Canadian ARMY Journal

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CANADIAN ARMY JOURNAL

The aim of the Canadian Army Journal, which is published under authority of the Chief of the Defence Staff, is to provide the Canadian Army with information designed to keep it abreast of current military trends, and to stimulate interest in military affairs. The views expressed by authors are their own and are not necessarily those of the Department of National Defence.

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The Cover

The Canadian Army Journal passes into history.

Message from the Honourable Paul Hellyer, Minister of National Defence, and The Honourable Léo Cadieux, Associate Minister of National Defence

This Fall a new publication, the Canadian Forces *Sentinel*, will appear on the Canadian military scene. It will be an informative, well-illustrated periodical which will assume many of the functions long performed by the *The Crowsnest, Canadian Army Journal* and *Roundel*, and it will be produced in English and French.

In addition to combining what has been best in these publications, it will offer a wider view of the objectives, functions and activities of the Canadian Forces than has previously been possible. In short, it will be a reflection of Canada's fresh, new approach to defence matters and the vital place of the military in the life of the country.

We would be remiss if we allowed the three present publications to pass into history without some recognition of their importance to the services and the country at large. Thanks to the loyal support they have received from their readers (who were also in many cases their writers) and the efforts of their editorial boards and staffs, *The Crowsnest, Canadian Army Journal* and *Roundel* have provided a valuable record of the services for more than half a generation.

The careers of these fine publications cannot be said to be ending since what is best in them will be incorporated in the *Sentinel* and their influence will persist for years to come, to the enduring benefit of our armed forces and Canada.

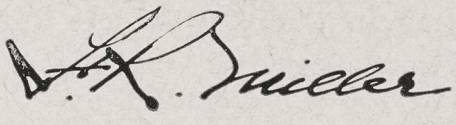
A Statement From The Chief of Defence Staff

My task of announcing that *The Crowsnest,* the *Canadian Army Journal* and *Roundel,* the official magazines of the Royal Canadian Navy, Canadian Army and Royal Canadian Air Force, respectively, cease publication with this issue leaves me with mixed emotions. On the one hand, I am saddened by the knowledge that the magazines which made such outstanding contributions to service life will no longer be with us; on the other hand, I am pleased that a new integrated service publication is about to make its appearance.

The service publications came into existence with the objective of helping their readers stay informed on matters which were of particular interest and value to them. These periodicals succeeded in achieving this difficult aim, and played an important role in keeping service personnel, veterans and interested private citizens aware of the military's past achievements, present plans and future aspirations.

But magazines of the calibre of *The Crowsnest, Canadian Army Journal* and *Roundel* could not be produced solely by the labours of the magazines' editors. They required, and received, the assistance of many people and it is these personnel whom I wish to thank now: the individuals of all ranks who, throughout the years, wrote articles or took photographs; those who used their artistic talents to brighten the magazines' pages; and those whose advice was eagerly sought and gratefully received. To all of these people I express my sincere gratitude for their dedicated efforts. Without their unfailing support, the existence of the service publications would not have been possible.

With the passing of the present magazines, a new publication, in keeping with the principles of integration, will be created. I extend to this new periodical my very best wishes and I call on all service personnel to give it their wholehearted support.



Air Chief Marshal
Chief of the Defence Staff

A Note to Subscribers

As this is the last issue of the *Canadian Army Journal,* we would like to inform subscribers that the unexpired portion of their paid subscriptions may be applied to the new Canadian Forces magazine, the *Sentinel.* However, these who do not wish to receive it may apply to the Queen's Printer, Ottawa, for a rebate.—*Editor.*

A FAREWELL TO THE JOURNAL

It is with fond memories that we say goodbye to the *Canadian Army Journal,* which ceases publication with this issue.

The *Journal* was launched in both the English and French languages in April 1947. It replaced a publication which veterans of the Second World War will remember well—the *Canadian Army Training Memorandum (CATM)*—which came into being in 1941. If we take this as the birthday of what is now the *Journal,* it has served the Canadian Army well for nearly a quarter of a century.

The *Journal* has had only one Editor during its lifetime—Mr. J.G. (Jack) DeProse. He and his staff—Miss Frances O'Connor, his editorial assistant; WO 1 B.J. Reddie, the staff artist who has recently joined the Graphic Arts Section at Canadian Forces Headquarters; and Mr. H.M. Hands, draughtsman-photographer who has now retired—deserve a great deal of credit for the success of the *Journal.*

The members of the Editorial Board join in thanking Mr DeProse and his staff for their fine work and to wish him and his assistants success in their new task of producing the *Sentinel.*

Mr. DeProse

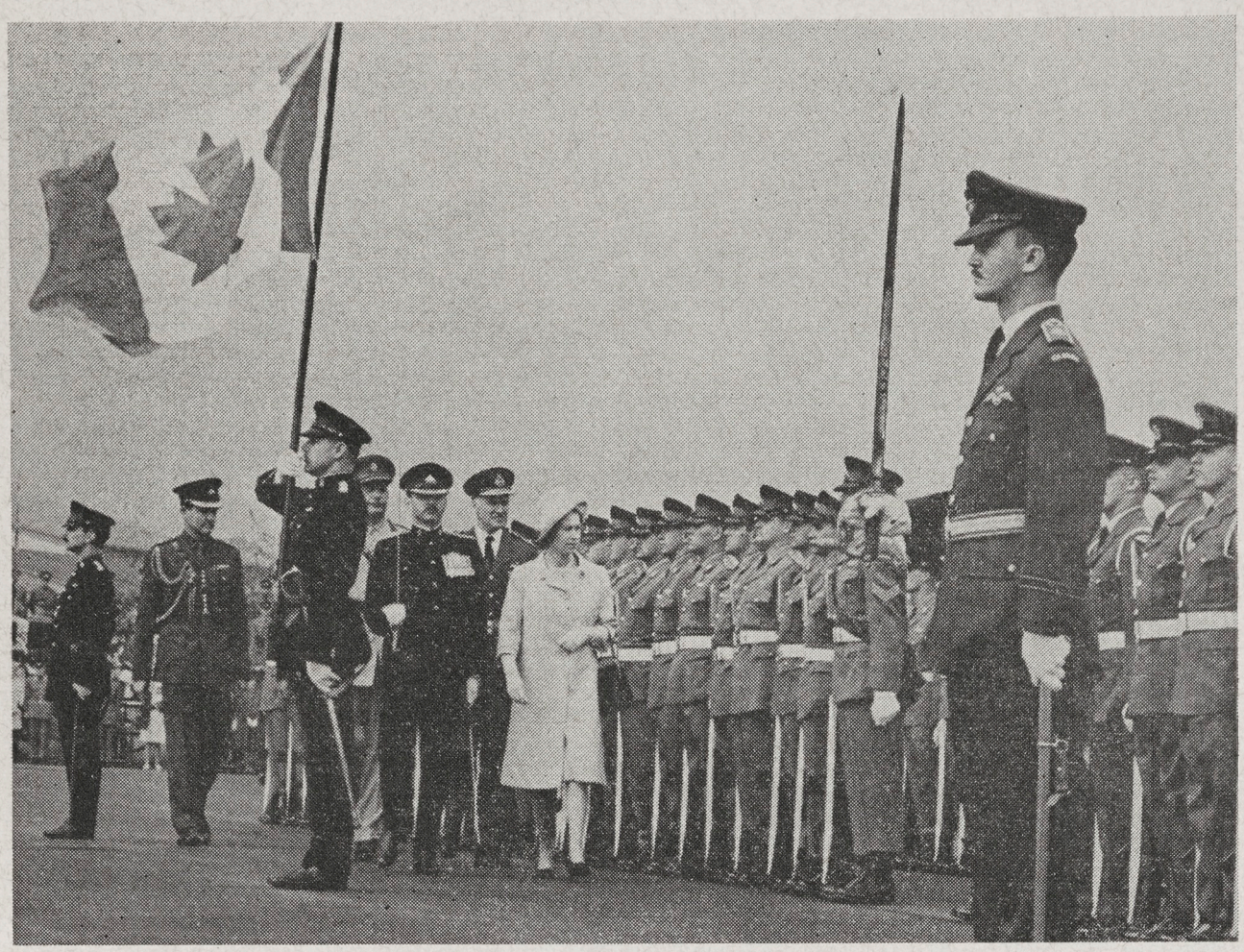
Brigadier W.A. Milroy, (Chairman)
Colonel S.C. Waters
Colonel V.R. Schjelderup

The Quadrant "Dies"

Soest (West Germany): The Quadrant, the magazines of the 4th British Division of the British Army of the Rhine, ceased publication earlier this year.

The Quadrant first came into being during the Second World War when it was published in Italy and Greece to keep the troops of the 4th Division informed of activities in the division.

In 1947 this division was disbanded but nine years later was reformed in Germany with its brigades and units located in Westphalia and Lower Saxony. With the advent of the 4th Division *The Quadrant* was once again brought into being.—*From "The Beaver", the newspaper of the Canadian Army in Europe.*



Canadian Forces Photograph

Her Majesty the Queen inspects the 100-man guard of honour during her visit to the Canadian Forces in Soest, Germany, on 26 May. On her right is Major André Therrien, who commanded the guard composed of members of the Royal Canadian Air Force and soldiers from "B" Company, 3e Bataillon, Royal 22e Régiment. With the inspecting party are Brigadier A.J. Tedlie, commander of the 4th Canadian Infantry Brigade, who is seen behind the guard commander, and Air Vice Marshal D.A.R. Bradshaw, Air Officer Commanding 1st Air Division, who is seen behind Her Majesty. Division commanders, left to right, are Lieutenant Gerald Couture, Royal 22e Régiment, and Flight Lieutenant G.G. Bristowe, RCAF. The flag bearer is Lieutenant Paul Renaud, Royal 22e Régiment.

Her Majesty Congratulates Canadians

The following is the text of a message sent to the Headquarters of the 4th Canadian Infantry Brigade Group by Her Majesty the Queen on 26 May 1965 following her visit to the 1st Air Division and 4 CIBG in Germany on that date:

"It has given me pride and pleasure to visit the 1st Air Division RCAF and the 4 CIBG this morning. The precision of the fly past and the smartness of those who were on parade do the utmost credit to all ranks of both Services. My husband and I send our

Canadian Forces Photograph

A close-up view of Her Majesty the Queen inspecting the guard of honour during her visit to the Canadian Forces in Germany.

warmest congratulations to all who serve in the Canadian Army and the Royal Canadian Air Force in Germany and our best wishes to them and to their families.

Elizabeth R."

Princess Margaret Colonel-in-Chief Highland Fusiliers of Canada

Her Royal Highness, The Princess Margaret, has consented to become colonel-in-chief of Canada's newly-formed Highland Fusiliers of Canada.

The new militia regiment, whose headquarters will be in Galt, Ont., was created by the amalgamation of two of Ontario's distinguished Highland regiments in the reorganization of Canada's militia in 1964.

Her Royal Highness formerly held the appointment of colonel-in-chief of the Highland Light Infantry of Canada, Galt, Ont., before its amalgamation with the Scots Fusiliers of Canada, Kitchener, Ont. Princess Margaret also holds a similar appointment for The Princess Louise Fusiliers, a Halifax militia unit.—*From a news release by Information Services, Canadian Forces Headquarters.*

Canadian Forces Photograph

Her Majesty Queen Elizabeth, the Queen Mother, accompanied by Lt.-Colonel John D. Learment, CD, Commanding Officer of the Toronto Scottish Regiment, inspects the regiment prior to the presentation of new Colours.

Queen Mother Presents Colours to Toronto Scottish

Her Majesty the Queen Mother as Colonel-in-Chief presented new Colours to the Toronto Scottish Regiment June 25 at a ceremony at Varsity Stadium during her five-day Royal Visit to Ontario's capital city.

The capacity crowd of 20,000 gave Her Majesty a standing ovation on her arrival. She was welcomed by Lord Thomson of Fleet, Honorary Colonel of the regiment.

(Continued on next page)

Genius Does the Impossible

Doing easily what others find difficult is talent. Doing easily what is impossible is genius.—*Henri Frederic Amiel (1821-1881), Swiss philosopher and critic.*

Canadian Forces Photograph

The new Colours presented to the Toronto Scottish Regiment by their Colonel-in-Chief, Her Majesty the Queen Mother, are saluted by the escort during the Trooping of the Colours at Varsity Stadium, Toronto.

Her Majesty told the assembly: "Your devotion to duty when the world's peace was threatened is emblazoned for all to read on the Colours I have given you tonight."—*Directorate of Information Services.*

Science in the Army

A high level of general scientific knowledge is essential if the army is to function in the most efficient manner in this modern age. Such knowledge will improve the understanding of new equipments and techniques. It will help to produce the best equipment for the army quickly. It will raise the professional status of officers in the public eye and it will enable officers to maintain the highest standards of leadership. Obviously the level of knowledge required will vary considerably, but it is essential that all officers are able to appreciate the significance of scientific advances and their applications to a modern and efficient army.—*Major R.A. Clark in "Science and the Officer", Australian Army Journal.*

PETROLEUM IN WAR AND PEACE

by

MAJOR N.A. SHACKLETON, CD*

It is a widely recognized fact that in modern war oil is a commodity equally as indispensable as ammunition and manpower. Less well appreciated is the tremendous volume of petroleum products required to power modern naval, military and air forces. In the course of a single day's operations the current main battle tank may consume more than a hundred gallons of fuel. During the Second World War two-thirds of the total tonnages of goods supplied to the Allied fighting forces were petroleum products. In the European Theatre at the height of major combat periods this approached 141,000 tons—or more than one million barrels per day. In terms of wheeled transport this figure represents some 42,000 truckloads of jerricans.

In the event of a conventional war in Europe, or in other areas of the world where the West is likely to be confronted with large-scale hostilities, the provision of adequate supplies of petroleum to meet the tactical, strategical and economic needs of the Allies will be a problem exercising a decisive influence upon the conduct of operations. The nature of this problem will be considered in this paper.

**A Royal Canadian Armoured Corps officer, the author is second-in-command of Lord Strathcona's Horse (Royal Canadians) stationed at Sarcee Barracks, Calgary, Alberta.*—Editor.

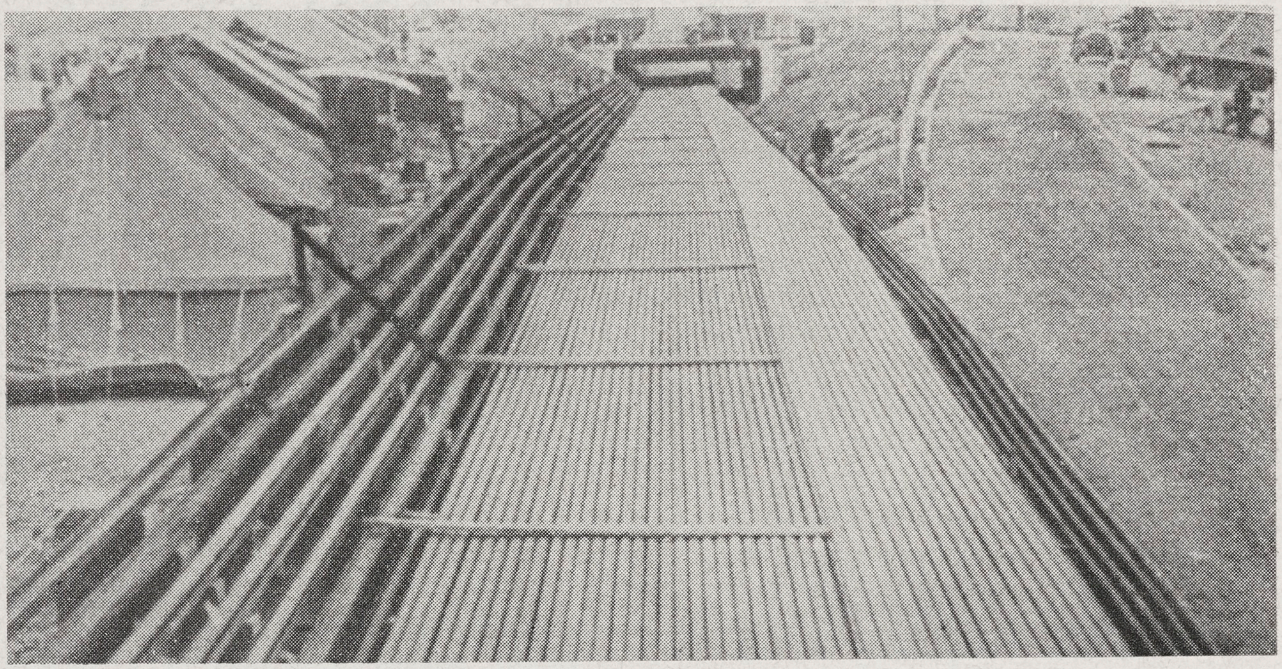
Petroleum and the Second World War

Transportation of the vast quantities of oil required to power the industries and war machine of the Allies was one of the most formidable tasks confronting the supreme command during the Second World War. This entailed the employment of the tanker fleets of the free world to move oil from the producing centres of Asia and the Western Hemisphere, the construction of pipelines and storage facilities in Europe, and the eventual transfer of much of this petroleum to the 12 million jerricans which were in use at the height of the campaign.

By far the most tenuous link in the supply chain from the producer to the front line consumer was the oil tanker. Allied merchant marine losses to enemy surface raiders and submarines were of the order of 14 million tons of shipping throughout the war; and tanker ships carried approximately one half the tonnage moved by sea.* It is noteworthy that the bulk of the tanker losses were inflicted by the enemy submarine fleet.

An ingenious expedient employed to meet the fuel demands of the forces fighting on Continental Europe was the PLUTO operation or Pipeline Under The Ocean. A British project, PLUTO was carried out by the Army

**This figure is gross tons—the total cubic capacity of a ship expressed in units of 100 cubic feet per ton.*



"Operation Pluto" was the name given to the petroleum pipeline project under the ocean in the Second World War. This 200-mile stretch of pipe was stored ready to be wound on a drum.

and the Royal Navy with the advice of experts from the major oil companies. The system included four 66-mile lengths of pipe from the Isle of Wight to the Cherbourg Peninsula and 16 pipelines extending from Dungeness to Boulogne.

Linked to British and Continental networks these pipelines eventually carried millions of gallons all the way from Liverpool to Frankfurt-on-Main. Construction of the system was based upon the development of a three inch-flexible cable type of pipe which could be wound on a 30-foot diameter bobbin or drum. Twenty-foot stems of this pipe were welded into 4000-foot lengths. For laying the pipe, floating docks were built, each of which carried 70 miles or 1600 tons of pipe. Electric winches powered the drums which unwound and laid the pipe on the seabed.

Much of the land pipeline laid by the Allies was also three inches in diameter. A basic United States Army type was the Quartermaster Corps Line made up of 15-foot lengths with flexible couplings. Accessories included lightweight pumps and T connectors to provide take-offs from any joint. A one-mile span of this pipe could be carried on five 2½-ton trucks. The pipe could be laid on the surface at one mile per hour, and it could deliver 200 gallons of fuel per minute. It was used in conjunction with portable rubber tanks or 100,000-barrel capacity steel storage tanks. Operating at capacity the line could transport more than 200 truckloads of fuel per day.

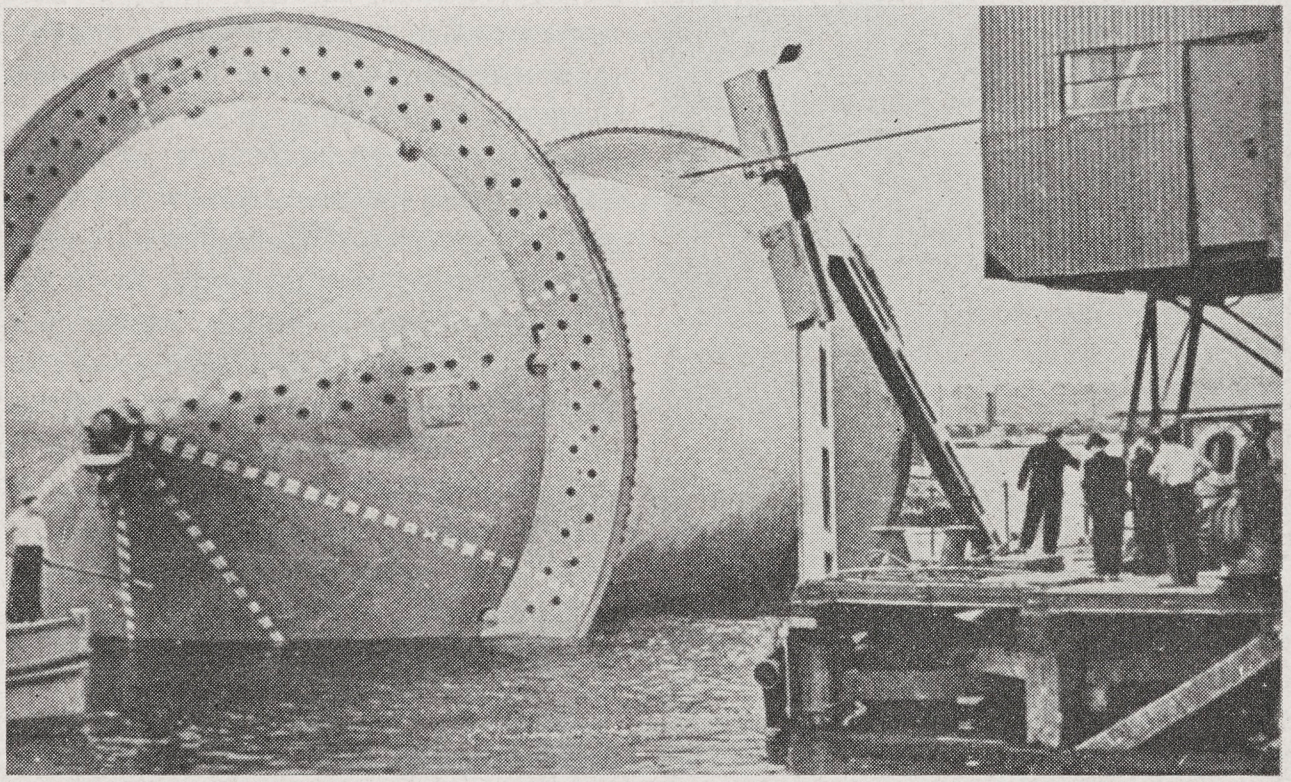
Tactical Trends —
Petroleum Supply

In future operations military pipelines will be employed in much the same fashion as they were during the Second World War but on a larger scale. To meet these increased demands the bulk supply concept has been

adopted. The aim of this technique is to provide fuel in bulk well into the forward areas wherever possible by use of pipelines, portable storage tanks, cross-country tankers and rolling liquid transporter types of vehicle. Under this concept the jerrican will only be used to supplement the bulk fuel transporter in terrain inaccessible to these vehicles.

In the event of war in Europe existing commercial pipeline facilities will undoubtedly be utilized to the fullest extent by the NATO authorities in conjunction with their 5300-mile military pipeline and 10-million-barrel capacity installations. However, in the realm of field supply, either in Europe or abroad, it is probable that the United States Army has made the most significant progress in recent years. In brief, this system involves the shipment of petroleum in tankers to marine terminals at ports or at beachheads. From the tankers the fuel is pumped into terminal storage facilities; each of these consists of tank farm complexes possessing a storage capacity of up to 1 million barrels. They could be located about four miles inland and be served with one or two 12-inch pipelines capable of unloading the largest tanker in less than 24 hours.

From the marine terminal storage facilities petroleum will be pumped forward to intermediate tank farms and thence to the pipehead via a trunk-line from which branch-lines of four-, six-, or eight-inch pipe emanate to serve inland storage installations, airfields and bulk distribution points. Inland tank farms may contain a complex of storage tanks with a capacity of 400,000 barrels. The pipehead terminal supporting a field army could move forward by bounds every two or



The big drum which laid the pipe on the sea-bed as it was towed across the English channel to the Continent in "Operation Pluto".

three days. Portable storage tanks at the pipehead would be the 10,000-gallon (238-barrel) collapsible envelope type.

Tactical pipeline systems designed to meet the needs of a corps or army may be constructed of 20-foot sections of tube fabricated from light-gauge steel with standard weight pipe nipples welded to each end; the latter are grooved for a standard coupling. These couplings permit rapid construction (there is no welding), they impart a degree of flexibility at the joints and facilitate the replacement of defective pipe. A 20-foot section of four-inch light weight tubing weighs 82 pounds. Because of its thin wall light weight tubing is not buried; and in locations where the damage hazards are acute standard weight or commercial pattern pipe is substituted.

For fuel supply closer to the combat troops an assault pipeline system is under development. This consists of four-inch flexible hose which is delivered in flaking boxes containing 1000 feet each. The hose is connected by aluminum couplings; five boxes crated together can be loaded onto a truck and the hose dispensed at 20 miles per hour. Pumping requirements vary with the terrain and the rate of flow can extend from 150 to 275 gallons per minute.

Petroleum Replenishment at the Unit Level

As we noted earlier, the distribution of fuel to the fighting troops will, more often than not, be carried out by bulk fuel transporter. There are two important developments in this field—the 5000-gallon tank truck and the rolling liquid transporter. The former vehicle has a curb weight of 19.75 tons, a speed of 31 m.p.h., good cross-country performance and an amphibious capability whilst loaded. The rolling liquid transporter consists of two large fuel containers in the form of synthetic rubber cell wheels equipped with a towing rig, brakes, and an emptying and filling mechanism. The transporter carries 1000 gallons of fuel and it can be towed by a variety of vehicles. It is expected that these or similar vehicles will be used to close the gap between the pipehead and the combat consumer.

