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ARMY JOURNAL

A periodical review of military literature

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(Australian War Memorial)

Ground Surveillance in Support of Small Force Operations

A. W. Pybus

IN a previous contribution¹ the present author surveyed methods that could aid vision under poor light conditions. Vision is one of many means that may be used in surveillance. Another is radar. Major Moinilaws, in a recent article,² has dealt with one radar solution. The present article considers more generally the application of physical phenomena to the solution of some surveillance problems, but to keep the subject within reasonable bounds limits the study to aspects of ground surveillance in support of small force operations.

There is a tendency among those who study surveillance to focus attention on the characteristics of individual surveillance devices, whereas the really important task is the consideration of the total surveillance system. This demands a collaborative effort by which the Service, in this case the Army, and the scientific agency, jointly study the military need, the whole environment, and the means of meeting the need. These three; the task, the environment, and the surveillance system, constitute three closely interlocking inputs to the study. This article considers the application of some of the means available to the military commander to meet his surveillance needs.

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Author's note: The definitions of 'recognition' and 'identification' followed in this article are quite different from those contained in JSP(AS)101. According to those definitions both recognition and identification require friend/foe differentiation, one by passive, the other by active means. Very rarely is friend/foe differentiation achieved by the use of surveillance devices; additional intelligence is almost always needed. If we are forced to use these definitions, recognition and identification ranges will usually be zero. The definitions used in this article are those in common use for surveillance purposes in USA and UK as well as in the Australian Department of Supply. They are the definitions used in surveillance literature to describe the range performances of surveillance devices.

To attempt to cover surveillance devices comprehensively would be impracticable, for there are hundreds. To summarize the characteristics of the devices likely to be of use to the Australian Army would be of little benefit. Instead, in the main, classes of devices, the use of devices, and the contributions that devices representing these classes can be expected to make to the surveillance process, will be discussed.

Surveillance devices can be classified in various ways. For the present purpose, classification according to the principle on which a device operates is preferred. It is highly probable that all surveillance sensors fall into one or other of four classes; static fields, electromagnetic radiation, mechanical action, or mass transfer. These broad classes can be subdivided into more specific phenomena, for example, electric fields, magnetic fields and gravitational fields all come into the main class of static fields. We can divide electromagnetic radiation into spectral regions from X-rays to radio waves. Under mechanical action we have acoustic, ultrasonic, seismic, pressure and tactile sensors. Mass transfer can be by sub-atomic particles, molecular such as smell, and transfer of larger conglomerates of matter, even living matter, such as insects.

Under these subdivisions we can become more specific and will eventually refer to particular sensors, for example, magnetic anomaly detectors, thermal imaging devices, combat radars or people sniffers. Then we have sensors which use several phenomena, the outstanding example being man.

Now let us consider what we expect the various classes of sensors to do for us. We want them to detect targets, to tell us of the presence of anything foreign to the environment, and something about what the target is doing. We would like precise information on the location of the target. We want to know the nature of the target, for example, is it a man or a vehicle? If a vehicle, what sort of vehicle; if a man, and an enemy, how is he equipped? Thus there is a range in the content of information a sensor may provide. Those working in surveillance are accustomed to speak of detection, recognition, and identification to describe increasing information content. Detection does little more than alert us to the presence of something inimical. It may indicate its location. Recognition yields enough information to enable us to know

¹ A. W. Pybus, 'Night Vision for Military Purposes.' *Australian Army Journal* No. 213, February 1967.

² R. A. Moinilaws, 'Battlefield Surveillance.' *Australian Army Journal* No. 254, July 1970.

the class to which the target belongs, for example, a man, a vehicle or facility. Identification goes further; it provides enough information for us to decide the particular member of the class, for example, an armoured personnel carrier, but not a battle tank, or an enemy soldier, not a member of a friendly force. Some sensors are capable of detection only, but they may be very good at this and give us early warning. Other sensors may not be very useful in the search mode but if directed at a target already detected may provide recognition. The identification capability of sensors is not as good as we would like. The ability to differentiate between friendly and enemy personnel is scarcely to be expected. Identification usually requires additional intelligence information.

Not only do we want our sensors to provide information — we need to have confidence in the information. We want a reliable, true, alarm rate. We do not want our sensors to miss a target; we do not want a high false alarm rate. We need to know just what degree of confidence we can have in the information provided. There is always a decision of some sort to be made. A commander will be aided in making his decision if he knows there is, for example, a 90% probability that a reported alarm is a true signal and not some environmental effect, say, a tree swaying in the wind. We need a means of assessing the acceptability of the information, of expressing it quantitatively, and we need a standard of information acceptability.

A procedure that appears workable is based on the performance of unaided man. The detection range of the unaided man would be less than that of the man using some device, but we are not now concerned with range. That is another matter altogether. What concerns us here is, if the man reports a detection how confident can we be that it is a real detection, not a false alarm? Also, if man's performance is to be taken as standard we must be able to express in quantitative terms the degree to which we can accept the information he provides. We have found it useful to define a term, 'acceptability factor', as the probability that the device will not, in a given time, give any false alarms. With some assumptions, including the statement that false alarms are random events, an expression can be derived relating this probability to the false alarms actually recorded in a specified time. We then carry out a realistic field experiment, for which we know when and where real targets occur, note the events recorded and derive the number of false events recorded. We then use the formula previously

derived to calculate the probability that false alarms will not be recorded in the standard time.

We can carry out this experiment for the man using his unaided senses, sight and hearing particularly, and we get the probability that he will not be activated by a false event in the chosen time. Whether we should take this figure as our standard depends on whether this degree of information acceptability is adequate. Ideally we want an acceptability factor of 1, implying we want 100% probability that no false alarms will be recorded in the given time. We have to accept something poorer. We have concluded that the minimum allowable figure for acceptability factor will depend on the situation. In a well established situation, with staff working under good conditions and therefore better able to interpret information, a lower acceptability factor may be adequate than is the case for a company position. It is useful to say, at least tentatively, that the acceptability factor of the unaided man may be taken as a standard, and that a commander may have sufficient confidence in information from devices with comparable acceptability factors to warrant use of this information in making his decisions. Acceptability factor is only one aspect of device performance, but it is important. Yet where does one find it, or anything equivalent, included in the stated characteristics of a surveillance device?

The same procedure permits the assigning of acceptability factors to groups of devices, whether the devices in a group are all of one class or belong to different classes. One would expect information from a group consisting of different classes of devices to be more reliable than information from a group consisting of devices all of the one class. The procedure not only confirms this but evaluates the increase in reliability.

It is convenient to take unaided man as a standard with which to compare other characteristics of sensors in addition to acceptability factor. We want to know what contribution to the information available to a commander can be expected from sensors, as compared with that from the unaided man. As an illustration, let us take range information. The surveillance range of the unaided soldier is not adequate for the timely detection of careful intruders. Experience with two classes of line of sight detectors, radar and visual, shows that, while the ranges obtained vary widely, the range advantage obtained by their use is quite appreciable.

If now we accept the statement that unaided man has an adequate acceptability factor, then we have good reason to say:

- Unaided man has an adequate acceptability factor but inadequate range.
- Isolated sensors can have useful ranges but have inadequate acceptability factors.
- Groups of appropriate sensors, properly integrated into a surveillance system, can have useful ranges and adequate acceptability factors.

If a commander is to set up and operate a surveillance system he must understand the principles on which devices operate and how to make the best use of them. He doesn't need to understand the theory in detail but he needs to appreciate the deficiencies and limitations of classes of sensors. He needs to know what a device cannot do as well as what it can do. He needs to know what sort of information to expect from a sensor, what confidence he can have in the information, and how to use the sensor to take maximum advantage of its capabilities. To illustrate, we shall look at the use of one class of sensor in some detail, namely, visual devices, and some others more superficially.

Much has been written on the characteristics of visual surveillance devices, but little about how to use them. Here the emphasis will be reversed. Because of their high resolution capability they usually provide more than just detection. They may even provide identification. This is normally beyond the capability of other surveillance aids unless additional intelligence information is provided.

As a sample of this general class of visual aids let us consider the image intensifier individual weapon sight, first generation, sometimes called the starlightscope. Some rather extreme statements have been made varying from 'they turn night into day', to 'they are of no use'. Both are exaggerations. The author is convinced that it is a grave mistake to say that the need is to get equipment into the hands of troops for in-service evaluation, from which tactical doctrine can be developed. He contends that it is a mistake to hand over new types of devices for in-service evaluation unless the commander has been trained in, at least, provisional doctrine covering the use of the devices. To train the soldier who is to use the device is essential but not adequate. The evidence suggests very strongly that in carrying out in-service evaluation of the individual weapon sight attempts were made to use the device in roles for which it was not suited as well as in situations which did suit it. Hence, the wide range of statements about its effectiveness. It is also contended

that it is possible to carry out studies leading to the writing of provisional doctrine before committing devices to active service use.

By laboratory measurements, field tests, and the study of action reports, guide lines can be written for the use of visual aids. It would be inappropriate to discuss the matter in great detail here, but some factors which affect the use of visual aids may be indicated.

The target background is important. One should look for a viewing position such that the expected target would have a high target to background contrast. Information exists on the conditions that can lead to high contrast. There are occasions when low level lighting can be used, and there are guide lines for taking full advantage of the illumination to improve contrast, and also reduce the harmful effects of dust and smoke.

A clear line of sight is essential. In daylight the existence of a clear line of sight is not in doubt, but it is not so at night. There are ways to minimize the difficulties. Certain procedures are known to be advantageous; others should be avoided.

The efficiency and reliability of an observer can fall due to fatigue. Again, he can be helped by instruction in the use of preferable procedures.

Care should be taken to ensure that optical surfaces are free of dust and moisture. By night the unskilled viewer may be unaware that his viewing has been impaired in this way. The well trained man will recognize what is wrong and will be alerted when conditions are such that moisture is likely to condense on a lens.

Search procedures have been devised to improve the performance of observers, and something is known about the conditions under which the use of the procedures is practicable. There are situations in which systematic search procedure is practicable, but there are also situations in which systematic search procedure with hand held instruments requires more attention than can be given.

The individual weapon sight can be used in moonlight, but so can a pair of 7 x 50 binoculars. The latter have comparable visual performance, but are cheaper, lighter, and more easily used. With decreasing light level the performances of both devices fall off, but binocular performance deteriorates more rapidly. The individual weapon sight, but not the binocular, may be used in starlight. The reader is, nevertheless, warned not to rely on some published figures. Statements such as 'the range of the individual weapon sight is 400 metres in moonlight and 300 metres in starlight', should be treated with great caution. That

statement may be true for a particular target, particular contrast, and particular detection probability, but most likely the situation in which the observer finds himself is a very different one. In starlight, the actual range with useful detection probability is likely to be nearer 50 metres. Added to these difficulties is the probability that the device will not be properly focused on the target. For search at short ranges frequent focusing adjustments are necessary and this procedure is rarely feasible. With existing devices the operator has not adequate means of knowing the range to which his instrument is focused.

