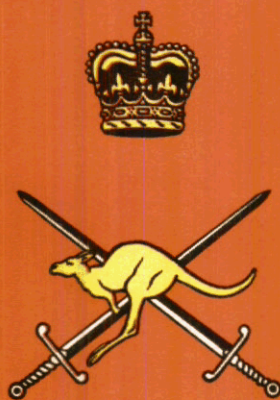


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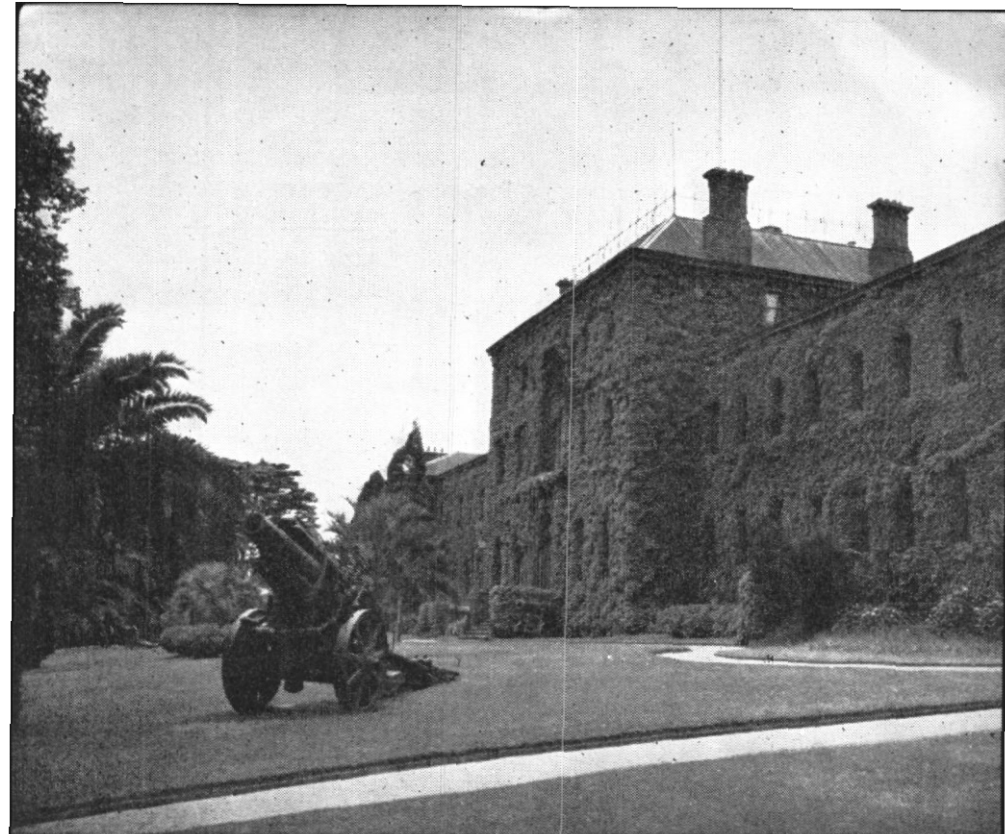
Number 126

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CONTENTS

	Page
Military Autarky Lieutenant-Colonel A. Green	5
Working Parties Lieutenant-Colonel J. J. Ballard	13
Problems of Future War Major W. H. Pope	17
Strategic Review	37
Wanted, a Military Coaching Academy for the CMF Lieutenant-Colonel C. L. Thompson	40
Public Speaking and Chairmanship Major L. Franklin	44

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Victoria Barracks, Melbourne

AUSTRALIAN ARMY JOURNAL

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MILITARY AUTARKY

TACTICAL AND LOGISTICAL TRENDS TOWARDS INTEGRATION

Lieutenant-Colonel A. Green
Royal Australian Army Service Corps

THE instinctive human drive questing towards self-sufficiency is very clearly defined in the military, political and economic history of man. It is a sure indication of maturity in individual or collective human activities when the desire for independence of others is manifested. In history, the surge of national strength displayed in Russia's advance towards the Pacific and ice-free ports, in German colonial bids for self-sufficiency in raw materials, in the French expansion to Empire in North Africa, and the natural economic autarky of the USA, are simple examples of the trend on the national level. This trend is complementary to the familiar sensation of impending encirclement to which nascent empires are notoriously prone. In military evolution it now leads to a type of holism, or integrated growth of organizations.

Some Strategic Applications

In naval strategy achievement of this condition was a slow and costly process. The heyday of British sea power saw coaling stations and repair facilities established around the world, from Gibraltar to Singapore,

and any other contenders were placed at a comparative disadvantage. Strategic air power makes similar demands in Spain, the Arabian Peninsula, Pakistan and Canada. Furthermore, in each of these areas a subsidiary need for local self-sufficiency arises.

In land strategy a very interesting French concept for NATO has been advanced by General de Wanty, under the self-descriptive title of "The Natural Strategic Bastions." These consist of natural areas in Europe which lend themselves to decentralized but self-contained natural defensive regions. These would be based on areas such as the Vosges, the Rhine and the Jura, largely drawing on locally found garrisons and affording integrated tactical and logistical elements in being. These would be co-ordinated with freer ranging forces in the interstices.

Uncertainty

In practice the search for self-sufficiency generally proves an insatiable ideal. The English Channel, which sufficed to deter Napoleon and Hitler from invading Britain, proved ineffectual to stop the V1

and V2 missiles. The British Persian Gulf oil resources, obtained through the prescience of Sir Winston Churchill, did not automatically guarantee the mobility of the Royal Navy when the German submarine campaign reached its height. German technical capacity to distil oil from coal could not compete with the rate of destruction of oil resources by the Anglo-American air forces. Neither could the Japanese, for all their astonishing acquisition of strategic raw materials and space in their Greater East Asian sphere, withstand the allied siege by sea, air and land. Yet the urge to achieve autarky steadily persists, and indeed grows, in this Atomic Age. Moreover, it permeates throughout the whole national fabric of the modern great powers and aspiring powers, as I intend to show later. More recently it has begun to have an increasingly marked influence on tactical and logistical organizations, and is effecting a revolution in military systems which is only now becoming evident.

Advantages

It is appropriate to enquire what are the factors which under conventional conditions produce a demand for self-sufficiency. These in simple terms are:—

- (a) Self-sufficiency in military forces and materials should ensure a high degree of freedom of action to the possessor.
- (3) This freedom of action, in its turn, should relieve a nation from dependence upon allies whose policies and operations are beyond external control.
- (c) Conversely, it should also secure the firmer allegiance of

allies, e.g., the adherence of the West to the USA, who respect the dependability of a strong and well-found friend.

- (d) In defence, it should ensure the ability of a nation to withstand siege for a long period.

Nuclear Impetus

The autarkic tendency in military organization has received great stimulus from the advent of nuclear weapons. The effects of long and short range weapons of mass destruction are shown on many different planes:—

(a) Global Strategy

The possibility of global war leads great and small nations to seek local self-sufficiency to enable them to survive a titanic struggle between the main protagonists and yet continue in an adequate state of self-defence, and, if necessary alone, repel local aggressors.

(b) Maritime Strategy

The peculiar vulnerability of surface naval forces and sea ports to nuclear weapons tends to reduce the value of conventional sea power. Instead nations are forced to develop internal resources to the maximum, to stockpile strategic materials and to rely on less vulnerable air communications.

(c) Economic Development

- (i) It follows that free nations desire to be economically free of external ties, even with friendly allies, as far as their resources and development permit. As early as World War II the RAAF found that it could not rely

on the United Kingdom or the United States to supply all the aircraft it needed and the fledgling local Australian industry came into its own. Moreover, the major powers themselves begin to see the merit of decentralized war industries, to continue in production should their own be destroyed early in the campaign.

- (ii) At the same time, the form of economic development is subject to nuclear influences. We saw in the early 1920s the controversy on whether Singapore, with its natural geographical advantages, or Sydney, with its human and material resources and superior stability as a base, should be developed as the British Imperial naval base in South-East Asia. Similar factors influence the future development of major sea, land and air bases. The ideal is a balance of military and civil facilities, suitably dispersed to avoid offering easy nuclear targets, and preferably duplicated or triplicated to increase their chances of survival. (In this connection this should be accepted as a principle of modern military administration—"Controlled dispersion of administrative resources, reducing their vulnerability to the maximum extent compatible with their effective availability.")

(d) Tactical Organizations

These already show clear signs of the quest for self-sufficiency in the nuclear climate of modern war. Within smaller formations and subordinate elements there is a broader spread of the old fighting and supporting arms, exemplified in the Battle Groups of the American Pentomic Division and in the British Brigade Groups. As General Bruce C. Clark so categorically expressed it in a recent US Army Information Digest, "The Army is slowly approaching a branchless organization. We are a 'combat team' Army."

The attempt to produce integral tactical self-sufficiency is not a new idea, indeed it is of considerable age. Certainly the earliest concept of the division was that of a manoeuvrable self-contained force. Inevitably the increments in Corps and Army accreted, with the evolution of complex supporting arms and services, and the ideal gave way to the practicable. This should not discourage our modern military reformers from evolving light, mobile, battle-worthy forces for nuclear warfare. But we should not forget that even these innovations depend on powerful external supporting agencies such as air transport and nuclear missiles.

(e) Logistical Organizations

- (i) The growing influence of the nuclear threat is not yet so obvious in our logistical system as it is in the tactical sphere. Logistical re-

forms tend to be regarded as secondary to tactical re-organization because of the primacy of the General Staff. They are not necessarily secondary, in logic. It is true that the Divisional Train of the American Pentomic Division has been organized to give centralized control and flexibility, but I believe this to be only the beginning of reform in logistical services.

(ii) Among the devices we may expect to see incorporated in our logistical system in future are:—

- A. Simplification of organization.
- B. Multiplication of points of accumulation of resources.
- C. Spread of balanced stocks of resources at each stage of supply.
- D. Reliance on internally held stocks carried within the force, when independent forces are operating in long-range role or foraging from local resources, when forces are small enough to subsist in this fashion. This concept should be regarded as Guerilla Logistics.

Obsolescence of Branches

It is somewhat encouraging that the Service which is most deeply divided into component arms and corps should be the first to boast of

its progress towards "branchlessness." Navies, which fight within compact ships' walls, present a less definite contrast between branches to the outside observer. Air forces, with emphasis on flying and maintenance branches, certainly emphasize their differences in function, although, like the Navy, the Air Force does not possess so many branches as the Army. Both Navy and Air Force have one combatant branch, supported by a small number of auxiliaries. Some of the old discriminations between these branches are even disappearing. Thus, flag officers of the Executive and the Engineering branches of the Royal Navy are now borne on one list. With the demand for missile experts in the Air Forces we should not be surprised to see former technical list officers incorporated into the combatant executive category, and former combatant flying officers taking to their technical studies to cope with the modern trend.

It is further feasible that, as the modern mixed battle group is exercised and used, the component elements should coalesce in one arm. We have in the past seen the close assimilation of infantry guns within units in the German army, and the integration of major anti-tank weapons in British infantry establishments. It does not seem unreasonable to foresee the natural coalition of infantry, armour and artillery in the battle groups of the future. This must be for the good of morale and technique on the nuclear battlefield, for the mobile group will require a high degree of self-sufficiency and cohesion comparable to that of the hordes of Genghiz Khan, as it pursues its mission.

The Logistical Problem

Our logistical systems suffer from many of the same limitations as did our former tactical organizations—and for the same reasons; principally that they evolved in the railway and automotive eras, to serve the needs of great national armies in which mass had more significance than mobility. The nuclear missile reverses this postulate. It enforces a high priority on dispersion for survival and future action. Dispersion imposes severe strain upon the control and communications systems. Our logistical machinery, which reflects the modern trend of specialized efficiency, consists of independent transport, store holding, and repair and recovery agencies. Each has its own peculiar channel of control. If this complex system is dispersed and also multiplied, the problems of operation are accordingly complicated and increased. One Ordnance or Transport installation of the past may in future be replaced by three or five smaller organisms, with increased signal concatenations and staff involvement. Such a multiplication of control problems and manpower overheads is contrary to the principle of operational leanness which is rightly so highly prized.

