New South Wales in hostilities if war broke out in Europe: distance from the main theatres of war would not preclude the possibility of invasion by 'maurauding expeditions'. After examining the military assets available he concluded that only one regiment was likely to be available to the Colony, and it was hardly satisfactory or prudent to entrust its safety to such a small force.

The large increase in population must call for greater police protection, at a time when abnormal 'dangerous passions' were involved in controlling 'much more unmanageable materials'. Inadequate gold escorts merely invited 'lawless violence'. After highlighting the costs, scattered population and the inefficiency of the police establishment, he advocated a para-military force of 800, raised and organized in England, so as to obtain a better class of man than was available in Australia, and enlisted under a special Mutiny Act for ten years.

It was around this nucleus that O'Connell proposed to organise Yeomanry and Militia within the counties of Camden and Cumberland where the population was sufficiently concentrated to allow this to be done. He believed that a strength of some 1,327 men, distributed into an infantry regiment of 1,000 and three companies of artillery each of 100 men could thereby be raised. A Yeomanry strength of 300 would be provided outside the two named counties, raised and distributed between the seventy Courts of Petty Sessions. An additional 200 men would be raised for 'treasure escort, road patrol and relief duty'. This cavalry component was to be further increased by raising 600 'Troopers of the First Contingent', between the ages of sixteen and twenty, who after the first year's service, unless there were special circumstances, would have nine months' leave each year to devote to their ordinary pursuits. A supplementary force of 300 Aborigines was to be embodied in addition to the 'First Contingent'.

Altogether the force would amount to 3000 men, efficient, well drilled, and ready for any emergency, costing £120,000 ($240,000) per annum — an increase on the present cost of the police of £50,000 ($100,000) per annum. It was perhaps this aspect of the scheme which accounts for the lack of any positive response to his ideas, as much as the confused New South Wales political scene.41

Meanwhile in England events were taking place which could not be without some effect on the members of the Legislative Council of New South Wales.

In late 1846 Sir John Fox Burgoyne, Inspector General of Fortifications, wrote a closely argued letter to the Duke of Wellington on the defenceless state of Great Britain, to which the latter replied at length. Twelve months later when Wellington's letter was 'leaked' to the press, it was disparaged by the Radicals, leading the public to believe that Wellington was in his dotage.

Early in December 1851, Palmerston, then Foreign Secretary, was asked to resign from Russell's Cabinet because of his 'unofficial' approval of Louis Napoleon Bonaparte's coup d'etat against the Second French Republic. The following month the Illustrated London News recalled Wellington's letter and considered his comments even more true than they had been some five years previously. Moreover, Russell's Ministry, even without Palmerston, had given notice to the French President, that any attack upon the independence of Belgium — an attack evidently contemplated — would lead to the immediate occupation of the Citadel of Antwerp by a British force of 10,000 men . . . while France confines herself to her own affairs, there can be no other sentiments in this country but those of friendship and goodwill towards that gallant and oppressed people, and a hope that the reality of freedom may not always continue to elude their grasp. But neither a Whig nor a Tory Administration, nor any other if another is possible, will abdicate its duty as the joint protector with the other powers of Europe of the independence of Belgium and Switzerland. Whatever may be the fatal necessities of the position into which ambition has thrust the French President, he will have to fight all Europe if he lay a finger on either of these nations; and we should think that, daring as he is, he is not quite prepared for such an encounter.41
Colburn's appeared to be whistling in the dark. While expressing approbation for Louis' bold stroke, it felt that it would be criminal to overlook the assistance he had received from the French Army, even though there were reports of a strength reduction obviously aimed at disarming apprehension. There was an unwillingness to suppose that a ruler of Louis Napoleon's indisputable tact would advisedly attempt a hostile descent on our shores, as common rumour now considers probable; for the enterprise, however successful for the moment, would infallibly terminate in his own destruction. The castle was surrounded by a moat which could be bridged by steam or fog; the Militia, under existing Acts, would take at least nineteen weeks before it was actually embodied; the real answer was to strengthen the Army, particularly the artillery.

Most observers believed that without Palmerston it was only a matter of time before the Ministry would fall. In February 1852, Russell, described by Sydney Smith as having so sublime a conceit that he would cheerfully have undertaken to command the Channel Fleet as to perform an operation for the stone, introduced a new Bill for strengthening the Militia.

Fear of the French in 1845 had roused interest in the Militia, which was then in a sad way. The ballot had been discontinued fourteen years before, and over the following years the Staff dispersed. While the population had almost doubled, the existing Act only authorised 42,000 men to be enrolled, but before training could commence all 'eligible' men would have to be enrolled and the ballot drawn. Before Peel could take action, however, he was out of office. Fox-Maule presented a Bill in 1848, but nothing eventuated — the crisis had passed, and in any event the Russell Administration did not appear to be able to make up its mind on the shape of the force.