The conclusion that existing hand held night vision aids, as exemplified by the individual weapon sight, are not well suited for the primary detection role is well based. They are likely to be useful in the confirmatory role, that is confirming the presence of a target, or providing recognition when the target has already been found by some other means.

We shall now look, more briefly, at the usage of some other classes. In addition to the well known use of active near infra-red as a night viewing means, how may we exploit infra-red radiation? It is the author's opinion that the next few years will see the emergence of thermal viewing from the laboratory to the field for infantry use. Already it has proved its use in air to ground surveillance. What are the outstanding features? Basically it is wavelength that constitutes the distinguishing feature. Because the wavelength is long compared with most particles suspended in the atmosphere, thermal infra-red radiation is scattered much less than is radiation of shorter wavelength. It therefore penetrates smoke and haze better. A good deal of quantitative information is available on this aspect. A knowledge of this information will not only show where the use of thermal radiation will be preferable, but also where this is unlikely. Also, distinguishing between target and background, when these are viewed by means of radiation from an external source reflected back to the viewer is effected by the differing ways in which the target and background, respectively, modify the radiation incident on them. In thermal viewing we receive radiation emitted by the target and background respectively. Target and background are then distinguished primarily because of their different temperatures and to a less extent by certain surface characteristics. A knowledge of the circumstances in which objects in a field of view are likely to have significant temperature differences is required if thermal viewing is to be properly exploited. We have some guide-lines. We need to develop these further.

Radar operates at still greater wavelengths. Because of this, on the one hand it is still less affected by atmospheric suspensions than are devices using thermal infra-red, but on the other hand it has poorer ability to resolve targets. In general it is a detecting and locating device. Its ability to provide range and bearing is superior to that of most other surveillance devices. It has some capacity for vegetation penetration; a capacity that can be enhanced by some clever electronics.

Of course radar has limitations. It can detect targets only when these are within the antenna beam and in line of sight. Surveillance radars operate on the doppler principle, hence the target, or some part of it, must be moving. There are operational limitations because of size, weight and complexity.

The facilities provided on surveillance radars by various designers differ greatly. They have different opinions on what is required. There are radars that have the facilities needed by the Australian Army, but which are unnecessarily complex, and too large and heavy for surveillance within the battalion. There are radars that have most of the desired facilities, have acceptable simplicity, but are still too large. There are radars that have the facilities, approach the required size, but are physically unsuited for the South-East Asian environment. It appears that several types of radar will be needed to meet our requirements. Many techniques now being developed have considerable interest and may be utilized in the development of radars capable of meeting our needs.

If by one means or another we obtain the required radars they will contribute significantly to our surveillance requirements. There is no doubt, however, that the principal role of the surveillance radar is in forming part of a system. It can probe enemy held territory under conditions when other means would be helpless, can acquire a target and then hand the target over to some means able to provide recognition and then reaction with an active weapon.

The seismic device is a member of the mechanical class. The sensor is a geophone actuated by ground vibrations. These, in turn, are caused by men or animals walking, by movements of roots of trees swaying in the wind, and a variety of other activities. The electrical signal from the geophone is sent by cable or radio link to a monitor.

The designer, of course, has many problems, but so has the commander who has to make use of the device. Is a seismic device suitable for his situation? If so, where should he plant the geophones,

and who should operate the monitor? To answer the first question the commander must know what contribution he may expect from seismic as compared with other surveillance devices. He needs to know how it fits into his complete system, for example, how it complements radar, the infra-red fence, or wire break. In order that he may use geophones efficiently he must have an idea of the range at which his geophones may be expected to detect the target. For this purpose he needs to appreciate the extent to which range is dependent on the nature of the expected target, on the type of movement of the target, and on the nature of the ground. He needs to be able to assess the likely seismic noise background. Some guide lines exist which can help him to size up the situation. For example, the seismic device is unlikely to be useful for general perimeter defence. It may be useful over small sections of a perimeter with limited access. It is more likely to be useful across tracks in circumstances when the enemy is not moving particularly stealthily. The commander must ensure that movement by his own troops does not add to the seismic noise.

The foregoing statements have been generally qualitative only. Only a few examples have been dealt with. Yet it is surely evident that a commander requires a considerable fund of information if he is to set up and operate his surveillance devices effectively. But this is not all. There are quantitative data that he needs to have at his command. Even if the commander has been educated along the lines indicated and has incorporated the knowledge into his store of experience, his surveillance ability will be inadequate unless he can set up his system so that the information is made available where it is needed. There is strong evidence for the proposition that surveillance devices should be so linked into a system that timely information goes directly to the commander responsible for the reaction at whatever level that may be. Undoubtedly the standard of command and control attained will vitally influence the contribution which the surveillance system may make to the successful outcome of the situation.

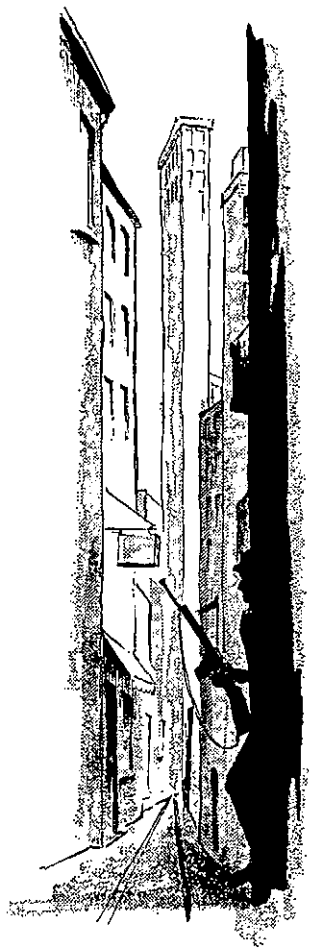
The study of surveillance is not synonymous with the acquisition of data on the characteristics of surveillance devices. That is but a beginning. The needs of the situation must be assessed, and a system designed to meet the needs. The emphasis is on system. The devices must be integrated into the system, so that each member of each class is used in its appropriate role, and contributes to the whole information available to the commander at the appropriate level. □

Urban Guerilla Warfare in Western Countries

Donald Jender

THE topic of guerilla warfare is much discussed today, and indeed has been of interest since the Napoleonic wars. However, it has emerged as a viable strategy of war only since its adaption to Oriental conditions, where it has had spectacular success. The tactic has had its greatest triumph in underdeveloped rural areas, and so has tended to become associated exclusively with this setting. Very little thought has been given, as far as I know, to the promotion of guerilla warfare, or a variant thereof, in urban areas, save for a brief comment by Che Guevara noting the difficulties of operating guerilla forces in built up areas.¹

However, I do not wish to discuss the subject of guerilla war in the cities of an underdeveloped country, for the excellent reason that guerilla warfare in rural areas of backward nations has successfully provided the means of overthrowing the governments of such countries. I shall consider the subject of guerilla warfare in large cities of



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advanced nations, for instance, cities such as Sydney, New York, Durban or London. Because of the rural connotations of guerilla warfare, I shall henceforth use the term subversive warfare.

This discussion will be divided into two sections. The first deals with the initiation of subversive warfare in urban areas, the second with its suppression. In each section, there is a review of the advantages and disadvantages conferred by subversive warfare in an urban context, in the first case to the enemy, in the second to the military. At the end of the section on suppression, there is a discussion of how likely it is that subversive war could arise in a Western city. It is not as improbable as one might suppose.

INITIATION

It is first necessary to make an obvious but very relevant remark: there are enormous differences between the conditions prevailing in the city and in the country. These are worth examining. Most evident are the physical differences. The rural regions occupy many times the area of the cities. Thus there is low density population spread over a wide area. Rural areas may be covered in forest, drenched with rain and be almost impassable, or dry and dusty, but still impassable. Facilities in rural areas are often primitive. These difficulties mean that military devices operating in such areas must be versatile and durable, often with consequent loss of sophistication. The developed nature of urban areas means that equipment may be less hardy and more refined. For example, military transport is very durable, but not exceptionally fast. If an enemy operating in urban areas was equipped with conventional automobiles, military forces would be hard put to match such mobility, except with very conspicuous aircraft. This serves to illustrate the differences made by changed physical conditions. These differences will drastically affect the types of military operations which are feasible.

The physical environment of the cities imposes restrictions on rural-oriented military thinking. For the subversive, the urban context offers advantages and also causes problems. In a city, people live relatively close to one another. This makes it possible to assemble a fighting force at short notice, should a tempting target be available. In essence, this means that the enemy is always in a state of partial readiness, while at the same time being relatively unassailable. Compare this with a fixed military establishment, which is at almost instant readiness, but can be watched and attacked at will, since it is easily identified. However, the

¹ *Guerilla Warfare*, Mao Tsetung and Che Guevara, Cassell 1965, pp. 124-5.

close proximity to people makes subversive gatherings rather easy to detect, since someone will probably notice a gathering of people in a city. In the country, the people may take time to gather, but are relatively hard to detect when they do. Nevertheless, criminal groups seem to be able to gather with impunity in cities, so I see no reason why a subversive group cannot learn the tactic.

Subversive action in a city puts to a crucial test Mao's famous maxim about the guerilla being the fish in a sea of people. In an urban area, success by subversives hinges almost entirely on the acquiescence of the mass of people. It is almost certain that someone will see or have knowledge of subversive activities. If these people keep silent, it will be almost impossible to suppress the enemy. If these people inform the authorities, the subversives will be quickly eliminated. Leaving aside terrorism, which generally defeats its own ends, it seems that a subversive movement enjoying wide popular support would flourish in urban areas. Without popular support, it would not survive for long in a city. As an illustration of this, it appears that the success of the Viet Cong Tet offensive owed something to this phenomenon. Whether the Vietnamese city dwellers were pro-Viet Cong, afraid or merely apathetic is a point for debate.

It is generally true that subversive movements do not arise and flourish unless people have some grievance. There are always hard-core malcontents who often lead such movements, but they cannot make the grievances, they can only capitalize on those which exist. The question arises as to what problems a subversive could seize upon in a developed Western city. Unfortunately, several come quickly to mind. In the United States and South Africa, race is a potentially explosive issue. If the ten per cent Negro portion of the United States population could be mobilized to support even a haphazard subversive campaign, centred in the cities, it is almost certain that the US would be destroyed. The results of spontaneous race riots were devastating enough. Should such events ever become organized, American cities would become black outposts in a white sea, a situation not calculated to lead to internal stability. When one considers the conditions prevailing in Harlem and Watts, the prospect of organized subversion in these areas becomes alarming.