I have previously remarked that the ideal type of military organism for nuclear conditions would resemble the amoeba, which can be split and yet continue to survive, thrive, and in turn multiply. The amoeba possesses this great military virtue because it is extremely simple in its cellular structure. Similarly I believe that if a logistical instrument is to remain effective under modern conditions it must emulate this amoebic simplicity. Our complex array of specialists must be

pruned and then integrated. Lieutenant-Colonel B. N. Majumdar has recently pointed out one method of achieving this in an interesting article in the Journal of the Army Service Corps of India. He proposes that the main logistical corps should be amalgamated. I consider that a maximum of three organizations should be retained, consisting of Transportation (to include all its forms), Material (including subsistence, ordnance, engineer stores and all replacement components), and Personnel (principally Reinforcement, Medical and Dental Services). With the compilation of comprehensive catalogues the amalgamation of the store-providing services should be simplified. The difficulties of comprehending the medical-type of service within a general system are obvious; that their functions are now so specialist as to be beyond the control of non-specialists. Nevertheless mass nuclear casualties and new mass treatment techniques could even lead to appreciable and radical changes in these services in nuclear warfare, rendering them more assimilable. Before such sweeping changes in logistics can be effected the will to change must be summoned. This is usually the most painful phase of military evolution.

With three major logistical services the problems of controlled dispersion can be greatly simplified. This triangular layout can be multiplied with less demand upon signals and staff systems than the existing multi-service system. If necessary, it facilitates an increased number of dispersal points for material in the supply system.

Coincident with the demand for simplification of material holding in-

stallations comes a need for more versatile systems of transportation. As the more inflexible systems of road, rail and sea tend to present vulnerable targets at their various foci, such as the port, the bridge or the marshalling yard, the virtues of VTOL and STOL aircraft and vehicles with cross-country capacity become clear. Without this mobility even the most carefully dispersed and concealed resources will be unavailable when required. These forms of transport are equally necessary for tactical as for logistical mobility. They are relatively expensive instruments, and this factor may further accentuate the tendency to keep land forces small. At the same time they add greatly to the capacity of forces in range and striking power.

Self-Contained Land Force Logistics

There is a perceptible change coming about in the layout of logistical systems on land, which leads to increased local self-sufficiency. The old system of lateral boundaries of Army, Corps and Division through which was projected a flowing pyramid of material and human resources by transit stages, each normally involving a change of vehicle and a separate handling and storage, towards a linear front is dissolving. The new aim is to introduce the resources of war into a theatre and to spread them amoebawise, so that they avoid those concentrations which are so vulnerable to aircraft and missile bombing, and are yet easily, immediately, available to the forces they support.

As nuclear warfare proceeds, with inevitable destruction of centres of production, forces in situ will be

forced back onto Guerilla Logistics, as they draw on local resources and their self-contained stockpiles. This is not a tight form of autarky, but it forms the basis of specific self-sufficiency, particularly in static defensive phases. It also sounds the death knell of rigid staging systems. The problems of the self-contained mobile force are more difficult of solution, but modern technicians bid fair to provide the means of supply. Such forces, spurning the old umbilical ties with the great fixed base installations of World War II, and capable of roaming the nuclear no-man's land for long periods, should dominate future land operations. By a combination of self-contained or convoyed reserves, sneak air supply and local foraging (Guerilla Logistics) they will continue to out fight and out stay their opponents. Such methods of administration are not novel, indeed were quite normal until Cromwell and the Great Frederick systemized supply in the field. The Pathan with a bandolier on his shoulder and a crust in his pocket exemplifies the essence of this system as he ranges his harsh mountains in a formidable mobility. In the last war the major armoured forces frequently resorted to self-contained logistical support up to a week at a time, and even in the jungle warfare of Burma there were examples of self-contained forces setting out on limited missions. It is now possible to assist such forces with dehydrated lightweight rations and lighter weapons and ammunition, but fuel will for long be difficult to carry in sufficient quantity for protracted self-contained operations. The use of extensive trailer and rolling fluid transporter vehicles will assist in

but not wholly solve this problem. The evacuation of casualties, the repair and salvage of equipment, will become more difficult and trying than formerly. Nevertheless the new air vehicles are sufficiently flexible to offer prompt service to the wounded, and heavier back-loading will become a matter of opportunity.

Obviously such a system can work efficiently with the necessary range and flexibility only if it has the best of signals communications. The mobile forces of the future, therefore, require signals of the same quality and capacity for their logistics as they do for their tactics.

Unification

It is evident that the theme of autarky pervades military organization at each successive level. This trend is assisted in the inter-service field by the various legislative and organizational steps towards the unification of the services, which will lead to self-contained, integral forces, operating within naturally defined strategic areas, somewhat like the strategic bastions of General de Wauty.

Furthermore, as unification is applied to logistical processes, it results in rationalization of the various ancillary services. The consequent simplification and reduction of these services facilitates genuine self-sufficiency, based on a minimum level of resources. This has an important bearing on the capacity of a force to survive nuclear bombardment and to continue operations to a successful conclusion. My friend, Lieutenant - Colonel Bunting, RAASC, goes so far as to predict that we shall end up with one logis-

tical service for all the fighting forces.

Conclusions

- (a) It is evident that the higher aspects of national autarky are primarily political and economic. Nations can normally only embark upon programmes directed to achieve strategic self-sufficiency by deliberate conscious decisions, often involving sacrifices. To a certain degree economic autarky is a natural instinctive growth.
- (b) On the inter-service level, unification will contribute a degree of indestructibility to the defence machine which it currently lacks and needs.
- (c) In the tactical field, real progress is being made towards self-contained forces. It promises to have radical effects upon the corps structure of the army, and should result in a more homogeneous, more durable force.
- (d) Logistics probably offer the greatest scope for the improvement of self-containedness, but, as yet, are lagging behind the progress made in tactical systems. A consolidation of the existing agencies in at most three main organisations offers reasonable prospects of success. The efficiency of the new system will be directly dependent upon improved signal communications and the use of air transport. The time is now ripe for the reform of the existing system, unless the tactical organization is to be left without a complementary supporting instrument, capable of supporting

- it under the worst conditions of nuclear warfare.
- (e) A simple yet sensible hardihood must be inculcated in the soldier if his needs are to be kept within the compass allowed by the principle of maximum self-sufficiency at all levels. Military autarky is a combination of cunning preparation and self-denial.
- (f) Logistical systems based on rigid concepts of the stages of supply are far too vulnerable. Only by controlled and intelligent dispersion will the flow of support be ensured under nuclear conditions.
- (g) In static defence, the preliminary citing of forces and associated stockpiles, with the maximum local content in both, will lead to swift mobilization and prolonged resistance. All stocks need not be actively worked, since with modern storage techniques they can be maintained inert until needed. The rear areas should, of course, be secure to prevent sabotage and pilferage.
- (h) In mobile warfare the self-contained force, subsisting when necessary by Guerilla Logistics, will frequently be needed. Liquid fuel supply will continue to make a heavy demand on available logistic support. Integral army air transport will be of the greatest logistical value.
- (i) The time is ripe for major logistical consolidations and coalitions of corps, services and agencies in modern armies to lessen the vulnerability and increase the flexibility of the logistical instrument.
- New Principle of Military Organization**
- These considerations lead to the formulation of a new and modern principle of military organization for tactical and logistical units alike:—
- "Units should consist of simple combinations of such essential elements as confer the maximum capacity for independent operation consistent with a limited vulnerability to nuclear attack."**
-

WORKING PARTIES

Or

An Exercise in Mousetrap Design

Lieutenant-Colonel J. J. Ballard, OBE
Royal Australian Signals

"He is very imprudent a dog is. He never makes it his business to enquire whether you are in the right or in the wrong . . ."

Anterior Whisker

HAVE you recently been a member of a Working Party? Or do you prefer the term Committee? Or Conference? Or Symposium?

Whatever we call them, they're something of a menace. One has only to stick one's head out the office door to have it assailed by requests to be a member. (For those of you who are in simple field units this really doesn't apply—so you need read no further).

Unfortunately, we in the Service are not in the happy position of being able to join a Convention; a sort of Symphonic Symposium with all the trimmings, attended by businessmen on expense accounts. Not that I am suggesting by any means that we should jazz up a Committee convened to consider the relative merits of two types of "Shovels hand general purpose round point open back rolled shoulder tubular shank size No. 2 D handle," which, for the benefit of the uninitiated is

the American Army equivalent of the "Shovel GS."

Ideas

Presumably the idea is that if you get a large enough lively enough group, a large number of lively ideas will be produced for any given problem. And, following on from that, if enough ideas are produced, some are bound to be good. Whether they are relevant to the discussion or not does not appear to matter. In fact, the red herring is usually welcomed as a sort of light and frequently humorous relief.

The Patter

I should also add that it is essential to be in possession of the latest clichés. Currently they are "concept" and "philosophy" with the attendant adjectives "sophisticated" or "unsophisticated." With these four words it is surprising how the Committee's collective conversation can colour the proceedings. Sophisticated concepts or philosophies, or

unsophisticated if so desired, can be bandied around the table to the consternation of any member who has come armed only with "ideas," "simple ideas," or other childish phrases.

Please Adjust Your Thoughts

I am sitting at my allotted place in the Conference Room. I relax and let my ideas flow. I allow myself the luxury of being organized. I awake from my doze with a start. What can it be used for? I first look at the thing, its properties. It is a rubber boot. It is obvious it can obscure light. It can hold water and therefore you can drink out of it—a beetle could bath in it. Good gracious! It can be folded, shredded, stretched, squashed, and might conceivably be used as a prototype for an infantryman's footwear. Well really, these ideas readily bring to mind all sorts of uses for this rubber boot at quite an alarming rate. Like the Duke, you could also pull it on. However, in the end the recommendation of the Working Party is that it should be part of the equipment of the general dutyman kitchen hand (dixie basher) to keep his feet dry.

"And Pulled Out a Plum"

But what have we accomplished in this Working Party that could not have been accomplished as well or better with hard individual thinking? Why should a random approach yield better results than systematic reasoning? One might mention here the example in nature of the random approach, the platypus—obviously the result of a Divine Working Party.

The idea seems to be that, instead of tackling problems with intelli-

gence and logic we military men should flock to war games, working parties, fads and fantasies, hoping that out of some magic blue yonder we can painlessly pluck the solutions to serious problems.

"And Said What a Good Boy Am I"

In an era of committees and working parties, collective thinking and teamwork, there is a tendency to suspect a man of being egocentric if he sits by himself, thinks for himself and then gets up and speaks out. A strange character—not one of the mob.

But deciding whether people should work alone or together should be very simple. If the problem requires a broader range of knowledge and experience than one has in one's own head, there is an obvious advantage in working with people who possess this knowledge and experience. But if the problem requires original thinking then for goodness' sake let us go off in a corner and think.

The Mousetrap

We can presume now that there are two main methods of arriving at a solution—collectively by committee means, or individually by the Jack Horner in the Corner method. Let us take an example.

Far be it from me to be anti-Mickey Mouse, but there are occasions when a device to trap our Topolino is vital if we are to (a) eat and (b) be spared the sound of the feminine shriek and the sight of spike heels on the seat of the heirloom Chippendale chair.

So let us consider, for example, the classic problem of designing a better mousetrap. We will tackle it individually.

Why?

Why design a better mousetrap? To kill mice more efficiently. Why kill mice? Because they get into houses, eat bread, frighten spouses and non-spouses or spouses to be, and in general make a frightful mess around the place. It may well be that our attitude towards mice is wrong, and that the problem is much more fundamental. But for our purpose let us put our barrier of compromise on this level: we are determined to kill the mouse.

Take the Mickey

The aim is clear—to kill mice.

But we will do our appreciation somewhat differently from the stereotyped format.