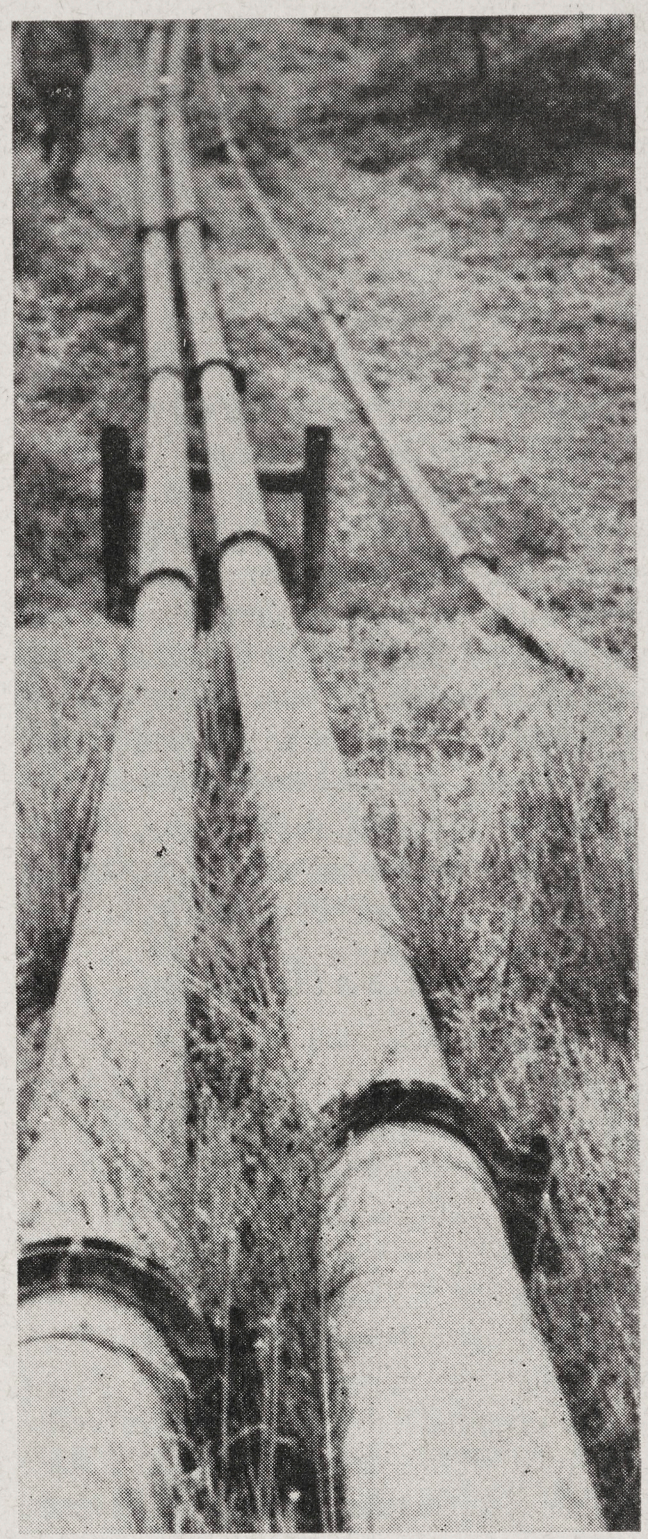
The extensive use of military pipeline and storage systems is the most economical means of transporting petroleum up to the battle area in a theatre of operations. Although pipelines are subject to guerrilla activity and tampering by civilians, and the tank farms are attractive targets for air and missile attack, in a friendly territory their advantages far outweigh their shortcomings. The burden of fuel transportation is largely removed from overloaded road and rail networks; bad weather presents fewer problems and pipelines can be laid over terrain unsuitable for major roads. They are relatively immune to air attack and such damage which is sustained can be quickly repaired. Furthermore, a 10,000-barrel capacity storage tank with a diameter of 55 feet and a height of 24 feet is easier to protect and conceal with blast walls and camouflage than a comparable volume of petroleum stored in jerricans or oil drums.

However, the extent to which combat troops should be compelled to rely upon bulk fuel transporter vehicles for replenishment is debatable, partic-

ularly in the case of armoured troops. The arguments in favour of the bulk fuel transporter—economy of vehicles, manpower and effort are difficult to refute from an academic point of view. Nevertheless, a future war in Europe, in the initial stages at any rate, will be defensive in character. Troops will be widely dispersed with relatively small armoured elements in support of infantry. Most replenishment will be carried out in darkness over difficult country; and it seems doubtful if the circumstances will always permit the bulk fuel transporter to exploit its advantages to the fullest extent.

In short, the arguments in favour of the retention of the jerrican replenishment system can be demonstrated by the refilling of an 18-tank squadron deployed over a frontage of 3000 yards at night time. The needs of this subunit can be met by less than 600 jerricans (3000 gallons) carried on three vehicles travelling in an echelon one or two tactical bounds behind the unit. Because of their close affiliation and proximity to the tanks being supported, troops of the supply element have less difficulty in negotiating the ground in darkness and in locating the tanks to be supplied than would the driver of a bulk fuel transporter who had travelled all the way from a pipehead—possibly 20 or 30 miles to the rear. The supply vehicles deliver their jerricans simultaneously at their respective tank detachments after which the empties are collected and the vehicles move to the rear, at which time they are replaced by vehicles of a succeeding echelon.

If it is possible to concentrate the 18 tanks in a leaguer, or even on a road, well-trained troops using jerricans, can replenish the fuel of a tank



The Rhine River pipeline which snaked across the French and German countryside maintained as much as 100,000 barrels of fuel in transit during the Second World War. Note the flexibility of the couplings.

squadron and move off with the empties in less than 20 minutes. The advantages of the jerrican method are its flexibility; all the eggs are not in one basket; fuel can be hand-carried to concealed locations; and when tanks are concentrated they can be refilled at a speed comparable to the bulk refuelling method. In addition, vehicles are available for other employment when not carrying fuel.

From the foregoing it would appear that fuel supply in proximity to the enemy must be a judicious combination of the bulk supply and jerrican systems. The latter, however, has been thoroughly tested in war; and until it is proven beyond doubt to be less practicable than supply by bulk transporter it would be unwise to discard it. Until that time, it is important that individuals and sub-units retain the dexterity and the drills required for the speedy replenishment of armoured troops by use of the jerrican.

Petroleum and NATO Europe

Turning from the tactical to the strategical aspects of petroleum supply we are confronted with a problem of a different magnitude. The European industrial revolution of the 19th century was powered on coal. To an evergrowing extent the dynamic industrial developments of the 20th Century are energized by oil. From oil is produced a multiplicity of commodities whose diversity includes fuel, rubber, fertilizers, drugs, detergents, plastics, chemicals and explosives. These contributions to the modern world are provided by an extraordinary complex and ubiquitous industry. Its activities extend from the corner service station to the deserts of Kalahari. It directs an army of surveyors, geologists and engineers in a continuous search for oil; it coordinates the movements of great tanker fleets, the construction of pipelines, the operation of refineries and the distribution of a vast assortment of finished products without which the prevailing industrial and economic standards of the West could not be maintained.

The military importance of uninterrupted supplies of petroleum has been clearly demonstrated in the past two major wars. Less apparent, during these conflicts, has been the relative invulnerability of the economies of the European countries to lengthy deprivation of overseas oil resources. In the First World War oil had scarcely begun to supplant coal as a primary source of industrial energy; and animals provided much of the agricultural motive power and military transport. In the Second World War synthetic oil produced from coal, together with other expedients, substantially reduced Continental European dependence upon imported oil. Since that time there have been drastic changes.

Millions of Europeans now depend upon oil for heating, cooking and transportation. The coal-burning locomotive and steamship are obsolescent; and the industries based upon the utilization of coal tar derivatives are being superseded by that phenomenon of the 20th Century—the petrochemical plant. It is a foregone conclusion that, in the predictable future, the military potential of the West and its economic viability are inextricably linked to the production, transportation and refining of petroleum.

Petroleum and the Suez Episode

The extent to which Europe has been making the transition from the solid fuels to oil was dramatically revealed at the time of the Suez crisis in the autumn of 1956. During that year European demand for petroleum was estimated at more than 2.3 million barrels per day (bpd). Of this 1.6 million bpd were shipped through the Suez Canal. A further .76 million bpd destined for Europe and other countries were shipped from the Middle East to the Mediterranean via the Iraq Petroleum Company (IPC) pipeline and the Trans Arabian pipeline (Tapline).*

The immediate result of the blocking of the Suez Canal and the destruction in Syria of the pumping stations of the IPC pipeline was the loss to Europe of about two million bpd—more than 70% of its usual oil supply. This situation prevailed until the oil which normally went through the canal could be shipped to Europe via the Cape route. However, because of the longer time needed for tankers to make this journey supplies via the Cape could amount to barely 60% of the oil formerly directed through the canal. It has been estimated therefore that the European shortage amounted to about 45% of the normal requirements. The Tapline, owned by the Arabian American Oil Company, continued to deliver more than .3 million bpd from Saudi Arabia to the Lebanese port of Sidon but shipment of this oil was made on the condition that none of it would go to the two greatest European consumers—the United Kingdom and France.

The shortage was dealt with by the European oil companies together with the Middle East Emergency Committee which consisted of representatives from the major American oil companies. The aim of the committee was to coordinate tanker resources, arrange for the exchange of crude oil products and blending agents and to organize the use of storage facilities with a view to shipping the most oil to Europe at the lowest cost. The success of the project hinged mainly upon the efficient employment of the tanker fleets in moving oil from the centres of production and in altering established supply systems to meet the deficit in Europe.

In general, the changes in tanker routings involved the movement of oil from the Tapline to the Mediterranean area of Europe exclusively—instead of to Western Europe, the United States and Canada. Oil normally shipped to the United States East Coast and to Canada from the Persian Gulf was diverted to Europe and the American and Canadian deficits were met by increased production and movement of United States Gulf Coast oil. Having discharged their cargoes in Europe, certain tankers moved in ballast to the Caribbean where they picked up cargoes of crude for Latin America; they subsequently moved in ballast to the Persian Gulf and thence to Europe. Caribbean oil formerly destined for South America was shipped to Europe.

At this time the world tanker fleet totalled more than 2700 vessels with a

**For the purpose of discussion the Middle East producing countries include Iran, Iraq, Saudi Arabia and those states contiguous to the Persian Gulf.*

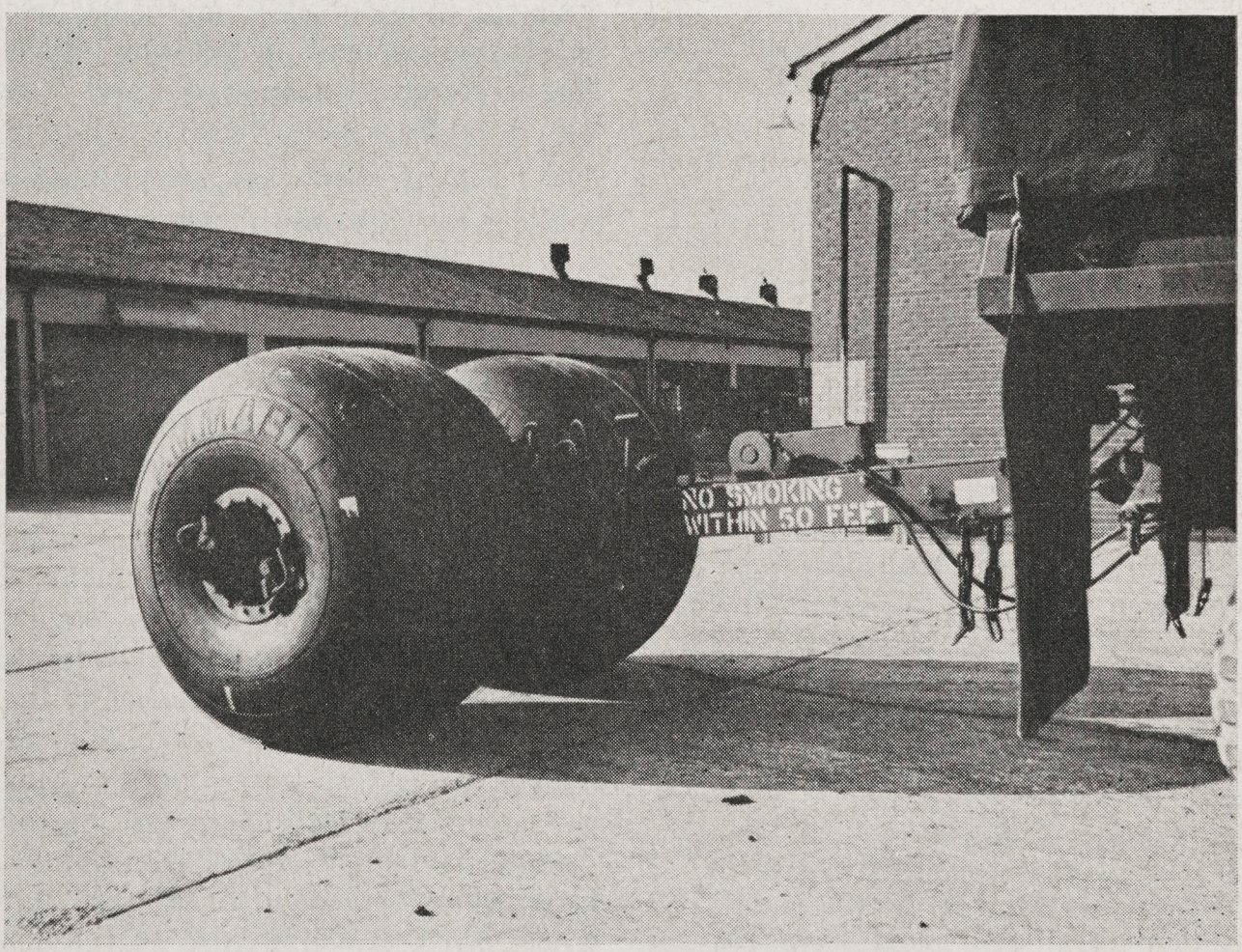
cargo capacity of about 44 million tons dead-weight (DW)* or approximately 339 millions barrels of motor gasoline. However, because of essential commitments to dependent consumers elsewhere, a significant proportion of this fleet could not be made available for the movement of oil to Europe. The Japanese requirement, for example, amounted to .28 million barrels daily, most of which was imported from abroad.

The economic and military implications of the Suez episode are significant. The expenditure of a few tons of explosive to block the canal and to cut a pipeline sufficed to deprive Europe of about one-fifth of its oil requirements. There is no guarantee that this will not happen again, either by enemy action during the course of a war or by the political intervention of the territories through which oil must transit.

Petroleum and Europe in the Sixties

A re-examination of the petroleum situation nine years after Suez reveals that Europe and the Middle East have arrived at a degree of economic inter-

**Dead-weight tonnage—the total carrying capacity of a vessel including fuel, water, provisions, stores, etc.*



The United States Army's rolling liquid transport carries 1000 gallons of fuel. It is amphibious and incorporates a device for emptying and filling. It can be towed by any vehicle fitted with a standard towing pintle.

dependence greatly surpassing that which ever existed in the past. The increased registration of European cars, trucks and buses is a criterion of this trend—between 1956 and 1962 the number of vehicles jumped from 20.8 million to 32.01 million. The consumption of petroleum products rose to the point where it met 41% of all energy requirements, solid fuels accounting for 54% and the remaining 5% of power needs being met by hydro electric, nuclear and gas resources.

In 1963 this rising demand represented a daily consumption of 5.9 million barrels—90% of which was imported from the Middle East—more than double the quantities imported in 1956. In the light of the Suez experience this massive dependence upon Middle East oil constitutes a threat to European economic and military security.

Self-interest of the Middle East oil-producing countries and other factors tend to ensure that the flow of oil will not be interrupted in time of peace. In 1963 the oil produced by the Middle East, over and above the area's domestic needs, amounted to 6.1 million bpd. Unless consumed by Europe the vast bulk of this supply would remain unsold. Furthermore, Middle East access to alternative markets and its capacity for competition with other oil-producing areas are limited for several reasons. By circumstances of geography and history these states lack the requisite industries, technology and marketing facilities for the large-scale refining, transportation and distribution of finished petroleum products. The tanker fleet of the Middle East is less than .3 million tons DW; that of non-Communist Europe, at 39.6 million tons, accounts for more than half the world's tankers. The refining and cracking capacity of the area, built and operated largely by non-indigenous technicians, is roughly two million bpd —that of Western Europe exceeds five million barrels.

Notwithstanding, in the event of war dislocation of the European oil supply appears inevitable.

Alternative Petroleum Resources

Low production costs and proximity to Europe account for European dependence upon Middle East oil. This is exemplified by the fact that a barrel of Middle East crude costs less in Eastern Canada than a barrel of oil produced in Alberta. However, recent developments in North Africa, and possibly in West Africa, indicate that these areas could partially replace the supplies obtained from the Middle East. In 1963 Lybia, Algeria and Morocco together produced more than 1 million bpd.

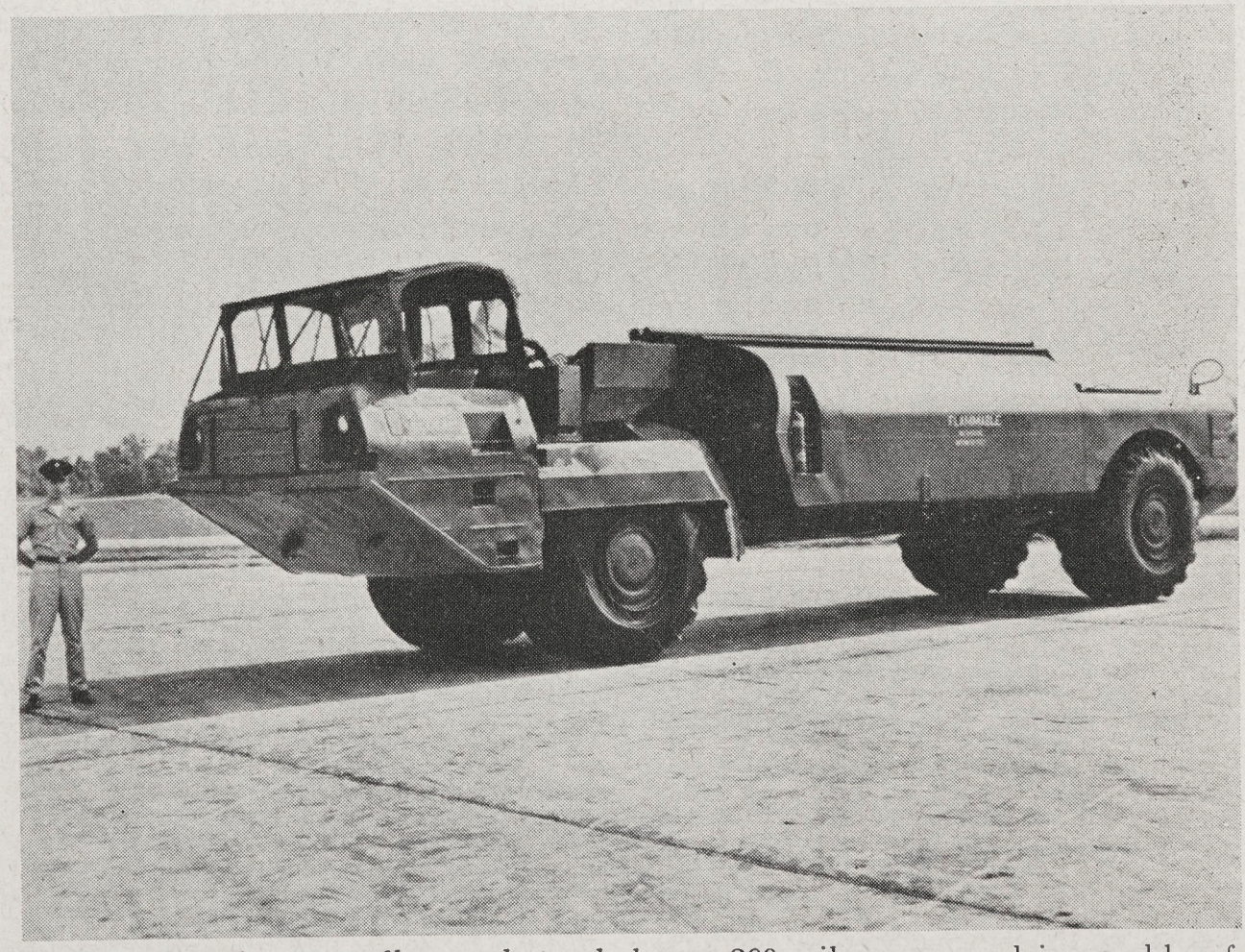
In West Africa, Nigeria appears to have a significant oil potential. Production in 1963 amounted to only 76,000 bpd; but a *World Oil* report of August 1964 described Nigerian prospects in extremely promising terms.

Perhaps the most dramatic discovery in recent years has been the gigantic gas field located in the Dutch coastal

province of Groningen. Seismic tests have convinced oil men that the North Sea may contain the world's largest concentration of natural gas. And although oil in quantity has yet to be discovered in the area it is predicted by some experts that the gas deposits will eventually meet 10% of Europe's energy needs. In terms of hard coal equivalent, reserves of this field have been estimated at more than 5 billion tons.

In terms of money the implications of this discovery are impressive. With the construction of an underseas pipeline to the United Kingdom, gas from the Dutch coast may be sold at 40 cents per 1,000,000 British thermal units compared to a price of more than $1.00 for gas produced from oil and coal.

Promising as they are, it seems doubtful that African or North Sea energy sources will meet more than a third of Europe's needs in the forseeable future, particularly in view of the accelerating demand and the current uncertain political climate in North Africa. The bulk of the European supply will therefore continue to be vulnerable. The degree to which the course of a war in Europe would be affected by petroleum supplies depends upon the length and character



The U.S. Army's 5000-gallon tank truck has a 300-mile range and is capable of swimming inland waterways fully loaded.

of a future conflict. In a total nuclear war those supplies immediately at hand would probably suffice until a decision was reached. But prolonged conventional operations are another matter: substantial quantities of petroleum would be necessary to sustain the civilian populations and the armed forces.

Of the three problems the question of storage is perhaps the most easily solved. In addition to expanding existing facilities, large quantities of petroleum could be moved, stored and concealed in dracones (synthetic rubber and fabric containers) submerged in the waterways of Europe. The numerous disused mines and oil fields might also be utilized for the storage of petroleum.

Security of the producing areas of the Middle East is dominated by several factors. Europe consumes most of the Middle East output. The Soviet Union is an oil-producing country which exports its surplus. The economies of the Middle Eastern countries would suffer heavily if production was halted. It is also significant that even during the supercharged political atmosphere of the Suez crisis, oil continued to flow and interruption to the supply occurred *outside* the producing countries. For these reasons there are grounds for supposing that a system of joint military defence of the area would be welcomed in the event of a conflict which threatened the economic well being and security of the producing countries.

Tankers

Under some conditions pipelines are the most efficient means of moving oil in volume over long distances. For example, the 1068-mile Tapline reduces by half the number of tankers which would be required if the same volume of oil was moved entirely by sea from the Persian Gulf to Western Europe. On the other hand tankers do not arouse nationalistic controversy nor are they as vulnerable to sabotage in politically unstable areas. And as events have demonstrated, tanker fleets possess an inherent flexibility which is readily adaptable to war or to a state of emergency.

In 1963 European consumption was approaching 6 million bdp; and world tanker fleets amounted to some 72 million tons DW. Consumption since the Suez incident, therefore, had risen by about 160% while tanker capacity had increased by about 65% only. The seeming disparity between tanker construction and increased consumption can be accounted for by greater throughput of Middle East pipelines, faster ships, North African production with its short haul across the Mediterranean plus the expanding pipeline system in Western Europe.

For obvious reasons the rates of tanker construction are determined by economic considerations and anticipated demand. Therefore, in time of war there will be a lack of shipping to meet losses at sea and alterations in established patterns of supply. It is possible that the European demand could be reduced by 25% or more by various restrictions. But the savings that can be effected by these means are diminishing as Europe progressively makes the transitions from hard fuels to oil. It seems that the efficacy of any measures adopted to meet the needs of war have a greater likelihood

of realization if they are an extension of peacetime commercial practice. From this point of view the super or mammoth tanker offers the greatest promise.

Ships in these categories range from about 50,000 to more than 100,000 tons DW. In theory, 12 of the largest vessels could meet one day's requirements for Western Europe (6 million barrels). These ships carry cargoes many times greater than the average tanker yet their costs of construction and operation are not correspondingly as high. Tankers of this size also possess a speed and economy of operation which is gradually narrowing—or has even closed—the *economic* advantage held by the Middle Eastern pipelines and by smaller ships using the canal route.* On the other hand berthing facilities and dry docks for the overhaul of the largest tankers are limited; and in time of war tankers are prime targets for submarines. Notwithstanding, in view of the tanker's advantages, and the lack of an alternative means of supply, it appears that these hazards must be accepted and the construction, or subsidy, of tanker fleets should be a normal feature of NATO defence expenditure.

Petroleum and the USSR

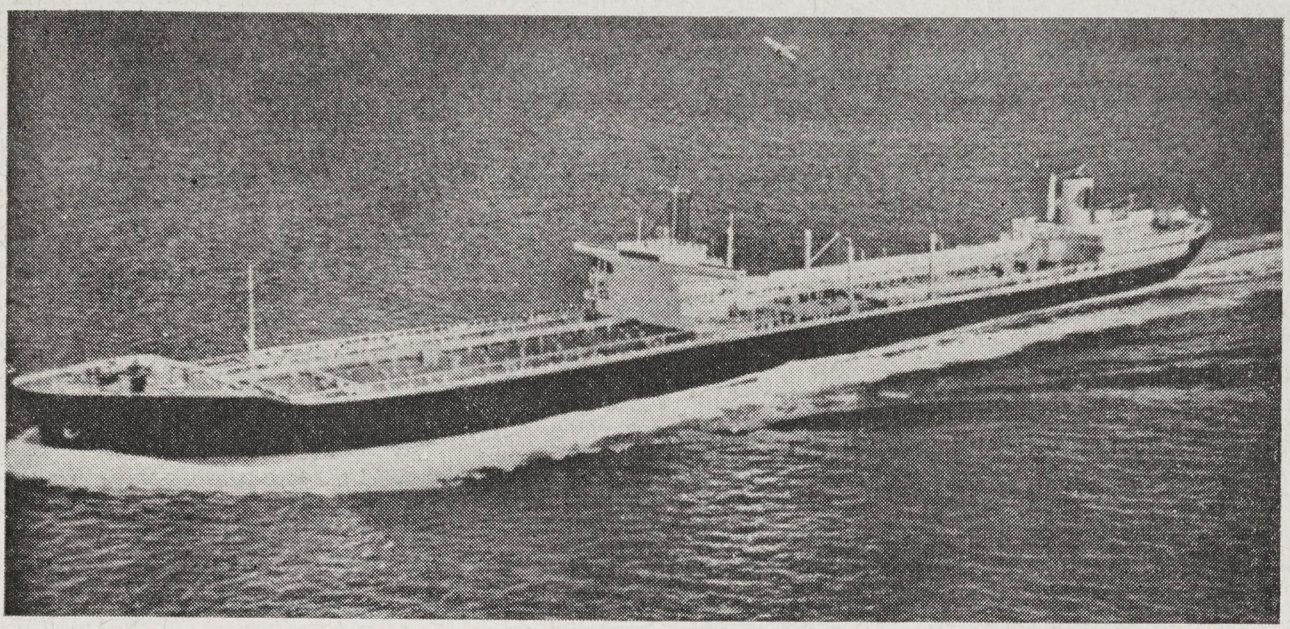
Next to the United States the Soviet Union is the largest single oil producing country in the world. In 1963 production was 4.07 million bdp. Of this .853 million bdp were exported, half of which went to the Soviet satellite countries through an expanding network of pipelines (approximately 16,000 miles) extending from Central Russia into Eastern Europe. In addition, the Soviet Union has embarked upon a massive tanker construction programme with the aim of encroaching on the markets of the West and the backward countries.

The impact of the Soviet "oil offensive" in the West has yet to be determined: so far it has been a lucrative source of foreign exchange. However, in the countries of Asia and Africa it seems that the sale of cheap Soviet oil has been prompted by political motives designed to engender economic dependence and to extend Soviet influence. In the case of the European satellites, there is no doubt that the supply of Soviet oil will serve to bind the Warsaw Pact countries more securely under Soviet hegemony. Strategically, the expansion of pipeline and storage facilities in Eastern Europe will strengthen the Soviet capacity for achieving its aims in either peace or war.