Even among white communities, there are possibilities for subversion. All developed communities have their share of underprivileged, who are often bitter at being denied their share of prosperity. There are various other grievances which people hold against authority

available for exploitation. In times of widespread unrest and dissatisfaction, subversive movements gain strength. The growth of Communist parties in such times is an example. It should not be thought that periods of unrest are unknown in advanced societies. Economic depressions have occurred before, and doubtless will occur again. Given an unco-operative government, or one which is over-enthusiastic in suppressing protest, revolutionary suggestions will fall on fertile ground. In this connection, it is worth considering whether the universities are breeding grounds of subversion, as popular opinion holds. Though there are those in universities who advocate subversion and revolution, the number who would be prepared to participate in serious warfare is very minute. Students are not averse to demonstrating or even rioting, but they would be useless as troops. The Western university student has enjoyed comfort for most of his life, and would be ill inclined to trade it for the hardship and danger of war, revolutionary ideals notwithstanding. However, their considerable oratorical powers should not be underestimated in the psychological phase of any subversive campaign. Students, by virtue of their education, knowledge and verbal skills, could be useful in raising the less thoughtful members of the community to violent action.

It is now necessary to give a brief outline of the possible tactics which may be employed by subversives in urban areas. Because of the highly complex nature of Western society, a vast amount of records is necessary to keep it functioning smoothly. It would seem then that the loss of such records might substantially impair the efficiency of Western business. Indeed, it has been estimated that a firm which loses its records stands a 43 per cent chance of going out of business.² Although some important records are kept in safety boxes, this is not feasible for the day to day papers, whose loss would still be a serious embarrassment to the organization. The fact that our society runs on such a fragile quantity as paper makes business rather vulnerable. Even the loss of paper supplies would cause the virtual cessation of organized activities in a technical society, so dependent are we on the material. There are many other possible targets for subversive activities, whose loss would damage our society considerably.

In a complex, interwoven technical society, the effect of the destruction of a facility may be measured on two levels, which I shall call primary and secondary. Primary destruction concerns only the actual

² *Modern Office*, July 1969, p. 7

physical damage done to the facility, and may be measured simply by the cost of replacement. Secondary destruction is the damage done to the entire business world by the loss of one of its components. Business may be likened to a piece of fabric. One hole placed in it may not cause a rip, but should this hole occur at a weak point or in an area where the fabric is under stress, a serious rupture may develop. The loss of certain essential facilities in the business world would cause a form of chain reaction which could be serious. For instance, where would we be without petroleum supplies? Yet storage tanks are conveniently grouped together at terminals, a ready target for an enemy rocket or shell. Subversive activity in our cities could wreak considerable havoc. At least the means of causing this damage are well known. Explosives planted in paper mills, petroleum plants and mineral facilities would cause primary and secondary damage out of all proportion to the effort required. It is apparent that subversives would not be short of vital targets or the means to destroy them.

There appears to be no good reason why subversive warfare could not be successful in urban areas. The conditions which foster it can occur, but to date have not been exploited. Urban partisans, if directed by an authority capable of evaluating the conditions in cities and adapting military tactics to the new surroundings, could be a potent force. Should there arise a military leader with the same insight into urban conditions as Mao Tsetung had into rural conditions, the centres of Western power, the cities, may no longer be the strongholds we thought them.

SUPPRESSION

The problem of suppressing subversive activity in a developed Western nation would not initially be given to the Army. Most Western societies possess large and efficient police forces, who would be called upon in the first instance. However, the number of their men trained to deal with serious violence is not large, since many policemen are engaged in more mundane but nevertheless necessary tasks. So in the event of serious organized subversive violence, it is probable that the Army would be required in one capacity or another, for actual combat, or more commonly for guard duty.

As with rural guerilla groups, the best way to defuse subversive activities is to remove the causes of dissatisfaction early. As has been seen in many areas lately, it is no use attempting to perpetuate an iniquitous situation and using force to suppress the victims of this situation. This has been the habit of many small semi-dictatorships,

and it has almost invariably resulted in the emergence of strong guerilla groups which must be suppressed by foreign troops. Fortunately, most Western countries are more or less responsive to public opinion, and generally oppressive conditions have been corrected. However, should it happen that government policy was irreconcilably opposed to the views of a certain group, this group could become the core of a resistance movement. To take a hypothetical case, suppose a substantial number of American Negroes demanded separate black states. A clash with the government would be unavoidable. A subversive campaign by urban Negroes to drive whites from the cities would probably stand a chance of succeeding. So to avoid the possibility of having our cities turned into battlegrounds, it is necessary to act promptly and defuse any potentially explosive situations or conditions. This would in general not be the responsibility of the Army.

Some of the advantages and disadvantages of fighting subversives in urban areas should now be noted. First, we may count it fortunate that military bases have been established in many cities, and that the capitals have several bases scattered over them. So the logistics for a fight against an urban enemy already exist. Should battle be joined, trained, fully equipped troops are available. However, their training and equipment have been oriented to rural conditions, so some changes in those matters will be needed. The experience of American troops in city riots suggests that this is no great problem.

One of the most crucial limitations urban fighting imposes on troops is in the region of weapons. Though it may be acceptable to shell and bomb an enemy city in battle, one can hardly do the same to one's own cities, especially when they are occupied by uninvolved civilians, and may contain only a few subversives. To illustrate this, suppose an enemy group has occupied an important building. One cannot proceed *à la russe* and blast the building down with tank fire, because it probably provides the livelihood of a good many of one's own civilians, not to mention the destruction of any important contents of the building. So urban warfare confers upon the subversive the enormous advantages of essentially equalizing his firepower with that of the Army. The government forces are now reduced to a simple numerical advantage. When one remembers that experience has shown that statistically several troops are required to keep one guerilla in order, it seems that an urban partisan force could tie up a considerable number of troops. The cities would also have first claim on the Army,

since a modern technical society runs on the functions provided in the cities.

However, the military forces have a great advantage in that the size of the area they are working in is relatively small. Thus in a cordon operation it would be difficult for the encircled enemy to 'melt away', as they do in the much larger rural areas. There are only a finite number of roads, subways and drains by which the enemy may escape, and our technical society has it to its credit that all these routes are carefully documented. If a subversive group can be located, the rapid transit potential of urban areas can quickly bring sufficient troops to the area to prevent the enemy from escaping. This is aided by the fact that the government would probably have reasonable control over the communications media and transport facilities, so a cordon could be set up quickly to encircle the enemy.

In a situation of urban warfare waged by subversives, the support of the general population would be necessary for either side to win a victory. Thus the way in which the Army deals with the population will be important. Here it should be realized that an urban group in a Western democracy is much more influential than a rural group in a semi-dictatorship. In Vietnam, for instance, if the villagers object to troops turning their dwellings inside out in a search for guerillas, there is not much they can do about it, apart from going over to the enemy. However, if a group of soldiers with machine-guns made an uninvited search of all the buildings in a Sydney suburb, the resultant outcry would be most worrying to the local MP for that area. So in dealing with urban dwellers in a democratic country, the Army would obviously have to be very diplomatic in its activities. The link between the Army and the population, pivoted at the government, may be jerked very easily. Here there is a certain contradiction: to catch any subversives in the area, the Army must move in and search suddenly and quickly; however, quick sudden searches by the Army are likely to make the householder extremely irritated. The only solution to this is to convince the populace of the urgency of the subversive problem and of the need for unannounced searches. It is to be hoped not too many people ask why the Army let the situation get so serious in the first place. This, I think, exemplifies the problems facing an Army which is not completely autonomous, working in troubled urban areas. A possible solution would be to have a group of civilians or soldiers who are known in the searched area to pacify irate citizens; the security risk here would of course be considerable, but not, I believe, insurmountable.

In view of our Army's extensive experience with counter-guerilla operations in undeveloped rural areas, it is of interest to consider how useful ideas gained there would be in an urban context. There are several parallels. First, people everywhere object to being ill-treated. If either side burns a man's property or injures his family, he will be at least hostile to that side, and may even go over to the enemy. If the enemy is likewise cruel, he will support neither side, which still denies us his co-operation. So the utmost circumspection is necessary at all times. On the tactical side, it seems that the best way to catch disguised enemy is still to surround an area, weed out likely suspects, and try to decide who is enemy and who is not. This will probably be a rather delicate task, as usual.

The need for mobility will still be pressing. In guerilla warfare, mobility effectively increases the number of troops available, since at any one time many areas will be quiet, and men may be spared for zones where action is taking place. One can seldom have the actual number of troops necessary to suppress a guerilla movement, so one must make the best use of what is available. The experience of the French and Americans in Vietnam has confirmed the value of this doctrine. In urban fighting, the same principle applies. A sufficient number of troops must be rushed to an active area to ensure the enemy does not escape. When one considers the potential mobility of an urban subversive force, it becomes apparent that the movement of government forces would need to be extremely swift and efficient indeed.

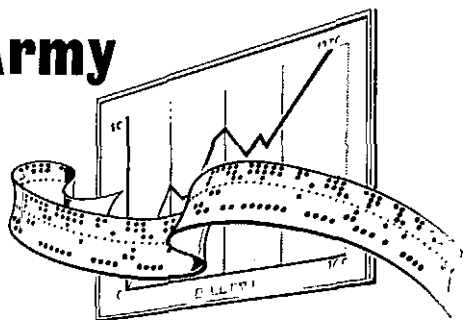
Since urban subversive warfare is an undeveloped concept, military thinking on the subject will need to be imaginative. In this connection it may be profitable to investigate the idea of plain clothes army groups. Military thinking to date has tended to polarize the combatants into the irregular, unidentifiable partisan and the regular, uniformed government soldier. This is for the excellent reason that the regular soldier was operating in an area where he was easily recognizable by ethnic, cultural or other characteristics. However, in a developed Western country, all the population are basically similar, and foreign troops would probably be absent. Consequently a soldier out of uniform would merge easily with the population. This raises the possibility of having plain clothes troops scattered around potentially troublesome areas, where they could quickly notify the authorities of enemy action and perhaps hinder escape until reinforcements arrived. More hopefully, the under-cover soldier might be able to detect rumours of impending enemy activities, and so cause appropriate counter-measures to be taken.