Russell's Bill was simple. The new force would be a local Militia, which would only be called out in time of invasion. Those aged twenty would be enrolled, of whom one-fifth would be ballotted-in, thereby avoiding disrupting the lives of older men, but at the same time avoiding the expense of supporting their wives and children. Substitutes could be hired from those ballotted-out.

Asserting that this action was not being taken under pressure of panic, and that the measure four years earlier had only been defeated because it had been tied to increased tax proposals, Russell also proposed to increase the regular forces by 4,000 infantry and 1,000 artillery — an action described by Colburn's as 'having proclaimed our nakedness to Europe, [we] now take refuge in a fig leaf'. Palmerston now had his 'tit for tat with John Russell'. Attacking the Militia proposals he concentrated on the key issue of whether it would be 'local' or 'general'; whether it should be raised by ballot in local areas, or by bounty throughout England; available only within the limits of the several counties in which it was raised, or a garde mobile which could be sent anywhere in England where its services were required. On this latter point Russell intimated that the force should be applicable to the whole Kingdom, whenupon Palmerston stated the Bill was antagonistic to its title, and proposed an amendment. The Government was defeated, and the Earl of Derby, who had succeeded to the leadership of the Conservatives on the death of Robert Peel (the younger), came to power with Sir John Pakington as Secretary for War and the Colonies, and William Beresford as Secretary at War.

Colburn's was not surprised — the 'idea of a local militia, as an available defensive force in case of invasion, was worthy of the impotent brain of a worn-out family Minister. It was the abortive device of a feeble and distempered mind strained to the utmost in its effort to meet the emergency, and utterly unequal to the task'. At the same time it took Grey, the retiring Colonial Secretary, somewhat intermediately to task for recalling Sir Harry Smith from the Cape — 'this wretched abortion of a SECRETARY, this miserable Whig impostor, this zany of an imbecile, leprous and degraded Cabinet'. Fortesque, just as conservative in his outlook, was kinder when dealing with the same event. Grey 'appears, in fact, to have been a man with no powers of imagination. To say that he was ignorant of the barest elements of war is only to say that he was an English Minister of the middle of the nineteenth century'.

The Illustrated London News considered that Russell had been lucky to have been turned out of office over the Militia Bill, since there were other possibilities — the Budget, Electoral Reform and the most damaging of
all, the mismanagement of the Kaffir War and the colonial empire generally.46

Derby’s Ministry took office in February 1852. The only radical change made in its Militia Bill related to the ballot. The new force was to be manned by volunteers who would be paid a bounty of £3 ($6), thereby competing with recruiting for the regular regiments. The Bill was introduced late in March, but ‘assailed on all sides by factious amendments, which if adopted would render the measure a perfect nullity’, it was not passed until the middle of June. The arguments for and against the measure would be just as familiar today.

Wellington supported the Bill in what was to be his last major speech in the Lords.

You are now providing for a peace establishment . . . that peace establishment ought to have been effectively provided for long ago . . . You have been carrying on war in all parts of the globe, in the different stations, by means of this peace establishment: you have now a war at the Cape, still continuing, which you carry on with your peace establishment; yet on that peace establishment, I tell you, you have not more men than are enough to relieve the sentries at the different stations in all parts of the world, and to relieve the different regiments in the Tropics and elsewhere, after services there — of how long do you suppose? — of, in some cases, twenty-five years, in none less than ten years; after which, you give them five years at home, nominally, for it is only nominally in a great many cases . . . I recommend you to adopt this measure, as the commencement of a completion of the peace establishment. It will give you a constitutional force. It will not be at first, or for some time, everything we could desire, but by degrees it will become what you want — an efficient auxiliary force to the regular army.47

This latter point was subsequently taken up by Colburn’s which highlighted three dangerous fallacies which could lead to a false sense of security — in any invasion thousands of brave spirits would take to arms and attempt to drive the invaders into the sea; the English countryside was ideal for guerilla warfare; and it was better to husband financial resources rather than maintain a constant state of preparation. With relation to the Volunteers and Militia the magazine concluded that

on the whole under duly-considered arrangements and with a proper degree of anxiety on the part of their influential members to use their exertions towards obtaining the best results, the militia and volunteers will afford powerful means in aid of our self-defence; but it must not be forgotten that the fate of the country will rest on a very insecure basis in the event of having to fight the battle in our own land, unless the regulars shall be in sufficient force to sustain the main brunt of the operations.48

While efforts to provide a Militia in England had been directed by the need to provide for national defence, parallel attempts in Australia arose primarily for reasons of internal security, and it was some time before the need to provide for external security became paramount.