Conclusion

The tactical aspects of petroleum supply in the field present few difficulties which cannot be solved by experimentation and training. In considering the broader problem—that of petroleum strategy—the answers are not as readily apparent. Oil supply for Europe is a question of cheap production and transportation. In peacetime the former consideration largely eliminates the Western Hemisphere as a source of supply. Any solution seems

**Under certain conditions it now costs less to move crude oil by ocean tanker than by pipeline. (Robert Collins, "World Oil",* Imperial Oil Review, February 1963, p. 6).



A mammoth tanker: the Japanese Nissho Maru of 130,000 deadweight tons. Note the aircraft above the ship.

to demand a reconciliation between the needs of peacetime commerce and the exigencies of war.

For various reasons the achievement of this aim depends upon the close collaboration of the NATO authorities and the oil industry. This should prevent the conflict of national foreign policies with those considerations affecting petroleum supply. Diversity of producing areas will be vital in a future war; this could entail large expenditures for exploration and development which may not prove remunerative in peacetime and for which tax concessions or subsidies may be necessary. Similar fiscal expedients could also be a factor in the construction of fleets of super tankers. The latter seem to be essential in the case of a prolonged war; and in peacetime they will lessen dependence upon canal and pipeline transit systems, thereby minimizing the likelihood of exorbitant tolls. Furthermore, a large tanker fleet will be a prerequisite if the West is to meet the growing economic and political threat posed by the expanding Soviet oil and shipping industries.

Other measures requiring close liaison between NATO governments and the oil industry include preparations for increased production and eastward movement of oil from the Western Hemisphere in the event of hostilities. Planning in detail is also necessary for the imposition of a practicable rationing system and the commandeering of petroleum stocks on short notice in an emergency. If rationing plans are executed with vigour and promptitude, stocks on hand may be sufficient to meet the needs of the NATO forces for a period of weeks—providing military operations are defensive in character and if civilian allocations are cut to subsistence level.

Perhaps most important—all possible means should be employed to identify the social, economic and military interests of the established and potential oil-producing states of the Middle East and Africa with those of the West. Should this be accomplished, together

with the development of the more promising discoveries in Africa, the likelihood of a total or crippling interruption to European supplies will diminish.

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Independence for Gambia

On 18 February 1965 the last remaining British dependency in West Africa became the smallest independent member of the Commonwealth in terms of population (316,000). Her Majesty the Queen remains as constitutional monarch of the country. She was represented at the independence celebrations by HRH the Duke of Kent.

Gambia has an association with Britain dating from the 16th century. Its major export is ground nuts. There are close geographical and ethnic types with neighbouring Senegal: a United Nations team of experts has pointed out the advantages of a closer association between the two countries, and a draft treaty which could result in aid from Senegal in international representation and defence where required is already in existence.—*From "Background to Britain" issued by British Information Services, Ottawa.*

Episode Four

The Misadventures of Second Lieutenant Elmer Wetsack

by

LIEUT.-COLONEL H.F. WOOD, CD

Instructors are a Sorry Lot

I had not been in the Regular Army very long before I realized that I would find in military instruction the outlet I needed for my particular talents. The average officer considers instruction a great bore, requiring much effort in preparation and dubious reward in execution, but I find it a useful outlet for my energy and original ideas.

One runs foul, of course, of the usual stuffiness and lack of imagination found elsewhere in the Army, but whereas the Adjutant dominates most other Army business, a character called the Chief Instructor looms over the teaching end of things.

This officer, whose title is a complete misnomer, since he does no instruction whatever, is usually a major of very great age and seniority. Our Chief Instructor, for example, must be nearly forty and served through the whole of the Second World War. It is difficult to understand how my superiors could possibly consider such a relic capable of understanding modern techniques, but one gets accustomed to these anomalies.

It was some time after I was accepted as an officer before I was given an opportunity to demonstrate the Wetsack Method of Instruction. At first I was given a series of key jobs around the unit until it seemed to me that I had become a sort of trouble-shooter for the Commanding Officer, who was putting me in to stop up the holes in the dyke and prevent the flood of incompetence from engulfing us all.

It was after my tour as Messing Officer that the Chief Instructor came into my life. I was put in charge of a platoon of recruits who were to be turned into trained soldiers in eight weeks.

"An impossible task, Sir," I told him when he broke the news. "Do you realize that the Austrian Army of the eighteenth century took eight years to train its soldiers?"

His reply was not helpful. "Do you realize," he said, "how badly the Austrians were beaten by the Napoleonic Army with only a few weeks formal training? You are always preaching energy and imagination, Wetsack, let me see you demonstrate some of it."

H.F. Wood

"By learning their military lessons the same way they were taught their civilians lessons they will achieve proficiency much faster."

This was a challenge I could understand, but I made a mistake by taking the Chief Instructor too literally. I tried to explain this a week later when I was paraded before him by Major Sextant, my quick-tempered Company Commander. Major Sextant was very full of his grievance and explained it at length to the CI.

"This excuse for an instructor," he ground out, "has issued each man in his squad a collection of infantry weapons, a pamphlet for each and has told them to come back in eight weeks ready to pass their tests. He fixed a penalty of one month's kitchen fatigue in case of failure." Sextant's voice broke a little. "Isn't there something else he could do besides instructing?"

The CI turned to me. "I suppose," he said evenly, "that this is the Wetsack System. I have heard rumours of it from the Adjutant. Would you mind telling me what you hope to gain by this—ah—technique?"

I replied in some heat, "You told me yourself, Sir, that I should use energy and imagination. If it is important for me, it is also important for the recruits. These men will learn their weapons the hard way and will remember how to use them far longer. I will be free to think up new clever training ideas."

"The good Lord forbid," said Major Sextant brokenly. "Do you realize that Wetsack told them they could take the weapons away on week-ends?"

"Oh, NO!" cried the CI. "Wetsack, is this true?"

"Certainly, Sir," I replied. "Most of these men are fresh from school. In this way they understand better what is expected of them."

"How? cried the CI. "How can they possibly . . ."

"Homework!" I cut in triumphantly. "These lads are used to doing homework. By learning their military lessons the same way they were taught their civilian lessons they will achieve efficiency much faster."

The Chief Instructor turned to a wire basket marked "Pending" and picked out a slip of paper.

"I begin to understand this teleprint I received earlier today. Would you like to read it, Wetsack?" he asked.

"If you wish, Sir," I replied, and started to read: "RR, RAEPT, RAWEGC, RO 323335Z, FM CANARMY . . ."

"The message, Wetsack, if you please —the Signals procedure is familiar to all of us," interrupted the CI. "Read the message." I skipped the lines of letters and figures and got to the text.

"Information received from the Chief of Police, Jollyville, says he is holding three armed soldiers who set up road block at station and refused to remove same unless given return transportation to Florida STOP At great personal risk disarmed soldiers who also appeared ready to back up local hockey team with considerable armament STOP . . ."

The CI interrupted and handed me another paper. "Like to read this one, Wetsack?"

I glanced at the second message.

"Corntown Gazette wishes confirmation report that military personnel now empowered to stand off landlords with automatic weapons supplied by Department of National Defence STOP Incidents here indicate . . ."

The CI cut in again.

"Wetsack," he said in a low, strained voice, "do you know what is involved in a Ministerial Inquiry?"

"No, Sir," I replied.

"Well, you will, Wetsack," said he, "you will, and what is much, much worse—so will I." He turned to Major Sextant.

"Bill," he said almost pleadingly, "isn't there something, some harmless subject, we can give him to teach, say Military Law?"

Major Sextant shuddered.

"There must be something else," he said. "Daily Orders take quite long enough as it is." Then as if a light had shone on him he brightened up. "I say," he cried, "I think I have it." He bent over the CI's desk and spoke rapidly for a moment. The CI in turn looked pleased for the first time since the beginning of the interview.

"You've got it, Bill." He turned to me with an air of a job well done. "Wetsack, you will report to the officer in charge of miscellaneous studies. He will brief you."

I was dismissed.

My new job suits me very well. I have always been interested in field works and my particular portion has, I feel, always been neglected. Soldiers are inclined to slap up a few yards of canvas, dig a hole and forget the whole business. I can see immense possibilities, however, and I am working on a portable and comfortable arrangement, complete with hinged seat and sturdy, semi-permanent partitions. The whole thing could be bundled on to a truck, and who knows? Wetsack may leave his mark on military engineering yet.

At any rate, I'm working on it and only time will tell.

Drivers—Amateur and Professional

A driver shows he is an amateur in many ways. Some of the signs are screeching tires on curves or starts; failing to signal turns; lane-hopping, particularly without signalling; driving at speeds considerably more than the posted limit; starting to leave a parking space without looking back; driving so slowly that other traffic is delayed; driving with one hand on the wheel; tail-gating; breaking a traffic regulation merely to achieve a feeling of dominance.

The motorist who drives professionally respects traffic laws, particularly those regarding speed. Not only is a professional driver considerate of other drivers, but he makes certain he is protecting himself. For example, he turns on his car's lights as soon as natural light begins to fade, for he wants others to be sure to see him. He takes full advantage of all safety features of his vehicle such as seat belts, turn signals, rear-view mirror and head and tail lights because he realizes they protect him.—*From the Canadian Highway Safety Council (Ottawa).*

Strong Mind

A strong mind is one which remains balanced in the most violent excitement.—*Clausewitz.*

THE DEFENCE OF DUFFER'S DRIFT

by

MAJOR-GENERAL SIR ERNEST SWINTON, KBE, CB, DSO

An Introduction

We are pleased to have obtained reproduction rights to a book now out of print — "The Defence of Duffer's Drift"—by Major-General Sir Ernest Swinton, and published by George Ronald, London, England. It is reproduced here in its entirety.

Some observations on this reprint have been written for us by a senior Canadian officer who has had a wealth of experience in the training of officers and their troops. Lieutenant-General R.W. Moncel, DSO, OBE, CD, served with the Royal Canadian Armoured Corps in the Second World War; he was Director of Military Training following the war, and his more recent appointments have included General Officer Commanding Eastern Command, Quartermaster General and Comptroller General. He now is Vice Chief of the Defence Staff at Canadian Forces Headquarters, Ottawa.

Lieutenant-General Moncel's comments on the value of this book follow.—Editor.

"'I also knew how to take up a position for a division, or even an army corps, but the stupid little subaltern's game of the defence of a drift with a small detachment was, curiously enough, most perplexing...' So said Lieutenant Backsight-Forethought many years ago. It is quite evident that a great number of young officers today share his dilemma. Several seasons of 'Games' in Gagetown convinced me that young officers did not know, and indeed were not being taught, the fundamentals of their profession. They were finding themselves in Lieutenant B.F.'s position: quite knowledgeable concerning large troop movements but at a loss when it came to the platoon. From this, it was also not really surprising to learn that no one had even heard of 'The Defence of Duffer's Drift'.

"The diligent efforts of the Editorial Board of the Canadian Army Journal have unearthed a copy of the book and the generosity of the Conference of Defence Associations has made it possible to purchase the reproduction rights to General Swinton's remarkable little book. I am told that this is to be the last issue of the *Canadian Army Journal* in its present format. Containing as it does this reprint of *The Defence of Duffer's Drift,* the last edition might well be the most important. How I envy those of you who will read General Swinton for the first time—I warrant it will not be the last."

Foreword

I am very glad to write an introduction to the new edition of this most instructive, and at the same time amusing, little work on "Subaltern" tactics. I suppose I am to some extent responsible for its re-publication, since

on a recent visit to my Regiment in Germany, when I found the battalion carrying out a defence exercise, I recalled *Duffer's Drift* and how appropriate its lessons on the siting of trenches and the common-sense principles of defence still were; though my own copy, with its intriguing cover, bears date 1904 and was acquired when I was a young subaltern in India, just beginning to learn my trade. The lessons so hardly acquired by Lieutenant B.F. have been in my head and military understanding ever since. So that when I realized that none of the young officers in my Regiment had heard of *Duffer's Drift,* and ascertained from booksellers that it was long since out of print, I incited the author, Major-General Sir Ernest Swinton, to consider the re-publication.

If the up-to-date, modern young officer asks scornfully what he can possibly learn from the tactics of the Boer War nearly 50 years ago, I can only advise him to read and then inwardly to digest some admirable precepts of common-sense, which are applicable, *mutatis mutandis,* to the problems of today. I would remind him that the author of this little book was one of the most far-sighted officers the Army has produced, who wrote tales long before the first war foreshadowing the effects of air warfare, of mining, and even of that very exotic modern development, psychiatry (the Second Degree); and who during the First World War was responsible more than anyone for the introduction and development of the Tank.

If after studying this little work, any officer decides that he has learnt nothing, I can only recommend him to apply for employment in an Administrative branch of the War Office; for he will certainly be a danger to troops in the field.

WAVELL
August, 1949

Preface

"It was our own fault, and our very grave fault, and now we must turn it to use,
"We have forty million reasons for failure, but not a single excuse!"— Kipling.

This tale of a dream is dedicated to the "gilded popinjays" and "hired assassins" of the British nation, especially those who are now knocking at the door, to wit the very junior. It embodies recollections of things actually done and undone in South Africa, 1899-1902. It is hoped that its fantastic guise may really help to emphasize the necessity for the practical application of some very old principles, and assist in an appreciation of what may happen when they are not applied, even on small operations. This practical application has often been lost sight of in the stress of the moment, with dire results quite unrealized until the horrible instant of actual experience. Should this tale, by arousing the imagination, assist to prevent in the future even one such case of disregard of principles, it will not have been written in vain. The dreams are not anticipations, but merely a record of petty experiences against one

kind of enemy in one kind of country only, with certain deductions based thereupon. But from these, given the conditions, it is not difficult to deduce the variations suitable for other countries, or for those occasions when a different foe with different methods of fighting and different weapons has to be met.

"BACKSIGHT FORETHOUGHT"

Prologue

Upon an evening after a long and tiring trek, I arrived at Dreamdorp. The local atmosphere, combined with a heavy meal, is responsible for the following nightmare, consisting of a series of dreams. To make the sequence of the whole intelligible it is necessary to explain that, though the scene of each vision was the same, yet by some curious mental process I had no recollection of the place whatsoever. In each dream the locality was totally new to me, and I had an entirely fresh detachment. Thus I had not the great advantage of working over familiar ground. One thing, and one only, was carried on from dream to dream, and that was the vivid recollection of the general lessons previously learnt. These finally produced success.

The whole series of dreams, however, remained in my memory as a connected whole when I awoke.

First Dream

(See Maps 1 and 2)

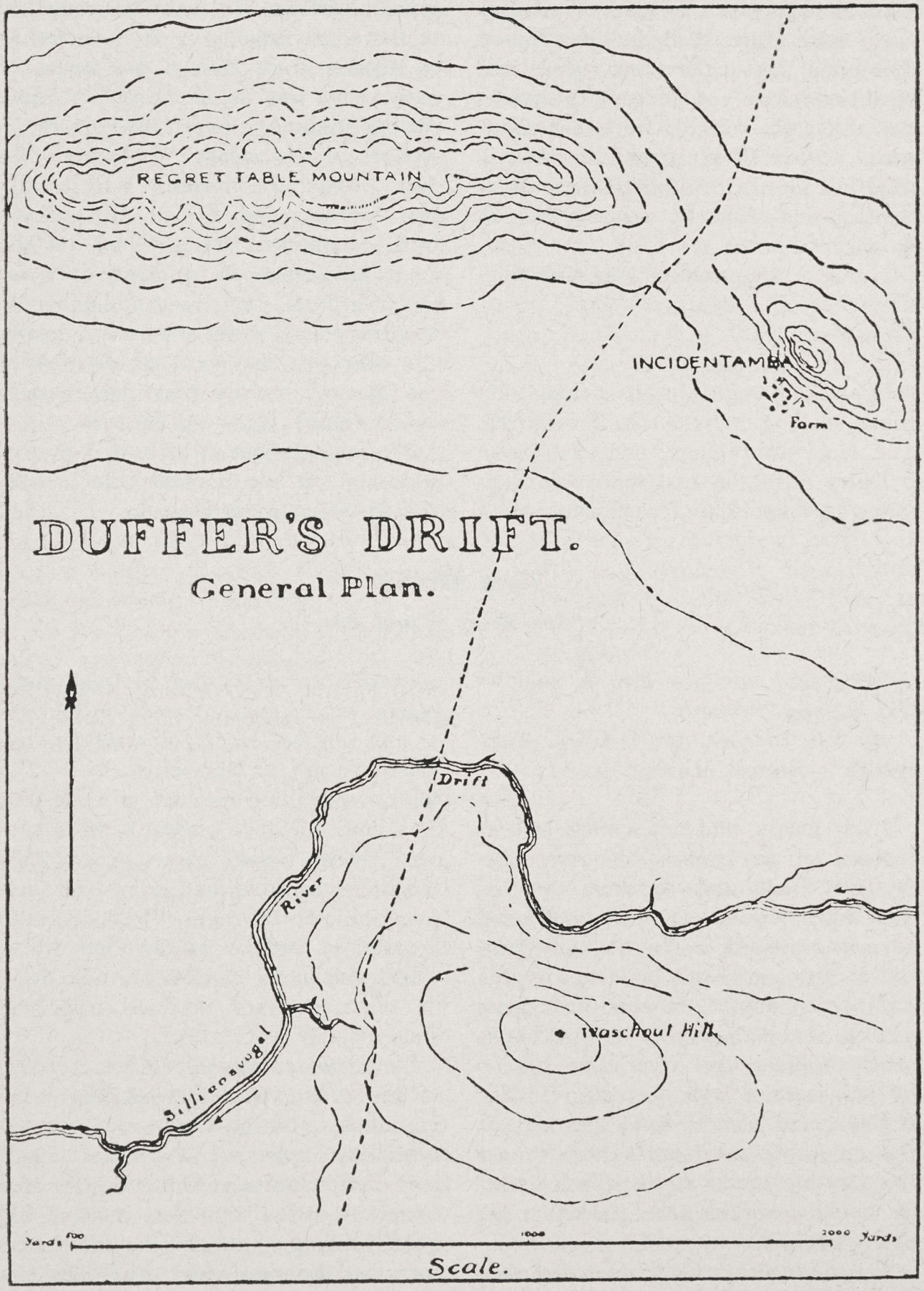
"Any fool can get into a hole."—Old Chinese Proverb.

"If left to you, for defence make spades."—Bridge Maxim.

I felt lonely, and not a little sad, as I stood on the bank of the river near Duffer's Drift and watched the red dust haze, raised by the southward departing column in the distance, turn slowly into gold as it hung in the afternoon sunlight. It was just three o'clock, and here I was on the banks of the Silliaasvogel river, left behind by my column with a party of fifty N.C.O.'s and men to hold the drift. It was an important ford because it was the only one across which wheeled traffic could pass for some miles up or down the river.

The river was a sluggish stream, not now in flood, crawling along at the very bottom of its bed between steep banks which were almost vertical, or at any rate too steep for waggons anywhere except at the drift itself. The banks from the river edge to their tops and some distance outwards were covered with dense thorn and other bushes, which formed a screen impenetrable to the sight. They were also broken by small ravines and holes, where the earth had been eaten away by the river when in flood, and were consequently very rough.

Some two thousand odd yards north of the drift was a flat-topped, rocky mountain, and about a mile to the north-east appeared the usual sugar-loaf kopje, covered with bushes and boulders—steep on the south, but gently falling to the north; this had a farm on the near side of it. About a thousand yards south of the drift was


REGRET TABLE MOUNTAIN
INCIDENTAMBA
Farm
DUFFER'S DRIFT.
General Plan.
Drift
River
Waschout Hill.
Sillianavugal
Yards 500
1000
2000 Yards
Scale.

Map I

a convex and smooth hill, somewhat like an inverted basin, sparsely sown with small boulders, and with a Kaffir kraal, consisting of a few grass and mud huts on top. Between the river and the hills on the north the ground consisted of open and almost level veld; on the south bank the veld was more undulating, and equally open. The whole place was covered with ant-hills.

My orders were—to hold Duffer's Drift at all costs. I should probably be visited by some column within three or four days' time. I might possibly be attacked before that time, but this was very unlikely, as no enemy were known to be within a hundred miles. The enemy had guns.

It all seemed plain enough, except that the true inwardness of the last piece of information did not strike me at the time. Though in company with fifty "good men and true," it certainly made me feel somewhat lonely and marooned to be left out there comparatively alone on the boundless veld; but the chance of an attack filled me and, I am quite sure, my men with martial ardour; and at last here was the chance I had so often longed for. This was my first "show", my first independent command, and I was determined to carry out my orders to the bitter end. I was young and inexperienced, it is true, but I had passed all my examinations with fair success; my men were a good willing lot, with the traditions of a glorious regiment to uphold, and would, I knew, do all I should require of them. We were also well supplied with ammunition and rations; and had a number of picks, shovels, and sandbags, etc., which I confess had been rather forced on me.

As I turned towards my gallant little detachment, visions of a bloody and desperate fight crossed my mind—a fight to the last cartridge, and then an appeal to cold steel, with ultimate victory—and—but a discreet cough at my elbow brought me back to realities, and warned me that my colour-sergeant was waiting for orders.

After a moment's consideration, I decided to pitch my small camp on a spot just south of the drift, because it was slightly rising ground, which I knew should be chosen for a camp whenever possible. It was, moreover, quite close to the drift, which was also in its favour, for, as every one knows, if you are told off to guard anything, you mount a guard quite close to it, and place a sentry, if possible, standing on top of it. The place picked out by me also had the river circling round three sides of it in a regular horseshoe bend, which formed a kind of ditch, or, as the book says, "a natural obstacle". I was indeed lucky to have such an ideal place close at hand; nothing could have been more suitable.

I came to the conclusion that, as the enemy were not within a hundred miles, there would be no need to place the camp in a state of defence till the following day. Besides, the men were tired after their long trek, and it would be quite as much as they could do comfortably to arrange nice and shipshape all the stores and tools, which had been dumped down anyhow in a heap, pitch the camp, and get their teas before dark.

Between you and me, I was really relieved to be able to put off my defensive measures till the morrow, because I was a wee bit puzzled as to what to do. In fact, the more I thought, the more puzzled I grew. The only "measures of defence" I could recall for the moment were, how to tie "a thumb or overhand knot", and how long it takes to cut down an apple tree of six inches diameter. Unluckily neither of these useful facts seemed quite to apply.

Now, if they had given me a job like fighting the battle of Waterloo, or Sedan, or Bull Run, I knew all about that, as I had crammed it up and been examined in it too. I also knew how to take up a position for a division, or even an army corps, but the stupid little subaltern's game of the defence of a drift with a small detachment was, curiously enough, most perplexing. I had never really considered such a thing. However, in the light of my habitual dealings with army corps, it would, no doubt, be child's-play after a little thought.

Having issued my immediate orders accordingly, I decided to explore the neighbourhood, but was for a moment puzzled as to which direction I should take; for, having no horse, I could not possibly get all round before dark. After a little thought, it flashed across my mind that obviously I should go to the north. The bulk of the enemy being away to the north, that of course must be the *front*. I knew naturally that there must be a front, because in all the schemes I had had to prepare, or the exams I had undergone, there was always a front, or—"the place where the enemies come from". How often also, had I not had trouble getting out of a dull sentry which his "front" and what his "beat" was. The north, then, being my front, the east and west were my flanks, where there might possibly be enemies, and the south was my *rear,* where naturally there were none.

I settled these knotty points to my satisfaction and off I trudged, with my field-glasses, and, of course, my Kodak, directing my steps towards the gleaming white walls of the little Dutch farm, nestling under the kopje to the north-east. It was quite a snug little farm for South Africa, and was surrounded by blue gums and fruit trees. About a quarter of a mile from the farm I was met by the owner, Mr. Andreas Brink, a tame or surrendered Boer farmer, and his two sons, Piet and Gert. "Such a nice man too", with a pleasant face and long beard. He would insist on calling me "captain", and as any correction might have confused him, I did not think it worth while to make any, and after all I wasn't so very far from my "company".

The three of them positively bristled with dog's-eared and dirty passes from every Provost Marshall in South Africa, and these they insisted on showing me. I had not thought of asking for them, and was much impressed; to have so many they must be special men. They escorted me to the farm, where the guid wife and several daughters met us, and gave me a drink of milk, which was most acceptable after my long and dusty trek. The whole family appeared either to speak or to understand English, and we had a very friendly chat, during the course

of which I gathered that there were no Boer commandos anywhere within miles, that the whole family cordially hoped that there never would be again, and that Brink was really a most loyal Briton, and had been much against the war, but had been forced to go on commando with his two sons. Their loyalty was evident, because there was an oleograph of the Queen on the wall, and one of the numerous flappers was playing our National Anthem on the harmonium as I entered.

The farmer and the boys took a great interest in all my personal gear, especially a brand-new pair of latest-pattern fieldglasses, which they tried with much delight, and many exclamations of "Allermachtig". They evidently appreciated them extremely, but could not imagine any use for my Kodak in war-time, even after I had taken a family group. Funny, simple fellows! They asked and got permission from me to sell milk, eggs and butter in the camp, and I strolled on my way congratulating myself on the good turn I was thus able to do myself and detachment, none of whom had even smelt such luxuries for weeks.

After an uneventful round, I directed my steps back towards the thin blue threads of smoke, rising vertically in the still air, which alone showed the position of my little post, and as I walked the peacefulness of the whole scene impressed me. The landscape lay bathed in the warm light of the setting sun, whose parting rays tinged most strongly the various heights within view, and the hush of approaching evening was only broken by the distant lowing of oxen and by the indistinct and cheerful camp noises, which gradually grew louder as I approached. I strolled along in quite a pleasant frame of mind, meditating over the rather curious names which Mr. Brink had given me for the surrounding features of the landscape. The kopje above his farm was called Incidentamba, the flat-topped mountain some two miles to the north was called Regret Table Mountain, and the gently rising hill close to the drift on the south of the river they called Waschout Hill. Everything was going on well, and the men were at their teas when I got back. The nice Dutchman, with his apostolic face, and the lanky Piet and Gert were already there, surrounded by a swarm of men, to whom they were selling their wares at exorbitant rates. The three of them strolled about the camp, showing great interest in everything, asking most intelligent questions about the British forces and the general position of affairs, and seemed really relieved to have a strong British post near. They did not even take offence when some of the rougher men called them "blarsted Dutchmen" and refused to converse with them, or buy their "skoff". About dusk they left, with many promises to return with a fresh supply on the morrow.

After writing out my orders for next day—one of which was for digging some trenches round the camp, an operation which I knew my men, as becomes good British soldiers, disliked very much, and regarded as fatigues—I saw the two guards mounted, one at the drift, and the other some little way down the river, each furnishing one sentry on the river bank.

When all had turned in, and the camp was quite silent, it was almost

comforting to hear the half-hourly cry of the sentries—"Number one—all is well"; "Number two—all is well". By this sound I was able to locate them, and knew they were at their proper posts. On going round sentries about midnight, I was pleased to find that they were both alert, and that, as it was a cold night, each guard had built a bonfire, silhouetted in the cheerful blaze of which stood the sentry—a clear-cut monument to all around that there was a British sentry fully on the *qui vive*. After impressing them with their orders, the extent of their "beat", and the direction of their "front", etc., I turned in. The fires they had built, besides being a comfort to themselves, were also useful to me, because twice during the night when I looked out I could, without leaving my tent, plainly see them at their posts. I finally fell asleep and dreamt of being decorated with a cross-belt made of V.C.'s and D.S.O.'s and of wearing red tabs all down my back.

