# AUSTRALIAN ARMY JOURNAL



NO. 108
MAY
1958

D copy

# AUSTRALIAN ARMY JOURNAL



*A Periodical Review of Military Literature*

Number 108 May, 1958

## CONTENTS

**VICTORIA BARRACKS, MELBOURNE**

# AUSTRALIAN ARMY JOURNAL

*Editor:*
COLONEL E. G. KEOGH, MBE, ED (RL)

*Assistant Editor:*
MAJOR W. C. NEWMAN, ED.

*Staff Artist:*
MRS. JOAN FULLER

The AUSTRALIAN ARMY JOURNAL is printed and published for the Directorate of Military Training by Wilke & Co. Ltd. The contents are derived from various acknowledged official and unofficial sources, and do not necessarily represent General Staff Policy.

Contributions, which should be addressed to the Director of Military Training, Army Headquarters, Melbourne, are invited from all ranks of the Army, Cadet Corps and Reserve of Officers. £5 will be paid to the author of the best article published each month, and £40 to the author of the best article published during the year.

# *AMBUSH !*

## *SOME EXAMPLES OF SUCCESSFUL AMBUSHES IN TROPICAL WARFARE*

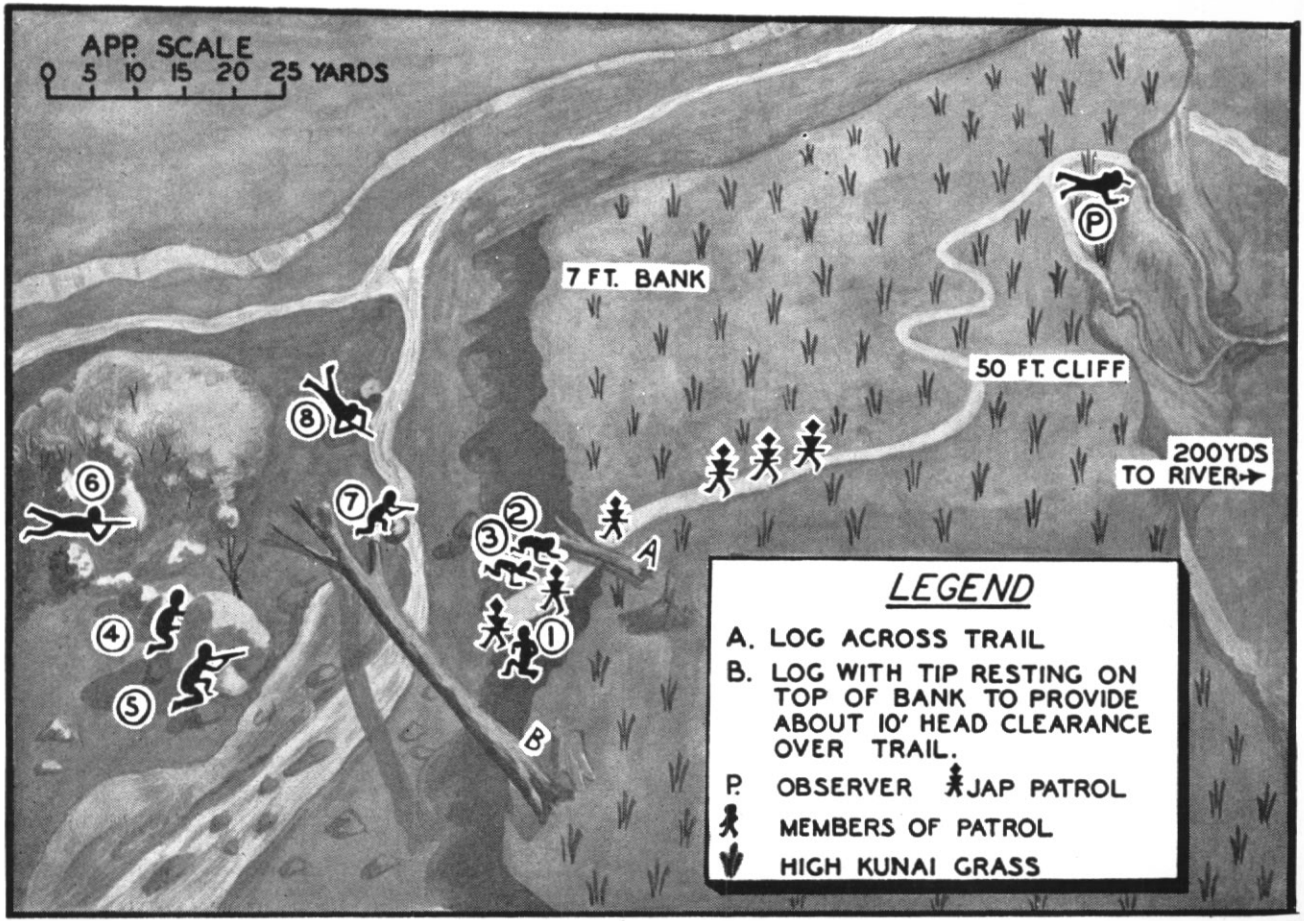
Compiled by the Staff of the Jungle Training Centre, Canungra

*These examples of ambushes were compiled from reports of operations in South-West Pacific Area during World War 2. By carefully analyzing them in the light of one's general tactical knowledge it is possible to deduce a set of principles applicable to the planning, setting and conduct of ambushes on similar terrain. Readers are invited to compile their own sets of principles and compare them with the views of Colonel M. Austin, Commandant of the Jungle Training Centre, which will be published in next month's issue of the Australian Army Journal.—Editor.*

### Example 1

THE first example is quoted from Army Training Memorandum (War) (Australia) No. 34 dated 3 Jul 1944. A patrol commander was ordered to capture two prisoners from a party of enemy known to be in a certain area. After careful reconnaissance with native police the patrol commander obtained the information he required about the party of enemy, and decided to set an ambush to capture his two prisoners.

The trap was set early one morning (see Sketch A). Two men in position (2) and (3) were to allow the leading enemy soldier to walk into the defile, and then, as the second enemy soldier started down, they were to jump on him from the rear. As soon as the action was started the patrol commander in position (1) was to jump on to the first enemy solider; the rifleman at position (7) was to shoot the third enemy; and the Browning automatic rifle at position (6) was to open up on the remainder. The rifleman at position (8) was to take any target which might endanger the plan. The men in positions (4) and (5) were to assist where they might be needed. Careful instructions were issued to the men at positions (2), (3), (4) and (5) not to shoot unless absolutely necessary, as it was desired to take the first two enemy alive. The Browning automatic rifle firing over the big log immediately in front of it could not hit the two men subduing the prisoners at the bottom of the small cliff. An observer was posted on the high cliff overlooking the river, with instructions to come back and notify the patrol commander immediately the


APP. SCALE
0 5 10 15 20 25 YARDS
7 FT. BANK
50 FT. CLIFF
200YDS TO RIVER
P
A
B
LEGEND
A. LOG ACROSS TRAIL
B. LOG WITH TIP RESTING ON TOP OF BANK TO PROVIDE ABOUT 10' HEAD CLEARANCE OVER TRAIL.
P. OBSERVER
JAP PATROL
MEMBERS OF PATROL
HIGH KUNAI GRASS

enemy started to cross the river. It was hoped that this would give about twenty minutes' warning of enemy approach. A few native carriers, to carry back the two expected prisoners, were left about 200 yards in rear of the patrol.

The ambush proceeded exactly as planned. At 0940 hours the observer came back and told the patrol commander that six enemy had crossed the river. About 30 minutes later the enemy patrol was seen approaching along the straight portion of the track. They were moving fairly alertly, the leading scout had his rifle at approximately "port arms," with the second scout about five yards behind. The third enemy had closed on the heels of the second man as he came to the small log behind which the men at position (2) and (3) were hidden. He was so close that when he was shot his rifle fell on one of the two men jumping the second enemy. With split-second timing the men at (2) and (3) jumped the second enemy. The patrol leader jumped his man. The rifleman at (7) shot and killed the third enemy, and the Browning automatic rifle killed the three remaining enemy. The second enemy was subdued without difficulty. The patrol leader had a fierce struggle with his enemy (a big man), and was bitten in the hand during the struggle. He finally had to club the enemy over the head with his pistol to knock him completely out. The action was over in thirty seconds. Both captives were stripped of clothing except pants and shoes. The unconscious enemy was tied to a pole and carried out by the carriers, and the other one, securely tied, walked out.

The Browning automatic rifle and a machine carbine covered the withdrawal, but no other enemy were seen. Tracks were obliterated to prevent other enemy from knowing the strength of the patrol. The dead enemy were left where they fell, although all papers and other intelligence material were removed. The patrol bivouacked that night six hours from the scene of the ambush. The unconscious enemy had recovered by this time and his wounds had been bandaged, Both were securely bound and guarded during the night. The patrol left at 0930 hours the next morning, and the following day the prisoners were handed over to headquarters.

The patrol commander attributed the success of the operation to:—

Good planning and reconnaissance.

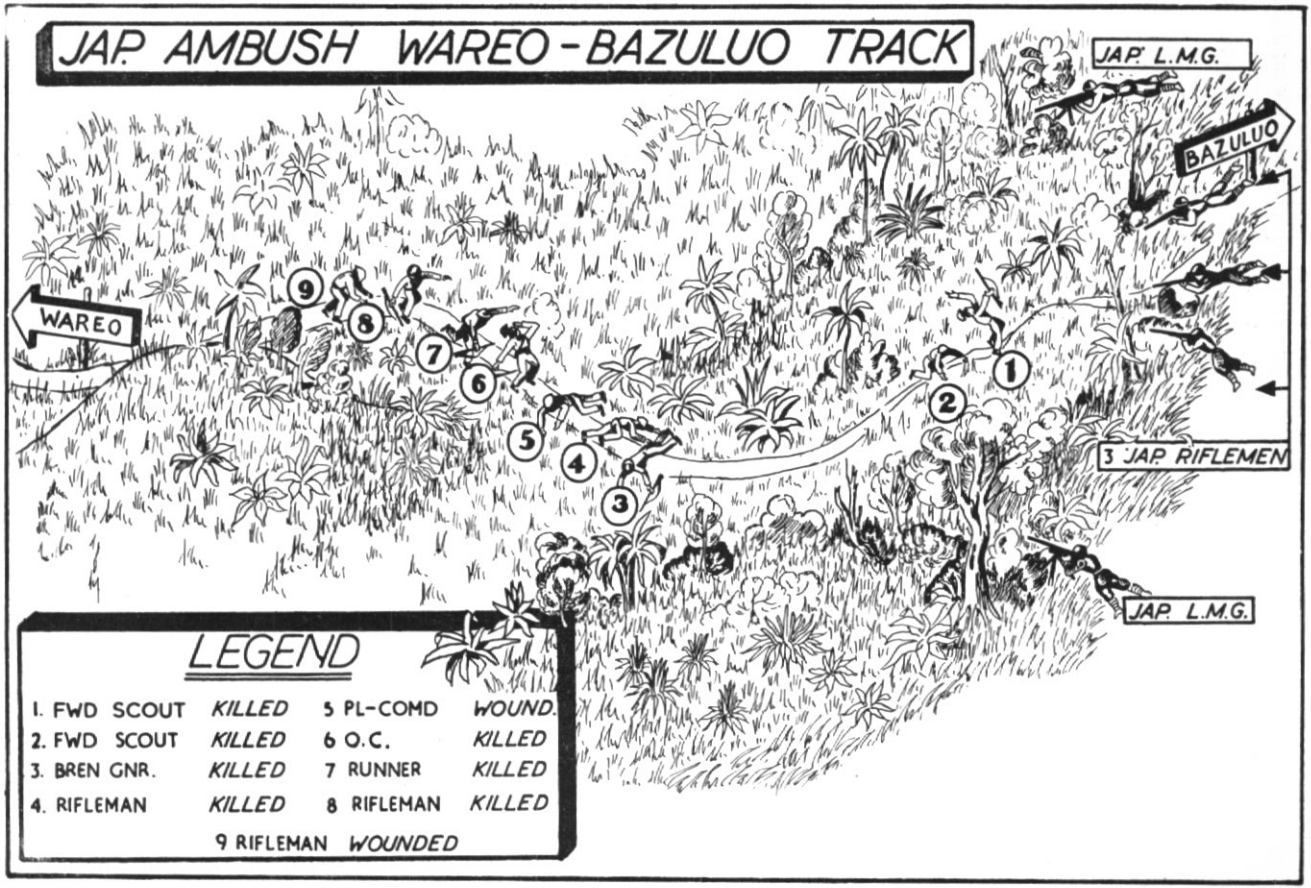
Cool-headed action on the part of each man.