It is of interest to consider what conditions in our cities we must beware of, if we are to avoid serious disturbances, or even open warfare. Some of these circumstances, it will be observed, already exist in some areas. Here experience with rural guerilla movements will be helpful. First, the growth of a substantial group of seriously oppressed or underprivileged persons is a sure danger sign. If these persons have no reasonable means of effecting relief and change or believe they have none, the situation is even worse. If there arise vociferous and belligerent leaders in this group, or it is known that such exist underground, conflict is almost unavoidable. The only real remedy is to remove the cause of discontent. This is not the responsibility of the Army, as a rule, so it is not impossible that the position could deteriorate to conflict requiring the intervention of the military forces.

The question now arises as to how likely it is that urban guerilla warfare would break out in Western cities. Given present circumstances, it seems unlikely. However, it is no secret that the cities of the Western world are becoming more disorderly and dangerous with each passing year. When a large number of people gather together with common grievances, a potentially explosive situation is created. As urban slums and ghettos grow, and the flight to suburbia continues, it is probable that those left to inhabit the cities will begin to ponder on their dilemma. It is paradoxical that the daylight business of our cities keeps the Western world mobile, yet at night the cities are inhabited by those who have least cause to love them. It may be that this peculiar situation will some day bear bitter fruit. For it will be those forced by circumstances to live in cities who will be best able to utilize their possibilities. Military experience has shown time and again that those who fight in their native environment have an enormous, and often insuperable tactical advantage. On a very trivial scale, the ability of adolescent gangs to conduct battles and disappear upon the arrival of police illustrates this advantage. The dispersive ability of a group of determined, well co-ordinated partisans would be considerable — it is not for nothing that the modern city is called the 'concrete jungle', though admittedly for a different reason. To date there have been no seriously organized urban disturbances. However, the potential undoubtedly exists — at the moment it is lying dormant. Should circumstances bring it to life, we may be in crucial danger. For it has been truly said that Western civilization developed with the growth of its cities, and one might add that it will surely decline with the death of those same cities. □

Management Improvement in The Australian Army

*Lieutenant Colonel D. J. Macbride
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Introduction

WHAT I have to say is not new. It can be found in many textbooks and articles in professional journals but I feel the subject is important enough to be presented in a form directly related to the Army.

In this day and age we hear of Cost Effectiveness, Systems Analysis, and Management Information Systems, to name a few. Some of us may also know all the 'in' terms associated with computers. But before we get carried away with this jargon, it is suggested we get it quite clear that the computer is only a means of improving management, and up to the time of the introduction of the computer the Army led the field in management compared with government departments, commerce and industry. The Army has practised Cost Effectiveness, Systems Analysis and used Management Information Systems long before the computer came into being.

The main problem with the introduction of computers is identification of management problems. Working on the principle that you must move from one firm base to another I conclude that we must make sure our existing management is as efficient and effective as it can possibly be before we introduce the computer.

Similarly, reorganization for reorganization sake can be disastrous. The problem areas in our management system must first be identified and changes effected when proven and worthwhile efficiency gain is assured.

Lieutenant Colonel Macbride was commissioned in the Royal Engineers in 1946. During 1947-48 he served in Egypt and Palestine. He was commissioned in the Australian Army in 1950 and has spent his career almost equally divided between regimental appointments in RAE units, instructional duties at AHQ Schools, Works Service Staff, and Staff appointments associated with personnel administration/training. He attended Staff College in 1963-64. His present appointment is SORE Pers/Admin/Trg in the Office of the Engineer in Chief, AHQ.

You may now be saying 'what has all this got to do with me?' Well, as an officer you are a manager, you are at the very root of the problems, and no matter how good the computers, the organization and the 'systems', they are only as good as you make them.

The progressive introduction of computers into Army management, and top level committee studies on Army reorganization place an even greater obligation on you than ever before to know the organization, planning, administration and management within your sphere of influence. You will then, and only then, be able to contribute constructively to the maintenance and development of effective and efficient management in the Army.

The Aim

The aim of this paper is to remind you of the major problem areas and leave you with a message that you in your job must:

- Revitalize your bit of the Army.
- Pay constant attention to man management.
- Make your organization work.
- Keep your systems simple.
- Make maximum use of internal and external audit to help you improve.

The firm base thus created will permit reorganization and mechanization of management systems to be implemented smoothly and in the correct priorities.

Revitalization

The Army needs regular revitalization, otherwise its ability to communicate stagnates, it resists change, and carries out its functions in a routine manner regardless of the results. In other words 'organizational dry rot' sets in. The time frame of organizational decline, without revitalization, varies widely from one organization to another but it is inevitable, and the Army is no exception. This decline is more readily noticed from the outside, even by untrained observers. The main lesson to learn from watching this process is that doing more of the same has never prevented the inevitable end—disaster.

The Army suffers from this complaint just as much as any organization, except that we usually have the chronic type of the disease

rather than the acute. In commerce and industry the lack of earning capacity brings on bankruptcy, so the disease is fatal.

The chronic form of the need for organizational revitalization theoretically permits us to continue forever, making the disease very serious. This organizational dry rot is prevalent, leading to serious results, but it has easily recognizable symptoms, and you do not have to be a highly paid management consultant to identify these symptoms.

They include the loss of headway in striving to meet current problems, and lack of effective evaluation of results against present commitments and objectives. They also include (and even encourage) failure to tolerate self-analysis and criticism, not moving as conditions change, and poor internal communication.

Organizations suffering from the disease do not have a healthy process for determining policies that fit their roles and objectives. They need to review their systems and processes in the light of changed conditions. A real programme for staff motivation is required. A long term plan must point the way to well defined objectives. Finally there must be a deliberate and careful selection of personnel for placement within the organization to ensure continuous revitalization.

All too often organizational 'boxes' are shifted around in the belief that this is organizational revitalization. Such re-shuffling of people and boxes is a kind of make-believe that magically comes up with the same number of staff appointments, without any real change in the capacity to carry out the new roles or objectives.

Personnel Administration

With or without computers the Army, like any other government enterprise, provides a service to the nation. Services are rendered mainly by people, and the service is only as good as the people who render it.

Experience with the labour market and recruitment of people over the past twenty-five years, and particularly so at present, shows that recruiting capable people with leadership, trade and academic potential is a process that requires zeal and persuasion on the part of the recruiter, and clear career opportunities, good salaries and conditions of service, plus challenging work for the recruits. Lack of even any one of these is no way to run a top growth enterprise like the Army.

It does not matter what the job is worth, it is a simple case of supply and demand in the very competitive business of acquiring manpower. No organization can survive if reduced to a process of 'selection-by-rejection' when selecting employees.

Revitalization and expert man management is essential here, otherwise a falling off of comparative values and conditions will result in high wastage of trained manpower, and the retention of only a few ardent supporters whose loyalty and desire for personal security is stronger than financial remuneration.

Management Information Systems

Any successful management activity needs facts upon which to set and base decisions. The facts must flow automatically where needed if they are to be timely and usable. Preferably the fact gathering should be a single recording for all subsequent uses, and it should be structured to provide each level of management with all the data needed for the task. This is a management information system.

Computerization is being adopted by the Army with great enthusiasm and the most common problem is that the computers are departmentalized, so that valuable information does not flow across branch/directorate lines, the systems are not established to produce integrated management information, the systems are not structured for good processing, and the fragmentation of computer capacity does not permit the maximum use of modern, high-powered machines for multiple uses and combination of data for good planning and worthwhile analysis. The limited use of valuable data collected for planning and analysis never fails to surprise the onlooker.

Planning

Planning has been left to last since the data on which it lives comes, to a large degree, from the management information system mentioned. The problem with planning is that there is so little of it. Where planning does occur it is largely in isolated and special areas, some of which is most praiseworthy.

Often strange reactions occur when the word planning is mentioned. Usually it is associated with way-out schemes or as an exercise in the impossible, since who can foretell the future? Planning however, is of many kinds and much of it can be very practical, possible of achievement if studied diligently, and invaluable in guiding future

efforts. For example, can you imagine any well run organization that does not have a fairly good idea of its commitments, objectives and priorities for the next ten years, and indeed the resources (including manpower) to achieve these goals? The answer is no, but on the other hand if an Army did it would be unique in the world today.

However, notwithstanding the difficulties, is action in hand to project the number of personnel by employments that will be needed for growth and replacement for ten years ahead and to discover how these people will be recruited in a rapidly developing country? Have desirable systems changes been identified so that the volume of administration and training ten years from now can be handled? Experience shows that in the past these things have not received regular and adequate treatment, but this is no excuse for not meeting the challenge in the future.

How You Can Help to Improve Management

Some of the changes are fundamental and will be essential to basic and lasting reform. These include adequate policy guidance, realistic personnel policies to fit current conditions, and improved defence planning. Basic reform within the Army to prevent frustrating overlapping of responsibilities must be achieved.

However, regardless of the major governmental, inter-departmental and inter-Services problems it is possible for you to make a major impact on management improvement in your sphere of influence and at any level — and here are five steps you can take in the right direction:

- You must keep your organization effective and capable of carrying out its tasks competently and efficiently. You can only do this by thorough and regular revitalization.
- You will never reach maximum effectiveness without a good system of assessing your achievements. Having no profits standard against which to measure, as industry has, you must measure achievements against set goals and objectives if you are to make any meaningful analysis of results.
- You must insist that supervisors supervise. Supervisors are the key to effective management. Your personal leadership qualities and man management ability will be tested to the full in maintaining the motivation of your staff through your supervisors, whether officers, warrant officers or non-commissioned officers. Ways and means are available to recognize and

reward good work when you evaluate their performance. Failure to do this will inevitably lead to apathy.

- As growth occurs, all work becomes increasingly more complex. You must ensure your staff keep processes as simple as possible, conserve personnel time, ensure accuracy, and mechanize as much as possible into an established integrated system. A word of warning regarding the computer — manual/visual systems currently in use are not necessarily suited to such processing and may need drastic change if the desired result is to be achieved with the computer.
- There is no better way of spurring management improvement than by having an objective and experienced outsider look at your management effort. It is getting to a point where it is a rare private industry that will run the competitive risk of not resorting to this practice. The Army has the Inspectorate of Establishments, Organization and Methods Teams, and auditors, all of whom should be welcomed not avoided. If you can do it internally, go ahead, but if you are serious about improving management in your sphere of influence then objectively determine problem areas, what to do about them and in what order to do it.

These five steps to management improvement are, at any level, a big order when taken into consideration with current work pressures and staff posting turbulence, but they should be permanent processes in our management system.

We can continue to practise the art of good management without the need for intense pressure to do so. If we wait until pressure is in control then it will be too late for the process of orderly management improvement.

If we all make certain our own areas of responsibility are in order, updating where necessary, improving management and helping others when called upon to do so, the Army is flexible enough to accommodate this progress without a massive restructuring and upheaval. The Army will again be at the top in the management field.