I was suddenly awoken, about the grey of dawn, by a hoarse cry—"Halt! who goes—" cut short by the unmistakable "plip-plop" of a Mauser rifle. Before I was off my valise, the reports of Mausers rang round the camp from every side, these mingled with the smack of the bullets as they hit the ground and stripped, the "zip-zip" of the leaden hail through the tents, and the curses and groans of men who were hit as they lay or stumbled about trying to get out, made a hellish din. There was some wild shooting in return from my men, but it was all over in a moment, and as I managed to wriggle out of my tent the whole place was swarming with bearded men, shooting into the heaving canvas. At that moment I must have been clubbed on the head for I knew no more until I found myself seated on an empty case having my head, which was dripping with blood, tied up by one of my men.

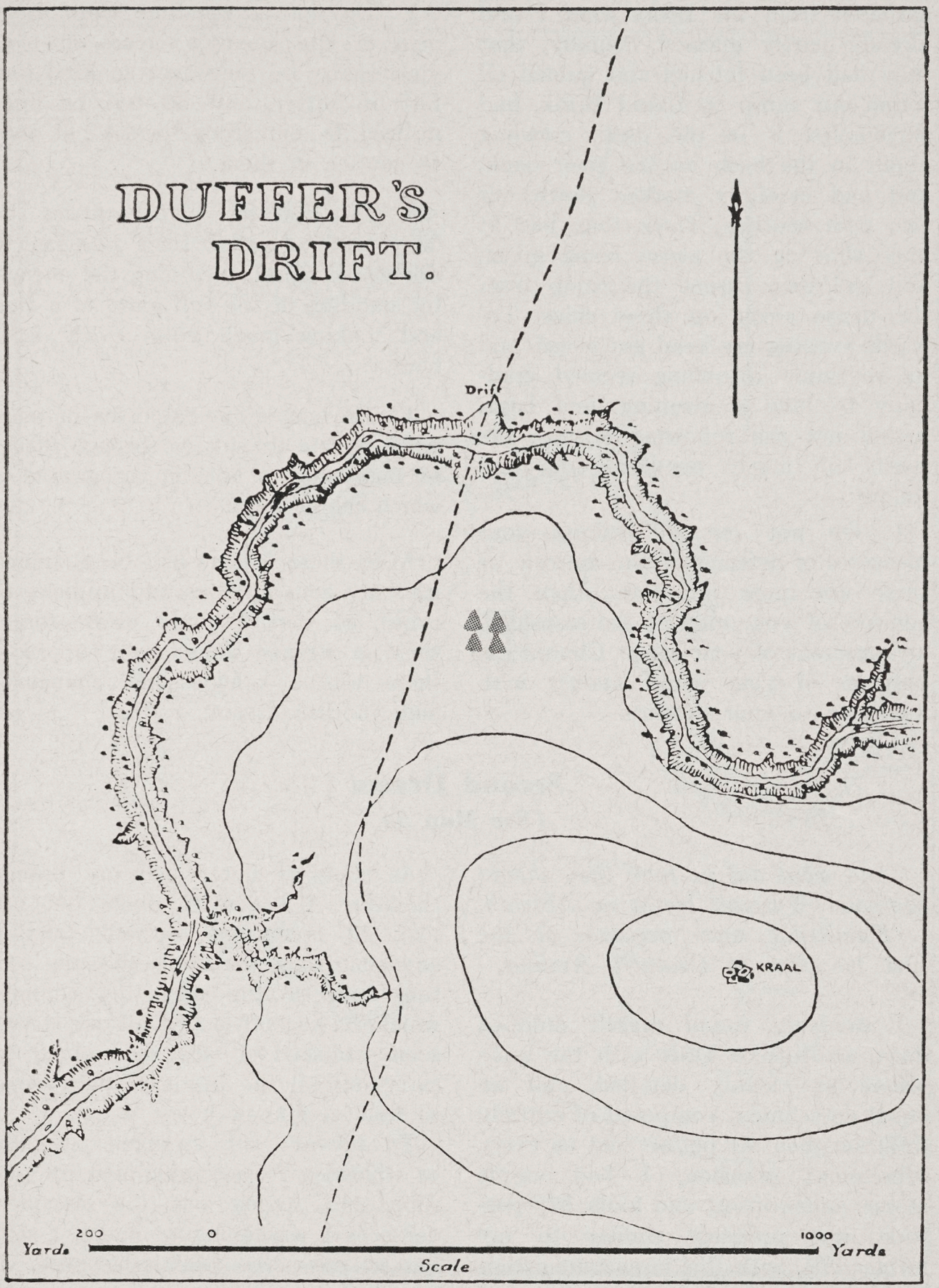
Our losses were ten men killed, including both sentries, and twenty-one wounded; the Boers', one killed and two wounded.

Later on, as, at the order of the not ill-natured but very frowsy Boer commandant, I was gloomily taking off the saucy warm spotted waistcoat knitted for me by my sister, I noticed our friends of the previous evening in very animated and friendly conversation with the burghers, and "Pappa" was, curiously enough, carrying a rifle and bandolier and my new field-glasses. He was laughing and pointing towards something lying on the ground, through which he finally put his foot. This, to my horror, I recognized as my unhappy camera. Here I suppose, my mind must have slightly wandered, for I found myself repeating some Latin lines, once my favourite imposition, but forgotten since my school-days—

"Timeo Danaos et dona ferentes—"

when suddenly the voice of the field cornet broke into my musing with "Your breeches too, captain".

Trekking all that day on foot, sockless, and in the boots of another, I had much to think of, besides my throbbing head. The sight of the long Boer convoy with guns, which had succeeded so easily in crossing the drift *I* was to have held, was a continual reminder of my failure and of my responsibility for the dreadful losses to my poor detachment. I gradually



Map II

gathered from the Boers what I had already partly guessed, namely, that they had been fetched and guided all round our camp by friend Brink, had surrounded it in the dark, crawling about in the bush on the river bank, and had carefully marked down our two poor sentries. These they had at once shot on the alarm being given, and had then rushed the camp from the dense cover on three sides. Towards evening my head got worse, and its rhythmic throbbing seemed gradually to take a meaning, and hammered out the following lessons, the result of much pondering on my failure:—

1. Do not put off taking your measures of defence till the morrow, as these are more important than the comfort of your men or the shipshape arrangement of your camp. Choose the position of your camp mainly with reference to your defence.

2. Do not in war-time show stray men of the enemy's breed all over your camp, be they ever so kind and full of butter, and do not be hypnotized, by numerous "passes", at once to confide in them.

3. Do not let your sentries be 'orty' and advertise their position to the whole world, including the enemy, by standing in the full glare of a fire, and making much noise every half-hour.

4. Do not, if avoidable, be in tents when bullets are ripping through them; at such times a hole in the ground is worth many tents.

After these lessons had been dinned into my soul millions and millions of times, so that I could never forget them, a strange thing came to pass—there was a kaleidoscopic change—I had another dream.

Second Dream

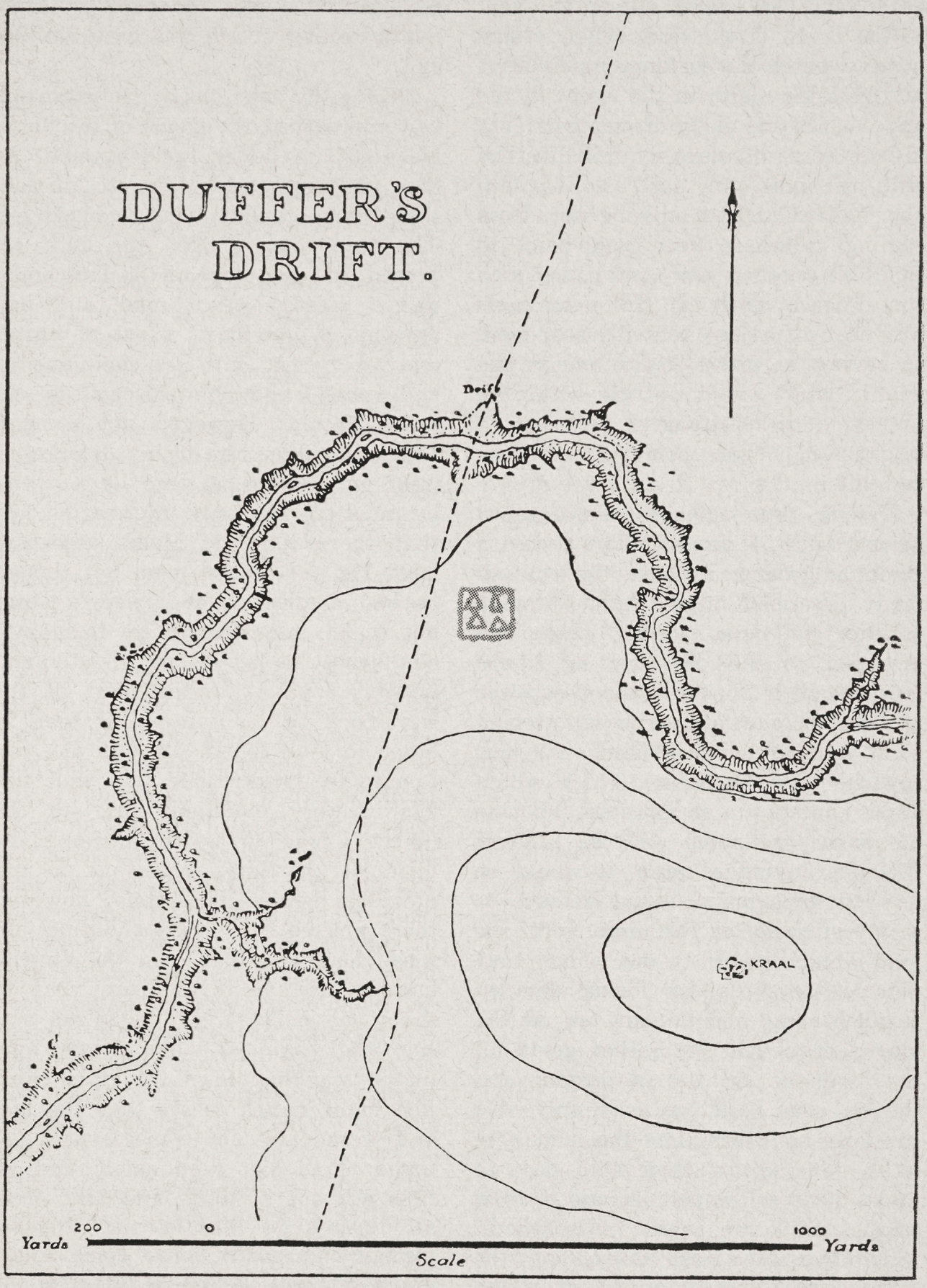
(See Map 3)

"And what did ye look they should compass? Warcraft learnt in a breath,
"Knowledge unto occasion at the first far view of Death?"—Kipling.

I suddenly found myself dumped down at Duffer's Drift with the same orders as already detailed, and an equal detachment composed of entirely different men. As before, and on every subsequent occasion, I had ample stores, ammunition, and tools. My position was precisely similar to my former one, with this important exception, running through my brain were *four* lessons.

As soon as I received my orders, therefore, I began to make out my plan of operations without wasting any time over the landscape, the setting sun, or the departing column, which, having off-loaded all our stores, soon vanished. I was determined to carry out all the lessons I had learnt as well as I knew how.

To prevent any strangers, friendly or otherwise, from coming into my position and spying out the elaborate defences I was going to make, I sent out at once two examining posts of one N.C.O. and three men each, one to the top of Waschout Hill, and the



Map III

other some 1000 yards out on the veld to the north of the drift. Their orders were to watch the surrounding country, and give the alarm in the event of the approach of any body of men whatever (Boers were, of course, improbable, but still just possible), and also to stop any individuals, friendly or not, from coming anywhere near camp and to shoot at once on non-compliance with the order to halt. If the newcomers had any provisions to sell, these were to be sent in with a list by one of the guard, who would return with the money, but the strangers were not to be allowed nearer the camp on any account.

Having thus arranged a safeguard against spies, I proceeded to choose a camping ground. I chose the site already described in my former dream, and for the same reasons, which still appealed to me. So long as I was entrenched, it appeared the best place around. We started making our trenches as soon as I had marked off a nice squarish little enclosure which would about contain our small camp. Though, of course, the north was the front, I thought, having a camp, it would be best to have an all-round defence as a sort of obstacle. The majority of the men were told off to dig, which they did not relish, a few being detailed to pitch camp and prepare tea. As the length of trench was rather great for the available number of diggers, and the soil was hard, we were only able by dark, by which time the men were quite done up by their hard day, to make quite a low parapet and shallow trench. Still, we were "entrenched", which was the great thing, and the trench was all round our camp, so we were well prepared, even should we be attacked during the night or early next morning, which was quite unlikely.

During this time one or two strangers had approached the guard of the north from a farm under Incidentamba. As they had eggs and butter, etc., to sell, these were brought in as arranged for. The man sent in with the stuff reported that the elder of the Dutchmen was a most pleasant man, and had sent me a present of a pat of butter and some eggs, with his compliments, and would I allow him to come in and speak to me? However, not being a fool as to allow him in my defences, I went out instead, in case he had any information. His only information was that there were no Boers anywhere near. He was an old man, but though he had a museum of "passes", I was not to be chloroformed by them into confidence. As he seemed friendly, and possibly loyal, I walked part of the way back to his farm with him, in order to look round. At dark the two examining posts came in, and two guards were mounted close to the object I was to watch, namely, the drift, at the same places as in my previous dream. This time, however, there was no half-hourly shouting, nor were there any fires, and the sentries had orders not to challenge but to shoot any person they might see outside the camp at once. They were placed standing down the river bank, just high enough to see over the top, and were thus not unnecessarily exposed. Teas had been eaten, and all fires put out at dusk, and after dark all turned in, but in the trenches instead of in tents. After going round sentries to see everything snug for the night, I lay down myself with a sense

of having done my duty, and neglected no possible precaution for our safety.

Just before dawn much the same happened as already described in my first dream, except that the ball was started by a shot without challenge from one of our sentries at something moving among the bush, which resulted in close-range fire opening on to us from all sides. This time we were not rushed, but a perfect hail of bullets whistled in from every direction—from in front of each trench, along each trench, and from behind each trench, and over and through our parapet. It was sufficient to put a hand or head up to have a dozen bullets through and all round it, and the strange part was, we saw no one. As the detachment wag plaintively remarked, we could have seen lots of Boers, "if it wasn't for the bushes in between".

After vainly trying until bright daylight to see the enemy in order to do some damage in return, so many men were hit, and the position seemed so utterly hopeless, that I had to hoist the white flag. We had by then twenty-four men killed and six wounded. As soon as the white flag went up the Boers ceased firing at once, and stood up; every bush and ant-hill up to 100 yards' range seemed to have hid a Boer behind it. This close range explained the marvellous accuracy of their shooting, and the great proportion of our killed (who were nearly all shot through the head) to our wounded.

As we were collecting ourselves preparatory to marching off there were one or two things which struck me; one was that the Dutchman who had presented me with eggs and butter was in earnest confabulation with the Boer commandant, who was calling him "Oom" most affectionately. I also noticed that all the male Kaffirs from the neighbouring kraal had been fetched and impressed to assist in getting the Boer guns and waggons across the drift and to load up our captured gear, and generally do odd and dirty jobs. These same Kaffirs did their work with amazing alacrity, and looked as if they enjoyed it; there was no "backchat" when an order was given—usually by friend "Oom".

Again, as I trudged with blistered feet that livelong day, did I think over my failure. It seemed so strange, I had done all I knew, and yet, here we were, ignominiously captured, twenty-four of us killed, and the Boers over the drift. "Ah, B.F., my boy," I thought, "there must be a few more lessons to be learnt besides those you already know," and in order to find out what these were, I pondered deeply over the details of the fight.

How the Boers must have known of our position, and how they had managed to get close up all round within snapshooting range without being discovered. What a tremendous advantage they had had in shooting from among the bushes on the bank, where they could not be seen, over us who had to show up over a parapet every time we looked for an enemy, and show up, moreover, just in the very place where every Boer expected us to, and was watching. There seemed to be some fault in the position. How the bullets seemed sometimes to come through the parapet, and how those that passed over one side hit the men defending the other side in the back. How, on the whole, that "natural

obstacle", the river-bed, seemed to be more of a disadvantage than a protection.

Eventually the following lessons framed themselves in my head—some of them quite new, some of them supplementing those four I had already learnt:—

5. With modern rifles, to guard a drift or locality does *not* necessitate sitting on top of it (as if it could be picked up and carried away), unless the locality is suitable to hold for other and defensive reasons. It may even be much better to take up your defensive position some way from the spot, and so away from concealed ground, which enables the enemy to crawl up to very close range, concealed and unperceived, and to fire from cover which hides them even when shooting. It would be better, if possible, to have the enemy in the open, or to have what is called a clear "field of fire".

A non-bullet-proof parapet or shelter which is visible serves merely to attract bullets instead of keeping them out—the proof of thickness can be easily tested practically.

When fired at by an enemy at close range from nearly all round, a low parapet and shallow trench are not of much use, as what bullets do not hit the defenders on one side hit those on another.

6. It is *not* enough to keep strange men of the enemy's breed away from your actual defences, letting them go free to warn their friends of your existence and whereabouts — even though they do not know the details of your defences. It would be very much better to gather in all such strangers and kindly, but firmly, to take care of them, so that they should not be under temptation to impart any knowledge they may have obtained. "Another way," as the cookery book says, more economical in lives, would be as follows: Gather and warmly greet a sufficiency of strangers. Stuff well with chestnuts as to the large force about to join you in a few hours; garnish with corroborative detail, and season according to taste with whisky or tobacco. This will very likely be sufficient for the nearest commando. Probable cost—some heavy and glib lying, but no lives will be expended.

7. It is not business to allow lazy black men (even though they be brothers and neutrals) to sit and pick their teeth outside their kraals whilst tired white men are breaking their hearts trying to do heavy labour in short time. It is more the duty of a Christian soldier to teach the dusky neutral the dignity of labour, and by keeping him under guard to prevent his going away to talk about it.

By the time the above lessons had been well burnt into my brain, beyond all chance of forgetfulness, a strange thing happened—I had a fresh dream.

Third Dream

(See Map 4)

"So when we take tea with a few guns, o'course you will know what to do—hoo! hoo!—Kipling.

I was at Duffer's Drift on a similar sunny afternoon and under precisely similar conditions, except that I now had *seven* lessons running through my mind.

I at once sent out two patrols, each of one N.C.O. and three men, one to

the north and one to the south. They were to visit all neighbouring farms and kraals and bring in all able-bodied Dutchmen and boys and male Kaffirs —by persuasion if possible, but by force if necessary. This would prevent the news of our arrival being carried round to any adjacent commandos, and would also assist to solve the labour question. A small guard was mounted on the top of Waschout Hill as a look-out.

I decided that as the drift could not get up and run away, it was not necessary to take up my post or position quite close to it, especially as such a position would be under close rifle fire from the river bank, to which the approaches were quite concealed, and which gave excellent cover. The very worst place for such a position seemed to be anywhere within the horseshoe bend of the river, as this would allow an enemy practically to surround it. My choice therefore fell on a spot to which the ground gently rose from the river bank, some 700 to 800 yards south of the drift. Here I arranged to dig a trench roughly facing the front (north), which thus would have about 800 yards clear ground on its front. We started to make a trench about fifty yards long for my fifty men, according to the usual rule.

Some little time after beginning, the patrols came in having collected three Dutchmen and two boys, and about thirteen Kaffirs. The former, the leader of whom seemed a man of education and some importance, were at first inclined to protest when they were given tools to dig trenches for themselves, showed bundles of "passes", and talked very big about complaining to the General, and even as to a question in the "House" about our brutality. This momentarily staggered me, as I could not help wondering what might happen to poor B.F. if the member for Upper Tooting should raise the point; but Westminster was far away, and I hardened my heart. Finally they had the humour to see the force of the argument, that it was, after all, necessary for their own health, should the post be attacked, as they would otherwise be out in the open veld.

The Kaffirs served as a welcome relief to my men as they got tired. They also dug a separate hole for themselves on one side of and behind our trench, in a small ravine.

By evening we had quite a decent trench dug—the parapet was about two feet six inches thick at the top, and was quite bullet-proof, as I tested it. Our trench was not all in one straight line, but in two portions, broken back at a slight angle, so as to get a more divergent fire (rather cunning of me), though each half was of course as straight as I could get it.

It was astonishing what difficulty I had to get the men to dig in a nice straight line. I was particular as to this point, because I once heard a certain captain severely "told off" at manoeuvres by a very senior officer for having his trenches "out of dressing". No one could tell whether some "brass hat" might not come round and inspect us next day, so it was as well to be prepared for anything.

At dusk the guard on Waschout Hill, for whom a trench had also been dug, was relieved and increased to six men, and after teas and giving out the orders for the next day, we all "turned in" in our trenches. The tents were not pitched, as we were not going to oc-

cupy them, and it was no good merely showing up our position. A guard was mounted over our prisoners, or rather "guests", and furnished one sentry to watch over them.

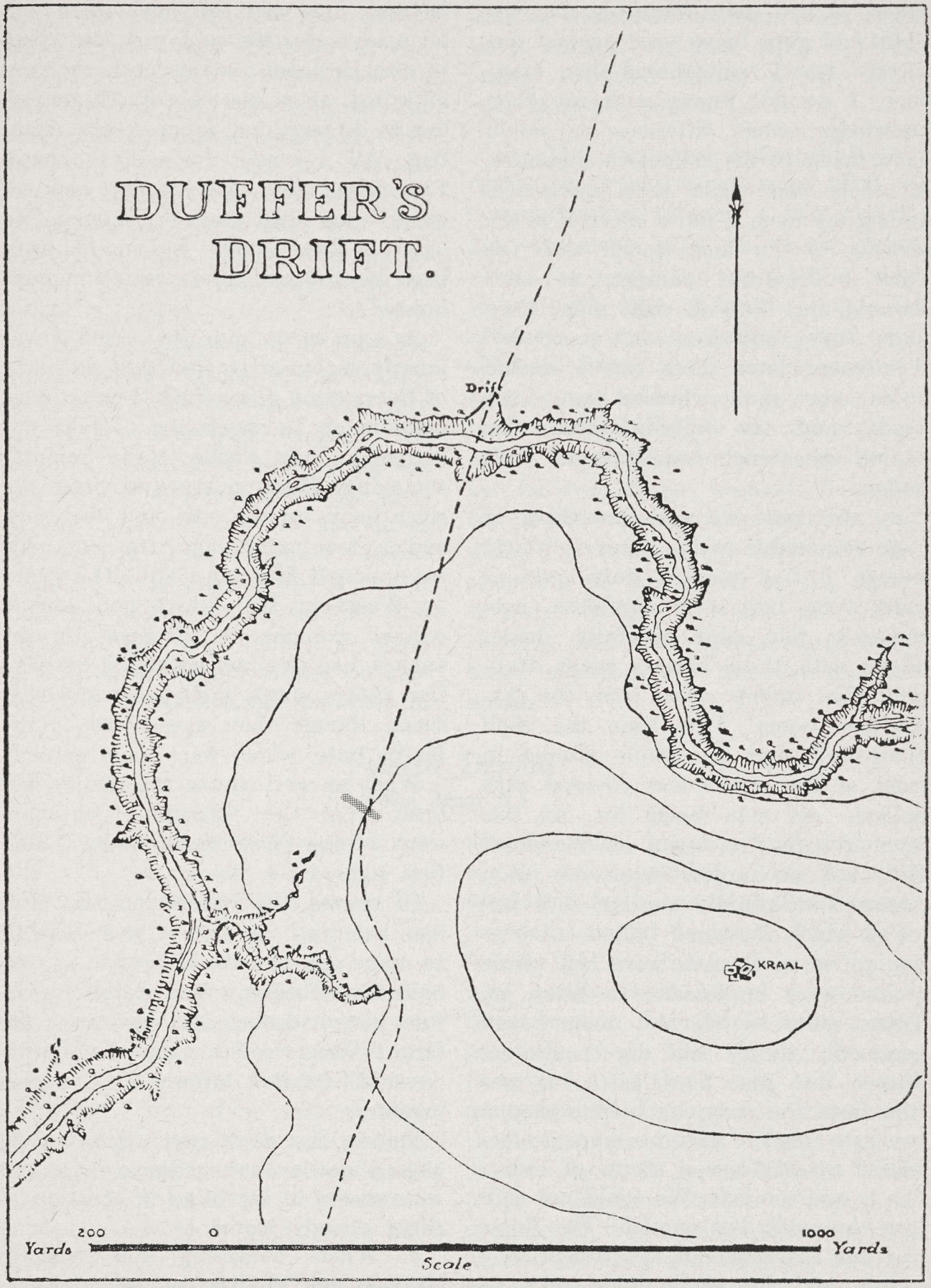
Before falling asleep I ran over my seven lessons, and it seemed to me I had left nothing undone which could possibly help towards success. We were entrenched, had a good bullet-proof defence, all our rations and ammunition close at hand in the trenches, and water-bottles filled. It was with a contented feeling of having done everything right and of being quite "the little white-haired boy" that I gradually dozed off.

Next morning dawned brightly and uneventfully, and we had about an hour's work improving details of our trenches before breakfasts were ready. Just as breakfast was over, the sentry on Waschout Hill reported a cloud of dust away to the north, by Regret Table Mountain. This was caused by a large party of mounted men with wheeled transport of some sort. They were most probably the enemy, and seemed to be trekking in all innocence of our presence for the drift.

What a "scoop", I thought, if they come on quite unsuspecting, and cross the drift in a lump without discerning our position. I shall lie low, let the advanced party go past without a shot, and wait until the main body gets over the side within close range, and then open magazine fire into the thick of them. Yes, it will be just when they reach that broken ant-hill about 400 yards away that I shall give the word "Fire!"

However, it was not to be. After a short time the enemy halted, apparently for consideration. The advanced men seemed to have a consultation, and then gradually approached Incidentamba farm with much caution. Two or three women ran out and waved, whereupon these men galloped up to the farm at once. What passed, of course, we could not tell, but evidently the women gave information as to our arrival and position, because the effect was electrical. The advanced Boers split up into two main parties, one riding towards the river a long way to the east, and another going similarly to the west. One man galloped back with the information obtained to the main body, which became all bustle, and started off with their waggons behind Incidentamba, when they were lost to sight. Of course they were all well out of range, and as we were quite ready, the only thing to do was to wait till they came out in the open within range, and then to shoot them down.

The minutes seemed to crawl—five, then ten minutes passed with no further sign of the enemy. Suddenly, "Beg pardon sir; I think I see somethink on top of that kop-je on the fur side yonder." One of the men drew my attention to a few specks which looked like waggons moving about on the flattish shoulder of Incidentamba. Whilst I was focussing my glasses there was a "boom" from the hill, followed by a sharp report and a puff of smoke up in the air quite close by, then the sound as of heavy rain pattering down some two hundred feet in front of the trench, each drop raising its own little cloud of dust. This, of course, called for the time-honoured remarks of "What ho, she bumps!" and "Now we shan't be long", which proved only too true. I was



Map IV

aghast—I had quite forgotten the possibility of guns being used against me, though, had I remembered their existence, I do not know, with my then knowledge, what difference it would have made to my defensive measures. As there was some little uneasiness among my men, I, quite cheerful in the security of our nice trench with the thick bullet-proof parapet, at once shouted out, "It's all right men; keep under cover, and they can't touch us." A moment later there was a second boom, the shell whistled over our heads, and the hillside some way behind the trench was spattered with bullets.