Split-second timing.

### Example 2

The second example is taken from Army Training Memorandum (War) (Australia) No. 36 dated 20 Nov 44, and illustrates a successful enemy ambush.

This action occurred in hilly country covered by secondary growth with occasional open spaces. The enemy, after being driven from his position, retreated along a track, and an infantry company was ordered to move, as the forward company to a battalion, along the track towards the next objective.


JAP AMBUSH WAREO - BAZULUO TRACK
JAP. L.M.G.
BAZULUO
WAREO
3 JAP. RIFLEMEN
JAP. L.M.G.
1
2
3
4
5
6
7
8
9
LEGEND
1. FWD SCOUT KILLED
2. FWD SCOUT KILLED
3. BREN GNR. KILLED
4. RIFLEMAN KILLED
5 PL-COMD WOUND.
6 O.C. KILLED
7 RUNNER KILLED
8 RIFLEMAN KILLED
9 RIFLEMAN WOUNDED

**Sketch "B"**

The company moved in normal formation in single file. The leading section consisted of a section commander and one scout armed with machine carbines, one Bren gunner and one rifleman.

During their advance the company saw evidence on the muddy track of a considerable number of the enemy having moved ahead of them. Some 500 yards out they killed one enemy, but saw no others. The ground was rising steeply at this time, and about 400 yards further on a halt was called. In retrospect, killing this one enemy may well have cost surprise.

After moving another 300 yards the forward scouts came to a tree which obscured the track and held them up. The company commander moved forward, presumably to keep the advance going, and remained with the platoon commander. At 1350 hours the advance had continued for only about 50 yards when the leading platoon was fired on from an ambush, sited in an excellent position on both sides of, and looking down on, the track. The company suffered seven killed, including the company commander and his runner, and five wounded, including the forward platoon commander.

The ambush was sited in a position where a light machine-gun on either side of the track could completely cover it for 100 yards without risking observation to themselves.

Sketch B will assist in explaining the following description of the ambush:—

The light machine-gun on the north side of the track could cover it from forward of the "S" bend, and including the bend, while the light machine-gun on the south side could cover the track from the "S" bend for some distance back. In addition to these, there were approximately three riflemen on the north side of the track, who dealt with the forward scouts who had been allowed to go through.

**Example 3**

The third example is a description of the "Mulberry" ambush, and is taken from the report on the operations of the 58/59 Australian *Infantry Battalion during the period* 1 Apr/2 Jul 1945 in South Bougainville. This type of ambush was successful.

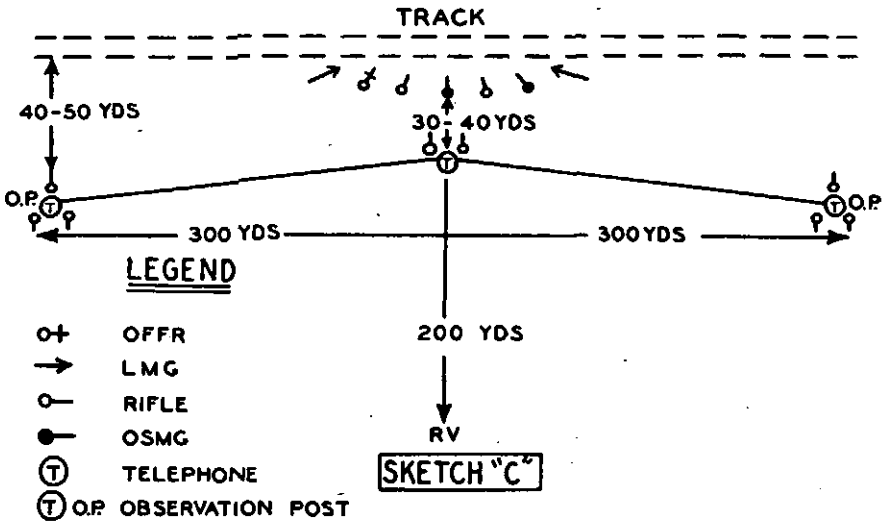
The strength of the ambush was one officer and 14 other ranks armed with two light machine-guns, two machine carbines, 10 rifles, three *grenades for each man and 1000* yards of assault signal cable.

The ambush party were disposed as follows:—

(a) Observation posts were established on either side of the ambush, approximately 300 yards from the position, and parallel to the track. These observation posts were sited 40-50 yards from the track in such a manner that any movement along the track could be clearly observed. They were manned by three men, one of whom was continually watching (see Sketch C).

(b) The officer selected a position extending 30-40 yards along

## THE MULBERRY AMBUSH
### Diagrammatic Plan




the track, which was occupied by himself and six other ranks. The light machine-guns were sited at either end of the position, with two rifles and two machine carbines alternating in between. Once the positions were selected the party moved back 30-40 yards to await information from the observation posts.

(c) Two other ranks took up a position 40 yards from the track behind the ambush party, and were connected by telephone with the observation posts.

If the observation post reported an enemy party of more than 20 moving along the track, the ambush party moved back to a rendezvous approximately 250 yards off the track.

If the observation post reported an enemy party of less than 20, the ambush party moved to its position on the track, the officer being with the light machine-gun nearest the approaching enemy. The officer waited until the leading enemy had reached the other end of the ambush position before giving the signal to open fire. If the ambush was completely successful, sentries were posted whilst bodies were searched, and wounded enemy taken prisoner. The patrol then disconnected the telephones and returned to the rendezvous. If prisoners had been taken, the patrol returned to battalion headquarters immediately, otherwise a similar position was taken up not less than 2000 yards from the first position.

If the observation post reported only one or two enemy moving

along the track, two men were detailed to cover each, aiming at groins or below, and two men armed with improvised blackjacks attacked the enemy from either side of track and captured them. Enemy were only to be shot if they attempted to escape. If prisoners were taken, the patrol returned to battalion headquarters immediately.

**Example 4**

The fourth example is quoted from Army Training Memorandum (War) (Australia) No. 39 dated 30 Apr 45, and illustrates the successful immediate ambush of an enemy foraging party with a small protective detachment.

The patrol, comprising 1 officer and 4 other ranks, left Luaing at 0900 hrs 27 Dec 44 for Nanunun. The aim of the patrol was:—

(a) To observe enemy movements at Perembil.

(b) To confirm native reports of enemy foraging parties in the area.

The patrol observed 4 enemy sentries on the north side of Perembil (see sketch D). Another enemy was seen apparently observing Nanunun through binoculars. At the same time native scouts working with the patrol confirmed the existence of a ration party in the vicinity.

The patrol commander acted on this report and immediately set an ambush in a favourable position astride the track. At 1100 hours a party of approximately 22 enemy approached the ambush from the east. They were fired on by automatic weapons and rifles. This fire was followed by 14 grenades. Ten enemy were killed, and native sentries reported later that an additional 5 had been killed.

The track on which the ambush was set was a good dry pad following along a razorback. The razorback was partly covered with thin bush and with thick jungle on the slopes each side of the track.

Information received from the native police boys and native sentries was most accurate and reliable. When in the ambush position with the patrol, the natives displayed very good fire discipline.

The following points in relation to the enemy party were noted by the patrol:—

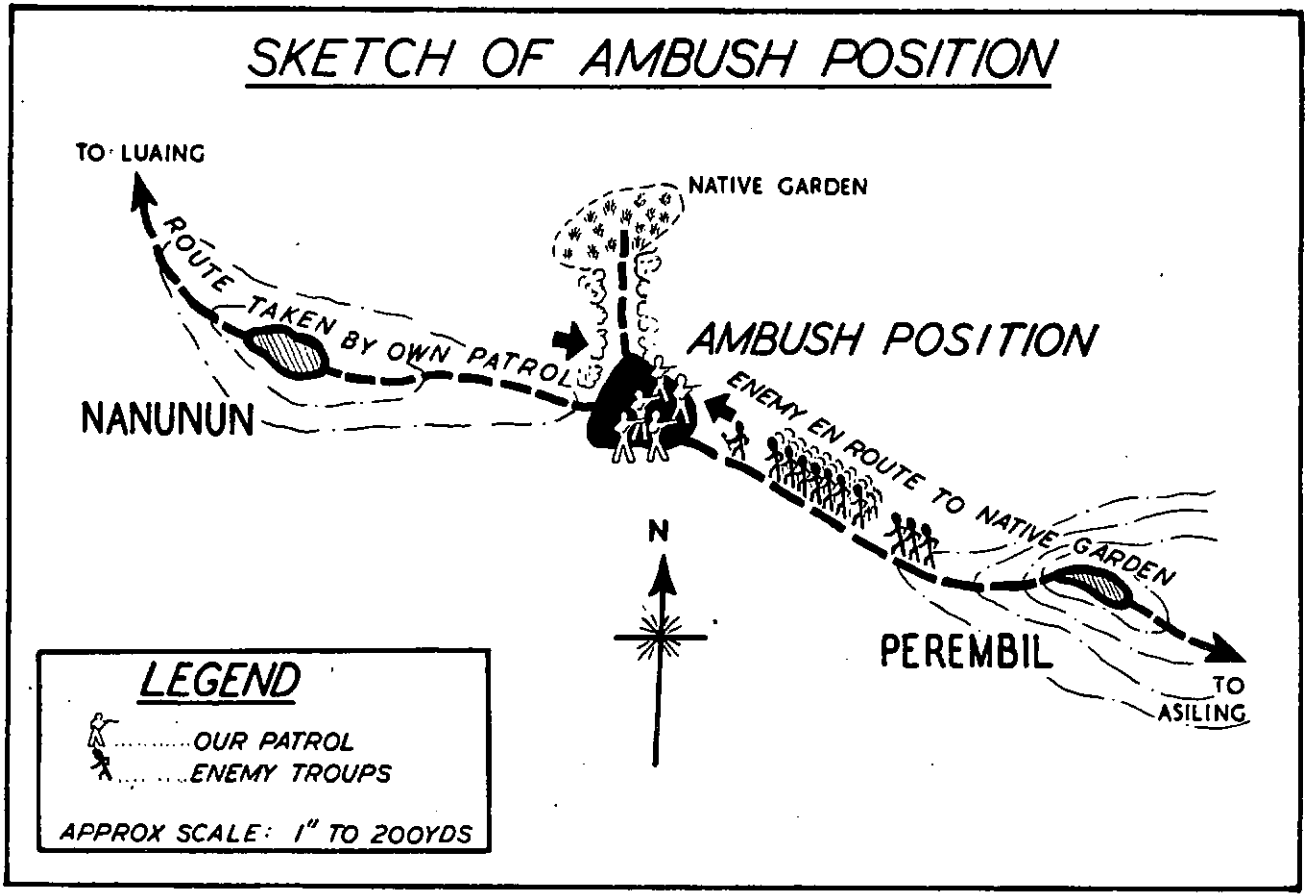
(a) The party was moving with one scout forward and three in the rear. The main body was badly bunched.

(b) Ten enemy were killed by the patrol's first burst of fire. The remainder of the party scattered into the bush and commenced to fire in the general direction of the ambush position. They appeared to have little or no idea of the ambush party's position.

(c) It is estimated that the enemy fire consisted of 4 rifles. Two grenades were thrown.

(d) The enemy party appeared to to be a ration party, and gave no indication of being a fighting patrol.

The main lessons to be learned from this encounter are from the enemy's mistakes:—


SKETCH OF AMBUSH POSITION
TO LUAING
NATIVE GARDEN
ROUTE TAKEN BY OWN PATROL
AMBUSH POSITION
NANUNUN
ENEMY EN ROUTE TO NATIVE GARDEN
N
PEREMBIL
TO ASILING
LEGEND
OUR PATROL
ENEMY TROUPS
APPROX SCALE: 1" TO 200YDS

(a) There can be no justification for parties to move unarmed or insufficiently armed in hostile country.
(b) The provision of one forward scout only is inadequate protection for a party of this nature.
(c) Even had greater protection been provided, it does not absolve the main body from ensuring its own protection, and the fact that the enemy was so badly bunched that 10 were killed in the first burst of fire illustrates the necessity for deployment during movement.

---

## COMPETITION FOR AUTHORS

**The Board of Review has awarded first places and prizes of £5 for the best original articles published in the undermentioned Journals.**

**February — The Army Apprentices' School, by Lieutenant R. T. Jones, Australian Army Education Corps.**

**March — Establishments — The Need for Reappraisement, by Sergeant R. W. Valdan, Royal Australian Army Ordnance Corps.**

# LOGISTICS ARE LOGICAL

Major H. W. S. Jackson, MBE; ED
Royal Australian Army Ordnance Corps

IT is time that the "teeth arms," such as Armour, Infantry and Artillery, put aside their attitude that they represent the hub around which the rest of the Army revolves and that the rest of the Army is relatively unimportant.