A system is only as good as the managers make it. A new system on its own is no guarantee of improved efficiency. The Australian Army could be envied by other armies of the western world because *you* helped to improve the efficiency in management of our existing structure and make unnecessary the costly business of a total reorganization, forced upon us by unjustified and unwarranted criticism. □



Churchill versus Curtin February 1942



Judith Marsh

THE Australian and British governments usually have co-operated harmoniously during wartime. However, there have been some sharp exchanges, most notably over the proposed diversion of the 7th Australian Division to Burma in February 1942. Briefly, the facts are as follows. For years the Australian public had been told that the naval base at Singapore would protect their security. On 15 February 1942 Singapore Island surrendered to the Japanese. The victorious army prepared for further advances towards Australia. At the same time another Japanese force which had invaded Burma from Thailand was rapidly advancing on Rangoon. Aside from partly-trained militia, Australia had raised four AIF Divisions. Of these four divisions one (the 9th) was fighting in the Middle East, and what remained of another (the 8th) was in Japanese prison camps. The 6th and 7th Divisions were in convoys returning from the Middle East. In mid-February the leading ships of these convoys were in the Indian Ocean and were due in Australia within a few days. On 19 February, the day of the first Japanese bombing raid on Darwin, Churchill, the British Prime Minister, asked that the leading division, the 7th, be diverted to meet the Japanese threat in Burma. Curtin, the Australian Prime Minister, refused. On the 20th Churchill repeated his request; as well, without Curtin's knowledge, he ordered the convoy to change direction north towards Burma. Two days later Churchill told Curtin what he had done. Curtin was astounded at the news and, of course, furious. He

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told Churchill that his action had added to the dangers facing the convoy, and insisted that it be turned around again and brought to Australia. Churchill gave way and the convoy, after refuelling at Colombo, sailed on to Australia, having been delayed about a week.

Today most Australians would agree that Curtin's action was correct, and little heat is generated over this almost-forgotten controversy, a quarter-century ago. However, one of Australia's most successful politicians, Sir Earle Page, disagreed with Curtin in 1942. To the end of his life Page held that 'the Australian 7th Division should have been diverted to Burma'.¹ This article seeks to examine the validity of Page's contention.

There are four main factors to be considered in tackling the problem of whether or not the Australian 7th Division should have been diverted to Burma. The first of these is that the problem must be considered both from the British and the Australian governments' points of view. Since the situation in regard to Burma held widely differing implications for the two nations, it is understandable that their opinions concerning the destination of the 7th Division would be similarly diverse. Second, the problem of whether Australia or Britain should have the final say in the destination of any Australian troops should be taken into account. There is also the question of whether or not the division could have saved Burma; and finally, the personalities involved in the controversy must be considered, as personal prejudices and biases might have influenced the situation.

To make the first problem — the difference of Australian and British opinion — clear, it is necessary to outline the military situation which led to the conflict. In Burma the British-Indian 17th Division, commanded by Major-General J. G. Smyth, was being steadily pushed back towards Rangoon. By 19 February the Japanese invaders were across the Bilin River, within one hundred miles of Rangoon by rail. Smyth was preparing to fall back to the Sittang River.² On the same day, three thousand miles away, Japanese planes bombed Darwin, causing considerable damage and killing 238 people.

The fact that the Japanese were threatening in widely separate areas helps to explain the differing points of view of Churchill and

¹ E. C. G. Page, *Truant Surgeon*, Sydney, 1963, p. 341.

² Major-General S. Woodburn Kirby *et. al.*, *The War Against Japan. Vol. II India's Most Dangerous Hour*, London, 1958, p. 62.

Curtin. To take Churchill's side first: Churchill was concerned with the importance of Burma as a link with China. Keeping China in the war was considered an absolute necessity, and the Burma Road served as the main supply route to China. Possibly even more important in Churchill's eyes was the need to hold Burma in order to protect Britain's imperial position in India. Should Burma fall, India would be open to Japanese invasion. The distance of Australia from Britain blinded Churchill to the anxiety which Australia felt for her sparsely-populated homeland, which was in real danger. Churchill, however, was not quite so demanding as President Roosevelt of the United States, who suggested that the 6th and 9th, as well as the 7th Division should be sent to Rangoon. Churchill regarded his request for only one division as a magnanimous gesture which should not be refused. He also felt that, in the light of past events, Australia should not begrudge Britain the use of the 7th Division:

'... we could not help feeling that when in 1940 we had been exposed to the same danger in a far closer and more probable form we had not lost our sense of proportion We therefore felt entitled to ask from them a decision of the same kind as we took when ... we had sent half our scanty armour to the defence of Egypt.'³

Curtin's view of the situation was as different from Churchill's as Australia is distant from Britain. To begin with, the attack on Darwin did not hold nearly as much significance for Britain as it did for Australia, which could not afford to rule out the possibility that it might be followed by a Japanese landing. The report of General Wavell, Supreme Commander, ABDA area, on the situation in Java on 16 February provides ample illustration of the British point of view: 'Loss of Java, though a severe blow from every point of view, would not be fatal'.⁴ To Curtin, Java was part of Australia's 'outer defences'.⁵ Similarly, whereas Britain considered Burma as vital because it was a link with China and a buffer for India, Curtin regarded it as a mere aspect of the war, not nearly so vital as the defence of his threatened homeland. Increasing Japanese naval activity in the waters to Australia's north increased his concern for his country's safety, and made the return of the 6th and 7th Divisions of the utmost importance to him.

³ W. S. Churchill, *The Second World War*, Vol. IV, London, 1951, p. 138.

⁴ Wavell to Churchill, 16 February 1942, cited in *ibid*, p. 125.

⁵ Curtin to Churchill, 23 February 1942, cited in L. Wigmore, *The Japanese Thrust*, Canberra, 1957, p. 452.

This urgency was not diminished by America's promise of support in Australia. Roosevelt, when cabling Curtin to endorse Churchill's request, promised to reinforce Australia with American troops.⁶ However, Curtin preferred the certainty of the 7th Division in February, to the promise of American troops in March or April for, unlike Roosevelt, he thought that Australia might be in immediate danger. Perhaps, too, Curtin thought that the Allies would gain maximum value from their troops if Australians were fighting for their homeland, instead of their being engaged in Burma, with Americans defending Australia. Coupled with Curtin's concern for Australia was a grave mistrust of the British war leaders, after the fiasco in Greece and Crete, and the fall of Singapore. Just as Churchill felt that he was entitled to ask Australia to send the 7th Division to Burma, so Curtin felt he was entitled to refuse. Australia had made great sacrifices in World War I, when she was not directly threatened, and in World War II she had come to aid Britain in a war Australia had no share in creating. In addition to this, Curtin was afraid that if he granted permission for the 7th Division to go to Burma, he might be forced to send the 6th and 9th Divisions in support.⁷

Thus it appears that, considering the situational differences influencing their actions, neither Churchill nor Curtin was *wrong* in what he did. The situation in Australia, however, tends to make the case for Australia's refusing Britain the use of the 7th Division a little stronger than that for Britain's demanding it. Curtin's alarm for his country might have been disproportionate to the actual danger, but it was the first time Australia had been directly threatened, and his anxiety, as leader of the country, was understandable.⁸ Churchill's action in diverting the troops towards Burma without permission from Curtin was definitely wrong. He claimed that he ordered the change of course because he could not contemplate that Curtin would refuse his request.⁹ The historian is entitled to speculate on another possibility, that Churchill allowed nearly forty hours to elapse without informing Curtin of the change¹⁰ because he sensed that his only chance of bending Curtin to his will lay in presenting him with a *fait accompli*.

⁶ Roosevelt to Curtin, 20 February 1942, cited in Churchill, pp. 140-1.

⁷ Churchill, p. 142.

⁸ A. Bryant, *The Turn of the Tide*, London, 1957, p. 311.

⁹ Churchill to Curtin 22 February 1942, cited in Churchill, p. 143.

¹⁰ Wigmore, p. 452.

This leads to the question of the personalities of Curtin and Churchill, and whether or not they had any bearing on the controversy. It appears that they were both strong characters in time of crisis, and that neither took kindly to having his wishes thwarted. Churchill's rather drastic step of diverting the 7th Division before receiving permission from Curtin was obviously the action of a strong-willed man. Perhaps if Churchill had not done this, Curtin might have changed his mind, but in the face of this breach of political etiquette he held his ground and steadfastly refused to allow his men to go to Burma, thus forcing Churchill to back down. This could appear as pure perversity on Curtin's part, but in fact he acted more reasonably than did Churchill, as he had grave doubts as to the advisability of landing in Burma, considering the risks involved. He made this clear in his telegram to Churchill on 22 February: '... in view of superior Japanese sea-power and air-power, it would appear to be a matter of some doubt as to whether this division can be landed in Burma, and a matter for greater doubt whether it can be brought out ...'²²

Churchill's diversion of the troops without prior notification to Curtin raises the question of whether Australia or Britain should have the final say in the destination of Australian troops. As with the actual Burma controversy itself, there are two distinct sides to this question. In British opinion, Australia was merely a Dominion and was not fit to control her troops. This sort of 'colonial psychology', although outdated and unreasonable, was widespread. Britain also felt that since she was head of the Allied forces she should have the right to organize them as she wished, without fear of interference from inexperienced Dominion leaders. Australia, on the other hand, felt that since she had entered the war of her own accord, she should have the right to conduct herself in it as she chose. She also resented Britain's regarding her as a colony, considering herself as a nation capable of independent action, rather than a mere colony. It seems logical to assume also that Australian troops, simply by virtue of the fact that they were Australian, should be under Australian command. Considering these insoluble antitheses, the compromise effected by Britain and Australia — whereby Australian troops served under a British commander, but his Australian subordinate had the power to consult the Australian government, and, if necessary, refute British

²² Churchill, p. 142.

orders — seems the only sensible way out. It created problems, however, as it meant that the destination of Australian troops became as much a governmental as a military affair, as the Burma controversy clearly illustrates. Under the conditions of this compromise, Australia had the final say in the destination of her troops, so that Churchill's diversion of the 7th Division without Curtin's consent amounted to a breach of promise. This makes Curtin's case all the stronger, as a feeling of distrust for Churchill would be the natural result of this breach of faith.