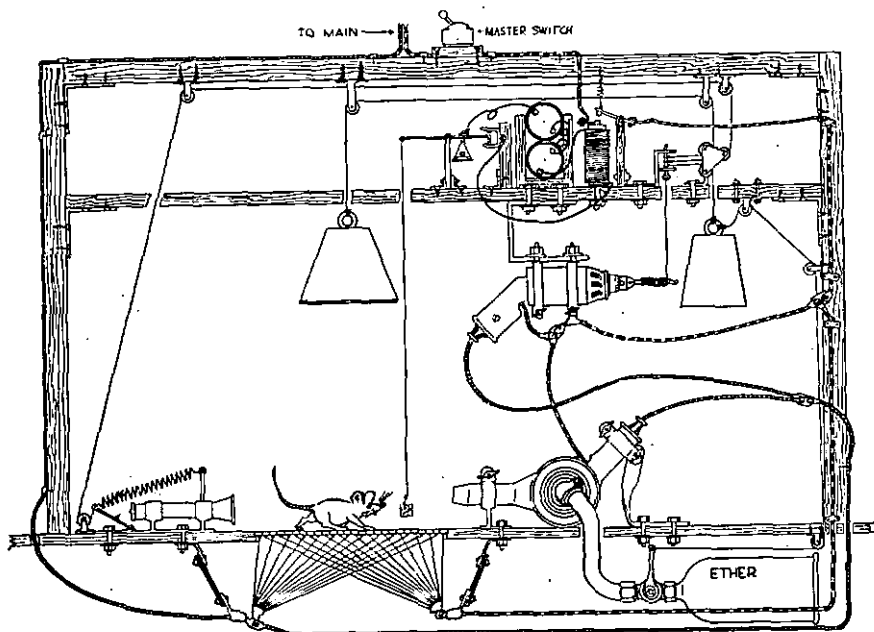
We will start with the courses open.

What are some of the basic courses open to us for mouse-annihilation?

Mickey can be killed mechanically, electrically, chemically or by restricting its food supply. The last method suggests three further subdivisions. We can restrict the mouse's air supply, its water supply, or its food supply.

Let us assume we have extended these and have outlined all the fundamental courses open to us. Economic and impracticable considerations will help us weed out those courses that do not merit further consideration.

Let us now consider the various possibilities for implementing, say, the chemical course open to mouse killing. Ideally the chemical should be deadly to mice but harmless to children; it should be stable; it



should be reasonably inexpensive; it should either not smell or smell delightful and so on.

And so we go on. I will leave it to the imagination and quickening interest of the reader to explore all of the possibilities of mousetrap design; they become quite fascinating.

Posterior Appendage

But I'll guarantee that any one intelligent soldier will produce a good mousetrap, and with half the expenditure of energy and time required to devise a mousetrap by a

Working Party. In fact, the Working Party would probably start with an inferior mousetrap as a basis for discussion, and finally recommend it be further considered at a later date by a sub-committee appointed to study the effects on . . . and so on.

Apology

I have borrowed unashamedly from an article in "Fortune" by Bernard S. Benson, and extend my apologies for elaborating on some of his ideas. But it was too good to mice—I mean miss.

It is a self-evident principle that the peace organization of an army should be directly related to—it must in fact be based on—the organization required for war.

—Lieutenant-General E. K. Squires, Inspector-General of the Australian Military Forces, in his Report of 16 Dec 38.

Problems of Future War

The Tactical Doctrine and Organization Required by Land Forces

Major W. H. Pope, MC, CD

Headquarters, Eastern Quebec Area, Quebec, Canada

The views expressed in this article are not necessarily those of the Department of National Defence.—Editor, CAJ.

Reprinted from the April 1959 issue of the "Canadian Army Journal"

"Un grand Etat-Major qui n'est pas composé de jeunes chambardeurs n'est qu'un conservatoire."† (Rouppnel.)

THIS discussion of the tactics and organization required by armed forces in the land/air battles of the future is deliberately in bibliographic form. Many will not accept its conclusions: several are at variance with the current teaching in our Army. The aim of the article, however, is to stimulate its readers to go to the quoted sources [see pages 56 to 61, inclusive]. Wide reading is essential, else we may base our tactics and organization for the future on incorrect reasoning from our own necessarily limited personal experiences. Beware of military conservatism. On the other hand, do not be one of "those who completely ignore the lessons of the past and venture too far with their ideas into the realm of Utopia."[†]

[†]"A large headquarters which is not full of young rebels is nothing but a museum." (Rouppnel.)

The Vast Field of Military Thought

"The problems which must be resolved by military thought are among the most vast, the most complex and the most arduous. Some have believed that it was a question of military technology; so it is, but it is only a part and the least important. Others with wider vision have believed that it was entirely a question of war, a terrible social phenomenon, which, in Clausewitz's phrase, embraces an entire particular aspect of politics. This view is too particular and has shown itself to be too narrow and even dangerous: if soldiers think nothing but 'war,' they risk—and they have done it—to build concepts good only for a theoretical war, total and monstrous, demanding means which they could not obtain in peace-time, and leading to futile victories which could not restore peace. The truth, imposed besides by atomic and thermonuclear weapons, is that military thought must extend to all that concerns or influences the conception, the building up, the maintenance and the employment of mili-

tary force in peace as in war. We arrive thus at a branch of sociology centred on the problems posed by the existence or the employment of Force . . . You can be disinterested neither in the great currents of thought of your epoch, nor in social and economic theories, nor in budgetary and industrial theories, nor in international politics, nor even in national politics, not for themselves, but to *understand* the rôle and the possibilities of the use of force, to *understand* the conditions of the maintenance of peace or of national security which result, to *conceive* the forms of manoeuvre and the tactical procedures best adapted to our resources and to the adversary. So that there will be no misinterpretation in the execution, one must look at the broad picture from the top . . . History is strewn with the vanquished and almost all were so treated because they did not understand. Numbers, riches and power are for nothing if one's conceptions are false. True conceptions can compensate for inferiority which appears insurmountable. There, then, is the central idea which must inspire your unceasing need to understand, your constant search for truth."³

General Beaufre makes two other points of especial relevance to this review article: "The high command has the duty to define, that is to say, to choose the doctrine, but how can it do so without great possibility of error, if its decisions are not prepared by rich currents of ideas, by wide discussion?" . . . there does not exist a tactic best in itself, but *all tactics are of value only in so far as they are related to those of the enemy.*"⁴

Gaston Bouthoul writes: "There

exists nowhere a scientific institute of war, although wars cause in our day more victims than all other calamities combined. More, to establish such an institute appears shocking . . . It seems less sacrilegious to damn war in terms either virulent or poetic than to study it without either reverence or imprecations as a simple but veritable mental epidemic whose true causes must be patiently sought."⁵ So Bouthoul describes the necessity of polemology, the branch of the social sciences concerned with the study of war. This review article, however, will not be on so lofty a plane. It is well, though, before delving into specific problems occasioned by the release of nuclear energy to consider the fact that the legitimate field of the military student is indeed vaster by far than questions of tactics and organization.

The Elements of War

There are two elements in war: fire and movement. Fire favours the defensive and movement the attack. These two elements are absolutely fundamental — much more basic than the so-called principles of war. "As the attacker moving in the open is incomparably more vulnerable than the sheltered defender, the increase in fire-power was to the advantage of the latter, whilst the invention of new means of movement provided better opportunities for the offensive."⁶ In the study of military history, one must always seek to discover how great commanders organized their forces for swift movement in the attack and overwhelming fire-power in the defence.

All great commanders were either great originators of tactical doc-

trines and organizations or they applied the original ideas of others. The Chevalier de Folard inspired the generals of the eighteenth century. Napoleon applied the divisional tactics and organization developed by the Comte de Guibert. Fuller, Hobart, Liddell Hart and de Gaulle developed the tactical doctrine and organization of the deep armour-air thrust. Unfortunately, no generals in the West would listen to them until France was lost. The great German commanders, von Manstein, Reinhardt, Guderian, and Rommel, listened and acted.

In the First World War the fire of machine-guns destroyed the cavalry and put the infantry into trenches, where they remained for four years of deadlock. The defensive was in the ascendancy.

From 1939 to 1941 the capability of movement of tanks in co-operation with aircraft led to the *Blitzkrieg*: a highly successful form of attack.

But already by 1942 the shaped or hollow charge, the recoilless gun, and the all-round defence had made the *Blitzkrieg* out of date.¹ In the hands of a courageous infantry, the rocket launcher was a match for the tank. This was not our experience in the West, but read Benno Zieser's *In Their Shallow Graves* to see how the German and Russian infantry handled each other's armour. In Italy and in North-West Europe our infantry relied on our overwhelming superiority in tanks, in guns, and in aircraft to beat the German tanks. On the Eastern Front the infantry of both sides relied on the shaped charge and their courage.

By 1942 the defensive had regained the ascendancy. Field-Marshal Rommel's description of

what he came up against in his unsuccessful attack at Alam Halfa at the end of August and beginning of September 1942 is well worth reading.² And the battle of El Alamein, six weeks later, lasted ten days before victory went to the British despite their effective superiority of three- or four-to-one in tanks, guns and aircraft. As Miksche asks: "But supposing the two forces in this battle had been fairly evenly matched? Would it not in spite of armour and air force, have perhaps entailed a new Verdun, with much glory on both sides, but resulting only in many more graves?"³ El Alamein was a battle of attrition not because of Montgomery's character, his desire for "balance," but because the conditions of war had changed since 1940.

It is true that great battles of movement were still to take place. But remember what happened to the last great German thrust: Paulus' surrender of the 6th Army at Stalingrad in February 1943; or even the Battle of the Bulge in December 1944. And note well that our attacks were only successful when we assaulted behind a superiority of between six- and ten-to-one in men, matériel, and fire. The period 1943 to 1945 was not really years of war at all. During these two years and more, the Germans were simply fighting a series of rearguard actions.

As Miksche says: "There is no doubt that the German successes at the beginning of the war were largely made possible by the fact that the French, British and Russian infantry were virtually helpless in the face of massed tank attacks, due to their weakness in anti-tank weapons. However, experience proved on all fronts towards the end

of the war that the fundamental superiority of a well-dug-in defence, equipped with modern weapons, still held good."¹⁰ It is most dangerous to build any tactical doctrine on our experiences in the West from 1943 to 1945. "Except for a temporary reverse in the Ardennes, December 1944," these experiences have "fostered a double illusion in superficial minds: that attack proved superior to defence in World War II, and that our troops were superior to the Germans."¹¹

A tactical doctrine must be built up in relation to our next enemy, not the last one, still less the last but one, for we have fought in Korea since 1945. And our experiences in Korea reveal that a very light infantry can be more than a match for machines.¹² There is all the difference in the world between the German Army of 1944 and the Red Army of today. That German Army was vastly inferior to us in every useful military category except leadership and courage. It is common knowledge that the Red Army of today is stronger than any conglomeration that the West can at present field in armour, in guns, in infantry, and in tactical close support aircraft. We claim superiority only in nuclear weapons; and our claim is open to question.

Now, what of nuclear weapons? As was said earlier, fire-power favours the defence, and movement, or mobility, the offence. It follows that nuclear weapons overwhelmingly favour the defence. Indeed, in all-out thermonuclear war, the extreme case, the death of all participants, will, obviously, restrict mobility to the extreme degree. Or, as Miksche says: "In A-warfare . . . the attacker operating in the open

is much more vulnerable than the entrenched defender."¹³ I know that General Macklin has said: "The horrible truth is that the invention of the hydrogen bomb, wielding a force tens of millions of times greater than the older bombs, has dramatically and permanently upset the balance of a nuclear war in decisive and overwhelming favour of the attacker."¹⁴ I entirely agree with this. Our positions are not incompatible. It is true that there is no absolute defence against a thermonuclear or nuclear weapon, whether it be delivered by missile, plane, submarine, or gun. What General Macklin is saying is that a nation can no more keep out thermonuclear weapons than a tank's armour will give it absolute protection from a shaped charge.

The "defence" against thermonuclear weapons is the possession of thermonuclear weapons: as a deterrent as long as possible: *to kill the attacker if necessary*. At the strategic level the H-bomb attack is absolute; *there is no defence*, only the counter-attack of more H-bombs—mutual suicide. However, should the mutual suicide be incomplete and one side seek to invade the other—the only way of ending the war short of a negotiated peace—then the invader will soon find, at the tactical level, that *nuclear weapons favour the defence*.

The really important question in nuclear war, or under the threat of nuclear war, is how to organize one's forces so that they may have true mobility. This I will discuss later.

Forms of Future War

Before one can discuss a tactical doctrine, one must decide on one's strategic doctrine. There is not

much sense deciding on how to fight until one has decided whom and why and where one will fight. A tactical doctrine which is evolved either without regard to a strategic doctrine or within the terms of a faulty strategic doctrine is bound to be faulty itself.