This old-fashioned attitude died with red coats and muzzle-loading weapons. The modern approach to war planning concedes that operations and logistics are equally important to the successful conduct of a campaign.

We are striving to grow up as a nation, and it is important that the Services keep abreast of our surge towards progress. "Teeth" arm soldiers who regard technical service soldiers as inferior beings carrying out a lowly task are a modern version of the "Colonel Blimps" that nearly lost us the wars as well as an Empire.

It is important that logistics and operations be given the same priority when considering planning for modern war.

Esprit de corps has always been regarded as an important factor for maintaining morale, but in many cases it has been overdone and has misfired in several directions. The veracity of this statement becomes all too apparent to a technical corps member attending a school or course for soldiers of all arms. There is no room for insularity in the modern Army. The nuclear age has enlarged the importance of logistics, and thinking only in terms of guns, rifles and bayonets is as dead as the Dodo.

The definition of logistics often causes some confusion, but the references in the dictionary are clear enough—that branch of military science relating to the movement and supplying of armies.

Successful logistics of the future demands integrated supply. In the Australian Army, the RAAOC and RAASC represent more than 90 per cent. of the supply function, and are responsible for a wider range of supply items than the two major supply agencies in the US Army, namely, the Ordnance Corps and Quartermaster Corps. These two American technical services are responsible for approximately 80 per cent. of the supply functions.

It is time that due consideration was given to the employment of a greater percentage of service officers on the staff which, at the present time, carries a preponderance of "teeth arm" officers. Service officers with experience in logistics and potential logisticians should be used where the benefit of their specialized training would be of most value.

Regardless of the reluctance which many senior officers will have in respect of integrated supply, it will come into operation sooner or later. "Esprit de Corps" must be replaced by "Esprit de Common Sense."

Combination of the supply and repair elements of the Australian Army under one co-ordinator will provide efficient logistical support to our Army.

Operational plans are limited by the availability of supplies and operational success is dependent on meeting planned supply requirements. Success in battle depends on manpower, mobility and firepower. The potential mobility and firepower of any command is dependent, to a great extent, on the logistical support provided.

Can our present system ensure the mobilization of a suitably sized army and its movement to a zone of operations within 90 days? If it cannot, then we must revise our forces and our plans. Victory and a reduction of casualties will depend mainly on superiority in weapons and material at the time of the outbreak of war. This superiority will depend to a large extent on the logistical efficiency. What do we need in an army to achieve logistical efficiency?

The first essential is streamlined control. The requirement is for one Chief of Logistics responsible to the Commander-in-Chief. Another essential is that the operational commander be also responsible for the logistical management of his command; thus he would delegate through two deputies—one for operations and one for logistics.

The integration of various Corps into one logistical organization would overcome many of our present planning problems. Under the existing concept it is difficult for some corps to prepare an accurate Order of Battle owing to disintegrated, rather than integrated, planning.

Within our present organization, the Directorate of Administrative Planning could be the co-ordinating agency for integrated logistics. It is here that the round table discussions of the various corps concerned with logistics could take place. DAP is the nearest approach we have to the Office of the Deputy Chief of Staff, Logistics, of the US Army.

What trend would such discussions follow? Trends romp slightly ahead of fashions, and it will be necessary to catch up with fashion before any attempt is made to forge ahead with a trend.

What is fashionable right now in the field of logistics?

(a) Standardization as regards paper work, cataloguing and type of stores.

(b) Flexibility in organization by building up units on a "brick" system.

(c) Reduction of the different items in the supply system.

(d) Selective stockage in respect of supply units in the field.

(e) Electronic devices for accounting and data processing.

(f) Slashing of unproductive elements in the logistical organizations, with particular attention to over-insurance as regards checkers, auditors and those that check the checkers and audit the auditors.

(g) The employment of small integrated Depot Complexes in the field, capable of multiple location and flexible supply functions.

(h) The employment of direct deliveries from vendor to user as far as possible, and the elimination of unnecessary links in the chain of supply.

(j) The acceptance of air transport as a normal and not exceptionable means of supply.

The fashionable features outlined above represent only a portion of those affecting the modern logistical approach, but sufficient have been outlined to form a basis for the commencement of our logistical plans.

Is there much chance of such planning being agreed to? The recent submission of the Morshead report indicated that the fingers were pointing in the same direction as modern logistics must follow. Like the Morshead report, modern logistics will throw up as surplus a number of senior appointments. For this reason alone, the launching will prove difficult, but, as always, common sense must prevail and progress cannot be impeded.

Just how up to date are we in Australia as regards logistical fashions or how far can we expect to progress in the next five years?

*Standardization.* The ABC cataloguing system is in the process of being introduced into the Services. This is one of the basic requirements for efficient logistics. The pursuance of the completion of this project on a top priority basis is essential, and the expediency of this action will decide when modern logistics will come into operation in Australia.

*Flexibility of organization* must be taken into consideration as a major requirement for modern logistical units. The Australian Army, to fulfil its SEATO role, must be able to operate within a logistical system likely to be encountered in a SEATO area. It must also be capable of operating with other British Commonwealth forces. To meet these requirements, present Australian logistical units must be reorganized, preferably on a "brick" system along functional lines. "Brick" sub-units capable of being added to units as required, rather than fixed unit establishments, would appear to provide the answer as well as the flexibility.

*Reduction of items in the supply system* is a problem being studied, both in the UK and USA. The Deputy Chief of Staff for Logistics (US Army), Lieutenant-General Carter B. Magruder, recently said: "The Army cannot attempt to supply so many items of equipment

which are nice to have but not essential to victory. The essential must not be strangled by the non-essential." This factor must also be realized in Australia. The system of provision and scaling should be reviewed. Many anomalies exist in this field of logistics. A classical example is provided by the recent scaling of an Infantry Workshop Stores Section with 3,500 items to cover the maintenance requirements of an armoured equipment. Under the modern US system, an Ordnance Direct Support unit for a division is scaled with only 5,000 items and can meet 85 per cent. of requirements of all stores and spares.

*Selective Stockage* is closely linked with reduction of items. The US Army probably leads the world in this field. As already mentioned, a Divisional Direct Support Unit scaled with 5,000 items is able to meet 85 per cent. of all demands, whereas 170,000 items were required to give 100 per cent. coverage. By increasing the item range from 5,000 to 30,000, it was found that only another 5 per cent. of demands could be met. One system still employed by the Americans is that any item at field installations that has not been issued more than three times a month is withdrawn from the stockage list. Such a system depends on electronic devices for rapid supply from major depots—in lieu of field supply.

*Electronic devices* have had a considerable effect in streamlining logistical systems. Amazing advances have been, and are being, made in respect of data processing and electronic accounting machines. In view of the time lag for the delivery of this type of equipment, planning for its introduction into the Australian Services should be given some priority.

*Unproductive tasks* have tended to get out of control in the Services over the past twenty years. In Australia, we work on a system of "mistrust," and have built up a system of checking and audit beyond economical comparison. The major blame for this must be borne by the taxpayer and our political system. There is probably no other country in the world, with the exception of New Zealand, where the taxpayer shows so much resentment at having to meet Defence expenditure. If statistics were available showing the cost of policing financial and audit regulations and other internal checking responsibilities, the taxpayer would clamour for a return to a system of trust. The amount that could be saved in the checking and audit departments would buy a lot of electronic equipment, if the taxpayer can be educated to it.

When some of these fashionable factors are adopted in Australia, then we will be on the road to successful logistics. In a future war, there will be no opportunity to organize a logistical system after the outbreak of hostilities.

The following lines were recently reproduced in a British Army publication from an American source. It is not out of place as an epilogue to this article.

Logisticians are a sad, embittered race of men, very much in demand in war, who sink resentfully into obscurity in peace.

They deal only with facts, but must work for men who merchant in theories.

They emerge during war, because war is very, very much fact; they disappear in peace, because in peace war is mostly theory.

The people who merchant in theories and who employ Logisticians in war, and ignore them in peace, are Generals. Logisticians hate Generals. Generals are a happily blessed race who radiate confidence and power—they feed only on ambrosia and drink only nectar.

In peace, they stride confidently and invade a world simply by sweeping their hand blandly over a map, pointing their fingers decisively at terrain corridors and blocking defiles and obstacles with the side of their hands.

In war, they must stride more slowly, because each General has a Logistician riding on his back and he knows that at any moment the Logistician may lean forward and whisper, "No, you can't do that."

Generals fear Logisticians in war and in peace Generals try to forget Logisticians.

Romping along beside Generals are Strategists and Tacticians. Logisticians despise Strategists and Tacticians. Strategists and Tacticians do not know anything about Logisticians until they grow up to be Generals—which they usually do.

Sometimes a Logistician gets to be a General. In such a case he must associate with Generals, whom he hates. He has a retinue of Strategists and Tacticians whom he despises and on his back is a Logistician whom he fears.

This is why Logisticians who get Stars also get ulcers and cannot eat their ambrosia.

---

**Heroes have the whole world for their tomb: and in lands far from their own, where the column with its epitaph declares it, there is enshrined in every breast a record unwritten with no tablets to preserve it, except that of the heart. These take as your model, and, judging happiness to be the fruit of freedom, and freedom of valour, never decline the dangers of war.**

—*Pericles.*

# New Soviet Weapons

Condensed from Army Information Digest, USA

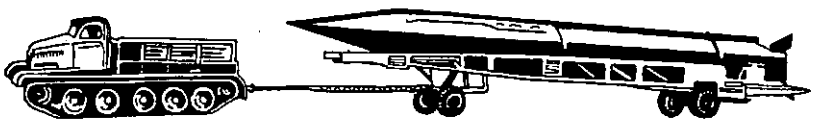
TWO events have taken place which have not only proved the extent of the Soviet's technical advances but have demonstrated their ability to wage either a full-scale or limited war, with or without the use of nuclear weapons. These events were the first launchings of earth satellites, and the public display in the November 1957 Moscow parade of a complete series of missiles, in addition to several new types of more conventional weapons.

Enough has already been written about the Sputniks elsewhere to make further comment in this article unnecessary. However, a rapid survey of the new weapons, and of the fact that they have been publicly displayed, is important in order to complete the picture of the Soviet's military capability, and to try and assess future intentions.

It is virtually impossible for any designer of a new weapon to incorporate all the often-conflicting demands of the army; some requirements must therefore be sacrificed for the benefit of the others. Although it is still too early for full details of the new Soviet weapons to be divulged, it is quite obvious that, whatever else may have been sacrificed to achieve them, both mobility and firepower are still primary objectives in weapon design.

### Rockets and Missiles

Since World War II the Soviet Ground Forces have possessed multilaunch rockets of various types and sizes, carried on truck mounts. Their role is to provide massed-fire concentrations at short and medium ranges, on occasions when volume of fire and speed of delivery are more important than accuracy and long range.



THE LARGEST OF THE SOVIET TACTICAL MISSILES RESEMBLES THE GERMAN V-2 AND HAS A RANGE OF ABOUT 300 MILES.

The two new weapons in this category show, in one case, greatly improved mobility and, in the other, probably improved range and accuracy when compared to their predecessors. The first is very similar to the earlier 12-round launcher, firing spin-stabilized rockets of 8- to 10-inch calibre. Mounted on a fully tracked prime mover instead of on a truck, its mobility will equal that of any formation it supports.

The second multilaunch artillery rocket is still mounted on a truck, but differs considerably from its predecessor, a 4-round, 8-inch launcher. With an improved shape, its length almost doubled, and still fired from a spiral-rail projector, it should show an increase in both range and accuracy. The increase in the number of launching frames from 4 to 6 also gives an increase in firepower, although this weapon may well be used for interdiction rather than for massed fires.

In addition to these two new multilaunch rockets, a series of four surface-to-surface, single-launch rockets and guided missiles was first publicly displayed in November 1957.

The smallest is an Honest John type of rocket with nothing unusual in its principles or design. The really interesting feature is that the single-rail launcher is mounted on a full-tracked amphibious vehicle. Possession of a tactical missile having such a very high degree of mobility combined with the inherent range and firepower of a large rocket gives the Soviet field force commander a weapon of the highest possible utility.

The next two weapons are also single-launch types mounted on similar tracked vehicles, in this case a modified JSU heavy tank chassis. Both are about 35 feet long, and the larger one is carried on a launcher fitted with a U-shaped platform for vertical launching.