In early September 1852, Dr. Douglas drew the attention of the New South Wales Legislative Council to the desertion of many of the police force to the goldfields. What steps, he asked the Colonial Secretary, did the Government intend to take to provide for the public peace and protection of the inhabitants? The Colonial Secretary replied that the formation of Volunteer rifle and Yeomanry corps had been under consideration for some time, arms and accoutrements had already arrived; and the Crown Law Officers had been instructed to prepare the necessary Bills, which he hoped to lay before the Council at an early date. The following day ‘A Citizen’ was suggesting to the Colonial Office a scheme for forming Australian Regiments, which was almost identical to Grey’s ideas of settling the enrolled pensioners.49

The Volunteer Corps Bill was introduced and read a first time on 22 September, and subjected to some detailed criticism by ‘An old volunteer officer’ who hoped that the ‘sole object of the Act, as set forth in the first enactment, “for the protection of property and preservation of the peace” — which gives it merely a municipal police character — will also meet with some amendment’. The Bill was rejected in November.50

The Sydney Morning Herald was incensed, and pointed out the inconsistencies of the Council’s action with its previous ‘grievance that the military force hitherto stationed in this colony should have been reduced so low’; a
reduction ‘inopportune and unjust’. The Executive's request for troops, following on the discovery of gold, was promptly met, but those 'very members who had so energetically denounced the elimination of our garrison are foremost in blaming the Executive for the steps taken'. On being informed that it was expedient to form a Volunteer corps, Her Majesty's Government forwarded 'a liberal present of accoutrements for that purpose, and offered to send out a still further supply, also without charge to the colony, if it would be deemed acceptable'. But what occurred when the Bill to form the corps was introduced?

One honorable member can see no necessity for passing such an Act, the colonists being too well off to quarrel amongst themselves; another is of opinion that no volunteers would be forthcoming to carry the accoutrements so generously presented under the heat of a colonial sun; another mistrusts the sincerity of the Home Government in making the pretended present, and dislikes the Bill, because the first clause authorises the Governor-General to appoint uniforms for the officers, serjeants, corporals, trumpeters, and privates — because this volunteer force composed of shopkeepers proud of a gilded uniform and the sound of their swords dangling on the pavement would be utterly useless — and because, having already received a reinforcement of one company of English military, and another being daily expected, to this force we must look for protection, should any outbreak really take place.

The Sydney correspondent of the Argus presented a somewhat different picture. Admitting the Herald's arguments, the Council was not pledged to vote funds to maintain British troops, but the Executive 'took upon itself to send for [additional troops] without any Legislative sanction for such a step, ... on a mere chance of obtaining the necessary money votes for their maintenance'. The Council members were ill-pleased with this pre-emption of their functions, and fell in with public opinion on the matter. People had not forgotten the arrival of the convict ship Hashemty three years earlier when the stables of Government House had been garrisoned, because the 'Governor-General took it into his head that his efforts in support of convictism were likely to bring about some substantial marks of indignation from the people, although the only ground for apprehension was in his own frightened imagination'. It was consequently natural to mistrust the motives of an Executive which was seeking to maintain a large military establishment. What was required was a strong police force fully answerable to colonial laws and accountable to a local legislature. 'With British forces we may not meddle, however unsatisfactory their proceedings. All we are permitted to do is to pay for them.' There was nothing really objectionable in the Volunteer Bill, and it could have met with a better reception 'but for the very improper way in which the movement has been originated and carried out ... A private canvass for volunteers among Government clerks is not the way to get up a body of this nature'.

As 1853 progressed the question of raising local forces in New South Wales became more and more submerged in overall defence considerations. While gold drew attention to internal security problems, and the possible necessity for Militia or Volunteers to assist in maintaining law and order, it was Francophobia which emphasized the necessity for sea and fixed defences, which also required a complimentary field force. In March 1853 the Sydney Morning Herald described the rejection of the Volunteer Bill the previous September as a mixture of stupidity, absurdity and ignorance. Australia no less than England was in danger of invasion from the resurrection of the French Empire. A fear which was reinforced in September by the French occupation of New Caledonia, arising as much from the presence of a possible penal colony five days' sail from Sydney, so soon after Newcastle had suspended transportation to Tasmania, as from piratical bullion raids in the event of England and France being at war.

At the same time Australian eyes were drawn to reports of the presence of Russian warships in the Pacific, although it was suspected that their main purpose was to watch the Chinese rebellion, and the United States forcing open Japanese ports. Towards the close of the year it became clearer that the Eastern Question was the main threat to world peace, and that it could be the Russians rather than the French who could come seeking Australian gold.

Correspondence and comments kept the Volunteer/Militia possibility alive. The formation
of a unit along the lines of the Royal Artillery Company was suggested, while one influential gentleman, presumably Wentworth, was berated for his opposition to the defunct Bill, it being claimed that he would not have opposed the measure if he had known of the many gentlemen who were in favour of it. One further suggestion was that a petition be left at the Banks for signature and then forwarded to Fitzroy. Early in March the Courier reprinted an article from the *Australian and New Zealand Gazette* on the defence of the Australian Colonies. Danger was closer than the Colonists thought, but little reliance could be placed on 'pop-gun' establishments — true fortifications were men, and in this respect the Victorian goldfields were well fortified. Guerrilla warfare appeared to be the answer.