This, in effect, is the criticism made of Miksche's book by Kissinger, for he says: "Thoughtful, but a good example of a strategic concept which adds nuclear weapons to existing tactics simply as a more efficient explosive."¹⁶ Kissinger brushes Miksche off far too lightly. It is true that Miksche takes nuclear war for granted, but based on his premises he develops ideas on nuclear tactics and organization that can be ignored by no professional officer. On the other hand, I do not like his continued acceptance of the division between air and ground forces. Especially ghastly are his twin questions: "Where do the Artillery and the missile battalions find their place in this *ensemble*? Should they be related to the action of the conventional ground forces or to that of the tactical air forces?"¹⁷ These questions lead him to postulate the formation of utterly unnecessary Atomic Commands¹⁸—almost a fourth service! Still, Miksche's small book contains far too much of great value for it to be dismissed simply because its author, too, has not yet opted for unification.

I will discuss the strategy and the form of future war to the extent necessary to site our tactical doctrine. A fuller treatment of strategy I leave to Liddell Hart.¹⁹

There are three possible forms of future war. They are:

All-out thermonuclear war;

Limited nuclear war; and
Conventional war.

All-out Thermonuclear War

All-out thermonuclear war will lead to the mutual suicide of the USA and the USSR (and their major allies, which includes us). It is therefore the least likely form of future war—notwithstanding subversion on one side and "brinkmanship" on both. All-out thermonuclear war will only come about through miscalculation or desperation: the feeling by one side or the other that its position of strength is so irretrievably lost that suicide becomes an acceptable alternative.²⁰ However, we cannot ignore the possibility of all-out thermonuclear war, since to do so would be to give the enemy an advantage. Such a war would then lead only to our suicide—not the enemy's. It is therefore essential for the USA to retain their Strategic Air Command as a counter to the Soviet Long Range Air Force.

It is true, however, that the present strategic doctrine of the Western nations involves all-out thermonuclear war. The Western strategy is to draw a line around the Red Empire and to say: "This far and no further."²¹ Although the strategy of threatened thermonuclear war, of massive retaliation, may have prevented war in Europe, it did not give us victory in Korea and in Indo-China, and has not prevented a succession of *coups d'etat* throughout the world, not all of them favourable to us.

Limited Nuclear War

It may be asked, "What is the alternative?" since it is clear that the Western nations are psychologically indisposed to match the Com-

munist armies man for man, tank for tank, plane for plane. Two Americans, Osgood in *Nuclear War* and Kissinger in *Nuclear Weapons and Foreign Policy*, have given an answer: limited nuclear war; that is, limited in the aims of the combatants, limited in the means (that is, in weapons) and limited in battle areas. In such a war there would be no question of an attack on the homeland of the two major powers. The strategic air forces, the ultimate deterrents, would stay at home.

I must agree with Sir Stephen King-Hall that it will be extremely difficult to keep a limited nuclear war limited.²¹ Surely after a very few terrible nuclear exchanges one side or the other will be on the verge of losing the battle, for remember: if the battlefield is restricted in size even tactical nuclear weapons will soon saturate it. "The arguments for a limited atomic war therefore seem rather illusory and very theoretical, in the European theatre at least,"²² writes General Lecomte. Will the loser accept defeat? Or will he try to redress the balance with just one more bang, just a little bigger, just a little closer to his enemy's homeland? How long will it take to go from 20 kilotons on the Tigris to 20 megatons on the Volga—or the Potomac? To quote General Lecomte again: "*It must be recognized, regardless of the circumstances, that the least employment of the atomic weapon immediately gives rise to the possibility of a rapid degeneration to all-out-war. A conflict which neither of the two adversaries can envisage in cold blood.*"²³

However, I cannot agree that unilateral nuclear disarmament, which

King-Hall advocates, is the answer. Many of his ideas on how to wage psychological and political conflict are good and could well be acted upon. But his contention that Soviet forces of occupation would become converted to our way of life²⁴ hardly seems to be borne out by the continued massive presence of the Red Army in Eastern Europe. Sir Stephen himself writes: "The object of war is to change the enemy's mind."²⁵ True, but if we surrender without war, why should the enemy change his mind?

Readiness for All Three Forms of War

With what are we left? Thermo-nuclear war means suicide.²⁶ Limited nuclear war will be extremely difficult to keep limited; it, too, will probably lead to suicide. We therefore see that armed forces in the nuclear age must be organized to fight all three types of war: conventional war, limited nuclear war, and all-out thermonuclear war. If our armed forces are not prepared for all three types, then if we ever fight the main forces of the USSR we will have precisely two alternatives: defeat or death—defeat in a conventional war for which the Red Army is fully prepared, and death for both sides in the massive exchange of the thermonuclear war or the limited nuclear war which refuses to stay limited. The Rockefeller Report is explicit on this idea of death or defeat: "If all-out war becomes our only counter to aggression, the Soviet Union may be enabled to use its strategic striking force as a shield behind which to achieve limited advances, confronting us in each case with the alternative of yielding to what will

seem a marginal Soviet gain or of precipitating a world-wide holocaust."⁷⁷ Or in Garthoff's words: "Will other nations have confidence in the ability and resolve of the United States to invoke what is viewed as a virtually suicidal thermonuclear strategy to save Iran—or even West Germany?"⁷⁸ Apparently not, for General Gazin writes: "But there is only a stalemate at the level of global strategy. That is precisely Europe's danger, for she is undefended and she is the prize of both parties."⁷⁹

Garthoff gives the details of the organization of the Soviet forces.⁸⁰ Suffice it to say that the Soviets have 450 submarines,⁸¹ 19,000 aircraft, 70 tank and mechanized divisions and 70 infantry divisions. This, incidentally, means 25,000 tanks plus reserve stockpiles. Retention of very powerful balanced conventional forces represents no lag in Soviet thinking. To the question, does the mutual devastation of all-out thermonuclear war spell mutual defeat?, the Soviets answer no.⁸² They believe that their country is vast enough to survive even the most terrible thermonuclear blows; and then win the war with their conventional forces. However, Soviet strategy does not require eventual thermonuclear war. Far from it, for the Soviets feel they are sufficiently strong in all forms of military power to win either a conventional war or a limited nuclear war. As Garthoff says: "*The Soviet strategic concept does not require the employment of an intercontinental striking force to gain a victory, while in the American concept and under current policy such use is assumed to be necessary.*"⁸³ The Soviets have retained flexibility.

General Gazin stresses that the evolution of the strategic thermonuclear delivery means puts in doubt the conception of a short nuclear war and, like Garthoff, shows the necessity for all forms of military force. "Bombers, without therefore disappearing, will share strategic power with missiles. The launching sites of these latter can either be protected or mobile. The site no longer offers to the enemy attack the ideal objective which is represented by the immense air base . . . The elimination of the adversary's nuclear power will therefore be progressive, incomplete, and the result uncertain. During this time, the real land/air or sea/air battle will be taking place and could lead to a conclusion before the other has brought the conflict to an end . . . In the past, victory went to him who could eliminate most quickly the nuclear potential of the enemy. In future, victory will come to him who is capable of attaining an objective of the land/air battle of primary strategic importance in the shortest time. It is therefore necessary that the 'mechanism' be other than a 'trigger.' It is necessary to win the first land/air battle.

"The threat to employ H weapons on the population at that moment of the battle then appears as the ultimate threat to stop the conflict in the *statu quo* created by the land battle."⁸⁴ It might be worthwhile to mention here that Camille Rougeron claims that the severe thermal effects of a 20 MT very high thermonuclear air burst will be felt at two hundred kilometres—and he shows why.⁸⁵ The creation of the "clean" very high air burst will do a better job of annihilation than the "dirty" ground burst.

Those who agree with the Soviets that all-out thermonuclear war will not lead to mutual suicide, should read *La Bataille sans Fin*.⁵⁰ An endless war is not much better than mutual suicide.

Tactical Doctrine

Now, we can get down to the organization and tactical doctrine required by the land forces in future war. In considering these we must again start with the most extreme form: thermonuclear war (which in so far as forward troops are concerned is similar to limited nuclear war).

It should at once be apparent that infantry and armour are no longer supported by the explosive: infantry and armour must support the explosive and its means of delivery, regardless of whether the means are a gun, a rocket, or an aircraft. Therefore, we must not start with our present organizations and modify them to fit the bomb. We must start with the bomb and build our nuclear age armed forces around it.⁵¹ Or as General Grout de Beaufort puts it: "It is no longer a question of conventional formations having nuclear weapons, but of nuclear forces having some conventional units."⁵²

The crux of the whole problem then is: what organization must troops adopt best to exploit the effects of a nuclear explosion and to avoid being destroyed themselves by a nuclear explosion while, at the same time, retaining the capability of fighting a conventional war against the forces of the USSR? In the words of Migis: "Overall security demands that one's organization stand up equally well to

massed classic attack and to atomic attack."⁵³

Troops need not themselves be close to a nuclear explosion to be destroyed, eventually, by it. It suffices that the means of existence of these troops be destroyed, that is, their supply line and maintenance facilities.⁵⁴

Mobility

It is accepted that mobility is required in nuclear war—both in the attack and in the defence. There are really only two defences against a nuclear weapon. The first is to be at the bottom of a mine, which fighting troops will find a difficult trick to work every time. The second defence is simply not to be there when the nuclear explosion occurs—hence mobility. "We must fully realize this fundamental truth: any static concentration located by the enemy and out of contact with him is destined to annihilation."⁵⁵

Practically everyone has taken "mobility" to mean "mechanization" or "motorization." "Mobility of the troops is considered the key to victory in all forms of combat operations under conditions of the employment of means of mass destruction, we are told by Colonel Mochalov (in 1956)."⁵⁶ Garthoff writes: "The heightened requirement for mobility and manoeuvrability leads to increased emphasis on armoured forces . . . Soviet infantry also is relied upon to keep up with the necessary pace of movement by means of wide-scale use of tracked, armoured infantry-carrier vehicles and infantry-carrying tanks."⁵⁷ The Soviets, like us, have made the great mistake of confusing "mobility" with "mechanization." However, the Soviets are at least right in noting

that "the significance of men on the battlefield not only does not decrease but increases all the more."⁴⁴ With this General Lecomte agrees, saying: "We then come to the rather paradoxical conclusion that many men are required in nuclear war since it is the whole surface that must be occupied to escape the blows, prevent infiltration, ensure freedom of communications, bolster and reassure a frantic population, etc. . . . Forces of different qualities, to whose mobile and very modern divisions will be added units much more rustic and less powerfully armed."⁴⁵

The Red Army has been built into a force highly suitable for a *Blitzkrieg* of the 1940-41 pattern on which has been superimposed a nuclear capability. The Russians have neglected the lessons of the Second World War (the vulnerability of armour to the shaped charge), of Korea (the vulnerability of a heavily mechanized force to light, modern infantry),⁴⁶ and of the capability of the nuclear weapon to destroy an area totally, to destroy an attacker and his means of maintenance. Of course, we have neglected these lessons, too. When both sides are equally lacking in imagination, victory goes to the side with the biggest battalions. And we have not got them.

Administration

In effect, the Russians have only made mistakes if we are organized to take advantage of them. The Russian "mistakes" are still only potential, for the present Soviet order of battle in Europe seems very well suited to the present organization and tactics of their enemy. Chef d'Escadrons de Gras-

set writes: "A summary study of this assailant indicates that he could probably place twenty tank or mechanized divisions east of the Iron Curtain, that is, 'the best adapted to the rapid capture of a limited objective and the most apt to manoeuvre under the underlying menace of an atomic war.'"⁴⁷ With very powerful land and air support, these 8500 battle tanks which make up the divisions are remarkable as much for their power as for their cross-country performance. But their most important quality is their logistical simplicity, in particular their *autonomy* (300 to 400 kilometres) which would permit them on passing the Iron Curtain to *reach the Rhine without resupply*.⁴⁸ . . . Thus the organization, the equipment and the doctrine of the eventual aggressor permits us to establish that the hypothesis "rapid seizure of a gage by conventional forces with the underlying menace of nuclear war" is not impossible, and must therefore be considered and retained.⁴⁹

Mobility means the ability to move. If a mechanized force has either its gasoline and oil supplies cut off or its maintenance facilities destroyed, it will soon cease to be mobile—and will itself be destroyed.⁵⁰ As Miksche puts it: "It is difficult to see how ground manoeuvre can ever compete against tactical atomic weapons carried by 700-miles-an-hour jet aircraft."⁵¹ Imagine the effect of, say, half a dozen nuclear weapons on a brigade rear area and then consider just how mobile that brigade group would be a week later.