By this time we were crouching as close as possible to the parapet, which, though it had seemed only quite a short time before so complete, now suddenly felt most woefully inadequate, with those beastly shells dropping their bullets down from the sky. Another boom. This time the shell burst well, and the whole ground in front of the trench was covered with bullets, one man being hit. At this moment rifle fire began on Waschout Hill, but no bullets came our way. Almost immediately another shot followed which showered bullets all over us; a few more men were hit, whose groans were unpleasant to listen to. Tools were seized, and men began frantically to try and dig themselves deeper into the hard earth, as our tion from the dropping bullets than a trench seemed to give no more protecsaucer would from a storm of rain—but it was too late. We could not sink into the earth fast enough. The Boers had got the range of the trench to a nicety, and the shells burst over us now with a horrible methodic precision. Several men were hit, and there was no reason why the enemy should cease to rain shrapnel over us until we were all killed. As we were absolutely powerless to do anything, I put up the white flag. All I could do was to thank Providence that the enemy had no quick-firing field guns or, though "we had not been long", we should have been blotted out before we could have hoisted it.

As soon as the gun-fire ceased, I was greatly surprised to find that no party of Boers came down from their artillery position on Incidentamba to take our surrender, but within three minutes some fifty Boers galloped up from the river bank on the east and the west, and a few more came up from the south round Waschout Hill. The guard on Waschout Hill, which had done a certain amount of damage to the enemy, had two men wounded by riflefire. Not a single shell had come near them, though they were close to the Kaffir huts, which were plain enough.

What an anti-climax the reality had been from the pleasurable anticipations of the early morn, when I had first sighted the Boers.

Of course, the women on the farm had betrayed us, but it was difficult to make out why the Boers had at first halted and begun to be suspicious before they had seen the woman at the farm. What could they have discovered? I failed entirely to solve this mystery.

During the day's trek the following lessons slowly evolved themselves, and were stored in my mind in addition to those already learnt:—

8. When collecting the friendly stranger and his sons in order to prevent their taking information to the

enemy of your existence and whereabouts, if you are wishful for a "surprise packet" do not forget also to gather his wife and his daughter, his manservant and his maidservant (who also have tongues), and his ox and his ass (which may possibly serve the enemy). Of course, if they are very numerous or very far off, this is impossible; only do not then hope to surprise the enemy.

9. Do not forget that, if guns are going to be used against you, a shallow trench with a low parapet some way from it is worse than useless, even though the parapet be bullet-proof ten times over. The trench gives the gunners an object to lay on, and gives no protection from shrapnel. Against well-aimed long-range artillery fire it would be better to scatter the defenders in the open hidden in grass and bushes, or behind stones or anthills, than to keep them huddled in such a trench. With your men scattered around, you can safely let the enemy fill your trench to the brim with shrapnel bullets.

10. Though to stop a shrapnel bullet much less actual thickness of earth is necessary than to stop a rifle bullet, yet this earth must be in the right place. For protection you must be able to get right close under the cover. As narrow a trench as possible, with the sides and inside of the parapet as steep as they will stand, will give you the best chance. To hollow out the bottom of the trench sides to give extra room will be even better, because the open top of the trench can be kept the less wide. The more like a mere slit the open top of the trench is, the fewer shrapnel bullets will get in. While chewing over these lessons learnt from bitter experience, I had yet another dream.

Fourth Dream

(See Map 5)

"Oh wad some power the giftie gie us,
"To see oursels as other see us!"—
Burns.

Again did I find myself facing the same problem, this time with *ten* lessons to guide me. I started off by sending out patrols as described in my last dream, but their orders were slightly different. All human beings were to be brought into our post, and any animals which could be of use to the enemy were to be shot, as we had no place for them.

For my defensive post I chose the position already described in my last dream, which seemed very suitable, for the reasons already given. We consequently dug a trench similar in plan to that already described, but, as I feared the possibility of guns being used against us, it was of a very different section. In plan it faced north generally, and was slightly broken forward to the front, each half being quite straight. In section it was about three feet six inches deep, with a parapet about 12 inches high in front of it; we made the trench as narrow as possible at the top compatible with free movement. Each man hollowed out the under part of the trench to suit himself, and made his own portion of the

parapet to suit his height. The parapet was about two feet six inches thick at the top and quite steep inside, being built up of pieces of broken anthill, which were nearly as hard as stone.

The patrols returned shortly with their bag of a few men, women and children. The women indulged in much useless abuse, and refused to obey orders, taking the matter less philosophically than their mankind. Here was evidently an opportunity of making use of the short training I had once had as an A.D.C. I tried it. I treated the ladies with tons of "tact" in my suavest manner, and repeated the only Dutch words of comfort I knew "Wacht een beetje"—"Al zal rech kom"—but to no purpose. They had not been brought up to appreciate tact; in fact, they were not taking any. I turned regretfully round to the colour-sergeant, winked solemnly and officially, and seeing an answering but respectful quiver in his left eyelid said—

"Colour-sergeant."

"Sir?"

"Which do you think is the best way of setting alight to a farm?"

"Well, sir, some prefer the large bedstead and straw, but I think the 'armonium and a little kerosene in one corner is as neat as anything."

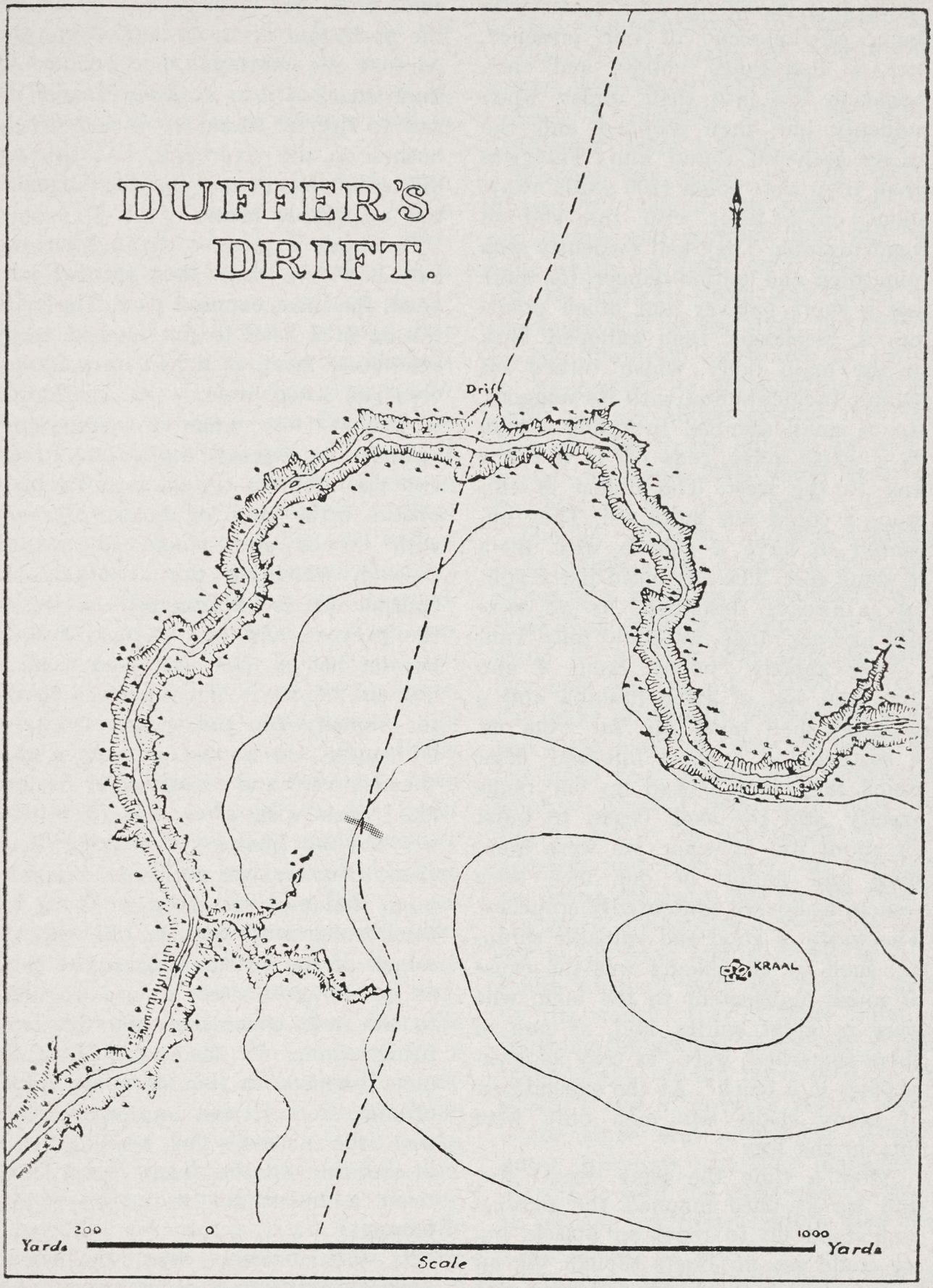
There was no need for more—the ladies quite understood this sort of tact; the trouble was over.

The Dutchmen and Kaffirs were at once started digging shelters for themselves and the women and children. The latter were placed together, and were put into a small ravine not far from the trench, as it was necessary to place them in a really deep trench, firstly, to keep them safe, and secondly to prevent their waving or signalling to the enemy. The existence of this ravine, therefore, saved much digging, as it only required some hollowing out at the bottom and a little excavation to suit admirably.

All dug with a will, and by night the shelters for the women and children and men prisoners, and the firing trench, were nearly done. All arrangements for the guards and sentries were the same as those described in the last dream, and after seeing everything was all correct and the ladies provided with tents to crawl under (they had their own blankets), I went to sleep with a feeling of well-earned security.

At daybreak next morning, as there were no signs of any enemy, we continued to improve our trench, altering the depth and alignment where necessary, each man suiting the size of the trench to his own legs. In the end the trench looked quite neat "almost as nice as mother makes it"—with the fresh red earth contrasting with the yellow of veld. As one of my reservists remarked, it only wanted an edging of oyster shells or gingerbeer bottles to be like his little broccoli patch at home. Upon these important details and breakfast, a good two hours had been spent, when a force was reported to the north in the same position as described in the previous dream. It advanced in the same manner, except, of course, the advanced men were met by no one at the farm. When I saw this, I could not help patting myself on the back and smiling at the Dutch ladies in the pit, who only scowled at me in return, and (whisper) spat!

The advanced party of the enemy came on, scouting carefully and stalking the farm as they came. As they appeared quite unwarned, I was won-



Map V

dering if I should be able to surprise them, all innocent of our presence, with a close-range volley, and then magazine fire into their midst, when suddenly one man stopped and the others gathered round him. This was when they were some 1800 yards away, about on a level with the end of Incidentamba. They had evidently seen something and sniffed danger, for there was a short palaver and much pointing. A messenger then galloped back to the main body, which turned off behind Incidentamba with its waggons, etc. A small number, including a man on a white horse, rode off in a vague way to the west. The object of this move I could not quite see. They appeared to have a vehicle with them of some sort. The advanced party split up as already described. As all were still at long range, we could only wait.

Very shortly "boom" went a gun from the top of Incidentamba and a shrapnel shell burst not far from us. A second and a third followed, after which they soon picked up our range exactly, and the shell began to burst all about us; however, we were quite snug and happy in our nice deep trench, where we contentedly crouched. The waste of good and valuable shrapnel shell by the enemy was the cause of much amusement to the men, who were in great spirits, and, as one of them remarked, were "as cosy as cockroaches in a crack". At the expenditure of many shells two men only were hit—in the legs.

After a time the guns ceased fire, and we at once manned the parapet and stood up to repel an attack, but we could see no Boers though the air began at once to whistle and hum with bullets. Nearly all these seemed to come from the river-bank in front, to the north and north-east, and kept the parapet one continual spurt of dust as they smacked into it. All we could do was to fire by sound at various likely bushes on the riverbank, and this we did with the greatest possible diligence, but no visible result.

In about a quarter of an hour, we had had five men shot through the head, the most exposed part. The mere raising of a head to fire seemed to be absolutely fatal, as it had on a former occasion when were were attempting to fire at close range over a parapet against the enemy concealed. I saw two poor fellows trying to build up a pitiful little kind of house of cards with stones and pieces of ant-hill through which to fire. This was as conspicuous as a chimneypot on top of the parapet, and was at once shot to powder before they had even used it, but not before it had suggested to me the remedy for this state of affairs. Of course, we wanted in such a case "head cover" and "loopholes". As usual, I was wise after the event, for we had no chance of making them then, even had we not been otherwise busy. Suddenly the noise of firing became much more intense, but with the smack of the bullets striking the earth all round quite close it was not easy to tell from which direction this fresh firing came. At the same time the men seemed to be dropping much oftener, and I was impressing them with the necessity of keeping up a brisker fire to the front, when I noticed a bullet hit *our* side of the parapet.

It then became clear, the enemy must evidently have got into the donga behind us (to which I had paid no

attention, as it was to the rear), and were shooting us in the back as we stood up to our parapet.

This, I thought, must be what it called being "taken in *reverse*" and it was.

By the time I had gathered what was happening, about a dozen more men had been bowled over. I then ordered the whole lot to take cover in the trench, and only to pop up to take a shot to the front or rear. But no more could be done by us towards the rear than to the front. The conditions were the same— no Boers to be seen. At this moment two of the guard from Waschout Hill started to run in to our trench, and a terrific fusilage was opened on to them, the bullets kicking up the dust all round them as they ran. One poor fellow was dropped, but the other managed to reach our trench and fall into it. He too was badly hit, but just had the strength to gasp out that except himself and the man who started with him, all the guard on Waschout Hill had been killed or wounded and that the Boers were gradually working their way up to the top. This was indeed cheering.

So hot was the fire now that no one could raise his head above ground without being shot, and by crouching down altogether and not attempting to aim, but merely firing our rifles over the edge of the trench, we remained for a short time without casualties. This respite, however, was short, for the men in the right half of the trench began to drop unaccountably whilst they were sitting well under cover, and not exposing themselves at all. I gradually discovered the cause of this. Some snipers must have reached the top of Waschout Hill, and were shooting straight down our right half trench. As the bullets snicked in thicker and thicker, it was plain the number of snipers was being increased.

This, I thought, must be being "*enfiladed*" from a flank. It was so.

Without any order, we had all instinctively vacated the right half of our trench and crowded into the left half, which by great good luck could not be enfilaled from any point on the south side of the river, nor indeed by rifle-fire from anywhere, as, owing to the ground, its prolongation on the right was up above ground into the open air, and to the left did not touch ground for some 3000 yards away on the veld on the north bank.

Though we were huddled together quite helpless like rats in a trap, still it was in a small degree comforting to think that, short of charging, the enemy could do nothing. For that we fixed bayonets and grimly waited. If they did make an assault, we had bayonets, and they had not, and we could sell our lives very dearly in a rough-and-tumble. Alas! I was again deceived. There was to be no chance of close quarters and cold steel, for suddenly we heard, far away out on the veld to the north, a sound as of someone beating a tin tray, and a covey of little shells whistled into the ground close by the trench; two of these burst on touching the ground. Right out of rifle-range, away on the open veld on the north, I saw a party of Boers, with a white horse and a vehicle. Then I knew. But how had they managed to hit off so well the right spot to go to to infilade our trench before they even knew where we were?

Pompom pompompom again, and the little steel devils ploughed their way

into the middle of us in our shell-trap, mangling seven men. I at once diagnosed the position with great professional acumen; we were now *enfiladed* from *both* flanks, but the knowledge was acquired too late to help us for —

"We lay bare as the paunch of the purser's sow,
To the hail of the Nordenfeldt."

This was the last straw; there was nothing left but surrender or entire annihilation at long range. I surrendered.

Boers, as usual, sprang up from all round. We had fought for three hours, and had twenty-five killed and seventeen wounded. Of these, seven only had been hit by the shrapnel and riflefire from the *front*. All the rest had been killed or hit from the *flanks*, where there should be few enemies, or the *rear*, where there should be none! This fact convinced me that my preconceived notions as to the *front*, and its danger relative to the other points of the compass, needed considerable modification. All my cherished ideals were being ruthlessly swept away, and I was plunged into a sea of doubt, groping for *something* certain or fixed to lay hold of. Could Longfellow, when he wrote that immortal line. "Things are not what they seem", ever have been in my position?

The survivors were naturally a little disheartened at their total discomfiture, when all had started so well with them in their "crack". This expressed itself in different ways. As one man said to a corporal who was plugging a hole in his ear with a bit of rag—.

"Somethink sickening, I call it, this enfilading racket; you never know which way it will take yer. I'm fairly fed up." To which the gloomy reply, "Enfiladed? Of course we've been enfiladed. This 'ere trench should have been wiggled about a bit, and then there would not have been quite so much of it. Yes, wiggled about—that's what it should have been." To which chipped in a third, "Yes, and somethink to keep the blighters from shooting us in the back wouldn't 'ave done us much 'arm anyway."

There were evidently more things in *earth* than I had hitherto dreamt of in my philosophy!

* * *

As we trekked away to the north under a detached guard of Boers, many little points such as the above sank into my soul, but I could not for some time solve the mystery of why we had not succeeded in surprising the enemy. There were no men, women, children or Kaffirs who, knowing of our arrival, could have warned them. How did they spot our presence so soon, as they evidently must have done when they stopped and consulted in the morning? It was not until passing Incidentamba, as I casually happened to look round and survey the scene of the fight from the enemy's point of view, that I discovered the simple answer to the riddle. There on the smooth yellow slope of the veld just south of the drift was a brownish-red streak, as conspicuous as the Long Man of Wilmington on the dear old Sussex downs, which positively shrieked aloud, "Hi! hi! hi!—this way for the British defence." I then grimly smiled to think of myself sitting like a "slick Alick" in that poster of a trench and expecting to surprise anybody!

Besides having been enfiladed and also taken in reverse, we had again found ourselves at a disadvantage as compared with the concealed enemy shooting at close range, from having to show up at a fixed place in order to fire.

Eventually I collected the following lessons—

11. For a small isolated post and an active enemy, there are no *flanks,* no *rear,* or to put it otherwise, it is *front all round.*

12. Beware of being taken in *reverse;* take care, when placing and making your defences, that when you are engaged in shooting the enemy to the front of your trench, his pal cannot sneak up and shoot you in the back.

13. Beware of being *enfiladed.* It is nasty from one flank—far worse from both flanks.

Remember, also, that though you may arrange matters so that you cannot be enfiladed by rifle-fire, yet you may be open to it from long range, by means of gun or pompom fire. There are few straight trenches that cannot be enfiladed from somewhere, if the enemy can only get there. You can sometimes avoid being enfiladed by so placing your trench that no one can get into prolongation of it to fire down it, or you can "wiggle" it about in many ways, so that it is not straight, or make "traverses" across it, or dig separate trenches for every two or three men.

14. Do not have your trench near rising ground over which you cannot see, and which you cannot hold.

15. Do not huddle all your men together in a small trench like sheep in a pen. Give them air.

16. As one before—cover from sight is often worth more than cover from bullets.

For close shooting from a non-concealed trench, *head cover* with *loopholes* is an advantage. This should be bullet-proof and not be conspicuously on the top of the parapet, so as to draw fire, or it will be far more dangerous than having none.

17. To surprise the enemy is a great advantage.

18. If you wish to obtain this advantage, *conceal* your position. Though for promotion it may be sound to advertise your position, for defence it is not.

19. To test the concealment or otherwise of your position, look at it from the enemy's point of view.

Fifth Dream

(See Map 6)

"A trifling sum of misery,
New added to the foot of thy account."—Dryden.

"Jack Frost looked forth one still clear night,
And he said, 'Now I shall be out of sight;
So over the valley and over the height
In silence I'll take my way'." — Gould.

Again I faced the same task with a fresh mind and fresh hopes, all that remained with me of my former attempts being *nineteen* lessons.

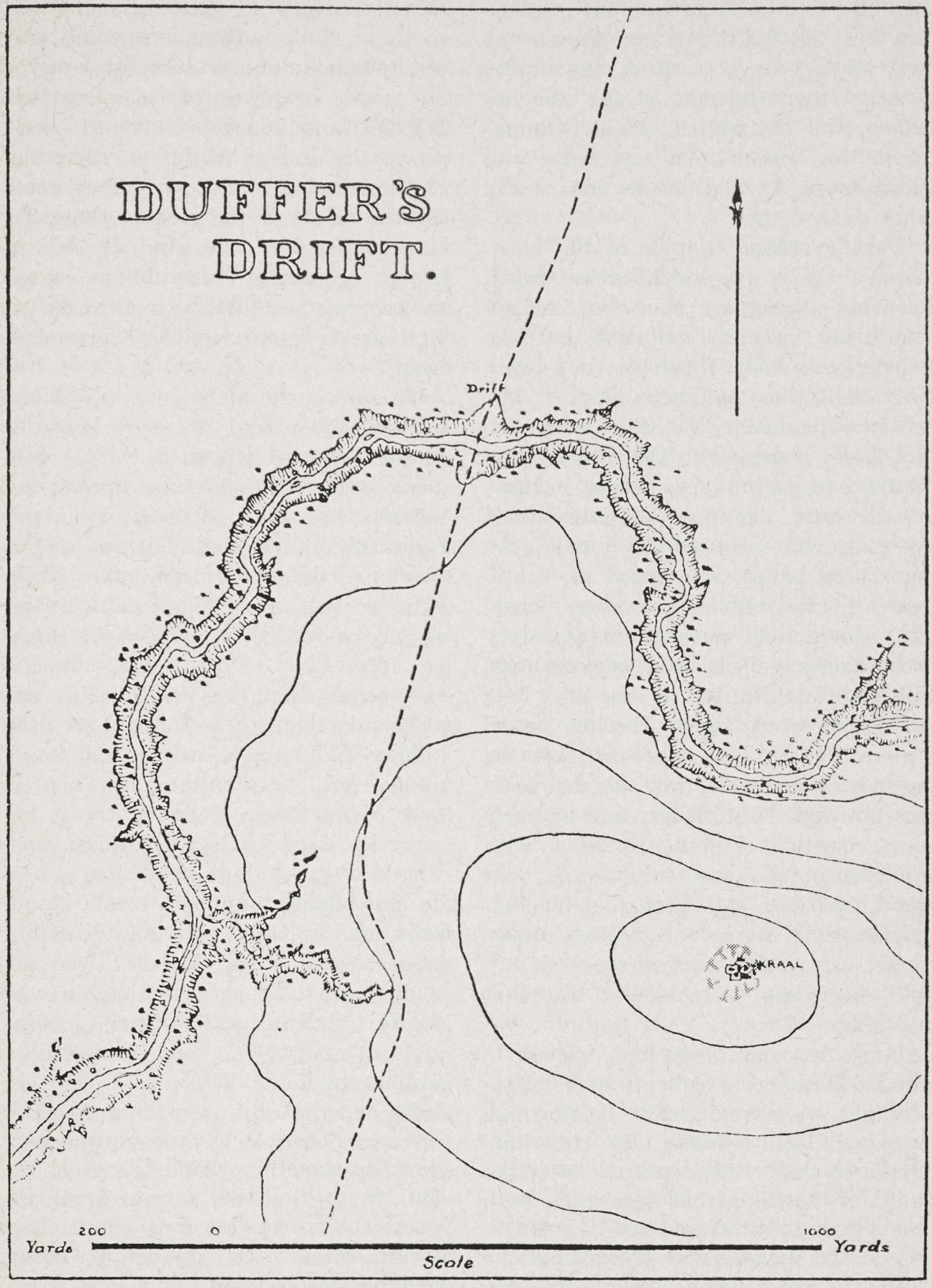
Having detailed the two patrols and the guard on Waschout Hill as already described, I spent some twenty min-

utes—whilst the stores, etc., were being arranged—in walking about to choose a position to hold in the light of my nineteen lessons.

I came to the conclusion that it was not any good being near the top of a hill and yet not *at* the top. I would make my post on the top of Waschout Hill, where I could not be overlooked from any place within rifle range, and where I should, I believed, have "Command". I was not quite certain what "command" meant, but I knew it was important—it says so in the book; besides, in all the manoeuvres I had attended and tactical schemes I had seen, the "defence" always held a position on top of a hill or ridge. My duty was plain: Waschout Hill seemed the only place which did not contravene any of the nineteen lessons I had learnt, and up it I walked. As I stood near one of the huts, I got an excellent view of the drift and its southern approach just over the bulge of the hill, and a clear view of the river further east and west. I thought at first I would demolish the few grass and matting huts which, with some empty kerosene tins and heaps of bones and *débris,* formed the Kaffir kraal; but on consideration I decided to play cunning, and that this same innocent-looking Kaffir kraal would materially assist me to hide my defences. I made out my plan of operations in detail, and we had soon conveyed all our stores up to the top of the hill, and started work.

Upon the return of the patrols with their prisoners, the Dutchmen and "boys" were told off to dig for themselves and their females. The Kaffirs of the kraal we had impressed to assist at once.

My arrangements were as follows: All round the huts on the hilltop and close to them we dug some ten short lengths of deep-firing trench, curved in plan, and each long enough to hold five men. These trenches had extremely low parapets, really only serving as rifle-rests, some of the excavated earth being heaped up *behind* the trenches to the height of a foot or so, the remainder being dealt with as described later. In most cases the parapets were provided with grooves to fire through at ground-level, the parapet on each side being high enough to just protect the head. As with the background the men's heads were not really visible, it was unnecessary to provide proper loopholes, which would have necessitated also the use of new sandbags, which would be rather conspicuous and troublesome to conceal. When the men using these trenches were firing, their heads would be just above the level of the ground. These firing trenches having been got well under way, the communication trenches were started. These were to be narrow and deep, leading from one trench to the next and also leading from each trench back to four of the huts, which were to be arranged as follows, to allow men to fire standing up without being seen. Round the inside of the walls of these huts part of the excavated earth, of which there was ample, would be built up with sandbags, pieces of ant-hill, stones, etc., to a height that a man can fire over, about four and a half feet, and to a thickness of some two and a half feet at the top, and loopholes, which would be quite invisible, cut through the hut sides above this parapet. There was room in each hut for three men to



Map VI

fire. In three of them I meant to place my best shots, to act as snipers, as they would have a more favourable position than the men in the trenches below, and the fourth was a conning-tower for myself. All the tents and stores were stacked inside one of the huts out of sight.

That evening, in spite of the hardness of the work, which caused much grousing among my men, we had got the firing trenches complete, but the others were not finished—they were only half the necessary depth. The earth walls inside the huts were also not quite completed. The Kaffirs and Dutch had deep pits, as before, in three of the huts. Ammunition and rations were distributed round the trenches the last thing before we turned in. I also had all water-bottles and every vessel that would hold water, such as empty tins, Kaffir gourds, and cooking-pots, filled and distributed in case of a long and protracted fight. Having issued orders as to the necessity for the greatest secrecy in not giving away our position should Boers turn up early next morning, I went to sleep with confidence. We had, anyhow, a very good position, and though our communications were not perfect quite, these we could soon improve if we had any time to ourselves the next morning.