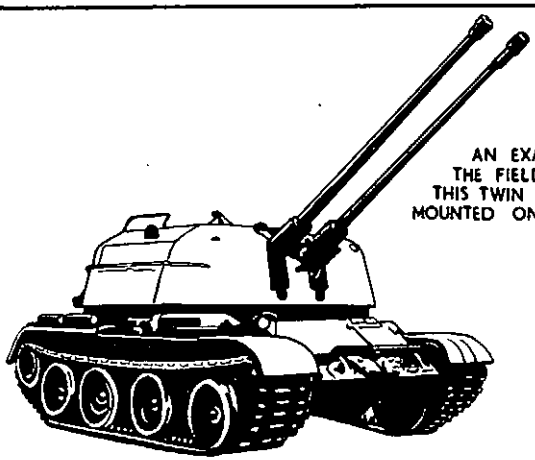
The largest missile in the series is a development from the German World War II V-2 ballistic missile, and is carried on a trailer pulled by the heavy tracked prime mover. Each of these four surface-to-surface missiles is capable of carrying a nuclear warhead.

Finally, the Soviets have displayed a two-stage surface-to-air missile, transported on a truck-drawn trailer. In this case mobility is not a major requirement, as the weapon will be used for the defence of large towns and strategic targets.

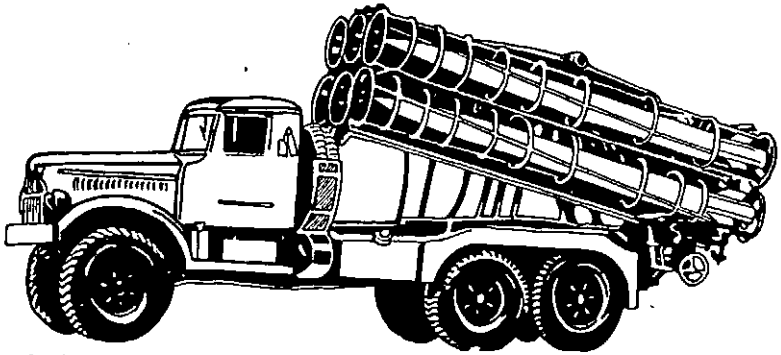
**Self-propelled Artillery**

In spite of the impressive display of rockets and missiles, there has been no reduction in Soviet effort in the field of conventional artillery of all calibres. A good example of this is the appearance of a self-propelled twin 57 mm anti-aircraft weapon. Although the Soviets have possessed, for a long time, a wide variety of self-propelled and assault guns for use against ground targets, this is the first occasion they have produced an effective self-propelled anti-aircraft gun.

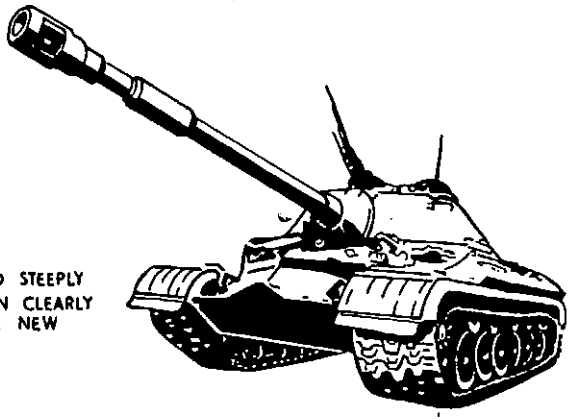
The twin 57 mm fills a long outstanding gap in the Soviet armoury for a weapon of high mobility for the protection of armoured columns on the move. Mounted in an open turret on a modified T-54 medium tank chassis, the guns are of a size almost ideal for their task.



AN EXAMPLE OF SOVIET EFFORTS IN THE FIELD OF MODERN ARTILLERY IS THIS TWIN 57mm ANTIAIRCRAFT GUN MOUNTED ON A MEDIUM TANK CHASSIS.



SHOWING AN INCREASE IN RANGE, ACCURACY AND FIREPOWER OVER ITS PREDECESSOR, THIS LAUNCHER FIRES A ROCKET 17 FEET LONG.



POWERFUL 122mm GUN AND STEEPLY SLOPED ARMOUR IS SHOWN CLEARLY IN THIS DRAWING OF THE NEW SOVIET HEAVY TANK.

Even using only the relatively simple sighting system that is mounted on the vehicle, the weapon should be able to provide extremely effective defence against aircraft attacking it from all heights up to at least 10,000 feet. With off-carriage fire control and radar equipment, also on a fully-tracked vehicle, the change-over from a moving to a halted defensive position would be very rapid, and in this case the effective ceiling would be increased by as much as 50 per cent.

A second example in this category is also equipped with a 57 mm gun, but for anti-tank defence. Mounted on a small, lightly-armoured and full-tracked vehicle, the gun is similar to the Soviet standard anti-tank gun normally seen on an orthodox towed carriage. Its small size and weight make it air-transportable by the standard Camp transport aircraft and the Horse helicopter. With the ability to fire both armour-piercing and high-explosive projectiles, this weapon would be of great value in airborne operations to give light artillery support as well as anti-tank defence.

At the other end of the scale, two types of super-heavy self-propelled artillery pieces trundled across Red Square last November. Mounted on similar modified heavy tank chassis, both guns have a calibre of about 12 inches and are about 30 feet long. Unlike similar weapons of other nations, they appear to have no spades or jacks to absorb recoil—a feature which will decrease the time required to put them into action.

There is no doubt that these guns fire an unorthodox long-range shell, or that such shell could carry nuclear warheads. However, with the advent of the tracked missiles on mobile launchers, and since only one of each type of these super-heavies was seen on parade, it may well be that they will never be produced and issued to troops in large numbers. Whatever their fate, these guns clearly demonstrate the degree of Soviet effort and technological advance in the field of conventional weapons.

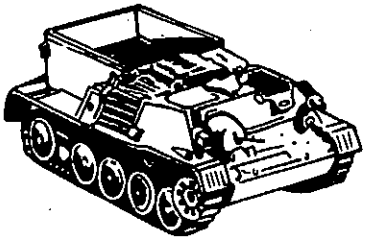
### The New Heavy Tank

This tank, the successor to the heavy JS-3 tank which has been in service since World War II, has been produced in large numbers by the Soviets. Like the JS-3, its armour is steeply sloped and the calibre of its gun is 122 mm, but otherwise it shows considerable improvement over its predecessor. The gun is a new and more powerful type fitted with a bore evacuator and muzzle brake. With a more powerful engine, this tank should have an increased cruising range, even with an increase in armour thickness.

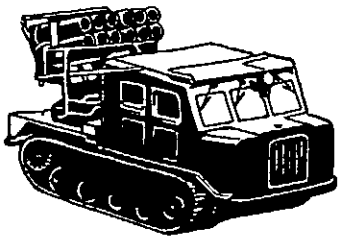
### Combat Vehicles

Two further steps have been taken by the Soviets in their changeover from wheeled to tracked combat vehicles. One is the introduction of a tracked amphibious armoured personnel carrier, based on the amphibious light tank. It holds 15 men and is armed with a 12.7-mm heavy machine gun.

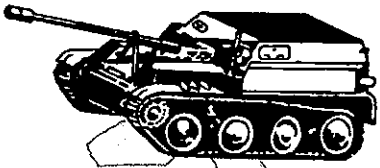
The second is the light full-tracked armoured prime mover. This carries a crew of two and the six members of the crew of the 100 mm anti-tank gun which it normally tows. It is only lightly armoured, and is equipped with a 7.62 mm machine-gun mounted in a blister in the right front. The appear-



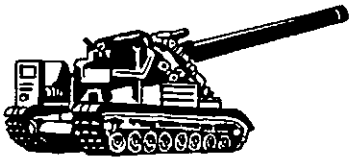
LIGHT FULL-TRACKED ARMORED PRIME MOVER ILLUSTRATES A STAGE IN CHANGEOVER FROM WHEELED TO TRACKED COMBAT VEHICLES.



TWELVE-TUBE ROCKET LAUNCHER ON FULL-TRACKED CHASSIS SHOWS CONSTANT EFFORTS TO IMPROVE GROUND MOBILITY.



THIS 57mm SELF-PROPELLED GUN WILL BE USEFULL IN AIRBORNE OPERATIONS FOR ARTILLERY AND ANTI-TANK ROLES.



THESE TWO TYPES OF SUPER-HEAVY ARTILLERY PIECES MOUNTED ON HEAVY TANK CHASSIS UNDOUBTEDLY HAVE LONG-RANGE ATOMIC CAPABILITY.

ance of this vehicle marks the last stage in the replacement of wheeled artillery prime movers by tracked versions.

### Helicopters

To the existing military helicopters—the Hat, the Hare, the Hound and the Horse—a new type has recently been added, the Hook (MI-6). Capable of lifting more than double the payload of the Horse to a height of about 8,000 feet, this helicopter is equipped with twin gas turbines driving a five-blade rotor. Again, this equipment represents a considerable improvement in mobility and effectiveness over its predecessors.

It is evident that no effort or expense has been spared to equip the Soviet Ground Forces with the most effective weapons and equipment of all types that modern techniques can provide. Great stress has been placed on both mobility and firepower, and the modernization programme has covered everything from pistols to long-range tactical guided missiles.

---

**"The priority task for all ranks is to strive untiringly and all the time for absolute perfection . . . to raise their readiness for battle to the uttermost, so as to be prepared to inflict a devastating blow upon the aggressor . . . For this it is imperative that the training programme, the intense study of military matter, should be pursued with relentless determination and without allowing oneself an idle moment.**

*—Red Star, Moscow.*

# NUCLEAR WARFARE AND SIGNAL COMMUNICATIONS

Major W. H. Walters
Royal Australian Army Signal Corps

IN recent years there have been numerous articles written in service magazines dealing with the three effects of nuclear weapons—Heat, Blast and Radiation. In addition, many of the writers have expressed their opinions on how tactics may be altered by these effects.

The purpose of this article is to examine the implications of nuclear warfare on the communication system of a field force.

I propose to do this by, firstly, considering the possible communication problems, and, secondly, to suggest a method of meeting the new conditions.

**Possible Communication Problems**

These fall broadly into the following groups:—

(a) The necessity to communicate over greater distances;

(b) The meteorological information required pre-strike;

(c) Methods of requesting a strike;

(d) Safety requirements;

(e) Effects on communication equipment.

**Increased Distances**

It would seem reasonable that the introduction of an area weapon will cause greater separation between headquarters and formations. In addition, the area between formations may often be used as a battleground wherein tanks manoeuvre or where our own atomic weapons are delivered.

This poses two problems. One, the possibility of tanks and atomic blast disrupting our line communication will force wireless rather than line to be used. Two, the increased distances place a greater work load on the Signal unit serving the headquarters and/or formation. This can be met by either increasing the equipment and personnel to meet the new load, or revising our present methods of communicating or, perhaps, a combination of both. It is, however, very doubtful if the ever-increasing demands for signals facilities can be met by a mere increase in manpower and equipment.

**Meteorological**

The information required by special weapons unit commanders is:

Meteorological charts for the area of operations—this is something like the weather map in the local newspaper—and, in conjunction with other information, provides a general picture of weather in the near future.

Local isobaric charts showing the areas of equal barometric pressure.

Adiabatic charts showing wind directions in the local atmosphere.

This weather information is essential because it decides:—

Firstly, the fall-out pattern for ground burst weapons by indicating:—

(a) The height of the mushroom cloud;
(b) The rate of fall and trajectory of particles in the cloud;
(c) Effective wind patterns.

Secondly, the effectiveness of the thermal radiation (remember that a dense haze can reduce the effect felt on a clear day by up to 25 times).

The present weather information service available to commanders is via the artillery nets from the Air Force Meteor Sections.

Whether this information is sufficient depends largely on the size of weapon to be used in the field and how the fire units are to be organized.

Some indication of the weather information problem at Supreme Allied Command Landforces (SACLAND) is revealed in the group count of 360,000 message groups passed daily over the communication system.

It would appear from the foregoing that meteorological information will assume greater importance in the future and that technical improvements such as facsimile equipments or television may well be required to pass the information quickly to the required commander.

**Strike Requests**

In examining this factor, it matters very little at what level the request could originate, rather we should examine the facilities which are, or could be, made available to the originator.

These are:—

(a) The normal direct link wireless command nets;
(b) Special wireless nets similar to those provided by Air Support Signal Units.

In selecting the most efficient method, the deciding factor will be the normal time lag between request and strike. Information available at present indicates that this is unlikely to be less than 30 minutes.

So long as this time lag remains over, say, 10 minutes, there does not appear to be justification for a separate net.

The US Pentomic Division handles the nuclear strike request over the normal command channels, and this is probably the answer.

**Safety**

The requirements for this fall into the following categories:—

(a) The necessity to warn our troops of our own strikes;

(b) The desirability of warning our troops of enemy strikes;
(c) The need to quickly plot fall-out and inform formation units of the pattern and roentgen level.
(d) Morale. Probably the greatest single factor.