Reconsidering the military aspects of the situation there is one final point to be taken into account. This concerns the chances the 7th Division would have had of saving Burma, had it in fact landed there. The question of *time* was vital in Burma — the 7th Division was demanded immediately. Churchill thought that it could have begun landing about 26 February. By this time the British-Indian 17th Division had been largely eliminated as a fighting force at the Sittang River.¹² This disaster seemed to seal the fate of Rangoon. On 27 February the evacuation of that port was proposed though the proposal was countermanded by Wavell.¹³ The fact that the 7th Division, not anticipating the need for any immediate action, was travelling with the men separated from their heavy equipment meant that, according to General Lavarack, commander of I Australian Corps, it could not become operative until 21 March.¹⁴ In the event, Japanese troops entered Rangoon on 8 March. Whether the division, committed piecemeal to action, would have made any difference to the battle's outcome, is debatable. Churchill obviously felt that the Division stood a chance, and Field Marshal Viscount Alanbrooke, Chief of the Imperial General Staff, agreed with him, writing after the event: 'I still feel that the arrival of this division . . . might well have restored the situation and saved Burma'.¹⁵ However, one must not forget that the 7th Division, though composed of battle-hardened veterans, had had no training whatever in jungle warfare. Many of us today are appalled at the cool assumption that troops with no jungle training could be thrown into action in Burma against an experienced and confident enemy and given a good chance of survival, let alone victory. Significantly, though

¹² Churchill, pp. 138-9; Woodburn Kirby, pp. 63-75.

¹³ Woodburn Kirby, pp. 85-6.

¹⁴ Wigmore, p. 463.

¹⁵ Bryant, p. 311.

Churchill and some of his top military advisers made that assumption in February 1942, later British military thinking disagreed with it. Field Marshal Sir William Slim, who took command of Burma Corps after Rangoon fell, was convinced that troops had to be properly trained before they could give a good account of themselves against the Japanese in the jungle. General Smyth's considered judgement was that 'without another two divisions of jungle trained troops no commander could have defeated the Japanese in Burma in 1942'.¹⁶ At the critical time in February 1942 the vital fact was that Curtin did not share Churchill's confidence. 'The movement of our forces to this theatre,' wrote Curtin, 'is not considered a reasonable hazard of war . . .'.¹⁷ The British Government obviously believed that the division would have a chance, but in the light of the military situation in Burma, and the failures in Greece, Crete and Singapore, Australian doubt seems more convincing than British confidence. Having landed their 18th Division in Singapore in January, just in time to be captured by the Japanese, the strategy of the British higher command in February might have resulted in the Australian 7th Division meeting a like fate. The British official historian of this campaign concludes: 'the last-minute arrival of an Australian division could have affected the situation no more than the arrival of 18th Division did at Singapore'.¹⁸

Although primarily concerned with the safety of Australia for its own sake, Curtin used additional strategic arguments in his exchange with Churchill.¹⁹ He claimed that Australia would be a better base than Burma for building up Allied armed might for the eventual counter-offensive. He gave two reasons for this. First, Australia had a superior industrial basis for providing the munitions of war; second, there was no doubt about the will of the Australian people to resist the Japanese, whereas the Burmese could not be relied on wholeheartedly to support the British war effort against Japan. Perhaps the very insecurity of the British hold on Burmese loyalty was an additional reason for Churchill taking the action he did over the 7th Division.


In the final analysis, therefore, it appears that the Australian 7th Division should *not* have been diverted to Burma. The Australian Government, being responsible for its country's welfare, was properly

¹⁶ Purnell's *History of the Second World War*, Vol. 3. No. 3, p. 962.

¹⁷ Curtin to Churchill, 22 February 1942, Churchill, p. 142.

¹⁸ Woodburn Kirby, p. 104.

¹⁹ Curtin to Churchill, 23 February 1942, Churchill, p. 144.

discharging its duty when, after careful consideration of the risks involved, both in Burma and at home, it insisted on the return of the 7th Division to Australia. Although British and American claims on Australian allegiance were not entirely unreasonable, the military position in Burma made the chances of the 7th Division's succeeding in turning the tide of the Japanese advance very slim. Considering the fact that Japan had commenced bombing attacks on Darwin on 19 February, just when the dispute began, Curtin's persistence in withholding his permission for the division to proceed to Rangoon was not only understandable, but in fact the only course which could be considered ethical for a man whose country was facing what he considered mortal peril from a ruthless foe. 

LOOKING BACK

Problems of co-operation between allied armies were encountered by Australians in the Middle East, Malaya and the South-West Pacific. Discussion of them necessarily crops up in each volume of this series. It seems evident that the difficulties that arose could have been foreseen and were not sufficiently discussed between the wars either in Britain or the Dominions — or the United States. However, if answers are wanted to the special problems likely to be faced by the smaller partners in coalition wars it is the business of the smaller partners to find them, because the larger partners are unlikely to be interested until too late.

The Australian Ministers and their senior military advisers seldom influenced Allied strategy and then usually in a negative way, as when they obtained the diversion of the 7th Division from Burma to Australia, which was wise; and the withdrawal of the 9th Division first from Tobruk and then from the Middle East, which can now be seen to have been not strictly necessary. As it turned out the Australian Government was concerned rather with providing — or withholding — forces than with deciding how they were to be employed in the field.

—Gavin Long, *The Final Campaigns* (1963)



General Baron Leo Geyr von Schweppenburg
German Army, Retired

Translated by Dermot Bradley

WITH the world political scene in a continual state of flux, it would be presumptuous to attempt anything more than a rough forecast about future events.

It is enlightening to compare the world map at the end of the 18th century with that of the turn of the present century and to think of the situation at the moment. With the greater part of the 20th century already behind us, we are faced with a revolutionary and continually changing situation. We can attempt to cast a roving glance at some of the parts of the world stage.

The advance into space has begun. As a result hitherto common conceptions and scales of judgement of space and time have been undermined. But the shrunken planet Earth, regardless of how small its size has become through the development of intercontinental connections, remains the only planet with life on it. That is also a ground for reflection.

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It is now a categorical imperative to think politically in terms of world seas and continents instead of states and large interior lakes, such as the Baltic and the Mediterranean have become. State borders, such as those of Luxemburg, Jordan or Laos, appear in reality to be an anachronism similar to the city and state formations directly subject to the Holy Roman Empire at the end of the 18th century in the still important Europe of the time.

By thinking in terms of continents and seas, we raise the question about their present political, economic and strategic importance. In so far as it is expressed, one may differ from the following judgement: at the present, the Pacific and its large border states, the Soviet Union, Red China and the USA., are of prime importance.

Japan has already become a large question mark.

The Soviet Union

The state of defence of the giant Russian empire is rather unequivocal. On the whole it can only be attacked from space and by inter-continental missiles or by similar weapons from the sea.

From the point of view of the Kremlin, and even more so in the future, the main military problem is the Russian-Chinese relationship and the borders in East Asia. There are a number of reasons for the enmity between these two great powers, both bordering on the Pacific. Their mutually exclusive territorial claims have already existed a long time.

The confrontation over territorial claims is even stronger than the different ideological state of the barometer in their communist development. It is most important for the Western point of view, that the Soviet Union can have no interest in a nuclear war. The Kremlin views the growth of Red Chinese influence in Asia with anxiety. The same is true of Africa, where in the Tanzania of Nyerére, Peking has secured a firm footing. The Russians, however, have done the same further to the south, by establishing diplomatic relations with the immediate neighbour of South Africa, Botswana, the former British Protectorate of Bechuana-land.

The future interests of the two giants are increasingly overlapping each other in various corners of the world. In Asia, itself, the Soviet efforts in Afghanistan and India, and the Chinese efforts in East Pakistan and Nepal can be mentioned.

The present Russian-Chinese negotiations have again run into difficulty. Their goals were different. Russia wanted a complete settlement, whereas China was only interested in border questions. An informative article in *Pravda* stated recently that the warmongering propaganda of Peking, characterized as jingoism, is not a suitable negotiation language with Soviet Russia, and in addition that it works in the interests of the imperialist powers.

There is a certain further anxiety in Moscow because of a possible political settlement, even though limited in time, between Peking and Washington. Its realization would be of essential importance for the situation in the Pacific. Radio Moscow mentioned this anxiety in a broadcast in the Chinese language two days before the resumption of the Chinese-USA negotiations in Warsaw.

The political tension around the Pacific is also concerned with the decisive influence in this ocean itself. The USA won it for themselves in World War II, only to lose it again, partly through their Asian policy in the ensuing peace. In this situation, Russian policy has a decisive advantage over that of America. It consists of a far greater, traditionally conditional experience with Asiatic conditions and the Asiatic mentality. In addition, the high financial demands, even for the far-reaching political goals, are not subject to the scrutiny of the Russian people. The Kremlin alone decides. The situation is different in the USA, where even the President must have due regard for public opinion.

An essential part of the Russian-USA relationship has still to be mentioned. Two days after the signature of the Space Treaty on January 29 1967, the result of ten years of negotiations, the Soviet Union tested its first new type Space rocket (the F.O.B.S.—Fractional Orbit Bombard System). Its use, according to reports from the USA, could cut warning time from 15 to 3 minutes, by bypassing the radar stations of England, Greenland and Alaska via the South Pole. In addition, according to further American sources, a battle of Russian satellites with the mission of destroying US reconnaissance satellites is now possible in space. The former US Secretary of Defense MacNamara recognized this dangerous possibility immediately. According to English sources such Russian satellite tests have already taken place in space, so called 'wargames in space.' Based on the news from Radio Moscow, it must also be mentioned that the recently concluded manoeuvres in White Russia took place under the assumption of the use of atomic warheads on both sides (with simulation).

Red China

Throughout its history, a strong China has always been expansive. The tendency is equally true of the tsarist and of the communist period of the history of the Soviet Union. Today Red China is again a nation, rapidly increasing in strength and self-confidence. In Chinese opinion, Mongolia and East Siberia are Chinese territory. By examining the Red Chinese position from political, military and economic points of view, we shall endeavour to come closer to the possible course of action by Peking in the future.

In the political sphere we are concerned with goals and various possibilities. It is probable that such a clever and far-seeing politician as Mao will not allow himself to be drawn into a large-scale conflict, despite the strong emotional and encouraged standpoint of the Chinese nation against everything western—at least not at the moment. It seems to be more likely that Chinese action will be decided by a succession of risky steps towards the increase of Chinese influence. This is also true of smaller consciously encouraged military skirmishes between the two great powers in East Asia. Finally, Peking thinks of a fact, that is otherwise little known: in August 1939, on the occasion of a Japanese attack on Mongolia, a Russian army under the command of one of the best Soviet soldiers of World War II, the later Marshal Zhukov, inflicted an annihilating defeat on the 6th Japanese Army, a typical example of Cannae.