In England, in Colburn's, 'B' was also examining the Australian situation. A good Militia, rather than a small regular army, should be the mainstay of Australian defence. He foresaw that such a force would have to be introduced cautiously since it would be difficult to ensure regular attendance, and since their time may be of great value to the colonists, they should be drawn as little as possible from their ordinary occupations. A small party of regulars would be necessary for training the Militia, and also to provide a rallying point in case of attack. This party could best be composed of Artillery and Sappers 'both of them good as soldiers, even for the instruction of infantry'. In addition each colony would require a military commander, batteries and forts for the protection of principal ports, magazines, and depots for stores. In 'B's' view this was the most economical way the colonists could ensure protection in the event of war. It was worthy of their consideration 'to obtain a security for their properties and free institutions at a much smaller rate of expenditure than that which they are willing to contribute for insurance against calamities of far less extent and importance'.

A little later, with an eye to colonial defence, *Colburn's* supported the suggestion of a Scottish newspaper that small arms training be made an essential part of male education. Every male migrant would give added strength to colonial forces thereby reducing the number of regular soldiers overseas, or at least lessening the necessity for extensive coast defences.

Fitzroy, displaying what his biographer has called 'a strong natural inclination to avoid trouble by doing nothing', showed little reaction to the French occupation of New Caledonia, although the Sydney Morning Herald called for positive measures such as the occupation of Fiji and Tonga to prevent any further encroachment.

In July the New South Wales Colonial Secretary was asked in the Legislative Council what steps were being taken to defend Port Jackson in the event of war. He stated that as the Government had been frustrated in appointing a Select Committee on the casting vote of the Speaker, further action was now up to the Council. Whereupon Douglass successfully moved for the appointment of such a Committee. The debate on the motion covered little new ground, although Captain William Dumeresq drew attention to the logistic problem facing an enemy and pointed out that the United States was not above sending 'inconvenient visitors to Sydney from her ports in California'. The Sydney correspondent of the *Argus* saw the New South Wales Government as eager as before to get more troops, but considered that while Sappers and Miners were acceptable, it was cheaper and better to raise a local Militia or Volunteer Corps provided no attempt was made 'to make such a force exclusive or aristocratic in character'.

There was little enthusiasm but much criticism when the Douglass Select Committee presented its report in September, but only one aspect need concern us here. The omission of any reference to local forces was deprecated by the *Argus* correspondent. Douglass ('the type of a class which has unhappily but too much influence in the States') and 'others like him would not accept any local organization, firstly because they believe that no dependence could be placed on a colonial Militia', and secondly and more importantly, that 'if people are organized and trained they will become too independent'. In his view the 'ridiculous document' had been 'most deservedly kicked out'. Early in October, the face-saving formula of the Select Committee having achieved its purpose, the Government submitted recommendations for the defence of Port Jackson to the Legislative Council — application should be made for a company of Sappers and Miners, additional heavy guns and 500 Minie rifles. The omission of any mention of Volunteers or
Militia was regretted by the Sydney Morning Herald since one way of meeting the danger consequent on the British connection was to 'call out the Militia'; there was never any harm in training a portion of the people to arms, and prevention was better than cure. Nevertheless the Council adopted the recommendation and Fitzroy forwarded the requests to the Colonial Office in the middle of November."