Next morning broke; no enemy in sight. This was excellent, and before daylight we were hard at it, finishing the work still undone. By this time the men had fully entered into the spirit of the thing, and were quite keen on surprising Brother Boer if possible. While the digging was proceeding, the "dixies" were being boiled for the breakfasts inside four grass screens, some of which we found lying about, so as to show nothing but some very natural smoke above the kraal. I picked out one or two of my smartest N.C.O.s, and instructed them to walk down the hill in different directions to the riverbank and try if they could see the heads of the men in the firing trenches against the sky. If so, the heaps of earth, tins, bones, grass, screens, etc., should be rearranged so as to give a background to every man's head.

To review the place generally, I and my orderly walked off some half-mile to the north of the river. As we were going some distance, we doffed our helmets and wrapped ourselves in two beautiful orange and magenta striped blankets, borrowed from our Kaffir lady guests, in case any stray Boer should be lurking around, as he might be interested to see two "khakis" wandering about on the veld. It was awkward trying to walk with our rifles hidden under our blankets, and moreover, every two minutes we had to look round to see if the sentry at the camp had signalled any enemy in sight. This was to be done by raising a pole on the highest hut. The result of our work was splendid. We saw a Kaffir kraal on a hill, and to us "it was nothing more". There were the heaps of *débris* usually round a kraal, looking most natural, but no heads were visible, and no trenches. There was only one fault, and that was that a few thoughtless men began, as we looked, to spread their brown army blankets out in the sun on top of the huts and on the veld. To the veriest new chum these square blots, like squares of brown sticking-plaster all round the kraal, would have betokened something unus-

ual. To remedy this before it was too late I hastened back.

After we had done our breakfasts, and some three hours after dawn, the sentry in one of the huts reported a force to the north. We could do nothing but wait and hope; everything was ready, and every man knew what to do. No head was to be raised nor a rifle fired until I whistled from my conning-tower; then every man would pop up and empty his magazine into any of the enemy in range. If we were shelled, the men in the huts could at once drop into the deep trenches and be safe. Standing in my "conning-tower", from the loopholes of which I could see the drift, I thought over the possibilities before us. With great luck perhaps the Boer scouts would pass us on either side, and so allow us to lie low for the main body. With a view to seeing exactly how far I would let the latter come before opening fire, and to marking the exact spot when it would he best to give the word, I got down into the firing trenches facing the drift and the road south to see how matters appeared from the level of the rifles. To my intense horror, I found that from these trenches neither the drift nor the road on the near bank of the river, until it got a long way south of Waschout Hill, *could be seen!* The bulging convexity of the hill hid all this; it must be *dead ground!* It was. The very spot where I could best catch the enemy, where they *must* pass, was not under my fire! At most, the northern loopholes of the conning-tower and one other hut alone could give fire on the drift. How I cursed my stupidity! However, it was no good. I could not now start digging fresh trenches further down the hill; it would betray our whole position at once. I determined to make the best of it, and *if* we were not discovered by the scouts, to open fire on the main body when they were just on the other side of the river bunched up on the bank, waiting for those in front. Here we could fire on them; but it would be at a much longer range than I had intended. It was really a stroke of luck that I had discovered this serious fault, for otherwise we might have let the bulk of the enemy cross the drift without discovering the little fact of the dead ground until too late. I reflected, also (though it was not much consolation), that I had erred in good company, for how often had I not seen a "brass-hat" ride along on horseback, and from that height fix the exact position for trenches in which the rifles would be little above the ground. These trenches, however, had not been put to the test of actual use. My error was not going to escape the same way.

Meanwhile the enemy's scouts had advanced in much the same way as detailed before, except that after coming past Incidentamba Farm, they had not halted suspiciously, but came on in small groups or clumps. They crossed the river in several places and examined the bushy banks most carefully, but finding no "khakis" there, they evidently expected none on the open veld beyond them, for they advanced "any way" without care. Several of the clumps joined together, and came on chatting in one body of some thirty men. Would they examine the kraal, or would they pass on? My heart beat. The little hill we were on would, unluckily, be certain to prove an attraction for them, because it was an ex-

cellent vantage ground whence to scan the horizon to the south, and to signal back to the main body to the north. The kraal was also a suitable place to off-saddle for a few minutes while the main body came up to the drift, and it meant possibly a fire, and therefore a cup of coffee. They rode up towards it laughing, chatting, and smoking quite unsuspectingly. We uttered no sound. Our Dutch and Kaffir guests uttered no sound either, for in their pits was a man with a rifle alongside them. At last they halted a moment some 250 yards away on the north-east, where the slope of the hill was more gradual and showed them all up. A few dismounted, the rest started again straight towards us. It was not magnificent, but it was war. I whistled.

About ten of them succeeded in galloping off, also some loose horses; five or six of them on the ground threw up their hands and came into the post. On the ground there remained a mass of kicking horses and dead or groaning men. The other parties of scouts to east and west had at once galloped back to the river, where they dismounted under cover and began to pepper us. Anyway, we had done *something*.

As soon as our immediate enemy were disposed of, we opened fire on the main body some 1500 yards away, who had at once halted and opened out. To these we did a good deal of damage, causing great confusion, which was comforting to watch. The Boer in command of the main body must have gathered that the river-bed was clear, for he made a very bold move; he drove the whole of the waggons, etc., straight on as fast as possible over the odd 400 yards to the river and down the drift into the river-bed, where they were safe from our fire. Their losses must have been heavy over this short distance, for they had to abandon two of their waggons on the way to the river. This was done under cover of the fire from a large number of riflemen, who had at once galloped up to the river-bank, dismounted, and opened fire at us, and from two guns and a pompom, which had immediately been driven a short distance back and then outwards to the east and west. It was really the best thing he could have done, and if he had only known that we could not fire on the ground to the south of the drift, he might have come straight on with a rush.

We had so far scored; but now ensued a period of stalemate. We were being fired at from the river-bank on the north, and from ant-hills, etc., pretty well all round, and were also under the intermittent shell-fire from the two guns. They made most excellent practice at the huts, which were soon knocked to bits, but not till they had well served their turn. Some of the new white sandbags from inside the huts were scattered out in full view of the enemy, and it was instructive to see what a splendid target they made for rifle-fire, and how often they were hit. They must have drawn a lot of fire away from the actual trenches. Until the Boers discovered that they could advance south from the drift without being under rifle fire from our position, they were held up.

Would they discover it? As they had ridden all round us, by now, well out of range, they must know all about us and our isolation.

After dark, by which time we had one man killed and two wounded, the firing died away into a continuous but desultory rifle-fire, with an occasional dropping shell from the guns. Under cover of dark, I tried to guard the drift and dead ground to the south of it, by making men stand up and fire at that level; but towards midnight I was forced to withdraw them into the trenches, after several casualties, as the enemy then apparently woke up and kept up a furious rifle fire upon us for over an hour. During this time, the guns went through some mysterious evolutions. At first we got it very hot from the north, where the guns had been all along. Then suddenly a gun was opened on us away from the south-west, and we were shelled for a short time from both sides. After a while the shelling on the north ceased, and continued from the south-west only for twenty minutes. After this the guns ceased, and the rifle-fire also gradually died away.

When day dawned not a living soul was to be seen; there were the dead men, horses, and the deserted waggons. I feared a trap, but gradually came to the conclusion the Boers had retired. After a little we discovered the river-bed was deserted as well, but the Boers had not retired. They had discovered the dead ground, and under the mutually supporting fire of their guns, which had kept us to our trenches, had all *crossed* the drift and trekked south!

True, we were not captured, and had very few losses, and had severely mauled the enemy, *but* they had crossed the drift. It must have evidently been of great importance to them to go on, or they would have attempted to capture us, as they were about 500 to our 50.

I had failed in my duty.

During the next few hours we buried the dead, tended the wounded, and took some well-earned rest, and I had ample leisure to consider my failure and the causes. The lessons I derived from the fight were—

20. Beware of convex hills and *dead ground*. Especially take care to have some place where the enemy *must* come under your fire. Choose the exact position of your firing trenches, with your eye at the level of the men who will eventually use them.

21. A hill may not, after all, though it has "command" necessarily be the best place to hold.

22. A conspicuous "bluff" trench may cause the enemy to waste much ammunition, and draw fire away from the actual defences.

In addition to these lessons, another little matter on my mind was what my colonel would say at my failure.

Lying on my back, looking up at the sky, I was trying to get a few winks of sleep myself before we started to improve our defences against a possible further attack, but it was no use, sleep evaded me.

The clear blue vault of heaven was suddenly overcast by clouds which gradually assumed the fowning face of my colonel. "*What*? You mean to say, Mr. Forethought, the Boers have *crossed*?" But, luckily for me, before more could be said, the face began slowly to fade away like that of the Cheshire Puss in *Alice in Wonderland,* leaving nothing but the awful frown across the sky. This too finally dissolved, and the whole scene changed. I had another dream.

Sixth Dream

(See Map 7)

"Sweet are the uses of adversity."

Once more was I fated to essay the task of defending Duffer's Drift. This time I had twenty-two lessons below my belt to help me out, and in the oblivion of my dream I was spared that sense of monotony which by now may possibly have overtaken you, "gentle reader".

After sending out the patrols, and placing a guard on Waschout Hill, as already described, and whilst the stores were being collected, I considered deeply what position I should take up, and walked up to the top of Waschout Hill to spy out the land. On the top I found a Kaffir kraal, which I saw would assist me much as concealment should I decide to hold this hill. This I was much inclined to do, but after a few minutes trial of the shape of the ground, with the help of some men walking about down below, and my eyes a little above ground-level—I found that its convexity was such that, to see and fire on the drift and the approach on the south side, I should have to abandon the top of the hill, and so the friendly concealment of the Kaffir huts, and take up a position on the open hillside some way down. This was, of course, quite feasible, especially if I held a position at the top of the hill as well, near the huts on the east and south-east sides; but, as it would be impossible to really conceal ourselves on the bare hillside, it meant giving up all idea of surprising the enemy, which I wished to do. I must, therefore, find some other place which would lend itself to easy and good concealment, and also have the drift or its approaches under close rifle-fire. But where to find such a place?

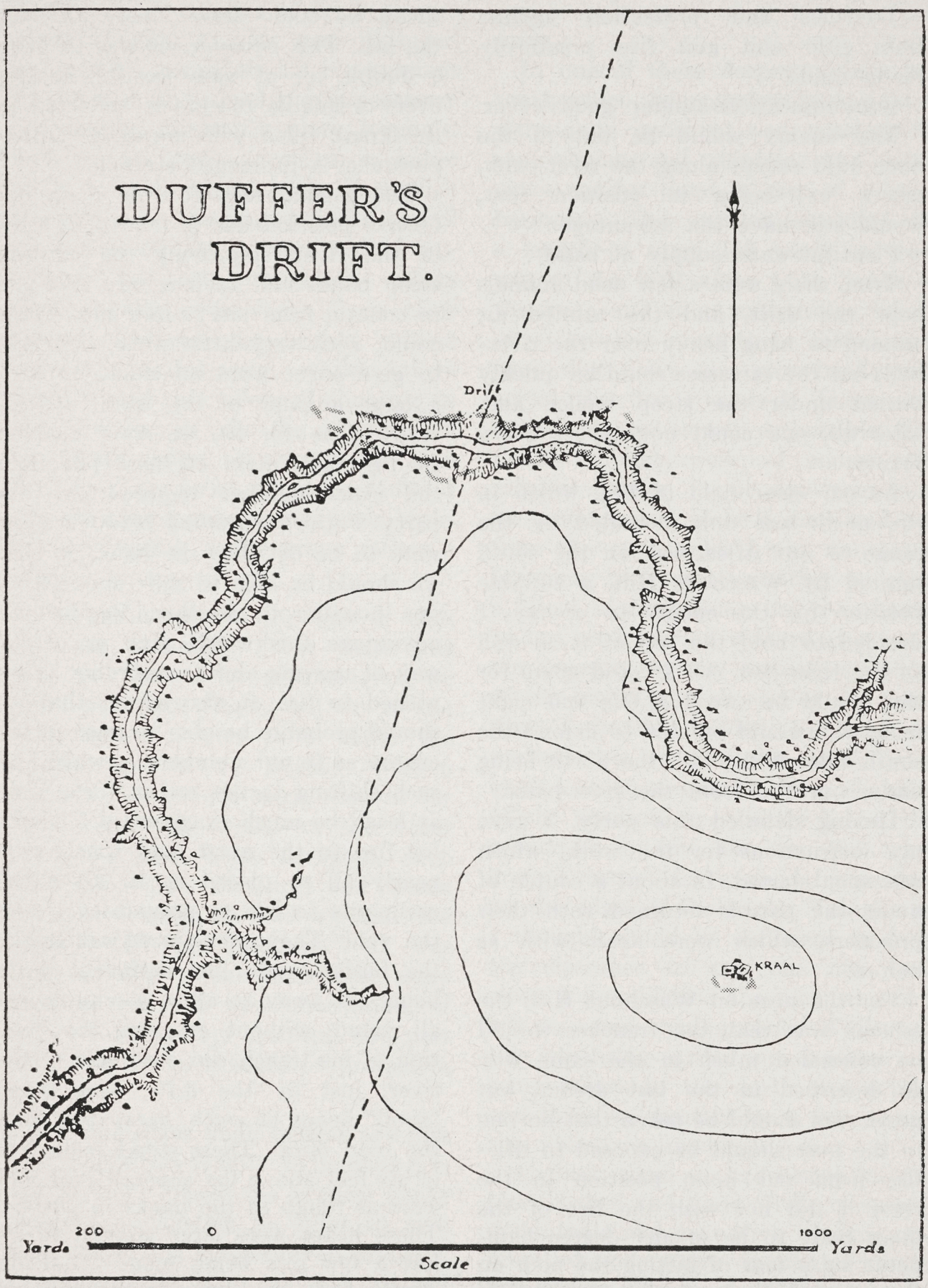
As I stood deep in thought, considering this knotty problem, an idea gently wormed itself into my mind, which I at once threw out again as being absurd and out of the question. This idea was—to hold the river-bed and banks on each side of the drift! To give up all idea of command, and, instead of seeking the nearest high ground, which comes as natural to the student of tactics as rushing for a tree does to a squirrel, to take the lowest ground, even though it should be all among thick cover, instead of being nicely in the open.

No, it was absolutely revolutionary, and against every canon I had ever read or heard of; it was evidently the freak of a sorely tried and worried brain. I would have none of it, and I put it firmly from me. But the more I argued to myself the absurdity of it, the more this idea obtained possession of me. The more I said it was impossible, the more allurements were spread before me in its favour, until each of my conscientious objections was enmeshed and smothered in a network of specious reasons as to the advantages of the proposal.

I resisted, I struggled, but finally fell to temptation, dressed up in the plausible guise of reason. I would hold the river-bed.

The advantages I thus hoped to obtain were —

Perfect concealment and cover from sight.



Map VII

Trenches and protection against both rifle and gun fire practically ready made.

Communications under good cover.

The enemy would be out in the open veld except along the river-bank, where we, being in position first, would still have the advantage.

Plentiful water-supply at hand.

True, there were a few dead animals near the drift, and the tainted air seemed to hang heavy over the river-bed, but the carcasses could be quickly buried under the steep banks, and, after all, one could not expect *every* luxury.

As our clear field of fire, which in the north was only bounded by the range of our rifles, was on the south limited by Waschout Hill, a suitable position for the enemy to occupy, I decided to hold the top of it as well as the river-bed. All I could spare for this would be two N.C.O.'s and eight men, who would be able to defend the south side of the hill, the north being under our fire from the river-bank.

Having detailed this party, I gave my instructions for the work, which was soon started. In about a couple of hours the patrols returned with their prisoners, which were dealt with as before.

For the post on Waschout Hill, the scheme was that the trenches should be concealed much in the same way as described in the last dream, but great care should be taken that no one in the post should be exposed to rifle-fire from our main position in the river. I did not wish the fire of the main body to be in any degree hampered by a fear of hitting the men on Waschout Hill, especially at night. If we knew it was not possible to hit them, we could shoot freely all over the hill. This detachment was to have a double lot of water-bottles, besides every available receptacle collected in the kraal, filled with water, in anticipation of a prolonged struggle.

The general idea for the main defensive position was to hold both sides of the river, improving the existing steep banks and ravines into rifle-pits to contain from one to four men. These could, with very little work, be made to give cover from all sides. As such a large amount of the work was already done for us, we were enabled to dig many more of these pits than the exact number required for our party. Pathways leading between these were to be cut into the bank, so that we should be able to shift about from one position to another. Besides the advantage this would give us in the way of moving about, according as we wished to fire, it also meant that we should probably be able to mislead the enemy as to our numbers — which, by such shifting tactics might, for a time at least, be much exaggerated. The pits for fire to the north and south were nearly all so placed as to allow the occupants to fire at ground-level over the veld. They were placed well among the bushes, only just sufficient scrub being cut away to allow a man to see all round, without exposing the position of his trench. On each side of the river, just by the drift, were some "spoil" heaps of earth, excavated from the road ramp. These stood some five or six feet above the general level, and were as rough as the banks in outline. These heaps were large enough to allow a few pits being made on them, which had the extra advantage of height. In some of the pits, to give

head-cover, loopholes of sandbags were made, though in most cases this was not needed, owing to the concealment of the bushes. I found it was necessary to examine personally every loophole, and correct the numerous mistakes made in their construction. Some had the new clean sandbags exposed to full view, thus serving as mere whited sepulchres to their occupants, others were equally conspicuous from their absurd cock-shy appearance, others were not bullet-proof, whilst others again would only allow of shooting in one direction, or into the ground at a few yards' range, or up into the blue sky. As I corrected all these faults I thought that loopholes not made without supervision might prove rather a snare.

The result was, in the way of concealment, splendid. From these pits with our heads at ground-level we could see quite clearly out on to the veld beyond, either from under the thicker part of the bushes or even through those which were close to our eyes. From the open, on the other hand, we were quite invisible, even from 300 yards' distance, and would have been more so had we had the whiskers of the "brethren". It was quite evident to me that these same whiskers were a wise precaution of nature for this very purpose, and part of her universal scheme of protective mimicry.

The numerous small dongas and rifts lent themselves readily to flanking fire, and in many places the vertical banks required no cutting in order to give ideal protection against even artillery. In others, the sides of the crooked waterways had to be merely scooped out a little, or a shelf cut to stand upon.

In one of these deeper ravines two tents, which, being below ground-level, were quite invisible, were pitched for the woman and children, and small caves cut for them in case of a bombardment. The position extended for a length of some 150 yards on each side of the drift along both banks of the river, and at its extremities, where an attack was most to be feared, pits were dug down the river-banks and across the dry river-bed. These also were concealed as well as possible. The flanks or ends were, of course, our greatest danger, for it was from here we might expect to be rushed, and not from the open veld. I was undecided for some time as to whether to clear a "field of fire" along the river-banks or not, as I had no wish to give away our presence by any suspicious nudity of the banks at each end of our position. I finally decided, in order to prevent this, to clear the scrub for as great a range as possible from the ends of the position, everywhere below the ground-level, and also on the level ground, except for a good fringe just on the edges of the banks. This fringe I thought would be sufficient to hide the clearance to any one not very close. I now blessed the man who had left us some cutting tools. Whilst all this was being carried out, I paced out some ranges to the north and south, and these we marked by a few empty tins placed on ant-heaps, etc.

At dusk, when we had nearly all the pits finished and some of the clearance done, tents and gear were hidden, ammunition and rations distributed to all, and orders in case of an attack given out. As I could not be everywhere, I

had to rely on the outlying groups of men fully understanding my aims beforehand, and acting on their "own". To prevent our chance of a close-range volley into the enemy being spoilt by some over-zealous or jumpy man opening fire at long range, I gave orders that fire was to be held as long as possible, and that no man was to fire a shot until firing had already commenced elsewhere (which sounded rather Irish), or my whistle sounded. This was unless the enemy were so close to him that further silence was useless. Firing having once started, every man was to blaze away at any enemy within range as judged by our range marks. Finally we turned in to our pit for the night with some complacency, each eight men furnishing their own sentry.

We had about three hours next morning before any enemy were reported from Waschout Hill (the prearranged signal for this was the raising of a pole from one of the huts). This time was employed in perfecting our defences in various ways. We managed to clear away the scrub in the dry river-bed and banks for some 200 yards beyond our line of pits on each side, and actually attained to the refinement of an "obstacle"; for at the extremity of this clearance a sort of abatis entanglement was made with the wire from an adjacent fence which the men had discovered. During the morning I visited the post on Waschout Hill, found everything all correct, and took the opportunity of showing the detachment the exact limits of our position in the river-bed, and explained what we were going to do. After about three hours' work, "Somebody in sight" was signalled, and we soon after saw from our position a cloud of dust away to the north. This force, which proved to be a commando, approached as already described in the last dream; all we could do meanwhile was to sit tight in concealment. Their scouts came on in clumps of twos and threes which extended over some mile of front, the centre of the line heading for the drift. As the scouts got closer the natural impulse to make for the easiest crossing-place was obeyed by two or three of the parties on each side of the one approaching the drift, and they inclined inwards and joined forces with it. This was evidently the largest party we could hope to surprise, and we accordingly lay for it. When about 300 yards away, the "brethren" stopped rather suspiciously. This was too much for some man on the east side, who let fly, and the air was rent by the rattle as we emptied our magazines, killing five of this special scouting party and two from other groups on further out on either side. We continued to fire at the scouts as they galloped back, dropping two more, and also at the column which was about a mile away, but afforded a splendid target till it opened out.

In a very few moments our position was being shelled by three guns, but with the only result, as far as we were concerned of having one man wounded by shell-fire, though the firing went on slowly till dark. To be accurate, I should say the river was being shelled, our position incidentally, for shells were bursting along the river for some half-mile. The Boers were evidently quite at sea as regards the extent of our position and strength, and wasted many shells. We noticed much galloping of men away to the east and west, out of range, and guessed that these were par-

ties who intended to strike the river at some distance away, and gradually work along the bed, in order probably to get close range during the night.

We exchanged a few shots during the night along the river-bed, and not much was done on either side, though of course we were on the *qui vive* all the time; but it was not till near one in the morning that Waschout Hill had an innings.

As I had hoped, the fact that we held the kraal had not been spotted by the enemy, and a large body of them, crawling up the south side of the hill in order to get a good fire on to us in the river, struck a snag in the shape of a close-range volley from our detachment. As the night was not very dark, in the panic following the first volley our men were able (as I learnt afterwards) to stand right up and shoot at the surprised burghers bolting down the hill. However, their panic did not last long, to judge by the sound, for after the first volley from our Lee-Metfords and the subsequent minute's independent firing, the reports of our rifles were soon mingled with the softer reports of the Mausers, and we shortly observed flashes on our side of Waschout Hill. As these could not be our men, we knew the enemy were endeavouring to surround the detachment. We knew the ranges fairly well, and though, as we could not see our sights, the shooting was rather guesswork, we soon put a stop to this manœuvre by firing a small volley from three or four rifles at each flash on the hill-side. So the night passed without much incident.

During the dark we had taken the opportunity to cunningly place some new white sandbags (which I had found among the stores) in full view at some little distance from our actual trenches and pits. Some men had even gone further, and added a helmet here and a coat there peeping over the top. This ruse had been postponed until our position was discovered, so as not to betray our presence, but after the fighting had begun no harm was done by it. Next morning it was quite a pleasure to see the very accurate shooting made by "Brother" at these sandbags, as betokened by the little spurts of dust.

During this day the veld to the north and south was deserted by the enemy except at out-of-range distance, but a continuous sniping fire was kept up along the river-banks on each side. The Boer guns were shifted — one to the top of Incidentamba and one to the east and west in order to enfilade the river-bank — but, owing to our good cover, we escaped with two killed and three wounded. The enemy did not shell quite such a length of river this time. I confidently expected an attack along the river-bank that night, and slightly strengthened my flanks, even at the risk of dangerously denuding the north bank. I was not disappointed.

Under cover of the dark, the enemy came up to within, perhaps, 600 yards on the open veld on the north and round the edges of Waschout Hill on the south, and kept up a furious fire, probably to distract our attention, whilst the guns shelled us for about an hour. As soon as the gun-fire ceased they tried to rush us along the river-bed east and west, but, owing to the abatis and the holes in the ground, and the fact that it was not a very dark night, they were unsuccessful.

However, it was touch-and-go, and a few of the Boers did succeed in getting into our position, only to be bayoneted. Luckily the enemy did not know our strength, or rather our weakness, or they would have persisted in their attempt and succeeded; as it was, they must have lost 20 or 30 men killed and wounded.

Next morning, with so many men out of my original 40 out of action (not to include Waschout Hill, whose losses I did not know) matters seemed to be serious, and I was greatly afraid that another night would be the end of us. I was pleased to see that the detachment on Waschout Hill had still got its tail well up, for they had hoisted a red rag at the masthead. True, this was not the national flag, probably only a mere handkerchief, but it was not white. The day wore on with intermittent shelling and sniping, and we all felt that the enemy must have by now guessed our weakness, and were saving themselves for another night attack, relying upon our being tired out. We did our best to snatch a little sleep by turns during the day, and I did all I could to keep the spirits of the little force up by saying that relief could not be very far off. But it was with a gloomy desperation at best that we saw the days wear on and morning turn into afternoon.

The Boer guns had not been firing for some two hours, and the silence was just beginning to get irritating and mysterious, when the booming of guns in the distance aroused us to the highest pitch of excitement. We were saved! We could not say what guns these were—they might be British or Boer—but, any way, it proved the neighbourhood of another force. All faces lighted up, for somehow the welcome sound at once drew the tired feeling out of us.

In order to prevent any chance of the fresh force missing our whereabouts, I collected a few men and at once started to fire some good old British volleys into the scrub, "Ready —present—fire", which were not to be mistaken. Shortly afterwards we heard musketry in the distance, and saw a cloud of dust to the northeast. We were relieved!

* * *

Our total losses were 11 killed and 15 wounded; but we had held the drift, and so enabled a victory to be won. I need not here touch upon the well-known and far-reaching results of the holding of Duffer's Drift, of the prevention thereby of Boer guns, ammunition, and reinforcements reaching one of their sorely pressed forces at a critical moment, and the ensuing victory gained by our side. It is now, of course, public knowledge that this was the turning-point in the war, though we, the humble instruments, did not know what vital results hung upon our action.

That evening the relieving force halted at the drift, and, after burying the dead, we spent some time examining the lairs of the Boer snipers, the men collecting bits of shell and cartridge-cases as mementoes—only to be thrown away at once. We found some 25 dead and partly buried Boers, to whom we gave burial.

That night I did not trek, but lay down (in my own breeches and spotted waistcoat). As the smoke from the "prime segar", presented to me by the Colonel, was eddying in spirals over my head, these gradually changed into

SEARCH FOR QUEEN VICTORIA'S BANNER

The Royal Canadian Regiment is trying to locate a banner which was presented to the Regiment in 1886. While it is believed it may have been laid-up in some church prior to the First World War, no definite information to this effect is available at the Regiment's headquarters at London, Ontario, or at Canadian Forces Headquarters at Ottawa. Fredericton, New Brunswick, was the unit's headquarters when it was formed in 1883.