Naturally we can only deal with the present period of history. What is to be expected from Peking after Mao's death remains fully open. Two facts, however, may be taken for granted in Chinese policy. No matter how events take their course, they will have decisive influence on the fate of the Pacific Ocean and essential influence on the policy of other great powers. In addition, it can certainly be assumed that Red China, of all the great powers, and as a matter of principle, will have the least hesitation in using atomic weapons, and this is especially so towards the middle of the coming decade, when it possesses an arsenal of sufficient atomic strength.

A brief survey of the present situation of the military potential of China follows. The army calls itself the People's Liberation Army. There are 13 military districts in Red China and in all there are 35 armies with a strength of 2.3 million men continually under arms. It is characteristic that the centre of gravity of Chinese dispositions still lies opposite Formosa. The army is more concerned with interior duties,

than the armies of other states. Although well equipped with regard to arms, the army is not very mobile and consists mostly of infantry corps. There are only a few armoured and airborne divisions. Since the explosion of the first atomic bomb in China in 1964, according to reports of the US Atomic Energy Commission, eight Chinese atomic tests have been ascertained.

The presently available medium rockets would have SE Asia, India, Japan, Korea, Okinawa, Formosa, the Philippines and the Soviet Far East within their effective range. A general estimation shows that there were about 50 atomic warheads available in 1967 and that a yearly increase of 20 can be reckoned with. Intercontinental missiles will probably only become available between 1972 and 1975. This fact gave rise to the much disputed plan for an American anti-rocket system.

For reasons of strength and quality, the Chinese air force is still unable to compete with those of the USA and the Soviet Union. On the whole, the Chinese armed forces do not as yet present any danger for the Soviet military potential.

In speaking of the Chinese economy, it can be said that it is at present in a rapidly advancing development stage. It is scarcely possible to ascertain individual details. However, the industry and the technical skill of the workers can be mentioned.

The Chinese maps of today show different borders with Soviet Russia from those known in the maps of the Soviet Union. It is to be expected that Peking's policy in the immediate future will restrict itself to support of a group of states, which are ready or have already begun to wage a people's war for their independence. In this matter, one should not overlook the fact that the government in Peking acts on the basis that the West capitulated in Korea and France likewise in Indo-China and that the same fate awaits the USA in Vietnam. Mao made the characteristic statement: 'The east wind is stronger than the west!' The provisional restriction to a political, economic and ideological offensive is more probable than a premature military adventure.

China can wait. So its history teaches. The battle as to who will become communist heavyweight champion in the West Pacific and East Asia is reserved for the future.

The USA

Several former strategic assumptions in the grand strategy of the USA belong now to the past:

- British control of about a dozen bottlenecks in the high seas and the invulnerability of the USA, due to the geographical position surrounded by the sea.
- Because of Mao's theory of a revolutionary undermining struggle and the tactical split-up of the communists in the far reaches of an Asiatic theatre of war, the opponent cannot be militarily dealt with using those means which have brought success and will continue to do so in the narrowness of the European theatres of war. The number of bombs dropped by the US air force, which is far greater than of World War II, is wasted, with the loss of about 1,500 US aircraft.
- Control of the Indian and Pacific Oceans is no longer dependent on just air and sea power. A decisive pillar of this control is the maintenance of superiority in atomic rockets and in space.
- Communism has to all intents and purposes already practically won the war in SE Asia, because the USA has failed to attain its war goal. Growing public opinion in the USA demands the withdrawal of American forces from the continent of Asia and partly also from the military commitments in the West Pacific.

The consolidation of their communist regimes and the build up of nuclear power by the opponents of the USA continue. Russia has essentially equalized in this sphere. The US Congress has been told that in the case of a Russian surprise attack (with SS-9 missiles) a decisive high percentage of the American Minuteman silos would be rendered useless. The Red Chinese atomic and missile development, especially when China has intercontinental missiles in just a few years, can become a threat to the Western coast of the USA.

One can raise the question, whether the Americans are interested in the defence of Western Europe only in so far as they need this continent as a forward defence area of the Atlantic. Australia in the Pacific is in a similar situation. There is anxiety in Australian professional circles about the unconditional security of US support despite the ANZUS Treaty. The treaty binds the USA, Australia and New Zealand to common provision for their security and defence in the Pacific areas. The considerable increase of the Australian defence budget underlines those Australian fears.

Indeed, in general, it appears doubtful as to how far the USA will be in a position to keep all otherwise paper treaties in this part of the world and how far it must restrain itself to the attempt to maintain its forward posts in the Pacific, the island chain Okinawa, Formosa and the Philippines, this being due to the double-sided pressure of the strategic development in SE Asia and the American public opinion.

In all the defence principles of the USA there is a certain retreat to an increased emphasis of its own defence recognizable. If the negotiations in Vienna (begun April 1970) with the Russians about the limitation of strategic weapons end in failure, then according to the responsible US Secretary of Defense, the USA will be forced to build up the anti-ballistic rocket system. In addition, the construction of mobile underwater bases for intercontinental missiles along the USA coast would have to be pushed forward to an increased extent.

World political affairs at the present are mainly concerned with Asiatic problems. The world-wide struggle between capitalism and communism appears to be provisionally making the Pacific area, above all E and SE Asia, the main theatre of war. Asia has never had a democratic tradition nor the concept of personal freedom. A great part of the continent is already communist and further parts seem to be steering willingly or unwillingly in this direction.

For the hungry masses of Asia the political system is Hecuba. Capitalism and its democracy was never able to solve the main problem of filling the daily rice dish. Communism, whether of Russian or Chinese stamp, delivers weapons for the alleged war of liberation and dangles the hope of improvement of social and economic conditions. SE Asia, embattled for years in a bloody war, remains in a military geographic sense of prime importance only because of the control of shipping lanes from Europe to China and Japan through the Straits of Malacca and Singapore.

The great question mark in the Pacific at the moment is Japan. Practically speaking this state can perhaps decisively influence the history of the Pacific area.

The economic miracle of the technical development, the build up of Japanese industry and the enormous navy is all too well known. □

A CREATIVE PROBLEM SOLVING TECHNIQUE for NON-TACTICAL PROBLEMS

*Major J. S. Kendell
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Introduction

IT has been said that every decision we make is the result of an appreciation, either conscious or unconscious.

The formal military appreciation is an indispensable aid and an invaluable check list for commanders at all levels when faced with tactical problems. Without considerable modification however, this formal technique is not a suitable aid for solving other than tactical problems.

There is a need in the Service for a formal technique, similar in purpose to the appreciation, for solving non-tactical problems. It is most needed in those problem areas which are ill defined and not always self evident. In a peacetime environment, more so than an operational one, several months of routine checks may be needed to gain an indication that a problem exists. Closer scrutiny might be necessary to either negate or substantiate the initial indication.

Aim

To show a suggested method for solving non-tactical problems at the staff level, with emphasis on technique and creative thinking.

Major Kendell graduated from the Royal Military College in 1954, and served with 2RAR as Intelligence Officer and platoon commander 1955-57. He has served with the Citizen Military Forces as Adjutant, 31 Inf Bn 1957-59, and as CO 1RNSWR (Cdo) in 1966-67. He attended the Australian Staff College during 1965 and the United States Marine Corps Command and Staff College, Quantico, in 1968-69 after serving as DAAG IATF in South Vietnam in 1967-68. Training appointments have been held at IRTB Kapooka, 1961-62 and the Royal Military College, 1963-64, whilst his present appointment is Instructor, Tactics Wing, JTC, Canungra.

Definitions

Creative Thinking. This is the imaginative re-combination of known elements into something new and useful.¹

Problem Areas. Areas of military activity in which a solution is required to a situation in need of correction, or an activity capable of being improved by the application of practical ideas.

Creative Problem Solving

There are six phases in the suggested method. A simplified *aide-memoire* is appended. The phases are:

- Recognize the problem
- Gather data
- List all possible solutions
- Test possible solutions
- Select the best solution
- Apply the solution.

Phase 1. Recognize the Problem

As in an appreciation, this aspect requires careful deliberation. The wrong aim produces the wrong solution, no matter how brilliant. The four steps of Phase 1 are, in sequence:

Identify the Adverse Effects. These questions will help:

- What is wrong here?
- What appears to be the difficulty?
- Why am I concerned?
- What was it that called my (my superior's/subordinate's) attention to the problem?

Analyze the Problem. Having discovered the adverse effects, it is now essential to uncover the cause of these effects. There might be only one, but more often there are several related ones. In complex problems research is needed to find obscure relationships between effects and their origin.

¹ Alex F. Osborn, *Applied Imagination*, published by Charles Scribner's Sons, New York, Third Edition, 1967 p. 34.

Limit the Problem. The third step is to limit the problem to those areas over which we have, or our commander has immediate control. Concentrate on the areas you can do something about.

Tentatively State the Problem. Keeping in mind the causes of the problem and the limits you have set, make a tentative statement of the problem, asking how these causes can be removed. However, as more information is collected in Phase 2, the problem might have to be restated.

Phase 2. Gather Data

In this phase all data relating to the problem is collected. Although some will come to light if the first step of Phase 1 is thoroughly done, this is seldom sufficient in itself. A scanning of the relevant files should help, followed by discussions with

Your own staff officers and NCOs,

Your commander, and most important,

Subordinate unit commanders and staff officers.

The information so gained should now be classified into one of four categories for ease of reference and amendment.

1. *Facts.* Those statements which can be proven.
2. *Assumptions.* Those statements which may or may not be true, and which should be used only if insufficient facts are available.
3. *Definitions.* These are needed only when difficult, unfamiliar or ambiguous terms are used. They assist the person working on the problem and your commander when considering the solution.
4. *Criteria.* Criteria are standards which the solution must, should, or could meet, and usually include those imposed by higher authority. The *must* criteria are critical, and correspond to the limitations imposed on the aim in an appreciation. The remaining criteria have varying degrees of desirability, and must be weighed accordingly as either *shoulds* or *coulds*. Common criteria are:
 - Finance.
 - Time.
 - Establishments and equipment tables.
 - Space.

- Doctrine.
- Tradition, custom and convention.

Evaluation of the Data. Of the data collected, ask these questions:

1. Is it pertinent?
2. Is it factual, or in the case of assumptions, are they reasonable?
3. Is it current?
4. Have I sufficient?
5. Does it cover all aspects?

It would be advisable at this stage to go back to the tentative statement of the problem and check its suitability. Once firm, the statement of the problem should be referred to constantly during the remaining phases.

Phase 3. List the Possible Solutions

This phase could be the most difficult if it is to be creative. Imagination, even more than knowledge, should be brought into play. The paragraphs which follow, although somewhat of a digression, include suggestions to increase creativity and stimulate ideas.²

Blocks to Creativity. If the usual blocks to creativity can be recognized, then it is probable that our ability in this regard can be increased. These restrictions are evident to varying degrees in everyone. They can conveniently be classified into *Habit*, *Fear*, *Prejudice* and *Inertia*.