NOTES

4. 31-12-88 King's Journal, Historical Records of New South Wales, Volume 2, p. 605 (NSW 2-605); 21-2-89, 14-3-89 ibid, pp. 611, 615.
5. 10-3-94 King/Dundas NSW 2-138.
6. 25-2-94 Grose/King NSW 2-125.
7. 6-9-90 General Order (GO), Historical Records of Australia, Series I, Volume 2, p. 595 (HRA 2-595).
8. 18-2-03 King/Johnston HRA 4-216: The early 'Volunteer' Associations in NSW, etc., MacCallum, Historical Records of New South Wales, Volume 47, Part 6, 1961, pp. 332 et seq.
10. Balmain was returning to the UK, and Thompson, who had replaced Atkins, had been moved to Sydney, 27-7-01 GO HRA 3-260; 21-8-01 King/Portland HRA 3-122; 30-1-02 Hobart/King HRA 3-369, but see Note 52 HRA 3-768.
11. 22-10-02 GO HRA 4-323; 9-11-02 King/Hobart HRA 3-654, 691; 11-11-02 GO HRA 4-326; 24-2-03 Hobart/King HRA 4-36.
12. 7-8-03 King/Hobart HRA 4-358.
13. The 'body-guard' was first formed in 1801 — 21-8-01 King/Portland HRA 3-181 and 1-3-02 King/Portland HRA 3-420; 1-3-02 King/Hobart HRA 4-485; 9-5-03 King/Hobart HRA 4-165; 18-2-03 King/Johnston HRA 4-216.
14. 13-7-05 Castlereigh/King HRA 5-489; 1-3-04 King/Hobart HRA 4-384.
15. 9-3-04 GO HRA 4-571.
16. 2-4-04 GO HRA 5-80; 18, 25-11-04 Sydney Gazette.
17. 3-3-08 GO HRA 7-275.
18. 25-3-09 Paterson/Secretary to Duke of York HRA 7-70.
19. 28-4-14 Macquarie/Bathurst HRA 8-148.
20. 4-4-17 Macquarie/Bathurst HRA 8-358; 29-9-18 Bathurst/Macquarie HRA 9-837.
22. 5-8-20 Treasury/Colonial Office (CO) 201/100, Australian Joint Copying Project Microfilm Reel (R) 989, Folio 55 (CO 201/100 R49 F169).
23. 4-7-25 Macarthur/Horton CO 201/167 R143 F286.
24. 15-7-25 Taylor/Horton ibid, F160; 19-7-25 Darling/Hay CO 201/163 R141 F82; 26-7-25 Hay/Darling HRA 12-39. The Royal Staff Corps was brought into existence by Frederick, Duke of York, Commander in Chief, when he could not get sufficient Royal Military Artificers from the Master General of the Ordnance for his campaign in Holland in 1799 — see Passmore, 'The Royal Staff Corps Settlers in Australia 1829' (Descent, Australian Society of Genealogists, September 1974, Volume 7, Part 1.
26. 1-2-26 Sydney Gazette and NSW Advertiser (Syd Gaz).
27. 21-10-30 Syd Gaz.
28. 19-2-40, 24-4-40 (Supplement); 24, 31-10-40 Sydney Herald (SH).
29. 31-5-44, 5-9-44, 20-2-46 Sydney Morning Herald (SMH).
30. 30-4-47 Fitzroy/Grey WO 1/519 R898 F85 (Minute).
31. 27, 28-5-47 SMH.
32. 20-8-47 Fitzroy/Grey HRA 25-7-11; 4-3-48 Grey/Fitzroy HRA 26-255.
33. 14-9-47 Votes and Proceedings Legislative Council NSW (VPLCNSW), Report Select Committee on Ordnance, 1847, Volume 1, p. 13 (47-2-13).
34. 18-12-47 Fitzroy/Grey WO 1/519 R898 F213; 1-6-48 Grey/Fitzroy ibid, F217; minutes on foregoing despatches.
36. 13-8-51 VPLCNSW 52-1-781; 4-1-43 SH; 25-6-51, 12-6-51, 12-7-51 SMH; 4-8-51 Fitzroy/Grey WO 1/523 R900 F53. Giving evidence to the Select Committee on the Volunteer and Yeomanry Bill three years later Pettingell gave a slightly different account. He had been a member of the Royal Artillery Company in London. When the gold-fever first broke out he could see the necessity for 'a body of armed citizens capable of carrying arms' who would be immediately in the city to cover the time lag before the Police could be reinforced by troops from Victoria Barracks. He was consequently interested in raising a Volunteer Rifle Corps although he had never had any connection with the Sydney Rifle Club — VPLCNSW 54-1-549.
37. 8-9-52 SMH; 9-9-52 A Citizen/CO, CO 201/460.
39. 12-2-51 Grey/Fitzroy WO 1/523 R900 F71. The term 'bunyip aristocracy' was not coined by Dan Deniehy until a meeting at the Victoria Theatre to consider the Report on the Constitution on 13-8-53 (Australian Dictionary of Biography, Volume 4, p. 44 (ADB 4-44).
40. 31-7-52 SMH.
41. 17-1-52, 12-6-52 Argus (A); 17-1-52, 28-2-52 ILN.
42. Colburn's United Service Magazine and Naval and Military Journal, 1952, Volume 1, page 297 (Colburn 52-1-297); 31-1-52 ILN.
44. Colburn 52-1-620.
45. Colburn 52-1-460; F XII-547.
46. 28-2-52, 1-5-52 ILN.
47. Annual Register 1852 [66, Colburn 53-1-636.
48. 8-9-52 SMH; 9-9-52 A Citizen/CO, CO 201/460 R640 F34.
49. 28-9-52 SMH.
50. 21-11-52 SMH; 25-3-53 FitzRoy/Pakington WO 1/523 R900 F35.
51. 18-12-52 A.
52. 24, 28-3-53 SMH.
53. 14, 20, 23-4-53 SMH; 2-5-53 HTC.
54. Colburn 53-2-1.
55. Colburn 53-2-545.
56. 23-7-53 A.
57. 28-9-53, 10-10-53 SMH.

Reviewed by Commander A. H. Craig RAN

Compared to the other two Services, the RAN has lacked an authoritative and readable contemporary history. With the publication of George Odgers' 'The Royal Australian Navy — An Illustrated History', that lack has now been made up. Readers who are familiar with the same author's 'Pictorial History of the RAAF' will be familiar with the style of this new volume. It is copiously illustrated with black and white and coloured photographs and the author has managed, perhaps through his association with the Defence Historical Studies Section, to find much relevant material which has not become hackneyed through over-use — indeed a large number of the photographs are published for the first time.

I faced the writing of this review with some caution. Because the book covers the history of the RAN up to 1982, the contemporary events and photographs were personally familiar. In such circumstances, the temptation to 'nit pick' from an unfair position of personal knowledge was great. Sufficient to say that even the most ardent nit-picker would find little with which to quibble. There is the odd 'mirror image' photograph and some omissions of detail which seem meaningful but are quite subjective. Both are insignificant considering the scope of the volume and the number and quality of the illustrations.