The ultimate in warning would be to issue every man with a small receiving set and broadcast the required information, but this would probably be economically unsound.

The answer seems to lie in a warning net to unit or sub-unit level, with the broadcasting transmitter located at or near the nuclear weapons unit headquarters, the responsibility for individual warning lying with the unit or sub-unit.

Fall-out information could be passed over any available circuit, as the time factor is less important.

No technical difficulties are presented to the communicator.

**Communication Equipment**

The effect of nuclear weapons on communication equipment has been observed at various nuclear trials in the last few years. Distances are not quoted because they will vary with the size of the weapon.

In general, these effects are:—

(a) *Wireless Sets*
Damage to sets varies considerably, depending on the location and distance from ground zero (GZ), but the general conclusion reached by the signal officers who witnessed the trials was that dug-in modern wireless stations would survive a nuclear explosion quite close to ground zero. Aerials would be blown down a considerable distance from GZ. No discernible effect can be noticed on reception or transmission of wireless waves.

(b) *Cable Routes*
Poled routes will be blown down by blast, but cable laid on the ground, close to GZ, is unlikely to be damaged. All cable routes may be broken by the secondary effects of blast, i.e., flying debris. Cable is not affected electrically.

**Summary**

To summarise the increased problems to the communicator:—

*Distance*

The distance between formations will be extended and the areas between formations may be used as a battleground.

This implies the greater use of wireless rather than line on the main trunk routes.

*Meteor*

Meteorological information will assume greater importance and can be passed most speedily by facsimile or similar technical improvements now available.

*Strike Demands*

It would appear reasonable that strike demands can be met over the command communication channels already provided.

*Safety*

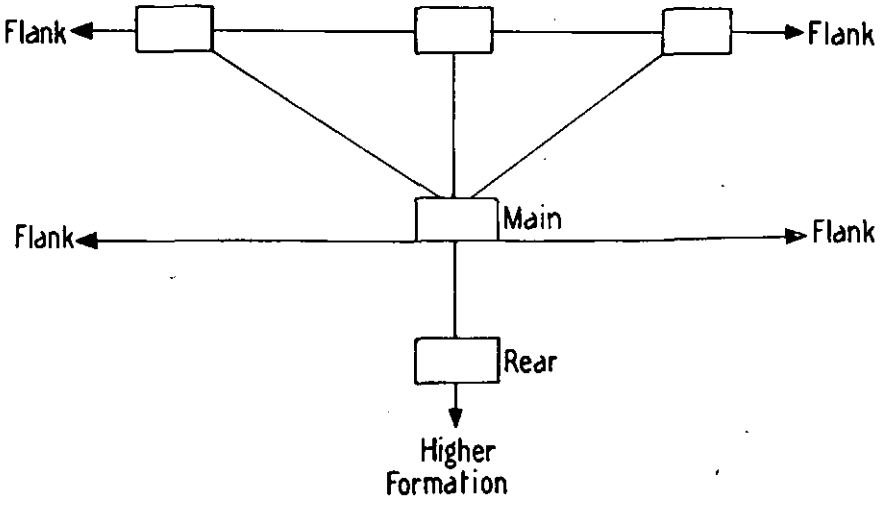
There is a requirement for a nuclear warning system within formation. It presents no communication problem.

*Equipment*

Less reliance should be placed on poled cable than in the past.

FIGURE 1.

PRESENT SINGLE ARTERY COMMUNICATION SYSTEM




Note:- The connecting lines may be either wireless, line, message carrying agencies or combination of these methods.

Replacement of damaged aerials may be a problem. In general, communication equipment will suffer less damage than the personnel who operate the equipment.

**A Suggested Method of Meeting the New Conditions**

The present system of communicating in a field formation is by use of direct link wireless nets supported by messenger during movement, and an extensive line network when possible.

On the ground the system appears as shown in Figure 1.

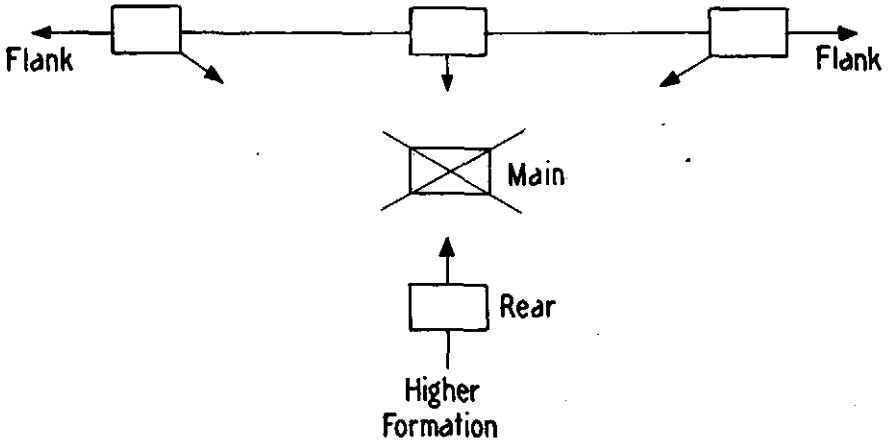
The direct link wireless nets are not capable of carrying the traffic load during the planning stages of operations and line has in the past answered this problem. The disadvantages of line have been the time and effort required in installation and maintenance, all of which are lost when the formation moves. Some indication of the problem can be gained by a study of the following figures:—

A divisional Administrative Area laid out to withstand area weapons may require up to 200 miles of cable.

In Korea a simple system for a division required up to 1,500 miles, while a duplication of the system involved up to 3,000 miles.

In view of these figures, plus the increase in distances between headquarters and formations already mentioned, it appears improbable that line can retain its place as the

FIGURE 2.




main message carrying agency. It should be replaced by a Radio Relay[1] system which is capable of carrying a number of good-quality speech or telegraph circuits across most types of terrain and is not vulnerable between terminals.

However, if it is employed on our present single artery system, the destruction of one centre (main) could completely disrupt the system (see Figure 2).

To provide a signal system which can quickly be installed and which will withstand the effects of nuclear weapons, it will be necessary to employ the radio relay stations on an "area" system.

The "area" system extends the main signal artery laterally across the formation front. It is achieved by the *addition* of area signal centres or switching centres established throughout the area, primarily to support dispersed divisional elements. They are inter-connected by multi-channel radio relay to provide alternate routes between any two points in the system.

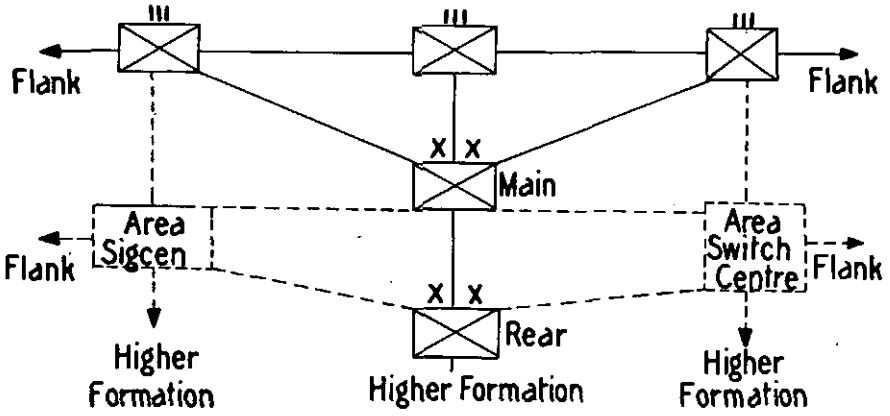
In the case of a division it would appear as shown in Figure 3.

It will be seen from Figure 3 that the destruction of any one, or even two, centres will allow the remainder to communicate with each other and so prevent a temporary disorganization in communications.

A further advantage to the area system is the possibility of employing a "Radio Wire Integration System." This simply means that anyone possessing a small VHF wireless set can "call" the *nearest* centre and be switched through to a "called" party anywhere in the communication grid. It further means that Arms and Services could be given a better communication service without necessarily providing them with their own direct link

1. Radio Relay wireless stations are designed to allow channelling equipment to be used on a wireless carrier frequency. They operate in the VHF/UHF bands and can be used in "relay" to provide the required distance. The number of channels available depends on the type of equipment used.

FIGURE 3.
AREA COMMUNICATION SYSTEM




wireless nets. This would tend to relieve the present frequency allocation problems.

A disadvantage to using radio relay as the main bearer between centres is the susceptibility to Radio Warfare, i.e., electronic countermeasures. Both the direct link wireless nets and radio relay stations can be intercepted or jammed. The effect can be reduced by:—

Correct siting of stations,
Minimum use of power,
Alternate routing,
Small aerials,
Good security,

but it may be necessary to duplicate key routes in field cable.

The combination of radio relay and an "area" system answers the problems of extended distances and the possibility of areas between formations being used as a battlefield, as well as the loss of any one centre.

In addition, it facilitates the dispersion of headquarters and supporting units in order to reduce their vulnerability to area weapons.

Message carrying agencies will still be needed to carry traffic which is not suitable for transmission by electrical means, but the system must be made faster and less reliant on roads.

It can be expected that the debris from area weapons will block roads and paths to wheeled vehicles. In some cases the area will be "hot" and may prevent the use of despatch riders unless casualties are accepted.

The answer lies in the light fixed or rotary wing aircraft, which can operate from improvised landing strips. The use of these aircraft would save manpower, speed up the service and make it more independent of terrain.

**Conclusion**

Commanders and their staffs require a signal communication system which is capable of functioning efficiently in any theatre, in any phase of war and at any time.

The direct link wireless nets have insufficient traffic carrying capacity to fulfil this need.

Line communications employed in a single artery system are inadequate under conditions of nuclear warfare. It is difficult to lay and maintain cable, and the system will not stand up to attack from area weapons.

The requirement of the Commander can best be met by a radio relay area system supported by direct link wireless command nets and message carrying agencies equipped with light aircraft, the "key" radio relay routes being duplicated with field cable.

The problems of nuclear warning nets, additional meteorological information and strike demands present no technical communication problem and can be met when the requirement is firm.

---

**Centralization of authority beyond that required for proper supervision succeeds only in producing more forms and reports, deadlines and delay. Responsibility and authority must be returned to the field.**

**After maximum decentralization is achieved, staff officers should be concerned with appraisal of results, not with operating details. Do not discourage initiative in the operating agencies by having them report in detail on their delegated responsibilities and authorities. Too frequently, operating agencies assume they have completed their responsibility when they have reported their problems to higher headquarters.**

**Establishment of policy and decentralization of responsibility for operations do not imply any need for a report. Army directives are assumed to be followed by all echelons without requiring proof through reports and certifications. Supervision, audit and inspection are still the basic methods of enforcement.**

*—General Matthew B. Ridgway, US Army.*

*Strategic Review*

# *THE POST SPUTNIK ERA*

THE present international situation in general, and the relative positions of the two great power blocs in particular, demonstrate in a very striking way one of the great lessons of military history—you must not only win your war, you must win it in such a way that the political aim you set out to achieve is in fact achieved. With the exception of wild tribesmen who fight for the sheer love of fighting, war is not and never has been an end in itself. In the higher conduct of war the soldier cannot work in a military vacuum, he cannot, or at any rate history makes clear that he should not, conduct his operations without due regard to the political aim it is his professional duty to make possible of achievement. He falls short of the fulfilment of that professional duty if he takes the line that all he has to do is to defeat the enemy and leave the rest to the statesman. He should feel professionally bound to defeat the enemy in a particular way, in a way that makes it possible for the statesman to grasp cleanly the political aim for which the war was undertaken. And for his part it is the duty of the statesman to ensure, as far as circumstances permit, that military operations are conducted with the ultimate political end in view.

It isn't easy. Of course it isn't easy. The conduct of war is an extremely difficult and complicated business. But that in no way alters the fact that transgression of the principle nearly always results in a barren military victory, and often in a state of affairs worse than that which prevailed before the war was undertaken.

World War 2 was undertaken by the Allies with the aim of restoring the balance of power in Europe, of re-creating a stable political and military situation. During the course of the war this aim seems to have been lost sight of by some powerful statesmen and a good many soldiers. The records of the great conferences show that many of the leaders of the Western allies failed to carry their thoughts beyond the military defeat of Germany and Japan. Military victory, expressed in the "policy" of unconditional surrender, became their sole aim. But not Josef Stalin. That far-sighted villain kept his eye firmly fixed on his ultimate political goal and directed his military operations towards its attainment. In the closing stages of the war particularly Stalin was deeply concerned with how his armies would stand in relation to those of the Western allies when the fighting ceased, while the Western commanders, ignoring at least one political voice, bent all their energies towards making a nice, militarily tidy job of their operations.