General Lecomte writes: "It must also be remembered that the logistical problem is less severe for

the defender than for the attacker who is moving away from his departure bases, if the conflict lasts even a little time, or who is moving into the enemy positions. In any event, no conduct of operations can be envisaged in atomic war if the battle units cannot accommodate themselves to reduced logistics. It must be repeated that the imperatives of logistics will not permit, even under limited atomic fire, a prolonged conflict."⁵²

Colonel de l'Estoile is another who is keenly aware of the logistical factor: "We will see shortly the effects of mobility on the internal organization of units: but let us immediately recognize that there is a contradiction between armoured-cross-country-tactical mobility which requires the multiplication of heavy vehicles, and thus of fuel consumption and maintenance, and strategic mobility. And this brings me to speak of a third characteristic of combat in nuclear war: the enormous logistical difficulties."⁵³

Miksche describes manoeuvres carried out by the Soviet Army in 1954. In the mock battle "Both sides were assumed to be using atomic weapons, and their air forces to be approximately equal in strength. Each side concentrated its main effort on the lines of communication and supply centres of the opponent. And the result was, according to the umpires, that operations ground to a standstill."⁵⁴ The Soviets do not seem to have drawn the necessary conclusion from these manoeuvres. Their battle tanks, described above by de Grasset, weigh more than 30 tons. The Joseph Stalin IV, weighing 58 tons, still appears to be in service. Even though the Soviets have taken note of the

logistical factor, they have not done so enough.

Now, it can be argued that all one has to do to fight a tactical battle in nuclear war is to site one's administrative elements back 75 miles from the front and therefore out of reach of the enemy's tactical delivery means. This notion is a direct result of the creation and maintenance of the artificial division between the land and air battle. Suppose the enemy cheats and uses a so-called strategic delivery means to hit our administrative installations which are essential to our tactical battle?⁵⁵ The enemy commander who can call at will on guns, missiles and aircraft has obviously more flexibility than our commanders who are inclined to think in terms of what the army has: guns and short-range missiles. I am NOT saying the army should have aircraft, for a permanent allotment of aircraft to army formations would be wasteful of the inherent great flexibility of aircraft. I am saying that commanders must think in terms of all the weapons possessed by the armed forces. For this, unification is essential.

Previously, logistics could be treated as an afterthought. Of course, administration was one of our principles of war. We could not ignore it but we could always develop our tactical doctrines and plans first and then decide what logistic support would be required. It is essential to note that the capability of the nuclear weapons to destroy an area totally forces us to consider logistics at the same time as we consider tactics. The Germans still got enough supplies in 1944 to fight for six weeks in Normandy despite our thirty-to-one

superiority in aircraft. There will be absolutely no question of any armed force continuing to be supplied for six weeks in a nuclear war if its enemy has a thirty-to-one air or missile superiority.

General von Ulrich de Maizière writes that in the relationship between fire and movement, the first seems to have regained its superiority. He adds that certain military writers have qualified it as absolute. He then stresses that everything should be done to regain mobility. His conclusion is that all land units must be armoured and given cross-country vehicles. He adds that we must develop new means of logistic support.⁵⁶ My contention is that it is useless, indeed it is downright harmful, to talk of mechanization *until* the logistic problems of nuclear war have been solved.

I said earlier that nuclear weapons overwhelmingly favour the defence by their power to restrict movement. A contrary view is that of Major-General A. Crahay, Commandant of the Belgian *École de Guerre*, who writes:

"One can ask oneself whether the employment of tactical nuclear weapons will favour the offensive or the defensive. Some have deduced from the considerable increase in firepower that the defensive will become stronger than the offensive.

"They forget that the invention of gun-powder put an end to the forts and walled towns of the Middle Ages and led to the war of movement of modern times.

"In the same way, those who wish to protect themselves in fortifications inscribed in the ground, will be destroyed completely by weapons whose power is almost limit-

less and which can be aimed at them at leisure.

"On the other hand, they who recall that mobility and manoeuvre were always the causes of great victories gained by forces inferior in numbers, will have the best chance of escaping the predicted fire of their enemies.

"Since the Western peoples will not accept the sacrifices necessary to have armies as numerous as their eventual enemy, they have no recourse except to have better armies.

"Kept on the defensive by a non-aggressive policy, the only road which is open to the West is to compensate for numerical inferiority by multiplying mass by speed and engaging in an active defence."⁵⁷

The answer, which can serve as a summary of this part, is simple: until we can develop a logistical system that can supply and maintain a completely mechanized field force despite nuclear interdiction, then the infantry must remain on its feet. And, when a nuclear weapon explodes, infantry in the open in the attack will be destroyed at considerably greater ranges than will infantry underground in the defence. Or, in the words of General Maurice Guérin, who was writing on missiles: "In effect, speed allows the attack to surprise the defence. It also permits the defence to destroy the attacker before he can attain his objective."⁵⁸ And this, of course, holds *even* for an attacker in armoured personnel carriers—assuming, for the sake of argument, that the vehicles' fuel has not already been atomized.

The necessity for developing a truly light infantry, or at least of lightening the infantryman's load, is not a notion of importance only,

since the advent of tactical nuclear weapons. Colonel Marshall's excellent little book, *The Soldier's Load and the Mobility of a Nation*, came out in 1950.⁵⁰ All officers having anything to do with the planning of tactical doctrines and organizations should read it. It reveals the true nature of mobility at all levels from rifle section to army group with the utmost clarity. A single quotation should suffice to show the intimate relationship between mobility and logistics: "One German general who had fought the Russians in World War II retained a particularly vivid impression of how this policy of going as far as possible on as little as possible repeatedly reflected itself in the tactical mobility of the combat command."⁵⁰

So far I have covered two principles of war in this discussion of nuclear tactics: administration and flexibility (which includes mobility). There is one more principle which I will discuss, a principle without which it is senseless to discuss modern fighting. The principle is co-operation.

Co-operation

Previously, co-operation could be handled at a high level. In the First World War, co-operation was achieved through divisional headquarters; that is, co-ordination of the efforts of the various fighting corps and of the services was effected here. In the Second World War, the Americans developed the regimental combat team and we the brigade group. The level of co-ordination was lowered. The reason is simple: the faster moving and more independent action of the Second World War required quicker decisions at a lower level than was

the case in the earlier war when an unbroken line of trenches stretched from the North Sea to Switzerland.

The effect of the nuclear weapon has been to force this intimate co-operation to an even lower level. To quote from Migis: "The organization of armies is based on two contradictory and complementary ideas:

- The idea of the arm,
- The idea of the tactical grouping (i.e., "combat team").

"The idea of the arm is based on the needs of training and administration. It leads to the gathering together within units of personnel characterized by common weapons, methods, needs, and a corps spirit.

"No matter what may be said, the mission does not make the arm. This is so true that since the oldest antiquity each arm has felt the need to split into groups made up of several arms. And these groups had a particular mission. Within each arm there have almost always been troops characterized by strength and the capability of occupying positions and others by mobility: units called 'of the line' for battle and 'light' units for security and exploitation. This is frequent in the cavalry and the infantry; even the artillery does not avoid this, for it distinguishes between 'field,' 'heavy' and 'siege' guns.

"The idea of tactical grouping is founded upon the mission."⁵¹

Units must separate to live. The ideal is to have all the enemy's nuclear weapons land in the gaps between units and even between sub-units. At the worst we cannot accept that one enemy nuclear weapon of 20 kiloton size destroys more than one unit, and, if it lands in a gap, do more than singe the fringes of

the surrounding units. To keep even a regiment of artillery or a regiment of armour concentrated in support of a brigade now makes no sense, for one nuclear weapon could then destroy all of a brigade's artillery or armour. Marrying-up can no longer be left to the assembly area or the forming up place. Units must marry-up now, in peace-time. In other words, the time has come to form all-arms units with strengths of approximately 2000 all ranks each.⁶² The five fighting corps—armour, artillery, engineers, signals and infantry—must cease to be corps and become simply specialties. An all-arms unit will be like a ship. Neither the navy nor the air force has ever favoured the radical distinctions the army has made between corps. Let the army learn from its brothers. At the same time that the armed forces unite, the corps within the army must unite. Definitely this is the age of unification. "All the nations of NATO accept today this all-arms combination at an echelon below that of division and envisage the organization of tactical grouping around the regiment or the reinforced battalion."⁶³

Organization

The lower level organization required by the land-air forces in future war, which may have any one of three forms or successively all three forms, is as follows:⁶⁴

First: A medium range striking unit with an ability to deliver nuclear devices to a range of, say, one hundred miles. (Of course, higher levels of command must have delivery means of greater range.)

Second: A number of supporting all-arms units (armour, artillery,

engineers, signals and infantry), say, three to seven, capable of together supporting one striking unit in nuclear war and also capable of fighting a conventional battle. The number of all-arms units in support of each striking unit will depend on the range of its nuclear weapon delivery system, which could be less than the one hundred miles desired. The all-arms unit must be extremely light and mobile. This means that the tanks must not weigh more than 7 tons,⁶⁵ and must get their protection from their large-calibre guns and high speed—not from their armour. The light infantry, numbering between 500 and 1000 to a unit, will march and must be capable of covering 25 miles a day as routine.⁶⁶ The whole of the infantry of a unit will be restricted to 20 or 30 vehicles. The infantry must carry rocket launchers on the scale of at least one for each eight to ten men.⁶⁷

Third: Entirely mechanized units, basically armoured, but with the support of infantry in armoured personnel carriers,⁶⁸ to be held in reserve 20 to 100 miles from the forward defended localities. These reserve units will, in nuclear war, not last much longer than the distance they can go on one tankful of gasoline or oil, since nuclear interdiction will soon destroy their supplies and maintenance facilities. However, this armoured reserve in conjunction with the striking units and the all-arms units, will be sufficient to destroy whatever enemy have crossed the frontier. It will be sufficient, in other words, to prevent *la prise de gage*, the seizure by the enemy of territory which he would hope to hold, because we would be faced with the choice of extending

the conflict to an all-out thermo-nuclear war or of accepting the *fait accompli*; i.e., the choice between death or defeat.

General Gazin writes: "The composition of these forces will be such that there will be an appropriate equilibrium between conventional and nuclear armaments. The strength, the structure and the deployment of these forces will be such that an aggressor will have no chance of attaining his object, even though it be limited, without engaging very strong forces, that is to say, without consciously taking the frightful risks of a total war."⁹⁹

It must be clearly understood that a limited nuclear war, if one occurs, will not last long. It will end either with the repulse of the enemy or with his success (*la prise de gage*) or it will become an all-out thermo-nuclear war. It is not reasonable to suppose that the West can repulse the enemy with limited nuclear weapons and then pursue him across the Oder. This would be a threat to the security of the USSR of a degree sufficient for the Soviets to risk mutual thermo-nuclear suicide.

I am not advocating a return to the Western armies' organization of 1940. Though the tanks in the all-arms units will be in penny packets, this will certainly not be the case for the reserve mechanized units. Also, the tank which had already lost its supremacy with the development of the shaped charge, is even less of a threat to good infantry with the arrival of the short-range guided missile.

Control

Control will be effected by divisional headquarters which will be similar in size and function to our present divisional headquarters. Such headquarters will control one or two nuclear striking units and six to fourteen all-arms units through very small *ad hoc* or *haut-le-pied* brigade headquarters.¹⁰⁰ By very small I mean about twenty all ranks, including signallers. The all-arms units these brigade headquarters control will usually number three and will be continually changing as the tactical battle demands.

Aircraft

I have not mentioned aircraft. I am simply taking it for granted that missiles and aircraft will be an integral part or be in support of each of my three basic units. Generally speaking, short-range surface-to-surface and surface-to-air missile sub-units should be an integral part of the three basic units: All live and fight from the ground. Aircraft, however, should normally be placed in support of all lower levels by theatre commanders. This is because of the essential unity of modern battle. It would be most foolish for the battle for air superiority in a theatre of war to be lost while dozens of aircraft were carrying out useful but non-essential close air support of all-arms units. The reverse would be equally stupid: for all our aircraft to be sweeping the skies in search of enemy aircraft while our land forces were being destroyed. Unification of army and air force is essential. The land-air battle is a two-headed coin.