The book is clearly, and successfully, designed for the general reader rather than the academic in search of historical minutiae and esoteric footnotes. Odgers' writing is more journalistic than academic and this fits the style of the work precisely and will do much to ensure the book's appeal to a wide readership.

The first section is particularly useful as it sets out clearly the circumstances attending the birth of the RAN. The complicated organisation of the State navies and the political infighting which occurred before the RAN was formally created in October 1911 are, I suspect, generally unknown to the majority of Australians. The events of the early years and their backgrounds were so complicated and interwoven that to disentangle them required much study and the digestion of numerous rather stuffy documents and texts. Mr Odgers has performed this thankless task for his readers and presents 'the genesis of the RAN' with clarity and authority.

His account of RAN operations in World War I contains a particularly good description of the SYDNEY/EMDEN affair and the reader is left with a clear idea of the magnitude of the threat posed by EMDEN and the relief that attended her destruction. This battle was, of course, only one of the many operations in which the RAN took part and which effectively formed the foundations of the proud fighting tradition of the Service.

The period between the wars was significant mainly for the large reduction in the capability of the Service — in common with other navies of the fading British Empire. Austere financial policies and political expediency required a massive run-down of the Navy, the nadir of which was probably 1930-31 which, as Mr Odgers tells us was 'A black year for the Navy'. Only four ships remained in the seagoing category and many other reductions and 'rationalisations' were made. All of which contributed to the poor material position in which the RAN was placed as World War II loomed.

RAN operations in World War II are well documented and the author has again presented his readers with a synthesis of much research. While details of all aspects of RAN participation cannot be covered in one volume, the significant factors are well presented in words and photographs.
The diversity and extent of RAN operations post World War II may not be generally appreciated in these days when the very need for Armed Forces is under popular question. A study of this volume will show the extent of the RAN’s ‘peace-time’ operations and cannot help but impress upon the reader an appreciation of the flexibility of the Navy and the great contribution it makes to national and international events.

George Odgers’ excellent book fills a large gap in the previously existing histories of the RAN. It is well produced and eminently readable and will be of interest and entertainment not only to the layman but also to the student of Australian naval history searching for an accurate synthesis of his subject.


Reviewed by Richard Pelvin, DLO-A.

By the early 1970s official documents of the Second World War period were becoming available and interested historians were able to gain access to much more information on the warships of that period. The seventies saw a burgeoning of the number of authors researching and publishing such information. Alan Raven and John Roberts have, since at least the early 1970s, published a number of excellent volumes and articles on British warships including the “Ensign” and “Man o’ War” series and the superb “British Battleships of World War Two”. They have now produced a magnificent volume on the British cruiser.

Relying very little on secondary sources, but rather on Admiralty documents, the authors have produced a highly detailed history of the design and development of a much overlooked group of ships. The book commences with a general overview of British cruiser development up to the “Arethusa” class of 1912. From then the line of development is shown through the “Arethuses” and succeeding C, D and E classes of light cruisers; the larger “Elizabethans”; the Treaty Cruisers and their smaller successors of the Twenties; the six-inch gun light cruisers of the mid to late 1930s; the dual-purpose Dido classes and the response to the big Japanese cruisers, the Town and Colony Classes. Wartime design proposals are discussed and even some post-war designs, none of which were ever built.

The authors discuss fully the genesis of each class, providing considerable insight into the many conflicting factors which designers had to weigh to come up with design that would satisfactorily meet the Royal Navy’s requirements. Where possible the various legends proposed for each design and the way in which the final design was extracted from the legends are well detailed. Highly detailed side and plan views are generously provided.

Other chapters give overviews of technical developments bearing on design and of modifications carried out as the Royal Navy strained to improve the battle-worthiness of the cruiser fleet prior to the outbreak of the Second World War.

Although the authors do not have room to include an operational history of the cruisers in the Second World War, a chapter is devoted to a summary of their performance in that conflict. This chapter highlights the changes in emphasis in the cruisers’ role made by changed strategic and technological circumstances. The alterations and additions to existing ships and modifications to those planned and building which resulted from war experience, are well detailed. The authors conclude that although design weakness existed, generally the British cruiser acquitted itself well during the conflict.

A last chapter tells of the sad but inevitable decline of the cruiser fleet post-war.

The book includes a number of informative appendices which include a summary of the specifications for each class, armament details, each cruiser’s fate and a chronology of refits and alterations and additions in armament and electronics made to each ship.

In designing their cruisers, the Admiralty produced some of the most attractive warships ever and the authors’ choice of photographs displays their lines admirably. Many of the photographs have not appeared in print. They are well reproduced, and often of large dimensions. My only complaint is that they sometimes are laid out across two pages and the effect spoiled by the resulting bisection. An excellent index is included.