This short-sighted conduct of the war resulted in one state of unbalance being exchanged for another. Nor was the complementary aim of the war realized, for the countries of eastern Europe were not rescued from foreign domination. They merely exchanged one master for another. In destroying the menace of Nazism the menace of Communism was accorded a position of great strategic strength.

In the post-war era Soviet strength, poised over an impoverished and distracted Europe, was held in check by the nuclear deterrent. It was obvious, however, that this state of balance could be maintained only so long as the West held its nuclear lead. When the Soviets exploded their first atomic bomb wishful thinking persuaded us that there was nothing to be alarmed about, that Western technological skill and productive capacity were so superior that the Russians would never catch up.

This comfortable assurance was shaken at the time of the Suez crisis towards the end of 1956, when the Soviet Prime Minister, in honeyed phrases, threatened to bombard Great Britain with guided missiles. Shaken, but not entirely destroyed, for, in view of our own accomplishments with guided missiles, there seemed sound reason to doubt whether the Soviets could make good their threat. A year later they sent up Sputnik 1. The gleam of that bright sphere tearing across the dark ocean of the night signalled a mighty shift of power and the dawn of a new strategic era. For if the Russians could do that the conclusion that they had advanced far in the field of guided missiles was inescapable. Bulganin had not made an empty threat at the time of Suez, the guided missiles he had rattled were probably very real indeed.

The Soviets capped their display of technical skill in the night sky with a more orthodox display of military might in and above Moscow in November 1957. Some of the powerful weapons that rolled across Red Square are described in "New Soviet Weapons" on page 19 of this issue of the Journal. This parade, together with the Sputniks, made it clear that the Soviets, while developing their own massive deterrent to the point where it matched and perhaps surpassed that of the West, had built up a new and powerful weapon system suitable for employment in either nuclear or conventional warfare. The system covers everything from pistols to long-range guided missiles.

The Soviet Government may reason that their ability to exchange blow for blow in the nuclear field greatly reduces the chances of nuclear weapons being used at all. If that in fact proves to be the case, the balance of military power would lie with the side that had provided itself with the most effective means of waging conventional warfare. The Moscow display shows that the Soviets are sparing no effort to win that favourable position. Behind those weapons lies a vast reservoir of trained manpower and natural resources, great industrial capacity, a powerful air force and a large fleet of long-range submarines.

Concurrently with the revelation of their military power, the Soviets have entered the field of assistance

to economically backward countries. Their leaders have made spectacular tours of Asia, distributing technical and financial largesse on a scale which suggests that they are making a determined bid for supremacy along this alternative or supplementary road to power.

For a decade Western statesmen have argued the necessity of being able to negotiate from a position of strength. With whom does the strength lie now? It is hard to say with certainty, but it is abundantly clear that the Soviets are in a far stronger position than they were a few years ago. Khrushchev holds cards that Stalin never held. At every crisis Stalin was confronted with the West's monopoly of the massive deterrent. With his own matching deterrent in his hand, Khrushchev can afford to take risks that Stalin never could. He has shown already that he is going to play a tougher game than his predecessor.

In trying to foresee the probable line of Soviet action it should be borne in mind that Khrushchev enjoys a valuable advantage over his Western adversaries. Everyone in Russia, every organ of the social fabric, dances to his tune. Public opinion is what he makes it. He has no Parliament, no press, no opposition to consider. He can mature his plans in the secrecy of his own mind, and play his cards swiftly at his own selected time. That he is temperamentally able to gamble for high stakes is beyond question. By the time a man has intrigued and clawed his way up from the lower rungs of the Party machine to the pinnacle of supreme power, with his life at stake for most of the way, he must have nerves of steel—if indeed he has any nerves at all.

E.G.K.

1 April 1958.

---

**"We shall honour our vow to carry out with enthusiasm our duty to uphold the immortal glory of Russian arms."**

*—Red Star, Moscow.*

# THE HINGE OF FATE
# OR
# SERVICE MEMOIRS OF A VETERAN

I SUPPOSE few people forecast the trend of events following the tabling of the Morshead and Allison Reports back in the late nineteen-fifties.

Although only a youth at the time, I well remember the waves of expectancy and anticipation that permeated the stone walls of Victoria Barracks just prior to the release of these reports. The tipsters, claiming to know a friend who was the friend of a friend of one of the sub-committees, were anxious, for the price of a drink, to give an insight into the main recommendations.

In my case, it was during this period that the initial steps were taken which led to my final degradation at the bankruptcy court. My continued glowing reports to my wife of the progress of the Allison Committee made it more difficult to resist her demands for an advance rise in household and personal expenses. This was a revolutionary process, but perhaps I went too far when, on hearing the projected size of pay rises, and in order to forestall the resultant rise in the metropolitan property market, I paid a deposit on a substantial villa which would be in keeping with the status of one receiving such a high rate of pay. How could I possibly have forecast that the other four hundred officers at Army Headquarters would similarly react, so that by the time the Committee finally discussed the matter they would conclude from their own observations of the grandeur of Army homes that the standard of living of Army officers required to be reduced.

Then again the result of the Morshead report could hardly have been foreshadowed. No one in those tense days in February 1958 forecast that it would be recommended that the Department of Defence would be split into three additional departments, and that the present Service Departments would be expanded, with Service Ministers, together with the Minister for Rifle Clubs, being elevated to the inner Cabinet.

No, I will never forget the forlorn look on the faces of servicemen at the discharge depots, whose drastic decreases in pay and loss of existing allowances and privileges forced them to sever their connection with the service they loved. Despite the re-engagement of a soldier in NSW

in the nineteen-sixties, the exodus became a rout, until by the turn of the century the only remaining soldiers were the fifteen Generals plus an Army representative in each Command (known as the Demilitarized Command Secretary).

It will serve no purpose to dwell in the past. My aim in submitting this article is to suggest that steps be taken to streamline certain administrative procedures which have come to my notice.

I see from the "Sydney Morning Herald" that the heavy casualties in jungle operations this week were due to the fact that civilians in rifle sections were required to submit indents for each round to the section clerk 24 hours in advance. The casualty rate proves that the enemy can no longer be relied upon to submit his plans to us for approval. The present procedure of writing off each round before indenting for another is sound, but I urge as a matter of immediate operational necessity that this authority should be delegated to Command Headquarters.

I feel strongly that the Business Advisers (BAs) are creating bottlenecks at Company level, and it is recommended that Assistant Business Advisers (ABAs) should join the Treasury representatives at Platoon level.

These suggestions could well be considered as part of the Manual of Administration, the first draft of which, it is understood, is about to be commenced.

I would like to dwell further on the present shortcomings of administrative procedures, but, as you know, a Committee of ex-Army Officers has been set up to enquire into the conditions of the Public Service, and I am having a drink at the Club with an acquaintance of one of the sub-committees in a few minutes. As soon as I hear how things are going I will communicate with you further.

—*Anon.*

# THE PROOF OF THE PUDDING

Captain W. G. Hoffman, RHI,
Royal Australian Army Medical Corps

*Health lies in labour, and there is no royal road to it but through toil.*

*—Wendell Phillips.*

WRITINGS on the prevention of disease and its practice are keeping pace with efforts in the reverse direction, which is really an achievement on the part of man. This is an attempt to translate the textbooks on hygiene and sanitation, and to set out certain basic essentials as a guide to officers and NCOs who are charged with the responsibility of conducting CMF and Cadet Camps of continuous training.

The matter of a boy's or young man's health in a camp or bivouac has this peculiar aspect—a vastly changed environment, suffered for only a short time. There are several factors which go to provide the optimum conditions for the spread of disease in the Army, the essential one being the herding together which occurs—the close community of persons in almost bodily contact often under strange and even primitive conditions. Some of these persons will doubtless be carriers of a communicable disease—persons who carry the germ responsible for the disease but in whom the symptoms are not manifest.

And so the tinder pile is laid awaiting the match of poor hygiene. Conditions may be primitive, facilities not the chromium-plated type. This does not mean the spread of disease is inevitable, but only that an extra effort must be made. I am aware that pharmaceutical prophylaxes may be so efficient that the old measures of disease prevention seem unnecessary. This is not so, and the rules laid down by Moses in the Book of Deuteronomy for the prevention of disease are still basic. Figures of casualties suffered by the British Army at Suez in 1956 show conclusively that the shallow trench latrine, used properly, still has its place in the Army.

Now let us regard the diseases which in the past have had atomic effects on Armies and which have in fact prevented General Staff plans from being put into effect. What disease is the soldier in the CMF Camp likely to contract?

| | | |
|---|---|---|
| Malaria | — | Not south of Townsville, anyway. |
| *Typhus* | — | *A long shot.* |
| Plague | — | Hardly. |
| Malnutrition | — | The Catering Corps will refute this! |
| Cholera, Yellow Fever | — | Not likely in Australia. |
| Typhoid | | A possibility. |
| Dysentery, Diarrhoea | — | Yes!!! |

These two are unfortunately ever present and will always be where Camp sanitation is not at its highest. Poor sanitation and the prevalence of preventable disease is always in direct inverse proportion.

The contraction of intestinal disease depends entirely on one thing —the ingestion of the causative germ or bacteria. So in plain fact it means that to avoid the disease we keep faecal matter out of our mouths.

How can we prevent the entrance of faeces into our digestive tract? The answer lies in these measures:

(a) **Clean Hands.** Troops must be encouraged and if necessary coerced into washing their hands frequently. Certainly after use of the toilets and before meals. During a polio epidemic in Western Australia in 1953 the incidence of the disease fell sharply when a public campaign of clean hands was vigorously pursued by the Health Department. Your surgeon, notwithstanding the advance of scientific detergents and antiseptics, still scrubs his hands with hot, soapy water before an operation. It is hard to find a substitute.

(b) **Clean Eating Utensils.** The germs of the bowel diseases may be carried to eating utensils by flies, cockroaches, dirty hands or by rats and mice. Before any utensil is used, it should be sterilized. This can be done by immersion in actively boiling water. Chloride of lime used in a solution of 1-800 parts with water is a very efficient sterilizer for crockery and cutlery. Serving utensils must be sterilized immediately before use.

(c) **Eradication of Flies.** What a task! It brings to mind Hercules and the Augean Stables; but even that job was completed. With the advent of DDT, it seemed that fly control had become easy, but even DDT and other later evolved insecticides have not cleared the earth of Musca domestica (the House Fly), Fannia canicularis, his little brother, and his cousin, definitely not the clean potato, Fannia scalaris (the latrine fly). Their habits—they like food, warmth and shelter. Every animal and indeed all life has but one aim—the continuance of the species!! Place a fly in a new environment and it may not flourish, but succeeding generations will adapt themselves and again the community will flourish. There may be some transformation and habits may alter, but food of some kind will always be a necessity.

What does a fly eat? It has most catholic tastes and will eat

almost any organic matter, especially decaying matter, proceeding through a menu from hors d'oeuvres to fruit and nuts. It feeds from dining tables, discharging eyes, cookhouse benches, latrine seats and buckets, to and fro, leaving a few bacteria from its hairy legs here, a pile of regurgitated food from its crop there, and small specks of faeces wherever it goes. The methods which must be used to combat the fly are:—

*Prevent breeding by—*

Efficient and where possible immediate disposal of wastes.

Properly cleaned latrines with flyproof pansteads (if the pans are used).

Discourage promiscuous defaecation in lines and training areas.

Garbage areas clean and well limed. Bin exteriors clean and lids fitting tightly. Adequate use of insecticides.

Prevent food wastes from being thrown around tent lines, bivouac areas, etc.

Spraying of garbage before burial with borax solution, insecticide or sump oil.

*At all times conduct an active anti-fly campaign—*

Use insect spray freely.
Keep fly doors closed and the mesh in good repair.
Use fly traps.
Cover food at all times.

(d) **Protection of water supplies.** Space will not permit a dissertation on water purification, and frankly it is not necessary. However, the basic "musts" during camps of continuous training are:—

- Ensure that, if the supply comes from an Army source, it is being properly treated. RAE operators are usually only too pleased to show visitors over the plant and explain its working.
- When on exercises ensure that an adequate supply of treated water is available. Creeks, pools, dams and rivers may be dangerous.
- Ensure that no water other than that provided or sterilized by responsible officers or NCOs is used at any time.
- If sterilizing outfits are not available, boil the water—make tea.

(e) **Prevent rats and mice from having access to food or sleeping quarters.** In a camp of short duration, it is not likely that rats and mice will move in, but where camps are occupied by various units for long periods they may. You may be sure that where food and accommodation are provided these disease carriers will appear. The answer is efficient waste disposal plus keeping accommodation stores tidy. If the problem is beyond your efforts with traps and bait, an appeal to the hygiene officer should be made.