Summary

The organization proposed will be equally effective in a conventional war—and it must never be forgotten that this is by far the most likely form of future war, provided we retain well-balanced forces with tactical atomic deterrents to limited nuclear war and strategic thermonuclear deterrents to all-out thermonuclear war. It will be effective because the all-arms units will become the holding units while the reserve units will not only still counter attack, but will have much greater freedom of action. Of course, the (nuclear) striking units will still remain as an ultimate threat to initiate limited nuclear war should the enemy appear to be conducting too ambitious a conventional war. In the nuclear age even conventional wars must remain limited. Korea was not an exception: it was the first of its type. In President Truman's words: "Every decision I made in connection with the Korean conflict had this one aim in mind: to prevent a third world war and the terrible destruction it would bring to the civilised world. This meant that we should not do anything that would provide the excuse to the Soviets and plunge the free nations into full-scale all-out war."¹

And if the worst happens and a suicidal thermonuclear war develops, then our organization is still the best. All mechanized forces will soon be out of supplies, leaving only our truly mobile all-arms units with their light infantry.² If the mutual suicide is not quite complete, the most rustic infantry will be supreme. No candy, no ice-cream, stew every day! Or as Miksche puts

it: "It might well be that, in A-warfare, only material and tactical methods of the simplest kind will retain their value."³

I think that my proposed tactical doctrine and organization are capable of implementation from all points of view, including the economic and the political. At first sight this might not appear to be so, since I stress that we must retain the ability to fight all three forms of future war—including the conventional, where the West has accepted without question overwhelmingly decisive Russian superiority. I believe this acceptance has been made too easily, based on an unwarranted fear of the tank. And so we have accepted the tactical nuclear deterrent in the West—although it would be extremely difficult to keep the limited nuclear war limited. Of course, we cannot afford to field 25,000 medium tanks in Western Europe or even the 8500 de Grasset calculates the Soviets will deploy in this theatre. But this is precisely the point: we do not need to; the Russian tanks can be destroyed by close support aircraft, by minefields, by rocket launchers, by short-range non-nuclear guided missiles, by anti-tank guns, and finally by the light but heavily-gunned tanks of the all-arms and reserve units.⁴

Our defensive forces must be capable of meeting the Russian attack with conventional weapons long enough to allow diplomacy to seek a settlement before, progressively, tactical atomic weapons and thermonuclear weapons are used. Possession of enough conventional weapons puts the mutual suicide of the use

of thermonuclear weapons one step farther back.

Eventually, we should aim to make even our all-arms units fully mechanized, but not before we have solved the logistical problem. Let us start with something that can fight cheaply against any type of forces that may oppose us. We can then improve on our new basic organization. With our present organization, however, the West has only two alternatives: defeat in a conventional war, death in a thermonuclear war.

Epilogue

This article started with an indication of the vast field of military thought. But the soldier broadens his knowledge to understand, not to dictate. In Liddell Hart's words: "Strategy—whose aim is military victory—must always be subordinate to grand strategy, which lies in the political domain, and whose ultimate object is peace. This has been too often forgotten in the past. Today more than ever grand strategy must direct."¹⁵

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5. Gaston Bouthoul, "Une Nouvelle Branche des Sciences Sociales: La Polémologie," Dec. 1958 issue, *Revue Militaire d'Information* (France), p. 10.
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11. Captain B. H. Liddell Hart, paper entitled *Lessons of Normandy* quoted by Miksche, p. 107.
12. Miksche, p. 108. Camille Rougeron, *Les Enseignements de la Guerre de Corée*, especially Chapter V, *Le Char*.
13. Miksche, p. 114. Cf. also General Lecomte "Rôle des forces terrestres dans la conjuncture atomique," Jan. 1958 issue, *Revue des Forces Terrestres* (France), p. 10.
14. Major-General W. H. S. Macklin, CBE, CD, "What is Wrong with Defence?," article in *Montreal Gazette*, 12 Jan. 1959.
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20. Osgood, Chapter 9, "Containment after Korea."
21. Commander Sir Stephen King-Hall, *Defence in the Nuclear Age*, pp. 96-97. King-Hall's book was motivated by his opposition to the British White Paper on Defence, 1957. His views will certainly be reinforced by the following paragraph written by Rear-Admiral Lepotier, "Stratégie Maritime de l'U.R.S.S." at p. 1933, Dec. 1958 issue, *Revue de Défense Nationale* (France): "Submarines are the weapons par excellence of surprise by sea, since they can be discreetly placed within range of their floating or land objectives before the opening of hostilities, and, therefore, out of reach of nuclear reprisals, panacea of the British White Paper."

22. General Lecomte, p. 7. Cf. also Liddell Hart in "The Fundamental Problems of the Defence of Europe" in Jan. 1959 issue of *Revue de Défense Nationale*, p. 25: "There is no use in completing our arsenal with such expensive tactical (nuclear) weapons if their employment must lead inevitably to total war, as General Norstad thinks." (Originally in English, in French in the *Revue*, retranslated by Major Pope into English.)

23. *Op. cit.*, p. 8.

24. King-Hall, p. 199.

25. *Op. cit.*, p. 23.

26. Since the thermonuclear weapon is capable of blasting man off the face of the earth, "The only issue for the human species is therefore the third dimension." (Calender, "Le Javelot, le Bouclier et l'Europe," Nov. 1958 issue, *Revue Militaire d'Information* (France), p. 93). However, in this review article I will not discuss true space war. I simply note in passing, however, that man has invented an explosive which he cannot use as long as he remains a land animal. Calender's article points the way to the next century when significant numbers of us may be living in space.

27. "International Security—The Military Aspect." The Rockefeller Report on the Problems of U.S. Defence, p. 22.

28. Raymond L. Garthoff, *Soviet Strategy in the Nuclear Age*, p. 99.

29. General Gazin, "Vers une Stratégie Européenne?", July 1958 issue, *Revue de Défense Nationale* (France), p. 1093.

30. Garthoff, p. 57.

31. George Fielding Elliot in his *Victory Without War* 1958-1961 admits the usefulness of submarines, but his book as a whole is an amazing advocacy of big aircraft carriers. (For a more balanced presentation see Rear-Admiral Lepotier, "Les Forces Aéronavales dans la Stratégie des Etats-Unis," Oct. 1958 issue, *Revue de Défense Nationale* (France), pp. 1517-1530).

32. Garthoff, p. 87.

33. *Op. cit.*, p. 101.

34. General Gazin, "Répliques ou Représailles," Oct. 1958 issue, *Revue de Défense Nationale* (France), pp. 1491-3.

35. Camille Rougeron, "La Deuxième Génération des Engins Ballistiques," May 1958 issue, *Revue de Défense Nationale* (France), pp. 774-5.

36. General J. Revol, "La Bataille sans Fin," Oct. 1958 issue, *Revue Militaire Suisse*.

37. Cf. Colonel de Tregomain, "L'Artillerie dans l'ambiance atomique," July 1958 issue, *Revue des Forces Terrestres* (France), p. 76: "Only the atomic explosive allows one to conceive that fire can be the essential element as a function of which manoeuvre is carried out," or cf. Colonel de l'Estolle, "Re-

flexions sur la manoeuvre en guerre atomique," April 1958 issue, p. 12.

38. General Grout de Beaufort, "New Scales and Concepts for Air-Land Operations in an Atomic War," Oct. 1958 issue, *Revue Militaire Générale* (NATO), p. 310.

39. Migis, p. 79. Cf. also Liddell Hart *op. cit.* in footnote 22, p. 33, "The problem is how the NATO forces may keep tactical atomic weapons without being so dependent on them as to be incapable of effective non-nuclear action."

40. Cf. Migis, p. 70.

41. Migis, p. 92.

42. Garthoff, p. 159.

43. *Op. cit.* pp. 160-1.

44. *Op. cit.* p. 77. (Author's italics in quoting Marshal Moskalenko, 1954.)

45. General Lecomte, *op. cit.* p. 14. Cf. also Liddell Hart *op. cit.* in footnote 22, p. 29: "The other type (other than armoured) will consist of light infantry divisions equally able to move off the roads, but having no mechanical means. Their cross-country capability will come from the lightness of their equipment."

46. See footnote 12. However, the tank's vulnerability to infantry is less in the North European plain than in Korea. Paddy fields were never good tank going!

47. Lt.-Col. de Blignières, "Le Blindé, arme des puissances nucléaires," April 1958 issue, *Revue des Forces Terrestres* (France). Having quoted Lt.-Col. de Blignières favourably, I must immediately add that his full-throated advocacy of the tank takes far too little account of the logistical difficulties in nuclear war; nor does he adequately account for the newer anti-tank defences. Chef d'Escadrons de Grasset also makes the same mistake as the Russians: advocacy of a 25-30-ton tank with sizable armour. It's day is past.

48. Chef d'Escadrons de Grasset, "Le Blindé, arme de la prise de gage," July 1958 issue, *Revue des Forces Terrestres* (France), p. 60. At page 26 of the Jan.-Feb. 1959 issue of *Armor* (USA) in an article entitled "Steps in the Right Direction," Captain Richard E. O'Brien writes: "In World War II it took 146,000 gallons of gasoline to move an armored division 100 miles on roads; the 17R division, organized after the war, required 226,000 gallons; and the newly-adopted ROCAD division requires 215,000 gallons." This 11,000-gallon step in the right direction is altogether too little. An absolutely fundamental change of attitude must come about and be put into practice. Replacing the M48 tank with the M48A2, "which incorporates a fuel injection system and a fuel tank with an increased capacity" (hardly "major modifications"), does not even indicate an awareness of the problem. Indeed, this is implicit in Captain O'Brien's article, for nuclear war is not mentioned. So the United States, which is committed to repelling aggression in the NATO area with nuclear weapons, has its

armoured divisions so organized as to be incapable of fighting a nuclear war. Of course, we in Canada, having switched from 38-ton Shermans to 55-ton Centurions for our armoured regiments, have moved precisely in the wrong direction.

49. *Op. cit.* p. 62. Cf. also Liddell Hart *op. cit.* in footnote 22, p. 31: "What they [the Russians] could attempt with the greatest chance of success is a limited surprise attack, quickly over and with a limited objective."

50. Cf. Migis, p. 63.

51. Miksche, p. 17. Cf. also p. 129.

52. General Lecomte, *op. cit.*, p. 13.

53. Colonel de L'Estolle, *op. cit.*, p. 15.

54. Miksche, p. 15.

55. Cf. Miksche, p. 157.

56. General von Ulrich de Maizière, "L'Influence des Armes Modernes sur la Conduite de la Guerre," an analysis in the Oct. 1958 issue of *Revue de Défense Nationale* (France), pp. 1588-92, of an article published in *Werthwissenschaftliche Rundschau*.

57. Major-General A. Crahay, "La Tactique Terrestre de l'Ere Nucléaire," Oct. 1958 issue, *Revue Militaire Générale* (NATO), p. 381-2.

58. General Maurice Guérin, "Les Engins Spéciaux et la Recherche," Dec. 1958 issue, *Revue de Défense Nationale* (France), pp. 1869-70.

59. Extracts were published in the *Canadian Army Journal*, issues of July 1952, pp. 23-47, and Dec. 1952, pp. 47-75.

60. Colonel S. L. A. Marshall, "The Soldier's Load and the Mobility of a Nation," p. 90.

61. Migis, pp. 17-18.

62. Cf. Migis, pp. 58 and 72.

63. Col. de L'Estolle, *op. cit.*, p. 18.

64. Cf. Miksche, p. 173.

65. Cf. Migis, p. 123.

66. Cf. Miksche, pp. 165, 179, 180.

67. Here, I apologize to Colonel Marshall. However, I am not overloading the soldier; I am merely taking note of the 25,000 Soviet tanks.