Australian readers are well catered for with chapters on the County and Modified Leander Classes and a good selection of photographs. Of particular interest are detailed photographs...
of HMAS CANBERRA under construction and HMAS AUSTRALIA with short funnels. Regrettably HMAS ADELAIDE is not included, as her design was outside the parameters of the book.

To sum up, a splendid book which reflects great credit upon authors and publishers. 


Reviewed by Jack Docherty, Editor RAAF News

THIS is a real coffee-table item from the massive machine of Time-Life Books — lavishly illustrated, beautifully presented and quite interesting in a pacy, adventure-story way.

The title sums up the book’s theme, the pioneers of flight, and its pages resound with the names of aviators who calmly flew their fragile aircraft into the pages of history in the face of obstacles and circumstances that at the time made their exploits almost suicidal.

Bleriot, Leblanc, Chavez — who succeeded in crossing the Alps but crashed soon after, his dying words “Higher, ever higher” on his lips as they lifted him from the wreckage — and many others set the scene for this story of aviation’s trailblazing giants.

The story of Alcock and Brown’s epic trans-Atlantic flight succeeds very well, being told with humour and vigour.

A nice touch is a reprint of the contest rules issued by the sponsor, Press baron Lord Northcliffe.

It illustrates the extremely short range of aircraft in those days, as the rules allowed the pilot to set down on the ocean, have his plane towed to even board a ship, providing he resumed his flight from the point where he had landed.

All the big events in record-breaking history are dealt with, up to and including the young Howard Hughes’s incredible round-the-world-flight in 1938.

Charles Kingsford-Smith and Charles Ulm, and the shy Bert Hinkler are treated sympathetically, as is Wiley Post and his exercise in plywood perfection, the 1931 Lockheed Vega “Winnie Mae” (there is an excellent colour cutaway illustration).

But the author dwells remorselessly on Charles Lindbergh and I feel that the amount of space dedicated to him is out of proportion to that aviator’s importance in the context of this book, despite the fact that The Pathfinders will undoubtedly be sold mostly in the United States.

Nevertheless, this failing does not detract too much from the book as a whole.

Its strong point is that, excluding the technical information, which is generally skilfully and attractively presented in separate panels throughout the text, it will provide an enjoyable evening’s reading for almost anyone, even those who are not specifically interested in aircraft or aviators.

It is first and foremost an entertainment, meticulously researched, and as such is very difficult to put down. Recommended.


Review by LtCol N.A. Jans, RAA.

THE last two decades have not been particularly happy ones for the American military institution, after the major traumatic experience of Vietnam, the end of the draft and a number of minor fiascos such as the failure of the military operation mounted to rescue “the hostages”. Within the American military profession itself, according to this book, there have been two reactions to all this. The first is a tendency to see Vietnam as an aberration: a once-only bad dream. The catharsis is to advocate a traditional mode of professionalism and to concentrate on Europe in thoughts about future operations. Those who adopt this view can thus not only believe that the military, being the total servant of the state, was blamelessly placed in an invidious tactical situation in Vietnam, but also that the lack of a victory there was not really reflective of America’s true military capacity.

The second reaction has been to argue that the Vietnam experience revealed a number of fundamental flaws in American military professionalism. These include an ignorance of, and an unjustified reluctance to take account of, political factors in strategic and tactical problems; and an inflexibility within the command system which impeded the effective conduct of
operations in Indo China. Advocates of this line are convinced that it would be wrong to not learn from the Vietnam experience, and most propose institutional changes which they hope will better prepare the military for whatever the future holds, whether this is in Europe or in some less conventional theatre of operations.

Sam Sarkesian, ex-paratrooper and now a professor of political science, embraces the second of these philosophies. Sarkesian believes that American military professionalism, as it is presently conceived and practised, is inadequate to meet the challenges of the coming decade. In support of this, he argues from both empirical and conceptual grounds: he presents findings from others' studies which suggest that the US Army failed to learn from its demoralizing experience in Vietnam; and he maintains that the traditional model of professionalism, which he believes contributed to this experience, is unlikely to be adequate in the light of probable political-military situations in the future.

Traditionally, the military profession is politically reactive, in that it accepts that the armed forces will do only what the government tells them to do. If war is an extension of politics, then, in the traditional model, the military has an insignificant role in the political process until the government decides that war is necessary. (This is, of course, a fundamental norm of Western military institutions, including our own.)

Sarkesian argues that this norm is obsolescent. The essence of his thesis is the proposition that the greater the diversity in the threat environment, the greater the strains on the traditional model of professionalism. Sarkesian begins by showing what most of us would readily accept: that there is a bewilderingly large and complex range of threats to any Western nation in the 1980s, especially to the US: everything from mutually armed destruction to incidents like the occupation of the US Embassy in Iran. However, strategies for limited military operations "remain elusive" and this poses dilemmas for the military profession. It is not simply that commanders and policy makers need to include political factors in their appreciations of the best course of action (although Sarkesian sees this as being extremely important, in terms of avoiding many of Vietnam-type errors in the future) but that the traditional principles of military professionalism — "Duty, Honour, Country", and the demand for institutional loyalty and obedience — preclude the flexibility and adaptability in individuals and institutions which is needed to prepare and direct the military machine effectively.