(f) **Efficient and intelligent inspections.** If an orderly officer sets forth on his camp inspection like Alice en route to Wonderland,

he may or may not see the things which count. However, if before he goes, he makes out a list as follows, he may be assured he will discover something:—

*Cooks—*
- Personal appearance.
- Hands and nails.
- Clothing.

*Kitchen*
- Flyproofing.
- Food preparation benches.
- Floors.
- Door open.
- Cupboards.

*Refrigerator*
- Exterior.
- Interior.
- Floor.
- Left-overs.

*Latrines*
- Smell (beware of the phenyle one).
- Floors.
- Drainage
- Pansteads.
- Flyproof.
- Appearance.
- Hand-washing facilities.

*Waste Disposal*
- Refuse bins—interiors and exteriors.
- Refuse pits—fly breeding.
- Refuse areas.

*Tent Lines*
- Rubbish
- Eating utensils.
- Bedding.
- Overcrowding.

This is not a complete list, but it is a method of ensuring that sins of commission or omission are noted. Having noted them, pursue the corrective action to the bitter end. Become a crusader and ensure that in your Unit preventable disease does not occur.

To summarize briefly the question of preventing disease in your units:

(a) Army life is conducive to the spread of disease mainly because people are closely congregated usually under conditions which are abnormal.

(b) Intestinal diseases can be caused only by the ingestion of faeces.

(c) Good sanitation and a continual awareness of the problem will provide a complete answer.

In conclusion, if I have made you aware that a problem exists and that the means of solving it is within your scope, then I will have attained my aim. Surely the retention of all the meagre manpower at our disposal is worth the extra effort involved.

# The Pied Piper of Modern Military Thought

Master Sergeant Forrest K. Kleinman, US Army

Reprinted from the November 1957 issue of the "Military Review,"
Command and General Staff College Fort Leavenworth, USA

DESPITE the solemn warning of scientists, soldiers, and statesmen that an unlimited war would destroy civilization, the leading nations of the world are placing ever-increasing reliance for defence upon weapons of unlimitable force. With unconscious irony, this is called "national security."

At this very moment bombers are aloft over the Arctic Circle and the United States ready to strike devastating blows at virtually every major population centre of the world upon an instant's notice. If they are unleashed with nuclear weapons, Arnold Toynbee suggests that the African Pygmy is the most likely member of the human race to survive the holocaust. Another observer of the current scene has nominated the oyster-boring seaworm as the highest form of life that could exist on a planet contaminated with radiation resulting from an unlimited nuclear war.

Bewildered and dismayed, thoughtful men are asking:

**How did we arrive at the brink of this insanity?**

In response, some members of the military profession are quick to point out that the atom and hydrogen bombs are the product of the scientific—not the military—mind. The implication is that science alone has triggered the catastrophe of unlimited war. This argument is as illogical as it is sterile.

War is an *art*—not a science—and all art is *selective* in the employment of means to achieve a purpose. Science can only give us means of waging war, it cannot determine their use. Science cannot formulate a purpose nor co-ordinate means to a desired end.

As Will Durant said in the introduction to his popular work, *The Story of Philosophy:*

*Science tells us how to kill and how to heal . . . but only wisdom—desire co-ordinated in the light of all human experience—can tell us when to heal and when to kill!*

It is not the weapons of war provided by science that menace humanity today; it is the idea of using *any weapon* without moral limitation. This view has been reflected in the public statements of some of the most profound military thinkers of our time—including Air Marshal Sir John Slessor, Generals Matthew B. Ridgway, Maxwell Taylor, and Major-General William F. Dean. Recently, it was heavily underscored by General Willard G. Wyman, Commanding General, Continental Army Command, in an address before the Society of the 1st Division in Boston:

*Without the sanity of moral law even in war, mankind would have been reduced to a nonentity long ago. It could have been done just as surely with stones, clubs, and swords, and more quickly, just as cheaply, with chemicals and germs.*

**Unlimited War**

The fact remains that "unlimited war" is accepted as a rational possibility in modern military thought. The expression appears frequently in staff studies, magazine articles, news analyses, public speeches, and in everyday conversation between military men.

The semanticist may interpose the objection here that we really do not mean what we say by "unlimited war"—that our problem is merely semantical. But the "referents" already established by our actions are unmistakable. Not even Alfred Korzybski, the patriarch of general semantics, could question what we mean after what happened at Coventry, Rotterdam, Magdeburg, Hanover, Nagasaki, and Hiroshima — where hundreds of thousands of innocent women and children were exterminated without regard for moral law or military necessity. To this parenthetical indictment, more than one military man would add: "And without achieving a valid military objective."

The most conclusive evidence that we do mean what we say by "unlimited warfare," however, can be seen in the growing inclination of a defence policy among the leading nations of the Western World to rely upon the threat of mutual annihilation as the sole means for deterring any and every kind of armed aggression. So pronounced is this inclination, that the United States lacked sufficient Army divisions with their capacity for limited warfare to prevent the Communist conquest of northern Indochina by limited aggression.

More recently, England and France scarcely could muster sufficient instruments of selective military force to implement their decision to intervene in the conflict between Egypt and Israel. Lacking the overwhelming might in conventional arms to achieve a speedy decision, the Anglo-French forces failed to present the world with the *fait accompli* intended and the affair ended in fiasco—another humiliating defeat for the West.

Despite the expert testimony of Lieutenant-General James M. Gavin before Congress that a war with airborne nuclear weapons would produce immediate casualties by the *hundreds of millions on both sides* of the Iron Curtain, the United States and allied nations are continuing to reduce all other elements in the armament of the free world. Unless one finds it possible to be-

lieve that our leaders would gamble our freedom on a *bluff*, it is difficult to avoid the conclusion that we are on the verge of abrogating the age-old moral law which limits the destructive force of war for the preservation of the human race. Unless one finds it possible to believe that the dynamic movement of militant communism suddenly will abrogate the law of inertia and halt of its own accord, it is equally difficult to avoid the conclusion that unlimited war in this century is probable, if not imminent.

In the light of such sombre conclusions as these, it should be obvious that it is high time to re-examine the military philosophy that has piped our footsteps so near the other side of the mountain from which mankind may never return. A lucid examination of our war philosophy will reveal more truth than paraphrase in this analogy to the Pied Piper of Hamelin. Because truth often speaks in words too familiar for the brain to understand, however, we must heed with the heart as well as the mind.

At this point, devotees of strategic airpower may assume that a parochial attack is about to be launched upon General Giulio Douhet and his American disciple General Billy Mitchell. On the contrary, it is contended that the Italian advocate of massive airborne attrition and the so-called martyr of strategic airpower in this country merely directed attention to the capability of a new vehicle for approaching more nearly the philosophic ideal of the true pied piper of modern military thought.

His name is so sanctified by military reverence of his facile pen that there is a reluctance to mention it for fear of inviting the ridicule of more learned and distinguished contemporaries in the profession of arms. But there are telltale clues aplenty in these ironic paradoxes.

His philosophy of war is accepted as dogma by some of the most eloquent critics of the one-shot, massive retaliation, mutual annihilation concept of national security. He is touted as: "The man whose thinking has dominated 20th century warfare." The forewords to the first American edition of his masterpiece were written with warm admiration by a sterling soldier and a renowned scholar—neither of whom, we may be sure, ever imagined that the first fruit of his philosophy of war in America would bloom like a toadstool over Hiroshima.

Before attempting to indict a philosopher whose reputation is so firmly ensconced in the military mind, let us consider some less popular suspects in the gallery of history. At once the names of Heraclitus and Nietzsche occur to the layman, for they were philosophers who conceive of war as *creative*—as a selective factor in the evolution of man.

It was Heraclitus who said:

*War is the king and the father of all. And some he makes Gods and some men; some slaves and some free.*

It was Nietzsche who said:

*I love those who do not seek beyond the stars for a reason to perish and be sacrificed, but who sacrifice themselves to earth in order that earth may some day become superman's . . . A good war hallows any cause . . . When the instincts of a*

*society ultimately make it give up war and conquest, it is decadent.*

On the basis of this evidence alone, it might be concluded that here is not one, but *two* evil mentors of military thought. Upon sober reflection, however, it should be apparent that a philosophy which holds that war is *creative* is incompatible with a philosophy which conceives war to be an act of unlimited violence. As evinced by the etymology of the word itself, *restraint* is as essential to the creative process as force.

If all those who have held that war contributes to the evolution of man were indicted, it would be necessary to add to the list many more of the great thinkers of recorded history—including our own beloved man of the people, Thomas Jefferson. It was he who wrote:

*The tree of human liberty must be nourished from time to time by the blood of martyrs and patriots. It is its natural manure.*

But never—not even in the most controversial writings of any of these philosophers—will be found the thought expressed that restricting the violence of war is an "absurdity."

On the other hand, the great thinkers of the antithetical school of philosophy which holds that all war is evil can be eliminated from consideration. If modern military thought had been piped to their tune, the conflict in Korea could have been settled by a chess game.

Turning to the Orient, it is apparent that excessive restraint—like excessive force—can be suicidal for the society which adopts it in practising the art of war. It was restraint, practised to excess in paradoxical contradiction of the creative balance symbolized by Yang and Yin, that led the people of China to the brink of senility. So formalized and restrained had the art of war become since the days of Genghis Khan, that the nation that first invented gunpowder and the ironclad battleship was powerless to cope with the barbarians from the Western World a few centuries later. On one occasion, an indignant Chinese general presented a formal protest to a British commander because his troops had enveloped his army's flank in flagrant violation of oriental military tradition.

**Historic Examples**

A study of the oriental philosophy of war will show that there are *two* roads to the other side of the mountain, but fails to reveal the piper who has led us so far on the road we are now travelling. Certainly, it could not be Sun Tzu who five centuries before Christ wrote: *"The first principle of war is the moral law."* While sometimes violated in practice, it was not until Prussian militarism captured the minds of men 2,300 years later that Sun Tzu's first principle was abandoned as a rational idea in the oriental philosophy of war.

On definitive grounds alone, there is a temptation to give equally short shrift in this discussion to the great captains of history. Men like Alexander, Hannibal, Napoleon, Grant and Lee were *artists*, not philosophers of war. The distinction is etched by a sentence of Durant's: "Every science begins as philosophy and ends as art; arising in hypothesis and flowing into achievement."

Some great captains like Julius

Caesar and Grant have reported to posterity upon the reasons for their decisions and the efficiency of the means of war that they selected from those available, but such recording is after the fact. Rarely in their writings does one find an original philosophical concept—a hypothesis unexplored by experience. Nevertheless, they cannot be excluded from consideration, for their feats of arms alone have exercised a profound influence upon the evolution of warfare. If, for instance, there could be uncovered a progressive trend among military men of genius to employ less and less restraint in waging war, there might be reason to suspect that the concept of no restraint is the spontaneous product of an evolutionary process in military thought.

Instead, restraint appears as a characteristic of their conduct of war. For example:

After defeating the Persians on the battlefield, Alexander integrated his defeated foes into his armies (an act of restraint the Soviet Union may be grateful that Hitler would not permit his generals to apply 2,265 years later in the Ukraine). Instead of klling the women of the enemy, Alexander held a mass wedding of 100,000 of Persia's fairest with 100,000 of his Greek veterans.

Although Hannibal campaigned the length and breadth of Rome's heartland for 15 years, his acts of force were directed against the soldiers of the enemy. No instance of wanton slaughter of non-combatants is recorded against his name as it is against that of his less talented opponents.

Napoleon revived violent and decisive action on the battlefield but never the artless carnage of Attila and Tamerlane, whose words and works vanished from the earth with their dying breaths. The little Corsican's treatment of non-combatants was far more in keeping with the spirit of the Geneva Convention than that of many of its signatories in World War II—although it cannot be denied that his humiliating treaties and the chronic looting by his citizen-soldiers bred a desire for revenge that contributed to his final downfall.

Our own General Grant, who has been slandered as the "butcher" of the Civil War, brought a dogged determination to the Union cause that shortened the fratricidal struggle by some of the most violent battles of history, but no woman or child ever died by his orders. It was Grant's famous restraint clause in the terms of surrender at Appomattox that prevented the bloodthirsty politicians from later filling the gallows with Confederate officers. Even General Sherman, whose march through Georgia still lives in infamy in some backwaters of the South, gave such magnanimous terms of surrender to General Johnston that Congress disavowed them.