The banner, named "HM Queen Victoria's Banner", was presented by Lady Tilley, wife of the then Lieutenant Governor of New Brunswick, on behalf of Her Majesty on 24 May 1886. It commemorated the part played by the Infantry School Corps (now RCR) in the North-West Rebellion in 1885. It is not known when the banner actually disappeared.

The Regiment is interested in any of the following information:

1. A description of the banner and its pike.

2. Names of other units who may have received a similar banner.

3. The resting place of the banner.

To aid in identification, the following changes in the Regimental designation are noted:

ISC: Infantry School Corps (1883-1892).

CRI: Canadian Regiment of Infantry (1892-1893).

RRCI: The Royal Regiment of Canadian Infantry (1893-1899).

RCRI: The Royal Canadian Regiment of Infantry (1899-1901).

RCR: The Royal Canadian Regiment (1901 to the present).

If anyone has any information about this particular banner, it would be appreciated if they would contact Major F.M. Vine, CD, Commanding Officer of The Royal Canadian Regiment Depot, Wolseley Barracks, London, Ontario.

We are History

We cannot escape our past. Our whole culture—the way we think, the way we look at ourselves and others, our institutions—are the product of our national experience.—*Colonel E.G. Keogh, Editor of the Australian Army Journal, in "The Study of Military History".*

The Defence of Duffer's Drift

(Continued from preceding page)

clouds of rosy glory, and I heard brass bands in the distance playing a familiar air: "See the Conquering Hero comes", it sounded like.

I felt a rap on my shoulder, and heard a gentle voice say, "Arise, Sir Backsight Forethought"; but in a trice my dream of bliss was shattered—the gentle voice changed into the well-known croak of my servant. "Time to pack your kit on the waggon, sir. "Corfy's been up some time now, sir."

I was still in stinking old Dreamdorp.

Flashback No. 48

Southern Italy, 1943

NARRATIVE SUPPLIED BY THE HISTORICAL SECTION,
CANADIAN FORCES HEADQUARTERS

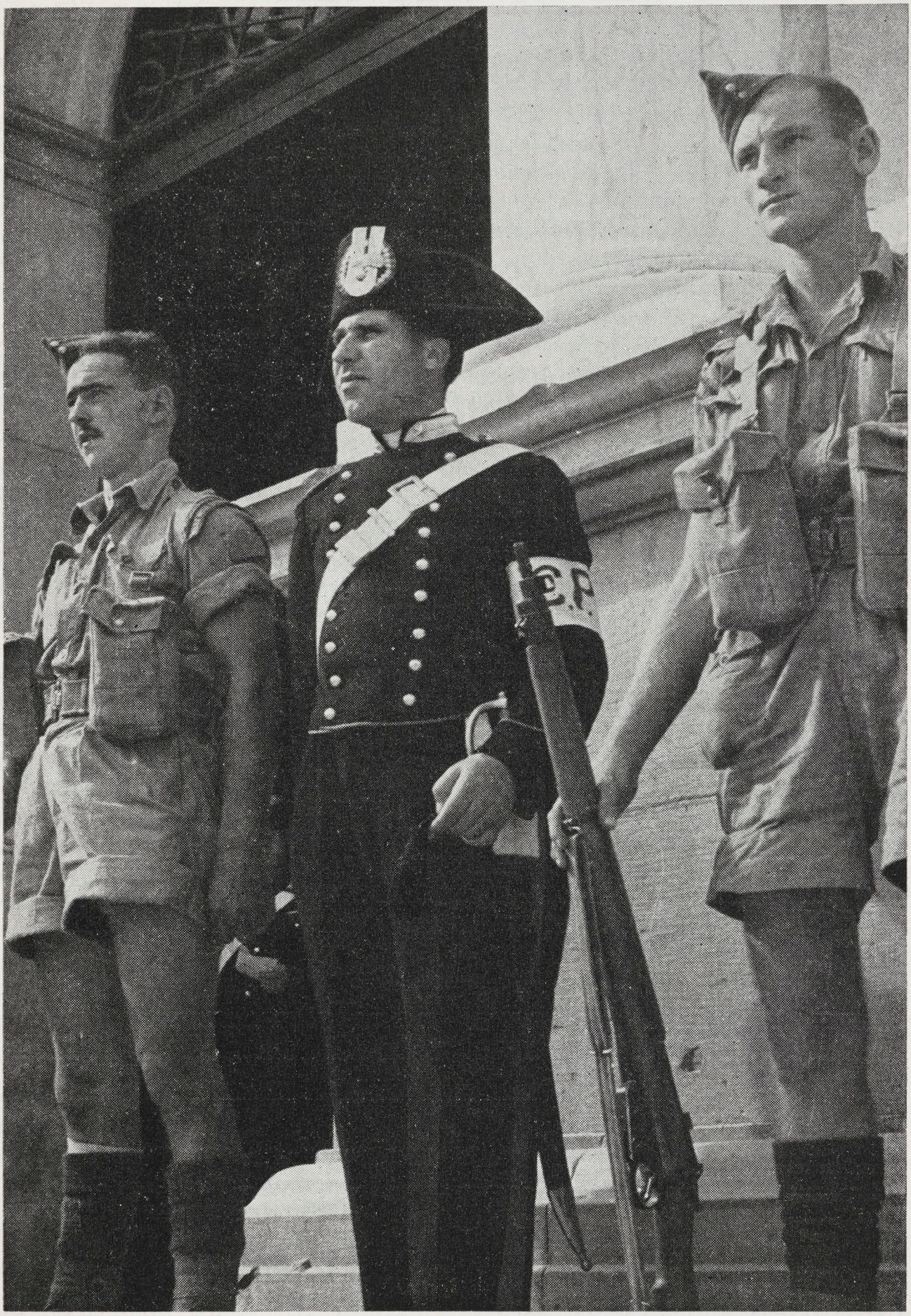
The photograph on the opposite page was taken in Potenza on 25 September 1943. It shows members of The West Nova Scotia Regiment and the Carabinieri (Italian national police) guarding an Allied Military Government of Occupied Territory headquarters.

"AMGOT", mainly Anglo-American in composition, then included half a dozen Canadian officers. Between the end of the year and the cessation of hostilities in Italy, the number of Canadian civil affairs officers in the Mediterranean was to increase from 22 to 36—never quite three per cent of the total. It was AMGOT that had reinstituted the Carabinieri following the Italian surrender (8 September).

The capture of Potenza, five days before this picture was taken, is described by the Official Historian as "the most extensive operation that the [1st] Canadian Division had yet carried out on the Italian mainland." An important communications centre, the town was held by German demolition parties and paratroopers. The latter—elements of the 1st Parachute Division—had been rushed from the eastern edge of the Salerno perimeter on September 19. Early that evening, the West Novas reached high ground from which they were able to look northwards directly into Potenza.

First light on the 20th found two companies of the West Novas in contact with the southern defences. Supporting armour of the 14th Canadian Army Tank Regiment (The Calgary Regiment), however, could do little more than engage targets of opportunity without endangering the infantry; the same was true of the artillery and machine guns. Brigadier M.H.S. Penhale, commanding the 3rd Infantry Brigade, accordingly decided that the Royal 22e Régiment should cross the Basento river east of Potenza and seize the high ground to the north. Shortly after midday, while the "Vandoos" were sweeping round the flank, a troop of the Calgaries made its way into the southern outskirts. Resistance quickly melted away. One West Nova company pushed right through the town on foot; another followed, riding on tanks.

The Fifth Army having stabilized its front a week before, the Salerno bridgehead was now secure. A British division of the Eighth Army was already in touch with the American right flank and was soon to link up with the Canadian left. The 1st British Airborne Division, lightly holding the "heel" of the peninsula, was to be joined within three days by seaborne infantry and armour. The Allies' next objectives were Naples and the Foggia airfields.—*Captain F.R. McGuire.*



A Canadian Wins for Third Time

Bertrand Stewart Prize Essay, 1964

by

CAPTAIN F.J. NORMAN, RCR*

SUBJECT

In both Allied and Soviet Armies, improvements in night vision are tending to make movement in the Battle Area easier, particularly for armoured vehicles, than in the past. At the same time, improvements in the Battlefield Surveillance Technique make this movement easier to detect.

The need to conduct operations round-the-clock at an increased tempo and the difficulties of using the hours of darkness for routine supply, movement and reinforcement to the extent we have done in the past, pose a number of new problems to the commander in the field.

Discuss these problems in relation to training, equipment, manpower, and morale and state what you consider these effects might be on the Tactics of Global War.

INTRODUCTION

General

Time and space are basic to the conduct of warfare. Great progress has been made, particularly in recent years, in the provision of versatile and controlled mobility required to overcome the problems of space for combatant and supporting forces. Similar progress in the conquest of time has not been achieved, but a greater capability exists now for using the hours of darkness for operations than existed previously. Navies and air forces have developed a substantial night-operating capability and are often required to function effectively for extended periods of time with little regard for the restrictions imposed by darkness. However, the hours of darkness still inhibit and obstruct the conduct of land operations as they did in the past.

Background

Night operations have occurred so infrequently throughout history that they have received special mention by military historians. The first fully recorded night attack was that of Gideon against the Midianites some three thousand years ago, and this re-

**Captain Norman is the first Commonwealth Forces officer to win this competition since the Second World War; Canadians have now won it three times, Lieut-General E.L.M. Burns having been awarded first prize in 1932 and again in 1936. Captain Norman was gazetted to The Royal Canadian Regiment in 1956 on graduation from the Royal Military College of Canada. A graduate of the Royal Military College of Science, Shrivenham, England, he has served with both battalions of his Regiment and is presently employed with the Branch of Operational Readiness at Canadian Forces Headquarters, Ottawa.*—Editor.

port also describes the first use of artificial illumination for a night operation. With the development of rudimentary means of battlefield illumination in the First World War, and the use of more sophisticated means in the Second World War, night operations increased in frequency, but the ratio of night to day operations remained very low.

The artificial means of illumination provided tended to negate the primary reason for the inactivities of armies at night in the past. The soldier is completely dependent on his eyes to move, find the enemy and use his weapons. Further, commanders require a visual capability at least comparable to that available during twilight periods in order to examine ground, judge the course of the battle and control and move their forces. Darkness, by depriving both the soldier and the commander of the ability to see, caused a great degradation in their ability to wage effective action. With the development of artificial illumination, and the post-war development of night-vision devices, night movement in the battle area has become easier, particularly for armoured vehicles, than in the past.

More than a decade ago, Major-General Fuller wrote that

> "Today, the only tactical field which remains unexploited is night fighting. Once armies went into winter quarters and cut down their operational year by six months. Still armies go into night quarters, and cut down their operational day by twelve hours. When are soldiers going to tumble to it that any army which can fight round-the-clock has a hundred per cent advantage over one which can only fight halfway round it?" [1]

With the night-vision equipments available now, and about to become available in the not too far distant future, a continuous operation capability will be possible from the point of view of visual ability. This continuous operating ability raises a number of problems caused by the traditional use of the protection afforded by the hours of darkness for routine supply, movement and reinforcement.

Tactical Implications

Movement

At the beginning of this paper, reference was made to progress achieved in overcoming the limitation of space in so far as they affect land operation. The essence of mobility is twofold: the ability to respond to command, and the physical movement of both men and vehicles in response to this command. Now, and in the future, there is a requirement for combat and support forces to be able to move with speed and certainty to any place at any time. At present, this capability is seriously restricted by the effect of darkness, and the battlefield surveillance techniques available to the enemy.

Movement and redeployment during the hours of darkness have been the most frequently employed night operations in the past. The protection given by night, a protection which was consistent and predictable, was used to cover these operations, as exem-

[1] *Fuller, Major-General J.F.C., "The* Tank in Future Warfare", Brassey's *Annual (London, William Clowes and Sons, Ltd., 1952), p. 270.*

plified by Wolfe at Quebec, Allenby moving the Cavalry Corps before the Third Battle of Gaza, and the assembly of tanks prior to the Second Battle of Amiens. Night favoured the weaker force, permitting disengagement and withdrawal, safe from observation and aimed fire. A general reduction of the rates of movement occurred, but this was a factor which could be appreciated. Far greater effects resulted from intangibles due to the loss of vision, loss of direction and resultant confusion and unforeseen accidents.

When troops are moving on foot, the responsibility for the success of the movement devolves on the lowest level of command, and leaders at these levels are dependent on vision to guide them. The availability of night-vision devices permits an extension of the visual horizon of the individual, permitting greater speed and, equally important, less confusion. A closer adherence to daytime methods of movement will now be possible with the attendant complication of choosing routes which deny line of sight observation to the enemy.

The advantage of being able to move vehicles more freely at night are well illustrated by the German *blitzkreig* actions of May 1940. Aided by the shortness of the period of full darkness (less than seven hours) General Guderian approached a continuous operating ability for a period of seventeen days. In order to achieve this capability, however, he was restricted to moving over well-defined routes at night. Whereas this was possible in France, attempts to duplicate the night-operating method in the Russian campaign failed because movement had to be cross-country, as there were few usable roads.

By the ability of extending in time a restricted daylight movement capability, night-vision devices will probably permit the achievement of decisive results earlier than was possible before. Whereas the provision of these devices for movement by foot makes closer adherence to daytime movement methods possible, this will not be as true for motorized movement. Drivers will be unable still to pick out an unmarked route unaided. The signature sound of an armoured vehicle, which can be detected well in excess of a mile under favourable conditions, will continue to indicate movement and enemy surveillance devices will be able to pinpoint individual vehicles that are within range, and in line of sight. A much greater emphasis will have to be given to intervisibility, and its effects in masking movement within the detection range of enemy equipments.

Although surprise may be compromised, the benefits resulting from greater flexibility and speed of movement should more than outweigh this.

> "Experience has shown that, in the dark, the more static arms like infantry and artillery have great difficulty in gauging the direction and speed of armoured troops, so that these have much to gain by exploiting the cloak of obscurity. The potentialities of night action on their part are increased by new means, particularly infra-red . . ." [2]

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[2] *Liddell-Hart, B.H., "Deterrent or Defence" (New York, Praeger, 1960), pp. 212-213.*

Reinforcement

The advent of a continuous operating capability poses two very great problems: firstly, the level of reinforcement required, and, secondly, how to carry out this reinforcement. In the past, warfare has followed a phased or pulsed pattern, with peaks of increased activity, and troughs of greatly reduced activity. Because of the visual restrictions imposed by darkness, the troughs normally corresponded to the night hours. Units were designed from an organizational viewpoint to take advantage of these periods of lessened activity in the battle day, and to use them for rest and reinforcement.

Manpower. Before examining the level of reinforcement required, the effect of night-vision devices on manpower should be studied. A trend exists today in organization planning that is becoming self-defeating. The addition of equipments that are neither simple nor rugged nor easily maintained, while simultaneously reducing manpower, expects a degree of versatility from soldiers that may not be attainable. With the increasing number of complex, crew-served weapons, surveillance devices, wireless equipments and vehicles which are felt necessary, there is a very real danger the actual fighting strength will be so reduced that protection of this firepower and command potential will become a problem. Units must now be organized with the strengths and skills needed to fight, as well as operate, maintain and protect these sophisticated equipments.

The requirement for a continuous operating capability will be extremely expensive in manpower, both at the unit and command level. An indication of the numbers needed is found by examining the command and control organization of the artillery, the only arm which at present approaches a continuous day-night efficiency. If the hours of darkness, as well as those of daylight, are to be used consistently for operations, "it is clear that a very strict control over the activities of all troops must be maintained and unnecessary movement ruthlessly eliminated. This must be so in the interests of efficiency and morale—the best troops in the world cannot go indefinitely without sleep.[3] The night-vision equipments available now, and those likely to be available in the future, are crew-served. The performance of the operators of these equipments falls off rapidly after short periods of the intense concentration required. This period of optimum performance can be as short as thirty minutes.

The present command structure will experience similar problems, accentuated because of the need for specific individuals to continue current command functions, while others must be planning ahead. However, in both these cases, the ultimate responsibility must lie with one man, who, unless superhuman, must have the opportunity to rest. A further complication will exist as the improved methods, and continuous operation of a surveillance capability reduce massive quantities of uncollated information. Speed of operation will necessitate a similar speed of collation and dissemination of this

[3] *Watkins, Major H.B.C., "Night Fighting in Land Warfare", Brassey's Annual (London, William Clowes and Sons, Ltd., 1954), p. 301.*

information. Automatic data processing for collation, coupled with relays of interpreters at a much lower level, may be able to overcome the workload imposed by the extension in time of operations, and the lack of a lull in activities when these tasks were performed before.

Morale. Basically, man is a sun-oriented creature, and since the beginning of his existence has developed a pattern of life based on the rising and setting of the sun. The night period allowed rest, and other activities. Although the present night-vision devices do not turn night into day, it is nevertheless realistic to inquire of the results to morale occasioned by the disregard of sunset, and the development of an operating day which has two parts—daylight and restricted daylight.

Fatigue and fear are the two reactions to this type of operating day which will have a marked effect on the level of reinforcement required. Although fatigue has been mentioned earlier, its effect will probably be so great that a more detailed examination is necessary, as it represents the greatest barrier to obtaining the full potential of a continuous operating capability.

Individual soldiers have proved many times their ability to carry out military tasks successfully with little or no rest over short periods of time. A good example is the so-called continuous effort found during training exercises. Although each soldier is not being continually exercised, and is able to have intermittent rest, by the end of a four-or-five-day exercise, the collective reaction to the continuous effort required approximates physical exhaustion. However, the ability to carry on for this length of time presupposes that a major portion of the exercise still falls within the cyclic pattern of activity already mentioned. The operating capability available to the commander who wishes to exert a continual effort against the enemy may well reduce the length of time before exhaustion sets in to no more than three days.

Present medical research for drugs which will delay, or suppress fatigue, may give a distinct advantage, but a complete disregard of the effect of fatigue on operations, and on morale, as a result of the availability of such drugs would be rather foolish. Under only the most extenuating circumstances should an extensive use of these drugs in a repetitive manner be considered.

Coupled with fatigue, and in many cases abetted by it, fear of the unknown and the partially seen militates against night operations. Although night-vision devices will extend the visual horizon of the individual, it is not expected that they would be made available in sufficient quantities to permit an issue to each individual. This fear can be partially overcome, however, by a vigorous and imaginative training programme which will develop confidence in respect to living and operating at night.

Reserves. One of the most sacrosanct tactical dicta is the provision of an adequate reserve, in order that the commander may have force in hand with which to influence the battle. In fact, reserves have been used less in this role as an additive to troops already committed, than in the role of replacing troops who have be-

come battle weary. In turn, the relieved troops were rested, re-equipped and used as a reserve.

All other things being equal, a continuous operating capability which permits an unrelenting pressure to be maintained over a period of three to five days may obviate the use of a reserve for the task to which it has normally been put, or at least reduce the need for reinforcement from within the resources of the unit or formation engaged.

From the factors outlined above, one may draw the conclusion that the accepted methods of reinforcement may neither suffice nor be possible. The greater initial requirement for skilled manpower, coupled with fatigue and probably higher casualties resulting from the manner of operating indicates that piecemeal replacement and reinforcement will not be sufficient to restore a unit to even an approximation of its original capability. Planning will not have to calculate a length of time, governed by the proposed utilization of the continuous operating capability, at the end of which a complete unit, or units, will have to be replaced. This accepts the actual use for the reserve, and permits a commander to maintain a balance within his force of combat effective units and others which are being rebuilt. The other alternative of rotating formations each with an intact reserve, organized for the textbook reason, would place the manpower requirement at an astronomical level.

Reinforcement is still capable of being carried out at night. Darkness, although not giving now a complete cloak of obscurity against the ground-based surveillance devices of an enemy, does blind aircraft, which have been a major threat to orderly reinforcement in the past.

Equipment

By the end of the Second World War, both sides possessed rudimentary infra-red devices in limited quantities compared to the sophistication and distribution envisaged today. The technology required to produce night-vision devices exists in all modern industrialized nations.

Night-vision equipments, as opposed to pure surveillance equipments such as moving target radar, are of two basic types: active, or those requiring an added illuminator which emits a radiation capable of detection, and passive, which do not require additional illumination, but rather gather in natural radiations. The active devices can be detected by a suitable device at a range much greater than the range of the equipment itself. All equipments available at present are active.

Infra-red devices, both active and passive, are susceptible to smoke, fog and light rain, all of which attenuate the radiations required to activate the systems. Radars, although undisturbed by the phenomenons described, are subject to electronic jamming.

The night-vision device which offers the greatest advantage for the future is of passive form, employing the amplification of low levels of light intensity. These image-intensification devices produce a visual capability similar to that of twilight. The principle has long been used in astronomy, but the benefits when applied to military equipment are obvious. Such

a scotoscope [4] is neither defence- nor attack-oriented, as it is passive, and provides an equal level of illumination for either purpose.

Three major questions arise in relation to night-vision equipment; the environment in which they must function, the role for which they are required and the quantities which can be made available. In the context of global war, one dare not visualize a battlefield as though it were the countryside through which one travels in peacetime, full of the signs of civilization, of roads, of woods, of villages. Global war will devastate the countryside, destroying woods, villages, denying the use of roads and bridges. In addition, there will be vast numbers of civilian casualties and refugees. Any item of equipment must therefore be designed to be compatible with the devastated environment over which the battles will be fought, and must be able to operate and survive in such a situation. This environmental requirement militates against highly complex and sophisticated systems.

The role of the equipment must be deliniated in great detail, for on this basis the quantities required must be determined. It is not enough to canvass the field of equipments like a buyer at an auction, simply because the equipment would be nice to have. As previously pointed out in the section on manpower, complex and sophisticated equipments, like scotoscopes, are great consumers of men. With the advent of these more versatile devices, less attention is paid to the older, less sophisticated methods of improving vision at night. To be of maximum benefit, the devices must be simple and available on a wide scale of distribution. All troops must learn to use these equipments from their earliest training. Complex equipment requiring continuing specialist training will cut down such flexibility, and build up the unfortunate air of mystery which surrounds night operations at present.

One of the types of equipment which offers great possibilities is white light. Although this may appear almost a reversion to the days of Gideon, the effects of white light have never had a full trial. The development of the C.D.L. tank [5] during the Second World War attempted to solve battlefield illumination problems on a large scale with white light. The equipment, although shipped to France, was used in action twice only, at the crossing of the Rhine and the Elbe. Trials have shown that flashing lights of high intensity act adversely on the morale of troops by disrupting their sleep, and causing nausea and dizziness. In addition, night-vision devices are very susceptible to powerful illumination, and can be badly damaged if exposed to bright light. Although white light is readily detected by the enemy, the troops against whom such a device as the C.D.L. tank is used will be faced by a wide expanse of dazzling light which will obscure anything behind it, and which would be so bright as to render aimed fire impossible. Current equip-

[4] *Scotoscope: An instrument for disclosing objects in the dark or in a faint light.*

[5] *C.D.L. tank: Canal Defence Light, a cover name for a tank which mounted a high-powered, protective searchlight.*

ments in the white light field produce up to 450,000,000 candlepower.

Training

In the description of Gideon's night operation, more space is devoted to the selection and training of the Three Hundred who accompanied him, than to the action itself. The basic requirement for skilled, self-reliant troops for operations under conditions of limited visibility still exists. As present-day manpower requirements are so high, training must replace to a great extent the drastic selection procedure of the action so long ago.

In the period between the World Wars, the military thinkers, drawing from the experiences of trench warfare, and the frequency of success of operations when the weather had been foggy, advocated that:

> "A cloak of indivisibility is the best means of surprise, and better than any armour as a means of protection. Moreover, the cloak that nature provides nightly has the advantage of being more consistent and predictable than any artificial one. Its value, however, depends on the degree of training far more than in the case of other tactical needs. Darkness is a friend to the skilled soldier, but a cause of confusion to the unskilled." [6]

This conception of using the hours of darkness to fight, and the consequent need for training received slight attention. The German armoured commanders applied it to their *blitzkrieg* operations, but in the British Forces, one of the few exemples of specific training for night operations is that of the Canal Brigade, commanded by General Sir Frederick Pile during the period 1933-34. He adopted the principle that troops must be continuously and well exercised at night in order to overcome the general feeling that a night operation is a very hazardous and uncertain thing.[7] Then, as now, soldiers had to be taught to regard the night hours as an equally natural time for fighting as day so that they gained confidence required to operate effectively in the dark.

The operations conducted in the Western Desert in 1941 and early 1942 at Bel Hamed and Bardia showed the tremendous benefits which accrue from night operations when the troops are highly trained and have complete confidence in themselves. The major lesson (nearly two decades after the theory had been preached) was that "a determined and well-trained force of all arms can assault and seize by night a strong defensive position against which a daylight attack by a far stronger force would be impossible without very heavy loss."[8] During Operation Totalize in 1944, artificial moonlight was used but rendered much less effective by the dust raised by the barrage, and the tracks of the armoured vehicles. However, practice prior to the operation enabled successful completion of the first phase of the attack.

In the light of the above example, and with the advent of night-viewing equipments, training for operations at night must be intensified, not slackened. As mentioned before, the equipments available are neither simple nor

[6] *Liddell-Hart, op. cit., p. 201.*

[7] *Liddell-Hart, op. cit., p. 209.*

[8] *Watkins, op. cit., pp. 295-6.*

rugged. On the other hand, training of specialists only is not sufficient. "It becomes all too evident in examining the records of armoured operations in World War II that the standard and practice of night action began to slip during the war—as the original trained personnel became casualties." [9] Equipment and training must be conceived so that the soldier can be trained in continuous operating techniques early in his basic training. Training must aim to achieve two basic ends: firstly, to develop the natural abilities of the soldier for living and fighting at night, and secondly, to create a standard, practiced battle procedure for night operations. For the latter, the procedure must be standard throughout all formations, with no local adaptations, similar to those which crept in during the Second World War.

Offensive Operations

> "The idea of turning night into day still offers endless tactical possibilities, the most obvious being the ability to break through an enemy's front under cover of darkness and put *blitzkrieg* into pyjamas. If in the last war the French generals were paralyzed by the German tanks in broad daylight, what would have been their state of mind had it been possible to operate even more freely during the night than during the day, and thereby establish a round-the-clock *blitzkrieg?*" [10]

The advent of scotoscopes, and their attendant continuous operating capability, offers a number of advantages for the conduct of offensive operations.

Offence is by nature dynamic, and this dynamism is provided by mobility and firepower. "The side that stands to gain most from improvements in battlefield mobility is in principle the attacker, because the faster the movements are conducted the greater is the advantage in starting first." [11] Night-vision devices permit the use of the physical mobility now available with a freedom and precision not formerly present during the hours of darkness. The cyclic nature of warfare has favoured the defender, as the desired continuous pressure of offence was interrupted, or seriously affected by darkness, allowing reorganization, and the employment of counter-attack forces. This period of time available to the defender can now be reduced to a very low level, if not entirely eliminated, by the ability to conduct mobile offensive operations round-the-clock.