The professional model which is needed, Sarkesian concludes, is one in which military men are seen as more than "unconditional servants or paid employees of the state". They need political understanding and expertise, a sense of realistic and enlightened self-interest, and professional perspectives transcending boundaries which have been traditionally associated with duty, honour and country. The military profession must take on a political dimension (not party politics) so it is capable of dealing with environments that are not purely "military", and — controversial point here! — recognise the professional military institution's right to engage in politics within a domestic system, as long as it adheres to "the rules of the game". The basic aim of this is to enhance the profession's ability to reach the civilian leadership and the public to develop and explain its case for the adoption of certain objectives — not so much in the competition for resources but in terms of the choice of options in global strategy.

Of course, such a stance has its dangers, and Sarkesian acknowledges these: "To take on this critical political dimension is only a short step away from assuming a self-righteous stance as the ultimate arbiter of society's political disputes" (p 132). (One thinks of the French Army in Algeria.) Sarkesian's formula is based on an officer corps which (1) sees itself as having a role beyond the traditional "management of violence"; (2) is highly educated and, indeed, places as much professional value on political and intellectual sophistication as on "battlefield competence" in military technology; and (3) has a changed and more complex relationship with the American political system. Sarkesian argues the key to this formula is to educate military professionals in the meaning of democracy and in the proper role of the military in a liberal society, most desirably at the graduate school level i.e. as post-commissioning tertiary education. He stresses that this will not come about just by simply adding courses to senior service schools or by increasing the proportion of officers on
long term schooling; rather it requires a different concept of professional socialisation and education and an integration of political factors and methods of analysis into tactical and strategic thinking. Although battlefield competence and the skills and attitudes that contribute to it are not irrelevant in Sarkesian's model, they are not mentioned much in this book, except as a barrier to the adoption of the thinking which he advocates. And herein lies the major weakness in his model.

For, whilst few would surely disagree with his assertion that,

"While conventional military forces remain essential ingredients in strategic deterrence, the utility of such forces for purposes of intervention has declined" (p 112),

the political basis of "armed diplomacy" (nice phrase, that!) for a nation is the latent strength of that nation's forces. And, since Western armies (and, indeed, most others) are based on a hierarchical, authoritative, disciplined character, if it is to maintain latent strength, the military institution must continue to have that character. This institutional character tends to produce a particular kind of person. It is not denigrating that kind of person to suggest that, especially in peacetime when the maintenance of this institutional character is difficult and internal efforts to so maintain it are thus intensified, the kind of person Sarkesian would like to see in the military institution, would not be particularly comfortable there. Indeed, the military institution, as a socialising environment, could find it rather difficult to produce significant numbers of officers of each type who also appreciated the views of the other. Unfortunately, Sarkesian brushes over this. Perhaps he feels that, as a political scientist, he should give direction and that the sociologists could then tackle the practical problems in the social system; but it is disappointing that there is not more on these problems.

Sarkesian also gives very little space to the question of how the civilian leadership and the community would react to this new professionalism. I am inclined to think that the community would be somewhat apprehensive of a move in this direction. In essence, he says that it is up to the military to demonstrate, by example, how this new style would be of more use to the state than would alternative models of professionalism.

My final criticism of this book is that I found it a little difficult to read, perhaps because of the small typeface, but also because it was somewhat repetitive. It started life as a series of essays, and could have done with some rigorous editing to trim these into interrelated chapters. Nonetheless, this is a thought-provoking book and deserves to be widely read. One of its strengths is the evidence of considerable background reading, and anyone interested in studying this issue will benefit from the many reference notes and bibliographical items.

It is intriguing, of course, to speculate on whether the issues addressed in this book are of relevance to the Australian military profession. Despite our size, we do have a distinct threat environment, and there is no reason to think that political sophistication — in its application to problems of military strategy and tactics — is no less needed by Australia than by America.

But for me, the most important lesson in this book is that it points up a fundamental difference between the Australian and American military establishments. This difference is one of scholarly reflectiveness: the propensity to study the past and the present as guides to the future, and to discuss alternative courses of action in deciding how a desired future is to be sought.

Australian servicemen do not have a good record in reflectiveness, even in terms of the conventional area of "military history". Quantitatively at least, our collective contribution to the literature on military sociology and history is almost as nothing compared to that of the American services. Vietnam alone has stimulated all sorts of writings from Americans; some arguing that they went wrong, others arguing that they didn't and many proposing lessons to be learned from the experience. Contrast this mountain of print with the Australian equivalent: a few novels and a handful of articles, largely about CRW techniques, in periodicals such as this. Locally, moreover, there is almost no debate about professional dilemmas such as those Sarkesian discusses.

Someone once remarked, at an "Australian Armed Forces and Society" conference, that Australia had yet to produce a Janowitz. It's worse than that, I'm afraid: we haven't even got to the stage of producing a Sarkesian.