68. Lest there be those who think that the idea of all-arms units is merely a foot-slogger's notion, I will quote from "Armoured Thinking," an article by Major J. C. Gorman, 1/15 Royal New South Wales Lancers,

in the Dec. 1958 issue of the *Australian Army Journal*: "Give the regimental commander four tank squadrons, a six-troop motor squadron, a four battery 24-gun S.P. regiment and a suitable HQ squadron. He will then affiliate with each squadron two troops of the motor squadron for the usual infantry support, with the important addition of a reconnaissance element, not close or road-bound (e.g., present Recce Tp) but tracked to enable them to keep the squadron leader informed of all enemy activity within a radius of ten miles. He will hand over a battery of guns, two troops as at present, to enable the squadron to attack concentrated, without wasting half its strength in supporting the other half." The reserve mechanized units that I advocate should be organized much as Major Gorman describes his new armoured units. I would, however, also include some engineers.

69. Général Gazin, "Vers une Stratégie Européenne," July 1958 issue, *Revue de Défense Nationale* (France), p. 1097. Cf. also General Lecomte, *op. cit.*, pp. 8 and 11.

70. Cf. Migis, pp. 57 and 60.

71. Osgood, p. 169.

72. Cf. Migis, p. 101. It would not be correct to imagine that I support all of Migis' ideas. I do not, for I believe he has over-mechanized his all-arms units having regard to our present logistic capabilities. When the underground logistic depots, which Migis proposes in his chapter on infrastructure (page 165), have been built, then, and only then, can mechanized become synonymous for mobile.

73. Miksche, p. 18.

74. Marshal of the Royal Air Force Sir John Slessor writes, with regard to the defence of Germany at pages 76-78, of *Strategy for the West*: "The first-line forces should be supplemented by some Infantry divisions for the mobile holding role, but mainly by local semi-static forces on a new and relatively inexpensive model . . . a highly trained, semi-static Home Guard armed primarily with anti-tank guns and with light automatics . . . The Federal Republic and ultimately all reunified Germany, should be covered with a network of these units composed of local men . . . Their job would be to block every road and destroy every tank and armoured carrier moving across country in their zone—and when they could do no more, then pull out or blow up their guns, and cut and run for the next belt of posts in their rear. Against a defence system of this kind, covered by adequate Air . . . and supported by really mobile, hard-hitting Regular armoured reserves, I should be surprised if General Guderian would welcome the job of conducting an armoured invasion of his own country, even in great numerical strength." Sir John's Home Guard units, though much weaker than my all-arms units, would yet be adequate for the job.

75. Liddell Hart, *op. cit.* in footnote 22, p. 34.

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Strategic Review

DISARMAMENT

WHEN ancient Rome was at the height of her power it was possible to travel unarmed and in perfect safety from one end of the Empire to the other. It was not always like that. In earlier times men moved about armed to the teeth; even the farmer working in his own field kept sword and shield close to his hand. Men found these measures of self-protection necessary for survival because there was no central authority strong enough to enforce peace and safety throughout the land. Gradually the central authority — Rome — acquired the means of enforcing law and order, and, what is more, developed a very firm determination to employ those means. Pretty soon murder and robbery under arms became unpayable pastimes; retribution too often followed swiftly on the crime. The farmer packed his sword and shield away in grease, the traveller gladly went his way unencumbered by weapons.

Unfortunately it did not last. The authority of Rome declined. The Empire broke up, and with it went the means of enforcing the law. There followed the long, lawless interregnum of the Middle Ages, during which men seldom went without arms for the protection of life and

property. They continued to put up with this inconvenience until, gradually, social evolution produced central national governments strong enough to remove the necessity for it, and strong enough to enforce disarmament on the population.

This law enforcement authority was, naturally, strongest at the centre and weakest on the periphery, as evidenced by the "Westerns" which come up with such maddening regularity on our TV screens. Basically, these "Westerns" depict a situation in which the individual felt it necessary to carry arms, and to retain the skill to use them effectively, for the protection of his life and property. Government, however, gradually extended its law enforcing authority, until the necessity for going to the expense of buying arms and to the inconvenience of carrying them disappeared. There are still places in the world, though, where men find it necessary to carry arms because there is no central authority strong enough to protect life and property, to enforce public order and ensure the due processes of the law.

Throughout history nations have armed themselves for much the same reasons as individuals—to protect themselves or to practise aggression

against their neighbours. It would seem reasonable to suppose that they will be willing to forgo the burden of armaments for the same reasons as the individual did, that is to say, when they are convinced that there is no longer any possibility of being molested by other nations which are, or which might become, ill-disposed towards them.

If this analogy is valid, Mr. Khrushchev has launched his proposals for total disarmament at the wrong end of the chain of cause and effect. Translated into the sphere of the individual, his proposals amount to asking the honest citizen to throw away his gun without providing, or even suggesting, any guarantees that the dishonest citizen will also throw away his. On the contrary, in all previous discussion of proposals for the reduction of armaments, Mr. Khrushchev has resolutely opposed all suggestions for control measures which would ensure that he and his friends did in fact comply with the terms of any agreement which might be reached. This refusal to accept any inspection, supervision or control has been the obstacle which all previous discussions have failed to surmount. In the proposals he recently made in the United Nations Assembly, Mr. Khrushchev gave no indication that he is now willing to remove this obstacle of his own creation. Until he not only accepts inspection and control but also agrees to the establishment of a United Nations agency provided with the means of enforcing international law, his proposals have little chance of achieving the far-reaching effects he ostensibly aims at. And no one knows this better than Mr. Khrushchev.

Disarmament proposals are not a new phenomenon. Proposals of this nature formed part of the Fourteen Points enunciated by President Wilson of the USA for the settlement of World War I. Unfortunately the Treaty of Versailles imposed them only on the defeated nations, which, in the absence of any effective international police force, took the first favourable opportunity of re-equipping themselves with warlike gear. The result was that those nations which, through idealism or economic pressure, had virtually disarmed found themselves in a very desperate situation in 1939, a situation into which they will not easily be persuaded to fall again.

Between the two world wars a series of international conferences did achieve some **reduction** in armaments. In those days the problem of control was relatively simple. It is not very easy to hide big battle-ships or to conceal the existence of a huge army. All the same, the Japanese succeeded in secretly building a big naval base in one of their mandated Pacific islands.

Today's capital weapon is the nuclear missile. The launching site for even very big missiles does not take up much room and is easily hidden, more especially in those countries where the police have the means of persuading ordinary folk to remain incurious about things like that. Today a nation, whilst reducing its conventional armaments almost to vanishing point, can retain the hidden means to utterly destroy anyone it chooses to attack. That is the problem which must be resolved before any real progress in disarmament can be made.

Despite the rosy promises contained in Khrushchev's spectacular proposals, total disarmament is not likely to come about without lengthy, hard-headed negotiations. The first necessary step towards the recovery of some of the ground won by Khrushchev in the realm of psy-

chological warfare, is for the West to boldly accept the challenge, and to counter challenge on the issue of inspection, control and enforcement. Khrushchev must be forced to declare his hand on that crucial issue.

1 Oct '59.

E.G.K.

COMPETITION FOR AUTHORS

The Board of Review has made the undermentioned awards of prizes of £5 for the best original articles published in the August and September issues.

August—"The Army Inspection Service," by J. Shilkin, ED, Army Inspection Service.

September—"The Pattern of War in South-East Asia," by Lieutenant-Colonel M. P. O'Hare, Royal Australian Artillery.

Wanted

A Military Coaching Academy for the C.M.F.

Lieutenant-Colonel C. L. Thompson, MBE
Southern Command Staff Group

"So swift has been the advance of technology in our armed forces that there are no longer retired military authorities—only active and practising ones."

—General Omar N. Bradley, US Army.

IN peace time great stimulation should be given to facilities for military study. Only by study and sound preparation will our future leaders at all levels of command obtain the necessary skill and turn of mind to carry out their duties in war. The need today is all the more imperative when we are about to convert to an atomic concept of war and organization. A military academy approach for the preparation of officers in the CMF studying for promotion is surely needed.

Australia will no doubt continue to use her Citizen Military Forces as a basis of mobilization. The wisest and most generous aid should, therefore, be given to young officers who have the zeal and the time to improve their military prowess.

Examination results over the past ten years indicate an unhealthy picture. On a very generous calculation of written examination results we do not average passing much more than about fifty per cent of the students sitting. To give this pass percentage, something in the vicinity of eighty-five per cent of those who pass barely qualify. Assuming that most students are reasonably intelligent, the poor results could be attributed to:—

- (a) As students, they were badly prepared.
- (b) The students themselves make little effort to take the examinations seriously.
- (c) The questions set were unsuitable to test the students (but an analysis of the papers will show that in most cases the

questions have been reasonable ones).

Whatever is the cause, the fact remains that much wasted effort has been expended in our present examination technique.

No planned and co-ordinated body exists in the Army today to train CMF officers for examinations. The instruction which is being given at present is undertaken within formations on an "ad hoc" basis. Modern industry recognizes the need for training and improvement and sets aside a staff of expert instructors to tutor personnel in their particular fields of work. The Army is still carrying out Wellington's dictum "that it is the function of CO's to train their own men and officers." We have reinforced this policy by using the regular staff such as adjutants, brigade majors and GSO1's and others at Division to help.

Training from within a unit may be a sound rule when the unit is on full-time duty and all personnel have a reasonable standard of training. In the CMF, however, the problems of promotion are far reaching. For one thing, most officers have only a limited time to spare on military activities. If they are to devote themselves completely to preparing for examinations they have little or no time left to unit duties. As a consequence they are usually "lost" to the CO during this period.

In view of the fact that CMF officers have only limited opportunities to develop their tactical background in higher field duties (since so much of their time is taken up on routine and unit domestic matters), there is a very great need for an intense and thorough prepara-

tion period before going for examinations. Coaching for any short period is lost on students who have little tactical background upon which to hang knowledge given in a hurry.

Therefore, to be effective for CMF officers, coaching should be substantial and extend over a long period. In short, the aim of the instruction visualised in this paper would be in the nature of a course of study to impart a standard of military knowledge that the CMF officer has little opportunity of gaining from within his unit.

The ability to teach is not natural to all of us. Our regular staff at Division and Brigade may have first class passes at Staff College, but that does not necessarily imply that they are good tutors. Moreover, most of these very hard-worked officers are too busy handling the day-to-day problems of their particular job. They have little time to specialize in teaching and preparing instruction.

Added to this deficiency is the glaring need to co-ordinate the work of the coaching body with the examining authority. A syllabus is certainly set for promotion study, but unless a common doctrine is established and the emphasis to be given to the more essential parts of a syllabus agreed upon, there will be much waste of valuable time.

It is well known that on the higher levels of command staffs are bogged down handling the ebb and flow of routine office work that besets a modern Army administration in peace time, and they cannot be freed to devote extensive time to direction and supervision of training, let alone coach for examinations.

Universities and schools give thought to the co-ordination of the work undertaken by the teaching group and the examiners. Whilst university syllabi of study are wide and fitted into an overall pattern of course circular, special attention is given to the parts of the syllabus that are more important than others.

If we apply this concept of study to the CMF, we find a big gap in the setting of examinations, preparing syllabi and in coaching. The existing mode of unit development and officer promotion may have served us well in the past, but now a change is required. As first priority, study for officer promotion should be the main theme of a CMF policy.

Therefore, in each command a Military Coaching Academy should be set up. This body would be responsible for preparing officers for all examinations. Instruction for promotion should take much longer than is the usual case today, and officers selected for higher promotion should be seconded to the Academy during the period of coaching. So important could this activity be that study for examinations may take from six to twelve months, having in mind the time available to CMF officers to devote to study. The rewards from this enforced study period would pay big dividends when the officers returned for unit duty. From a mobilization point of view, we would be developing a pool of officers with a more profound knowledge of the military art than we have at the present time.

The Military Coaching Academy would also conduct correspondence courses for country students and

for others keen to devote additional time to study.

The proper use of the Academy would then leave COs with the unfettered opportunity to train units in their own tactical role and to develop the NCO potential which, after officer development, is possibly the most important requirement of the CMF today.

If the need of a CMF Coaching Academy is accepted, then it should be agreed that for success the question of staffing is complementary to it. This fact must be accepted if the Army is to set about building up a reserve of skilled teachers.

Staff Groups in various Commands are trying to undertake the functions of a Coaching Academy. Whilst much is being achieved it is only second-best. The staffing of the Academy needs a full-time panel of profound professional knowledge and in possession of the office facilities to set about their teaching role.