Habit. Perception habits are the habitual way we perceive things as a result of our experience and background. Sometimes the mind does not register all that the eyes see, but registers only sufficient to classify the information into recognizable and familiar categories. The part that is missed is very often the essential element of difference which the imaginative mind can grasp.

Remedy. Habit blocks can be reduced by:

- Consciously using all the senses possible in the gathering of information.

² In essence, the Phase 3 section of this article is a summary of parts of a segment of the United States Marine Corps Command and Staff College Course, the text for which was a college pamphlet, 'Programmed Creative Problem Solving' — programmed meaning self-administered.

- Developing the habit of continual search for solutions to problems with a questioning mind.
- Being willing to change.
- Asking, 'Have I considered all the available information, and is it current, valid and complete?'
- Trying to see the whole picture; things are not always as they seem.

Fear. The person prone to this block is the one not willing to take a chance on making a mistake. He is afraid of ridicule and of losing prestige, and therefore remains silent or inactive.

Remedy. Thorough preparation is most likely to reduce the chance of failure, and as the frequency of success increases, so will self confidence.

Prejudice. Prejudice has been defined as preconceived judgement, and is the result of influences by parents, schools, occupational environment and friends. Prejudice may be directed against objects, individuals, groups, or their real or supposed characteristics. It is often strongest in areas of family, politics, religion, rank, class, education, culture and intelligence.

Effect. Whatever the cause, prejudice often blinds us to such an extent that solutions contrary to our prejudices do not even occur to us. Here we prejudge before all the facts are known.

Pride. We tend to defend our own solutions and ideas, many times failing to see the ideas of others, especially if they oppose those of our own.

Remedy. Even deep-seated prejudices can be minimized by consciously refusing to close our minds to new ideas. The first step, and the most important one, is awareness and recognition of our prejudices.

Inertia. Ideas, like matter, conform to Newton's laws of motion. They require external energy to start in motion or for a change in direction. The inertia block thrives on:

Complacency. When a person is completely satisfied with things as they are, and does not wish to change, his standards are usually low.

Procrastination. Never do today what can be put off until tomorrow.

Attitude. A negative attitude of 'it won't work'.

Remedy. Accept the fact that there are very few situations indeed, which can not be improved upon.

Brainstorming Technique. One technique of stimulating ideas is 'brainstorming', which can be used individually or by a small group. The four rules of brainstorming are explained below.

1. *Withhold Judgement.* Judgement must be withheld during the search for ideas. Critical analysis comes later. If this is not done, what appears to be an impractical idea in isolation may well be discarded before it can be considered in relation to all ideas presented. An idea, impractical in itself, can often give the spark to other ideas, or when combined with another, can produce an original and creative solution.
2. *Freewheel.* Record all ideas, including the exceptional, unusual and odd, immediately they are conceived. A tape recorder is an invaluable aid for this when working in a group. Any deliberation at this time will naturally introduce judgement, and stifle imagination and creativity. Aim for speed in producing ideas.
3. *Aim for Quantity, not Quality.* The longer the list of ideas, the greater the chance of having some good ones. On occasions, the best ideas come up when the individual, or the group, considers that the subject has been exhausted. Keep at it — this could be the most fruitful period.
4. *Accept Related Ideas.* Accept ideas which might be only variations of others already offered, or combinations of others. The ideas of one person might stimulate another in a different line of thought. When brainstorming individually, use the same principle.

Phase 4. Test All Possible Solutions

In this phase, judgement and critical analysis are applied to the solutions for the first time. They are tested against the assembled criteria of standards, limitations and requirements.

The Practical Solution. Irrespective of the type of problem, and the criteria given or deduced, the following criteria are common to all solutions and should be satisfied:

- *Timely.* Do not re-invent the wheel. Likewise, ensure that your solution has not been tried before and found wanting.
- *Long Range.* Will the solution have a lasting effect, or will the problem recur in the foreseeable future?
- *Cost Effectiveness.* Are the expected results, compared with the present results, worth the additional expenditure in resources, such as time, equipment, men or money? The problem, and the expenditure needed to rectify it, should be compared to other problem areas under review; it may have a lower priority.
- *Acceptability.* Solutions generally should fall within current doctrinal limits. You should be aware also of what is and what is not acceptable to your commander. He is the person you must convince initially. Similarly, the solution to a problem in your area of responsibility will have some effect on your own staff and subordinate units. Do not guess what their reaction will be; find out — your commander could well ask. However, if the Gather Data phase has been thoroughly done, this will be known already.

Phase 5. Select the Best Solution

Final Evaluation. Ideally, the best solution is the one which meets all the criteria. If no single solution meets all the criteria, then that which satisfies the most important of the criteria should be selected. A combination of several solutions should be considered also if this occurs.

Solutions	Must Criteria			Should Criteria			Could Criteria			
	1	2	3	4	5	6	7	8	9	10
1	*		*		*		*	*	*	
2		*	*	*	*			*		
3	*	*	*				*			
4	*		*		*		*		*	
5	*			*			*			*

In the example, solutions 1, 2 and 4 meet more criteria than either 3 or 5. However, solution 3 meets all the critical criteria whereas the remainder does not.

Solution 3 is not the ideal, but it is the best in this case.

Phase 6. Apply the Solution

If the solution has to be presented to your commander for approval, remember the following:

He is a busy man, and is interested in brevity rather than verbosity.

Present your commander with one or two alternative solutions, with a comparison of advantages and disadvantages. Point out the reasoning behind your selection.

Be prepared to go into detail on any point if asked to do so.

Follow-up Action. Plan to include some follow-up action to evaluate the success of the implemented solution.

Conclusion

The system of creative problem solving can be an indispensable check list if used conscientiously. It does fit into an area which abounds in problems, whether in peace or in war, and for which there has been no officially produced *aide-memoire*.

The problems faced by the staff might not be as immediately critical as those faced by tactical commanders on operations, but they are far less clearly defined, take longer to isolate and longer to rectify. However, it is safe to say that poor administration and logistics have an overall effect on operations that is equally important to a commander as the correct tactical decision.

AIDE-MEMOIRE

Phase 1. Recognize the Problem.

Identify the adverse effects.

Analyze the problem.

Limit the problem.

Tentatively state the problem.

Phase 2. Gather Data.

Facts.

Assumptions.

Definitions.

Criteria.

Evaluation of the data.

Phase 3. List the Possible Solutions.

Blocks to Creativity:

- a. Habit.
- b. Fear.
- c. Prejudice.
- d. Inertia.

Brainstorming Technique.

- a. Withhold judgement.
- b. Freewheel.
- c. Aim for quantity, not quality.
- d. Accept related ideas.

Phase 4. Test all Possible Solutions.

The Practical Solution.

- a. Timely.
- b. Long range.
- c. Cost effectiveness.
- d. Acceptability.

Phase 5. Select the Best Solution.

Final evaluation.

Criteria check.

Phase 6. Apply the Solution.

Commander's approval.

Follow-up Action. ☐

REVIEWS

WHAT IS COMMUNISM? by Michael Davis, (SEATO Publication 1970. 46 pages).

Available free of charge from the Public Information Office,
SEATO Headquarters, P.O. Box 517, Bangkok, Thailand.

Reviewed by Major A. R. Howes, Army Design Establishment, Melbourne.

Pamphlet No. 11 'Counter Revolutionary Warfare' in *The Division in Battle* series states, in its preface:

The Revolutionary Warfare with which this pamphlet is concerned is Communist inspired and Communist led. Communist ideology, Communist powers of organization and above all Communist discipline render a revolutionary movement of this nature especially formidable.

Therefore, *in addition to the doctrine contained herein*, (reviewer's emphasis) some understanding of the practical consequences and methods of Communism is required by those who would excel at the Cold War task of countering Communist revolutionary warfare.

This reviewer considers there is scant updated resource material available to military officers from official sources. However, this compact 4-inch x 5-inch booklet *What is Communism?* by New Zealander Michael Davis explains how the Communists work to create conditions that will enable them to grab the reins of power. He does not delve too deeply into the ramifications of Communism in its different forms. To do so would obscure the issue and soften the impact of his message, which is that whatever the brand of Communism — Russian or Chinese — there is but one objective; world domination.

The booklet's sections give a good indication of its total coverage:

Defining Communism Class Morality and Class Guilt

Class and Class Warfare Dialectical Materialism

Applying this principle of dialectical progress, Davis explains, the Communists believe that retreat is often as necessary as advance. The objective is fixed; it does not change. The direction of progress towards the objective frequently reverses. He uses an apt analogy to help illustrate the method. Note the marked similarity to the recent actions of the Jordanian terrorists.

'Suppose you are the man of the family, and a crazed man enters the house and points a gun. He says — "Call your wife and your daughters". You obey. He then says — "I propose to shoot your daughters first. Then I propose to shoot your wife. Finally I propose to shoot you".

'Can you imagine the tensions, the emotions, the thoughts surging through your mind? Alternative courses of action suggest themselves; you wonder if you might catch him off guard; you wonder whether it would be better to stake everything on one mad rush; the end of life and all its hopes seem to be at hand. Then suddenly he smiles and says — "Let's discuss it. Let's negotiate. Give me a thousand dollars and I'll forget the whole thing". Life changes from gloom and darkness to radiance and hope. For one thousand dollars this man is going to give you the life of your daughters, of your wife and your own life. What tremendous generosity. In the act of relaxation the man secures that which has been his goal all the time — the thousand dollars.

'By the application of the principles of the dialectic, Communists have been able to secure millions. Deception is at the heart of Communism, but to the Communist this is not immoral. It is the logical scientific application of the dialectic.'

Other sections include:

The Communist Party	The World Communist Movement
Party Recruitment	Front Organization
Training	The Common Aim
Communist Activity	

As SEATO Secretary-General Lt Gen Jesus Vargas writes in his foreword:

Since 1917, when Lenin seized power in Russia, the Communists have taken over 14 countries, and now control more than one billion people — about a third of the world population. But the Communists' appetite for power is never satisfied. The vigilance of ... free world organizations ... is not enough to stem the Red tide. The man-in-the-street must also be fully aware of the threat to his liberty from Communist machinations. I believe that this booklet can make him more alert to that danger, and that it will help the cause of world freedom.

Perhaps in the absence of an Australian Government publication in suitable short form, this useful free booklet by Michael Davis, *What is Communism?* might be reprinted. Its distribution to at least Australian service officers would assist in the 'understanding' of Communism, rightly deemed a requirement in Counter Revolutionary Warfare. □