### The Pied Piper

There is, of course, a very valid objection to attributing the *origin* of the concept of unlimited war to any individual. It has been aptly said that a philosophic theory is not

an accident or whim, but an *exponent* of its age determined by antecedents and environments, and passing the results on to the future. Nevertheless, the "handing on to the future" is accomplished by means of *words*—the only vehicle for communicating thought yet developed by man for common use. In our case, here are the fateful words by which it was done:

**No moral force exists apart from the conception of a state and law . . . Never in the philosophy of war itself can we introduce a modifying principle without committing an absurdity . . . War is an act of force, and to the application of that force there is no limit.**

By a coincidence as significant as the words themselves, they were written at the same time that Mary Shelley penned her prophetic warning to the 20th century—*Frankenstein*. Someday, if the gift of laughter survives television and the human race survives nuclear fission, students of 30th century classrooms in anthropology may chuckle when their instructors tell them that adults of the 20th century heeded the philosophy of the piper, but thought the poetess wrote a penny thriller for children.

The man who piped the invitation to disaster was neither a great philosopher nor a great general. He was an ambition-ridden Prussian staff officer of Polish ancestry who was never permitted to command troops in combat. So brilliantly expressed were his comprehensive observations and opinions on strategy, tactics, and techniques, however, that his work *On War* was posthumously adopted as the military bible of the Prussian Army. His name was Karl von Clausewitz.

**War is an act of force and to the application of that force there is no limit.**

Those who have been quoting Clausewitz without reading him may bring the accusation that his words are taken from the context of his meaning. On the contrary, this is the *text* of his philosophy of war. With this hypothesis as a radial rod, he established the *direction* of his own and his readers' thoughts on war. It appears in the opening pages of his first chapter—"the only one," Clausewitz later wrote in his notes, "which I regard as finished. It will, at any rate, serve to give the whole the direction which I wished to maintain throughout."

### Impact on Germany

The direction in which it took Clausewitz' own nation was indicated by Dr. O. J. Matthijs Jolles in 1943, when he wrote:

*There can be no doubt that this conception which regards war as an exercise of unrestrained force . . . has most strongly influenced the minds of the German nation and its military leaders.*

Long before Douhet wrote and Mitchell exhorted, German Zeppelins were dropping bombs on noncombatants in the city of London. By 1940 the efficiency of the tools to achieve the ideal of unlimited war had improved to the point where the Nazi Air Force was able to obliterate the open city of Rotterdam in a single day.

Where it has taken the German nation to date is indicated by any current map of Europe. But the end of the road for those who were first to heed the pied piper is yet to be

seen. The tools to achieve the Clausewitzian ideal are now so efficient that even a limited atomic war between East and West might do to the German people what the Nazi Air Force did to the citizens of Rotterdam. If this should happen, yet another national corpse will be added to the dozens cited by Arnold Toynbee in his monumental work, *A Study of History,* that demonstrates the penalty for violating the moral law in war.

While some might shed no tears on Germany's grave, it must be remembered that all the other military powers of the world have long been travelling on the same road, marching to the same piper's tune. Impressed by the initial successes scored by German arms in the last half of the 19th century, military men around the globe were quick to adopt German military methods. In the process, they also assimilated the philosophic concept of war which gave German military thought its direction.

The way in which Clausewitz' words were "handed on to the future" is authoritatively described by the following paragraph from Doctor Jolles' introduction in the first American edition of *On War:*

*Famous military leaders and writers of Germany in those days, like Moltke, Von der Goltz, Von Blume, Meckel, and many others, declared themselves to be pupils of Clausewitz and said that Germany owed to him her success on the battlefield. As he had advised, many of them went to other countries to gather practical experience and to become instructors of foreign armies. With them Clausewitz' theories spread. Von der Goltz trained the Turkish General Staff, Meckel the Japanese, who largely credited him with their success in their war with Russia. When asked by the English Major Stewart L. Murray, who was preparing a book on Clausewitz, to state his opinion as to the importance of the great philosopher of war, Meckel answered: "I, like every other German officer, have, consciously or unconsciously, instructed in the spirit of Clausewitz. I maintain that everyone who nowadays either makes or teaches war in a modern sense bases himself upon Clausewitz, even if he is not conscious of it."*

That Meckel's opinion is as true of our generation as it was of Meckel's is claimed by the American publisher of *On War,* in the following jacket synopsis:

*Every general staff, every officer, every soldier and trainee, and every professional and amateur military expert turns to Clausewitz' work not only as a book of instruction but as the authority for the interpretation and prediction of the fortunes of war.*

One of Clausewitz' most famous disciples was General Helmuth von Moltke, whose system of Command and General Staff was adopted by every modern army, including our own. That brilliant military minds are not infallible, however, is demonstrated by von Moltke's ridiculous description of the American Civil War: "A struggle between two armed mobs from which nothing could be learned." It is not surprising that a theoretician who failed to recognize the implications to future warfare of Lee's use of field fortifications also failed to recognize the implications to the future of the Clausewitzian ideal.

Less obvious, but equally pertiment, is the contrast between Von Moltke's summation of the Civil War and that expressed poetically by Steven Vincent Benét in *John Brown's Body*. Some readers may find food for a philosophy as well as for thought in such inspired lines as: "He knew the uses of a hill . . . We have made the sick earth tremble in our time in our time in our time, but we have not learned to leave the grain standing in the fields."

Clausewitz hammered:

**So, we repeat our statement, war is an act of force and to the application of that force there is no limit.**

Throughout the remainder of his first chapter, which Clausewitz considered to be the compass for all that he had to say on the art of war, he attempted to modify the very concept which he previously said could not be modified without committing an "absurdity." He did this by describing what he thought was an elastic but impenetrable barrier between his ideal of unlimited force in the abstract and the achievement of its "perfection" in reality.

Clausewitz wrote:

*Everything, however, assumes a different shape if we pass from the abstract world to that of reality. In the former everything had to remain subject to optimism and we had to conceive both one side and the other (opposing) as not merely striving towards perfection, but also attaining it. Will this ever be so in practice? It would if:*

*1. War were a wholly isolated act, which arose quite suddenly and had no connection with the previous course of events.*

*2. If it consisted of a single decision or of several simultaneous decisions.*

*3. If its decision were complete in itself and the ensuing political situation were not already being taken into account and reacting upon it.*

The underlying fallacy of this reasoning is apparent in Clausewitz' sanguine assumption that "everything assumes a different shape when we pass from the abstract world to that of reality." The history of civilization shows that the contrary is true. Every work of man begins with an abstract hypothesis and flows into achievement. It is by abstract ideas that man blueprints his future reality. A case in point is nuclear fission. Once it, too, was an abstract idea in the minds of philosophers and scientists, and many generations of men like Clausewitz were firmly convinced that nuclear fission could never be realized in the world of reality.

### Clausewitz' Inconsistencies

Today, the terrible reality of nuclear fission has blasted a hole in Clausewitz' flimsy barrier to the achievement of his hypothesis. The hole is so large that all of mankind can pass through—providing we continue to move in the direction that Clausewitz has piped our unwitting footsteps. Whatever the previous course of events, unlimited war with thermonuclear weapons, delivered at speeds that long ago broke the sound barrier, could "consist of a single decision or several simultaneous decisions" in the capitals of the world. And the decision for our civilization *could* be "complete in itself."

Actually, Clausewitz' three "ifs" were as frail in logic when they were written as they are in fact today. The futility of relying upon political calculation of the odds of war as a modifying influence was already evident on every page of history. What of the religious wars? Did Clausewitz realize how near to his ideal Europe had already come with pikes and crude muskets in the Thirty Years' War when Germany lost a third of her population?

Human error in interpreting events prior to war and in calculating the ensuing political situation has sent many a nation to the morgue. Consider the events leading to World War II, the political decisions of the United States, and the ensuing political situation.

That Clausewitz sensed the danger of his own hypothesis and the philosophical weakness of his modifications is suggested by a note that he wrote in 1827.

*We must further expressly and exactly establish the point of view, no less necessary in practice, from which war is regarded as* nothing but the continuation of state policy with other means . . . *It must be fully explained in Book I and also contribute to revision of the first six Books. By such a revision the first six Books will be freed from many a piece of dross; many a fissure and gap will be closed.*

Unfortunately, Clausewitz failed to recognize and close the *big* gap in his philosophy of war. Apparently, it never occurred to him that war waged without restraint—without the limitation of moral law—is not *art,* but *murder* and punishable here on earth as shown by the historic fate of every nation that has set itself above the law.

His very use of the words "art" and "moral" reveals this gap in his thinking. Note the ironic contradiction in this sentence: "Philanthropic souls might easily imagine that there was an *artistic* way of disarming or overthrowing our adversary without too much bloodshed and that this was what the *art* of war should seek to achieve." His discussion of the "moral quantities" in war is confined exclusively to the psychological aspects which we call "morale." He was more confused than he knew when he debated with himself in print the question: Is war a science or an art?

Truly, Clausewitz' philosophy was an exponent of his age. It was an age of absolutism, pessimism, and cynicism—an age in which the gap between religion and science became a chasm that only now is beginning to be bridged in the thinking of men. So wide did the gap become during his lifetime that altars were actually built for the worship of science instead of God. The altars were soon relegated to limbo, but not the worship.

Of most immediate significance, it also was the age of Napoleon. To the tradition-bound armies of Europe, the decisive force that Napoleon reintroduced to the battlefield, the way he combined fire and movement was as startling as the flank envelopment was to the Chinese general mentioned earlier. To the young Prussian staff officer who was an eyewitness of the humiliating defeats that the German armies suffered at the hands of Napoleon, it may well have seemed that here was a genius who had discovered the ultimate secret of the art of war. Clausewitz spent the remainder of his life in search of that secret.

Perhaps, he arrived at his opening hypothesis by a thought process like this: "Napoleon produced more decisive force on the battlefield than the enemies he defeated. Therefore, the more forceful act of war is the more nearly perfect. Hence an act of force without limit is the perfection which military thought must strive to attain."

A similar thought process is evident in our national defence planning these days: If the bomb dropped on Hiroshima is an efficient weapon of war, then a bigger bomb is better, and the biggest is best. By applying the same type of reasoning to the diet of children, we could kill them all with milk.

To jibe this hypothesis with the final defeat and disaster that overtook Napoleon, Clausewitz theorized that the defensive form of war is superior to the offence. He emphasized, however, the importance of the counter-attack—"the flashing sword of vengeance," he called it. Secretary John Foster Dulles calls it "massive retaliation."

It is not the purpose here, however, to challenge the theories, observations, or conclusions that occurred to Clausewitz once he sounded the key for his piper's tune. No doubt there is much of real military value in the body of his work —although a critical re-reading is recommended for all who still rely upon what they memorized in college or at the United States Military Academy. As Major-General William F. Dean once remarked, "Perhaps too many of us read Clausewitz when we were too young to heed the heart."

**Conclusion**

There is no attempt here to propound a new philosophic hypothesis to replace the one that has piped us so far into the shadow of the mountain. We do not need a new refrain to march to; we only need the wisdom to obey the age-old refrain of moral law that harmonizes all life on earth.

Although military missiles have no eyes to determine the sex and age of their targets, surely in applying the art of war man can select his targets more artistically than is proposed by Clausewitz' 20th century disciples. General Douhet's theory that massive airborne destruction of a nation's populace—including women, children, and other non-combatants — can paralyze a nation's will to resist has proved as false in military practice from Madrid to Magdeburg as it is immoral. For any nation to rely predominantly upon such a theory in defence planning would be military weakness. For the United States as "a Nation under God" to do so, would be madness.

While we must retain our strategic nuclear capability as insurance against coercion by the Communist pawn players, we must not deprive our Defence Establishment of selective means for dealing effectively with limited aggression. We must be better prepared than our enemies to limit the application of force to the battle area and win. Moreover, we must be as willing to tithe our sons in defence of human liberty as were our forefathers in all the wars that have kept our Nation vigorously alive since 1775.

It is true, of course, that a bal-

anced Defence Establishment which can meet these requirements will cost money—more, probably, than is now being allocated by our defence budget. If the American people are not willing to pay the price of real national security in money, however, the story of the Pied Piper of Hamelin suggests a final analogy: Because the parents of Hamelin were unwilling to pay the price in money for securing their city from the danger of rats, they lost *all* of their children.

Readers who believe that the creation and evolution of the symbols we call "words" has not been governed entirely by idle chance may find the etymology of the name Clausewitz, itself, interesting. In old German, as in Latin, *clause* meant "close or ending," and *witz* meant "joker"—a character depicted on playing cards by a *death's head.* But no interest in symbolic logic is necessary to appreciate the crowning irony of his life:

The pied piper of modern military thought—*Herr* Karl von Clausewitz—died in 1831 of a ratborne disease.