If we are to use the proposed Academy to advantage then we should be prepared to devote the necessary resources to it. Should the idea of the Academy be accepted it could also take over the coaching functions for the regular officer. In the United Kingdom a private company has operated for many years a coaching group on a commercial basis, but with unofficial approval of the War Office. We, in Australia, by virtue of geographical distance between capital cities and a very much smaller military organization, may find that the establishment of a coaching centre as a business by retired officers is unpayable.

Whatever might be the economics of a CMF Coaching Academy set up in each command in each capital

city, and co-ordinated by DMT, the advantages would far outweigh costs. We have only to attend the office of G staff in commands and in formations to realize just how little time—if any—is left for genuine coaching when all the administrative and clerical work has been attended to. If finding staff for the teaching is a problem, then perhaps the release of existing skilled officers to the more attractive and useful role of training, could be arranged by letting civilian staff take over the pure routine duties of a domestic nature now going on in G Training.

As a start, it is suggested that the Academy take over the following functions:—

- (a) Coaching in all written papers for officer promotion.
 - (b) Conduct D21A Promotion Courses for majors and lieutenant-colonels.
 - (c) Courses in military history, including correspondence course.
- As a suggestion and purely as a

basis to think in terms of resources required, an Academy for a large command established in a capital city might require as a staff one or two lieutenant-colonels, two or three majors and a typist. The problem of finding officers to do this work is appreciated, but by a more efficient use of officers in staff postings and the introduction of civilian help for clerical and routine matters, surely the Army today could furnish the necessary personnel.

There is no gainsaying that our present method is not paying the dividends it should. If we treat the problems as vital to the life-blood of the CMF, then immediate steps should be taken to investigate the suggestion put forward in this paper.

The "Afterthoughts" of Field Marshal Sir William Slim in his "Defeat in Victory" could be heeded with profit:

"Preparation for war is an expensive, burdensome business, yet there is one important part of it that costs little—Study."

It seems to me, men of Athens, that you have become absolutely apathetic, waiting there dumbly for the catastrophe that is about to fall upon you. There you sit, observing the disasters that overwhelm your neighbours and taking no measures for your own defence! Nor do you seem conscious even of the elaborate methods by which your country is slowly being undermined.

—Demosthenes.

PUBLIC SPEAKING AND CHAIRMANSHIP



Major L. Franklin

Royal Australian Army Ordnance Corps

I ADDRESS my remarks to officers and gentlemen of the Australian Military Forces; officers because of the Royal Commissions; gentlemen because, I hope . . . "A gentleman is one who stands up, speaks up, then shuts up." Think of the obligations inherent in this blunt definition. Do you not agree that we should come within the scope of its meaning?

General

The aim of this paper is to convince you that there is a need, in the Army, for training in public speaking and chairmanship. You may well seek the reasons why, so I will provide some which seem pertinent to the matter.

We are enjoined to gain knowledge in current affairs, geo-political matters and also economic and scientific factors which influence national security and defence. One could well add human relations to the list, because we cannot be effective in our profession unless we understand some facets of this study.

Such overall knowledge will help us to discharge our duties and prepare our briefs, our reports and our routine correspondence, all of our general military writings. It will not help us, to the same extent, at conference tables or forums, where articulate and erudite presentation of arguments are so necessary. It follows, then, that we should devote time to training in this area.

Public Speaking

The art of debate and the ability to rise up and speak well will assume ever greater perspective in our Service career. I say this because the world is changing, Australia is changing and our Service is changing, in many and varied ways. During this evolutionary period we will need to interest ourselves more in other peoples, other bodies, both military in its widest sense, and civilian, and, what is more important, make others interested in ourselves and the Army we represent. Officers who take up overseas appointments or engage-

ments need to be well equipped for speaking, listening and understanding.

You and I, in our various schools, have accepted modern techniques and concepts. Quite apart from specialist training, other avenues have been opened for teaching and learning the rudiments of Industrial Management, Statistics, Human Relations, Organization and Method (Work Study, Method Study, Work Simplification), Better and Faster Reading and many other subjects. Of what use is the accumulated knowledge unless we can apply it verbally, as well as in writing; unless we can pass our messages in their most clear, concise form.

We should help the average officer, the majority of our family, by practice and precept, to be capable and confident in his ability to think clearly and to convey his thoughts to others.

Apart from the skills to be acquired and the arts to be mastered in this type of training, the Army could give its officers the chance to offer themselves—to give to receptive audiences all the facets and angles of their own mind.

Should you imagine that the art of speech is either a natural acquisition or merely a mechanical matter of judgment and experience, seasoned with modern techniques, I would like you to know that speech preparation is the main ingredient for success. This capacity for taking pains may be illustrated by repeating a report that the late Franklin D. Roosevelt revised his Victory Dinner speech of 4th March, 1937, just twenty-two times. Similar reports have been circulated about other famous orators and leaders who found that preparation is the

keystone of successful speech-making. Appreciation of probable audience reaction and selection of the best approach to the subject are complementary factors, as is knowledge of psychology, physiology and philosophy, with a subsequent blending of theory with practice and judgment.

The Right Honourable R. G. Menzies, CH, QC, MP, in his book entitled "Speech Is of Time" says:

"We are, no doubt, fine fellows, but on the whole we are neglecting the Art of Speech. There are plenty of speakers and much willingness. But on public occasions, great or small, there is a growing disposition to read an essay and to read it in a singularly dull way, with head bowed over the typescript, without pause or emphasis, point or climax . . . for most of us the essence of a speech is that it should reach the hearts and minds of an immediate audience. It must therefore be made to them and not merely in their presence."

This extract will serve to emphasise an opinion that a speech or argument should be delivered, certainly with eloquence, essentially by acting a part.

Knowing that eminent public figures regard the preparation and delivery of speeches as being of prime import is to know that we of the Army should improve ourselves in this sphere. It is inseparable from our missions, and surely training will effect an improvement.

So far I have not followed standard operating procedure in that I have not produced basic Army data—principles. The idea of principles seems to appeal to a tidy mind, whether they are employed inside or outside a military sphere. In

this part of my writing I have reversed the normal arrangement of declaring my hand at the outset, for which I make no apology. In placing the cart before the horse I have presented some idea of the vehicle in terms of background material. I now introduce the prime mover principles, for you to appreciate the lifting capability.

The founder of Rostrum (an international movement pledged to train members in chairmanship and public speaking), Sydney F. Wicks, in his book entitled "Public Speaking for Business Men," set out the following basic principles of public speaking:—

- "1. To overcome self-consciousness so that he may give himself to his audience without fear.
2. To cultivate a strong, pure, pleasing voice.
3. To discipline his body to add to his spoken word.
4. To give to his speeches a fundamental architecture.
5. To be logical and to reverence truth.
6. To speak the English language with knowledge, simplicity and force.
7. To have something worthy to say; to say it with economy of means; to have the courage of his convictions."

I commend these principles to you because the Rostrum Dais throughout the United Kingdom and Australia are strong and virile, indicating that they are built on solid foundations.

Chairmanship

The next portion of my proposi-

tion deals with chairmanship, a most exacting role, which may be allocated or delegated to any Army officer, at any time. I stress this point that at any moment any one of us may be called upon to attend a meeting, address the Chairman, understand or take a point of order upon his rulings, or we may be elected or appointed to the office of Chairman.

It may be timely to introduce fundamental maxims of chairmanship at this juncture, so that they may be available whilst you weigh up statements which follow.

It has been suggested that the two recognised and cardinal principles of chairmanship are these:

- "1. To enable the meeting to find and state its considered judgment and what is before it.
2. To represent the meeting, its authority and purpose, both in the meeting itself and, if necessary, to the outside world."

In order to be a competent chairman one must:

- Appreciate the nature of the task to be performed.
- Know the basic rules of chairmanship.
- Accept the fundamental duty to conduct the meeting so that those attending may express their views and give effect to their wishes.
- Know the method of dealing with ordinary or routine situations so well that your actions on formal motions are automatic and spontaneous.
- Maintain order and absolute control of the meeting.

These terms of reference are somewhat broad, but were I to digress and elaborate on the duties, responsibilities, obligations and rights of a Chairman the original aim would be lost in a welter of detail. Indeed, they vary in form from one authority to another, and vary by differing constitutions and standing orders.

If you will accept a theory that one good method of teaching and learning the art of speech is by operating formal meetings, then at one and the same time chairmanship students may be examined and criticised in two roles.

To what extent are Army officers involved in meetings and why, in any event, should we need training in procedure at meetings?

Contemporaneous issues make the first answer obvious and, regarding the training aspects, I am of the opinion that our general concept of meetings may be too narrow.

Yes! I know we have Mess Meetings, and that they are bound to operate under prescribed rules. I know, too, that we are all familiar with procedural matters in other military meetings, but I am certain that the scope is not wide enough to sustain most of us in public or official meetings outside our normal ambit.

It is probably true to assert that the majority of officers do not obtain sufficient practice in officiating, although they may attend meetings on numerous occasions. This, then, is one reason why we should be trained in chairmanship.

Another probable reason occurs because officers leave meetings, either not understanding the import of the discussion or in a state of

confusion. It could be that lack of knowledge, comprehension and attention, or a combination of all three, were contributory factors on these occasions. On the other hand, perhaps it was lack of control by a Chairman, non-adherence to procedure and because the discussion centred on irrelevancies, thereby straying from the main business on the agenda.

Formal Motions, Amendments and Points of Order have very precise interpretation, none the less complicated and far beyond the capacity of this paper to explain. Guidance in the handling of most normal or even unusual situations is available in many published works.

A favourite contemporary publication is "The Law and Procedure at Meetings," by P. E. Joske, MHR, QC.

Before leaving this section I put it to you that constant practice is necessary before one can hope to achieve the status of a competent chairman. How many do you know? Read the authority I have quoted before you answer "the previous question."

Public Speaking and Chairmanship

I would now like you to consider the inter-related components of public speaking and chairmanship, as a whole.

Earlier I invited you to accept a theory that they could be used in tandem to promote training. There is a more important reason.

It is my belief that Industry and Commonwealth Departments, as distinct from the group of Service Departments, are convinced that benefits can be gained by educating executives to pit their wits against

competitors and/or adversaries at the conference table. Not only are those organizations aware of the need; they are preparing their members to play their parts in appealing to the minds of other men.

Unless the Army is prepared to do likewise and broaden our training in this field of endeavour, we are, in the long run, bound to surrender the initiative to those who are more skilled in arousing reason and emotion in others.

Training

I have skirted around the periphery of this vast and absorbing subject, and trust that sufficient grounds have been established for it to be considered for inclusion in our military education.

"The question is" . . . how do we obtain this training?

Such training could take the form, initially, of lectures and, later, of meetings, at which trainee officers might have frequent opportunity to speak or officiate, on either set subjects or as impromptu demands.

There is no doubt that Army resources are equal to the task of providing training facilities.

Of many ways and means I will suggest but four:—

- (a) Delegation by Army Headquarters to Commands for the organization and operation of night classes in capital cities.
- (b) Delegation by Army Headquarters to Commands for further delegation to large Army areas, for the establishment of courses on a day or night basis.
- (c) Centralize Army Headquarters facilities at a selected Army school to organize and operate

a full-time course of three to four weeks' duration.

- (d) Subsidize and encourage officers to join the Australian Institute of Management, Rostrum Clubs or similar organizations which cater for these educational ideals on speech; this would include participation in civil courses.

The latter course would prove the most productive, but a combination of the last two would be ideal, because of the opportunity to retain knowledge and maintain improvement; we need the **principles** and the **practice**.

We know that our contemporaries in industry and elsewhere are evincing a healthy interest in training their officers, to stand up, speak up, then shut up. Can we afford not to develop these traits?

Conclusion

Let me try to obtain from preceding opinion and fact a few fundamental truths of practical concern to serving officers.

My theme is public speaking and chairmanship, and I strongly advocate training in these arts. I stated, *inter alia*, the need to be familiar with life, men, affairs; we cannot afford to become parochial. I predicted that our contemporaries, in other walks of life, will out-match us if we do not accept this challenge to become composers and performers in the Art of Speech.

My personal appeal now is for the Army to avoid the issue of trying too little, too late, and to ensure that officers become proficient in that form of discourse which aims to establish the truth or falsity of a proposition—the presentation of the case.