The use of the firepower available was curtailed also by the effect of darkness in past operations. Short-range, direct-fire weapons were seldom used with effect during night attacks, and supporting fire tasks had to be pre-planned in minute detail, denying the degree of flexibility required. The restrictions on the use of weapons for aimed fire in close combat are largely removed by scotoscopes, but in the main this is not true for long-range support weapons. However, the improved ability to define targets at

[9] *Liddell-Hart, op. cit., p. 212.*
[10] *Fuller, op. cit., p. 271.*
[11] *Brown, N., "The Evolution of Land Warfare", Brassey's Annual (London, William Clowes and Sons, Ltd., 1963), p. 179.*

night, coupled with night-vision devices in the hands of forward observation officers should enable the pre-planning of close-support tasks to be less rigid, and to approximate the daylight method.

Soviet surveillance capabilities must be accepted to be as good as those possessed by the Western Alliance. Observation is possible, therefore, to a greater degree than in the past. However, with the exception of moving target radars, night-vision devices have quite restricted ranges, and all current surveillance equipments are restricted to line of sight. Movement can be detected by radar at considerable distances, but target definition is curtailed. As a result, movement by night still offers considerable advantages due to the restricted operating capability of aircraft, and the restricted target acquisition ability for long-range weapons.

Surprise in offensive operations will not be wholly lost. Assembly of troops, and their movement, can be done beyond the range of the enemy infrared devices. The partial loss of surprise, resulting from radar detection, is compensated by greater facility of movement, more effective fire and increased control of the offensive forces. Surprise is greatly enhanced, however, by the ability to depart completely from a stereotyped pattern of offensive warfare previously developed within the day-night framework. Prior to Operation Totalize, the "recent activity of the Canadians in the area had made their intentions plain to the enemy, and tactical surprise in respect of direction or objectives was therefore impossible. Surprise in respect of time and method was, however, still possible." [12]

In one phase of offensive operations, night vision devices place the advantage squarely with the defender. Whereas in attack, break-through and pursuit, the increased range of mobility offsets to a degree the surveillance capability of the defender, during an opposed river crossing this is not true. Scotoscopes and moving target radars appear purposely designed to aid the defender during such an operation. The line of sight capability superimposed on the lack of ability enables accurate definition of an attacking force by night-vision devices. The only method of preventing this observation of the obstacle by the enemy which readily appears is the capture of a series of bridgeheads in order to deny these facilities to the defender. Once this is done, the possession of night-vision devices again favours offensive action by permitting the use of the natural cover of darkness to hamper air operations by the defender. Much study and trial will be required to develop the drills necessary to the successful crossing of a defended war obstacle.

Over the history of warfare there are examples of advantages to be gained by using darkness to cover redeployment, and preparations for attack. During the Second World War, various night operations demonstrated that an attack during darkness, although liable to confusion, became a means of obtaining numerical superiority conditioned by gaining surprise, based on a superior quality of the troops of the attacking force.

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[12] *Watkins, op. cit., p. 296.*

Defensive Operations

The Korean conflict reinforced the need for surprise and superior quality of troops for successful night attacks, "and, further, went on to show that where defending troops were of the highest quality the situation might well be reversed and seemingly overwhelming night attacks repulsed."[13] Night-vision devices will enable either static or mobile forms of defence to be conducted on a twenty-four-hour basis with troops possessing a much greater night operating capability.

Scotoscopes, particularly when sited in conjunction with detection radars, will give a higher degree of early warning and target acquisition than is possible at present. This in turn will provide for a greater degree of security against a surprise night attack. In spite of these improvements in the static defensive capability, the greatest advantage will result from the increased capability for movement during darkness. A mobile form of defence, the composition of counter-attack forces and formation reserves, will all benefit from this change in mobility. The benefits, however, will not be as great as those derived by the attack from an equivalent increase in mobility, as the attacker will retain the initiative.

Two other advantages for the defender result from the introduction of night-vision devices: the ability to use his direct-fire weapons, and to examine ground and occupy a defensive position under the cover of darkness. Long-range weapon systems will continue to be restricted, but less so as described in the discussion on offensive operations. Short-range, direct-fire weapons will benefit tremendously from the ability to exactly define a target.

The use of scotoscopic devices in the defence will be more of a two-edged weapon than during offensive operations. Whereas in offence, movement can be masked by natural cover from view and only short-range devices are required, in defence, static positions will be easily identified by detection devices. In order for night-vision devices to be used to their best advantage for the defender, long fields of view will be necessary, and the equipment by the very nature of its line of sight requirement will have to be exposed to a degree. This inherent disadvantage cannot be overcome until the development of passive viewing devices which are not capable of being detected.

As in offensive operations, one defensive operation stands out by virtue of the effect which a continuous operating capability has upon it. The withdrawal is vitally affected by the range of the surveillance equipment possessed by the enemy. Beyond this range, a withdrawal can be carried out as is now done for a night withdrawal. Within this range, the action must be conducted as is now done for a daytime operation, with all the attendant complications, dangers and loss of flexibility. The advantage gained is the increased mobility achieved in the actual performance of the operation.

Logistical Implications

The development of a continuous tactical operating capability presup-

[13] *Watkins, op. cit., p. 301.*

poses the existence of, and states a positive requirement for, a continuous logistical capability. At present, resupply and maintenance facilities are organized and function within the cyclic pattern of operations which has existed for so long. The advent of aircraft has forced the performance of these functions by night, with a marked restriction in capability. The operating level now required must be a great deal more efficient than in the past.

Routine Supply

Before examining the method of routine supply, an examination of the effect of a continuous tactical capability on supply requirements should be made. There will be a significant change in the daily consumption rates of almost all types of supplies.

Rations and Water. The requirement for an increase of manpower, and for longer time spent in activities over a twenty-four-hour period, will add to the quantities of rations and water needed at present. The need for high-energy foods, and possibly anti-fatigue medications, will also increase the amount of this type of supply consumed daily.

Petroleum, Oil and Lubricants. Again, an overall increase in the amounts required can be expected. The apparent increase resulting from a continual operating of vehicles imposed by the operational requirement will, however, be offset by the more efficient use made of vehicles during darkness, particularly in resupply itself.

Equipment. Needs for replacement equipments will go up, as a continuing operating capability will place tremendous strains on the serviceability and life of many items.

Ammunition. Small-arms needs will probably not change. The ability to define targets more accurately will result in a greater degree of aimed fire at night, as opposed to the present almost indiscriminate firing which occurs, particularly in defensive operations. Short-range, direct-fire usage particularly in the field of anti-tank weapons will increase markedly. At present, these weapons do not possess a sufficiently high degree of target acquisition for them to be used to a degree which even resembles their daylight capability. The requirement for longer-range, indirect-fire ammunition will increase also, as close support needs go up. Observation officers will have now a much greater capability of bringing directed fire on to targets as needed.

Although daily rates of consumption will probably increase in all types of supplies, it is open to question whether, over the complete period of action, the total resupply requirements may not decrease. This decrease would result from the fact, that by exerting a continuing and unrelenting pressure on the enemy, the operating period will probably be considerably shortened, with a resulting decrease in the amount of resupply required.

Three factors will influence the method of resupply possible under continuous operating conditions: the consumption of increased quantities described above, the degree of resupply inherent in the unit, and the capability of using the hours of darkness.

Organizational studies of units for continuous operations may well indicate a need for carriage of adequate stocks of supplies to support their needs for relatively short periods of time. This length of time would not be equivalent to that required before reinforcement, and would be variable depending on the scope of each particular operation. Routine supply may not always be possible, certainly with the regularity which occurs in the present operating cycle.

Resupply from outside the resources of the unit will have to be carried out by night as in the past. The more intense use of the time available, which will be possible with scotoscopes, will permit a faster resupply and return. As in the other operations described already, movement within the range of the enemy surveillance capability will have to be controlled and cautious, but back from this range greater freedom of movement will result. The restrictions imposed by enemy surveillance will be more than outweighed by the flexibility and speed of movement possible, and the ability to depart from rigid routines.

Maintenance

The other major facet of logistical operations is the provision of maintenance facilities. The need for maintenance of equipment will be increased as a result of the extended duration of operation to which equipment will be subjected. This intensified usage will shorten the time between periodic maintenance actions, accelerate wear and require more frequent repair.

No night-vision equipments exist at present, short of white light, that will permit maintenance operations to be conducted during the hours of darkness. Maintenance may well have to be conducted during daylight hours just behind the forward troops. The other solution possible is concerned with the length of a particular phase of operations. If the period of time is considerably shortened as a result of the ability to operate continuously, the mission could well be accomplished before the need for other than routine maintenance arises.

Summary

An army equipped with night-vision devices available at present would be able to approach to a much greater degree the continuous operating capability, and reap tremendous tactical advantages. Operational flexibility will be greatly increased, both in planning and execution, for the ability to exert an unrelenting pressure will undoubtedly reduce the time required to reach a military decision. Surprise in time, possible through a rejection of the present stereotyped pattern caused by the day-night cycle, will enhance this operational flexibility. The inherent mobility present can now be employed with a much greater speed and precision than previously. The firepower potential available can be used with effect at night, but unfortunately the restrictions of darkness are not yet completely overcome.

The limitations and disadvantages of the present equipments will still have a restricting influence. The surveillance capability of the enemy will continue to impose restrictions on movement. The equipments themselves are complex, require skilled operators, and are expensive in man-

CONGRATULATORY MESSAGE FROM U.S. AIR FORCE

A congratulatory message was received 11 June last by Air Chief Marshal F.R. Miller, CBE, CD, Chief of Defence Staff, Canadian Forces Headquarters, from the United States Air Force on the occasion of the National Armed Forces Day observed in Canada 12 June.

Signed by Colonel C.R. Webb, Jr., USAF, Air Attaché with the Embassy of the United States of America in Ottawa, it reads as follows:

"The Chief of Staff, United States Air Force, General McConnell, has requested that I deliver the following message to you:

"'On behalf of the officers and men of the United States Air Force, I extend best wishes to you and all ranks of the Canadian Armed Forces on the occasion of your national armed forces day. May the friendship between our armed forces and countries continue to work toward peace for all the world.'

"May I take this opportunity to express my personal congratulations to you and all members of the Armed Forces of Canada."

Bertrand Stewart Prize Essay

(Continued from preceding page)

power. Fatigue, brought on by a continuous operating method, militates against the capability of extended operations.

In order to partially negate this restriction, and to enable a high degree of night operations, an imaginative and extensive training programme will have to be devised. Troops and commanders at all levels must be trained in continuous operating techniques from the earliest time possible. Night operations must become as familiar and practised as day operations, and only by building confidence in the soldier's natural ability to move at night will this be possible. Training must aim to remove the present fears and confusion inherent in night operations.

Detailed studies are required to develop new organizations and methods of operating both for tactical and logistical operations. Whereas the advantages and disadvantages noted must be appreciated by commanders and planners, one of the chief functions of command, at all levels, will be to ensure that the maximum and most effective use is made of the capability to operate efficiently at night. The advantages which will accrue from the use of surprise in time, superior troops, and a continuous operating capability will more than offset the other disadvantages.

"*Blitzkrieg* in pyjamas" is possible, and can become a reality with the progress achieved now in the conquest of the problems of time and space.

MEN OVER WEAPONS: THE CHINESE CONCEPT

by

ANTHONY HARRIGAN*

Few words are so expressive of the confidence which highly developed and well-armed nations of the 19th century had in their weapons than this verse by the English poet Hilaire Belloc:

Whatever happens, we have got
The Gatling gun and they have not.

The "they" in the verse refers to the backward peoples of the world. And it is true that this early development of automatic weapons gave the industrial countries a decisive advantage over the more numerous peoples in the areas then being colonized by the European states.

Today, the *Gatling* gun is in military museums, and nations place their confidence in nuclear weapons. This is understandable, for the highly industrialized countries of the world fought two World Wars with elaborate machines of war, and they saw that victory went to the nations with the best technological base for conflict. This was especially true of World War II, which came to an abrupt end with the introduction of the first nuclear weapon at Hiroshima.

Man versus Weapons

Since that time, a basic assumption in the West has been that nuclear weapons are the absolute, unquestioned determinant of conflict among nations, that weapons, not men, are decisive in the national struggles of our time. That this attitude is questioned in some quarters is not generally known in our society, except among students of foreign military thinking. Yet, it is time that Americans clearly understand that the leaders of Communist China downgrade the ultimate effectiveness of nuclear weapons. They assert the supremacy of men over weapons. Whether this attitude will change now that Red China has exploded a nuclear device is an open question.

Chinese Communist doctrine regarding nuclear weapons has been consistent since the end of World War II. This doctrine calls into question the Western nuclear doctrine, and was set forth in March 1955 in the journal *Shih-shih Shou-ts'e*:

We can see from history that the changes in weapons have never had anything to do with the outcome of war. The most terrible weapons can at most kill more men and destroy more buildings, but they cannot win the war. In the end, instead of being extermin-

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ated by their weapons, the people will destroy all the weapons.

In 1959, another Chinese Communist spokesman said:

We are not afraid of atomic warfare. Why? Because China has 600 million people. Even if 200 million people were killed by atomic weapons, 400 million people would still survive... Furthermore, these 400 million people will absolutely not surrender. Therefore, at the end America will lose the war.

Genuine Belief

It can be argued, of course, that the Chinese Communist doctrine of men over weapons—even nuclear weapons—is a mere rationalization of their country's long delay in producing a nuclear weapon. An effort along these lines to prevent the demoralization of the Red Chinese armies would be understandable. Yet, there are many signs of genuine belief on the part of the Chinese Communists that they can triumph through mere numbers.

Such a belief has deep roots in Chinese national experience over the centuries. In the 1930's, for example, China resisted rather successfully Japan's invasion of the mainland when the Chinese were equipped with not much more than the will to resist. Military observers were continually amazed at China's endurance at a time when equipment was virtually nonexistent. Therefore, it seems reasonable to take seriously the Chinese doctrine and to analyze carefully the degree of truth in the view that in the nuclear age men can still triumph over weapons.

The history of human beings is a history of adaptation to warfare. Man's first tools were weapons—the jawbone of an animal that could be used as a means of defence or offence. From a bone to a nuclear device is a long way, but through the years man has shown an amazing capacity to adjust and to live with the weapons of his time.

Man has demonstrated an endurance under conflict that is one of his most extraordinary characteristics. He has fought in the snow and in blinding desert sandstorms; he has lived through tremendous naval bombardments and has gone on to fight; and he has been in armies that have experienced plague and poison gas.

In our era, man's capacity for endurance is generally discounted—a fact that should be borne in mind when considering Red China's refusal to accept nuclear attack as the ultimate determinant in national conflict.

Chinese experience has been rich in fighting a war without an abundance of arms—when, in short, the Chinese were technologically at a grave disadvantage. They know the power of endurance in their people. But Westerners should also review their own history of conflict, and recognize the neglected endurance factor in their own story.

World War I offers lessons that bear on this discussion. For four years, millions of men from advanced European nations lived like rats in mud and filth, suffered horrible wounds, were smashed by tanks, slaughtered by automatic weapons and heavy artillery, and blinded and choked by poison gas.

And these weren't coolies hardened to a desperate existence—they were men from farms and city offices, from universities, banks, and gentlemen's

clubs. An entire generation of West Europeans managed to live and struggle and not lose its nerve in a conflict environment of this kind. The people managed to retain their sanity and their courage despite the gas, the shells, the barbed wire, and the ever-present mud and filth. True, they did not encounter deadly radiation; but one would have difficulty explaining to a badly gassed veteran of World War I that radiation could be any worse.

The histories of World Wars I and II demonstrate that man is able to endure the most terrible forms of conflict. Disciplined soldiers endure that which seems impossible to endure. Insofar as World War I is concerned, the endurance was all the more remarkable in that the soldiers were not psychologically conditioned in any special way; they were not subjected to modern methods of indoctrination or thought control. Old-fashioned discipline, combined with a sense of duty, kept the men in the trenches. It seems reasonable to conclude, therefore, that specially conditioned soldiers might well endure the special terrors of nuclear war.

In analyzing the Chinese Communist claims, it is well for Westerners to bear in mind the extraordinary staying power of the individual soldiers in their own countries.

What should emerge from a review of the individual capabilities of the soldier is a proper recognition of the remarkable strength of men versus weapons. It also should make us raise our estimate of force survivability on a nuclear battleground. Perhaps we would do right to conclude that a determined nation—one with huge masses of disciplined soldiers that it will expend without the least concern for casualities—can achieve much more than recent opinion has held to be the case. Perhaps we should accord the power of numbers and the power of human endurance greater recognition.

Great Losses

The willingness to lose hundreds of millions of people in a protracted conflict is the one characteristic of Communist China's military posture that we must reassess before we can counter that nation with maximum effectiveness. Our failure properly to appreciate Red China's strength may result from the fact that we regard that aggressive régime in the context of our morality and our notion of what are bearable casualty rates. Clearly, our estimate of the Chinese Communist danger should be shaped in terms of that nation's apparent willingness to lose 300 million out of 730 million people in order to recreate the Chinese Empire.

The use of human wave tactics against weapons should cause Americans to review their own attitude toward the individual soldier. Obviously, no civilized Western country would adopt the Chinese attitude or regard its citizen soldiers as cannon fodder. The blood-lettings of two World Wars have caused the West to emphasize the husbanding of its human resources.

Moreover, the Western countries represent the *élite* countries of the globe in terms of knowledge and skills. Even if the Western Nations were willing to employ masses in the Chinese sense, they could not afford to

do so. The maintenance of our industrial civilization involves the requirement of populations with considerable technological skill. To man our factories, which are the source of our strength, we have to be jealous of the lives of our technologically superior populations.

But while we must avoid excessive casualties, the Western Nations cannot allow the Chinese Communist Army to go far beyond them in combat conditioning. Because life in the United States, for instance, is relatively easy, it may be that we demand far too little of our people—not enough hours of work, inadequate periods of military service, and insufficient exposure to the rigorous life that would be experienced on a battlefield.

The sheer numbers of the Chinese Communists—and their contempt for the lives of their fighting men—give them a human wave weapon that the United States and her Free World allies must continually study. Basically, our counteraction must be with machines of war and with the fruits of our technology.

But, simultaneously, we must make a greater effort with our human material, implanting in our servicemen the *élite* qualities of understanding, resolution, and self-confidence in their ability to meet the challenge of the nuclear battlefield.

Egad, Those Young Officers!

Even when I was one of them I never cared for young officers as a species. An innate instinct for the truth warned me that theory counts for nothing in comparison with practice, and the grave and silent smiling of elderly captains bade me beware of the poor science that can be learned in a few days' reading. In the regiments in which I served I liked listening to these old officers whose bent backs were still reminiscent of a soldier's, weighed down with a pack full of clothes and ammunition pouches. They told me old stories of Egypt, Italy and Russia, which taught me more about war than the Ordinance of 1789, the Service Regulations, or all the interminable instructions, beginning with Frederick the Great's to his generals. I found, on the other hand, a certain tedium in the idle, ignorant and confident conceit of the young officers of the period, who smoked and gambled eternally, were orators of the cafe and billiard saloon, caring for nothing but the nicety of their appearance, expert in nothing but the cut of a coat.—*Alfred de Vigny, "The Military Necessity" (1835).*

The Courage of Life

The courage of life is often a less dramatic spectacle than the courage of a final moment; but it is no less than a magnificent mixture of triumph and tragedy. A man does what he must—in spite of personal consequences, in spite of obstacles and dangers and pressures—and that is the basis of all human morality.—*J.F. Kennedy, "Profiles in Courage", 1955.*

RULES FOR TEMPORARY WIDOWS

by

KATHERINE ELDER*

• Gather up husband's tools and put them in a safe place. This will prevent great anguish when he returns.

• Buy nothing labelled "easy to assemble", particularly an item described as "so simple a child can put it together". Graduate engineers, aged 10, are hard to find.

• Ignore that puddle of oil under your parked car. Asking a serviceman about it only leads to expense.

• Take a course in the new math. Checking the children's arithmetic homework may have looked easy when husband did it, but seventh grade math isn't what it used to be.

• Buy a new lawn mower. No matter how beautifully your old mower worked for husband, the machine will dislike you and grow more sullen each time you kick it.

• Close all charge accounts. Buying something you can't afford may cheer up blue moments, but eating next month is more important.

• Resist the temptation to write husband that you particularly miss him when you run out of milk and need him to stop by the store. He wants you to miss him for quite different reasons.

• Forget direct distance dialling. It's comforting to call up friends stationed all over the country, but your telephone bill will look very uncomfortable next month.

• Save money toward the purchase of a TV picture tube. The one that works well for husband will fail after he leaves.

• Take advantage of the services of those nice ladies at the bank who help balance bank statements. They would rather help you each month than have you show up with three months' statements, each containing "small" errors.

• Become thoroughly familiar with the operation and maintenance of the still, movie and polaroid cameras; the slide and movie projectors; the childrens' train set; the stereo hi-fi rig; and the motorized barbecue spit. Husband takes a bleak view of running a correspondence course from halfway around the world.

• Lay in an ample supply of baby aspirin, band-aids, sherry, first aid cream, merthiolate, ear plugs, tranquilizers and gin. Count on about twice as much as you would need in a normal year. Oh yes... buy a long-handled bath brush!

**Reproduced by courtesy of "Army", published by the Association of the United States Army. We understand that Mrs Elder is a U.S. serviceman's wife.* — Editor.

The Bravest

The bravest are surely those who have the clearest vision of what is before them — glory and danger alike — and yet, not withstanding, go out to meet it. — *Pericles.*

McKee Aviation Trophy Retired

The Trans-Canada (McKee) Trophy, Canada's highest aviation award, has been retired after being won by 36 Canadians since 1927.

The trophy has been awarded annually for outstanding achievements by an individual in Canadian aviation. However, the awarding committee felt that team efforts, rather than individual contributions, now accounted for most modern Canadian aviation advances.

In view of these changed circumstances, the Minister of National Defence has decided, on the committee's recommendation, that the trophy will be enshrined at the National Aviation Museum, Ottawa.

The trophy was donated by Mr. James Daizell McKee, an American aviator from Pittsburg, who flew with RCAF Squadron Leader Earl Godfrey on the first trans-Canada seaplane flight in September 1926.

The two men took nine days to make the flight, logging 35 hours and eight minutes of air time against strong head winds and dense forest fire smoke over British Columbia. They took off from Montreal and flew via Ottawa, Sudbury, Sioux Lookout, Grand Rapids, the North Saskatchewan River, Fort Albert, Edmonton and the Yellowhead Pass to Jericho Beach, Vancouver.

Mr. McKee deeply appreciated the help Canadian aviators gave them during this epic flight. On his return to the United States, he had the trophy designed and presented it to the Minister of National Defence in 1927, setting out the terms under which it was to be awarded.—*Information Services, Canadian Forces Headquarters, Ottawa.*

New Sniperscope

An infantryman of the Black Watch (Royal Highland Regiment) of Canada tries out the new sniperscope during training in Germany with the 4th Canadian Infantry Brigade Group. The power-operated sight, a development of the Second World War infrared scope, permits an infantryman to locate the enemy at night. The scope can be used on any direct-fire infantry weapon.

The Training of Subalterns

The Led Leader

by

2ND LIEUT. D. LEVENESPIEL, ROYAL AUSTRALIAN INFANTRY*

In exercises and in an operational theatre who is the man most directly responsible for the outcome of a minor engagement? Who is the man on whom falls the onus of successfully completing a patrol, whether it be fighting or reconnaissance? On whose information does the commanding officer, or higher command, base his, or their campaign? Who is most directly responsible for the morale and well-being of the infantry soldier? Upon whom does the infantry soldier base his confidence, depend, feel secure with, and trust that, by the guidance of this irreplaceable person, he will eat now and live to fight another day?

This mysterious person is the so-called ill-trained, inexperienced, incompetent and, in some cases, immature platoon commander, the brunt of all jokes, jack-of-all trades—the inglorious subaltern.

Within the army today we have subalterns of basically three types: the four-year Royal Military College graduate, the ex-soldier Officer Candidate School graduate and the ex-civilian OCS graduate. On graduation, however, all form the one class—the subaltern. During their respective training they study and are taught from the same books, sometimes by the same instructors. On graduation large numbers eat, sleep, work and relax in the same unit or mess. In camp and on exercises, all at one time or another, find themselves confronted with the same problems, but each will approach them differently, sometimes with widely varying results, ranging from complete success to utter failure.

Irrespective of the aims of either RMC or OCS, the subaltern on graduation still has much to learn. On posting he is inexperienced and still "wet behind the ears". With the training provided by the good company commander, by repetition and constant example, the subaltern usually becomes sufficiently experienced and competent to handle investigations, summaries of evidence, ration checks, spot checks, inspection of lines, social functions, VIPs and work parties, and may even be given authority to approve one day's stand-down for a member of his platoon. But that is about the limit of his authority. Most subalterns arrive at this point about six months after graduation. A few, for one reason or another, never go beyond it.

Company commanders, though they are required to supervise all aspects of their subalterns' military training, sometimes fail by not allowing the young officer sufficient freedom to train his own platoon. How many company commanders will listen when a subaltern attempts to advocate a

**Reprinted by courtesy of the Australian Army Journal (March 1965).*—Editor.

fresh approach to a problem, perhaps taught at RMC, OCS or the Infantry Centre? A few will try a new approach, but far too many take the dogmatic view that an old dog cannot be taught new tricks. Company commanders must keep abreast of the latest teaching and doctrine, but if they will not adopt new ideas they should give their reasons so that the subaltern too many profit from their experience.

How many company commanders get their second-in-command or CQMS to explain the seemingly complex operations of Orderly Room and Q Store? How many company commanders set their subalterns a short tactical or administrative problem to work on over a week-end? How many company commanders have the foresight and understanding to reduce bush-work and courses for the OCS graduate who lacks his Leaving Certificate and wants to work for it? How many instead compel the subaltern to plod along for two or three years in order to reach his goal?

At the same time, how many subalterns have asked for help or advice? How many, on their own initiative, have asked the second-in-command or CQMS to explain their organizations to them? How many have really tried to gain their Leaving Certificate during a hard year?

Company commanders and subalterns must allow a little give and take and, suprisingly, company commanders can learn from subalterns even if it is only how not to handle them. The company commander must teach, and teach well. He must be prepared to forgive the subaltern his first few mistakes, and he must strictly enforce the system of one man for one job. Subalterns must be given the time and opportunity to find their feet. Company commanders should never forget that they too were once subalterns.

Cadets at both RMC and OCS must appreciate that their respective courses are no more than an introduction to army life. They must be taught that to command a platoon is to be like a father to a large family. They must be able to teach their men new ideas; to praise when praise is due but never to over-praise; to criticize where criticism is necessary; and to punish when punishment is warranted. They should be taught that a platoon commander's job is a 24-hour a day one, and that when a subaltern is given his first platoon he must quickly let the men know that he is boss. It is impossible to begin slackly and then attempt to tighten up. He should be warned that if he finds himself under a company commander who seems at first to be a "deadhead" he must try hard to understand him. Above all, he should remember that the company commander and his company are entitled to loyalty. Only by giving loyalty can a subaltern hope to receive it.

Company commanders must appreciate what a subaltern is going through on his first posting; they should remember when he errs and merits a dressing down that the old system of senior company subaltern actually works.

Knowledge is power, but it is suprising how many subalterns who have commanded for upwards of three years still do not know what quantity of

MISCONCEPTION AND FACT

Many misconceptions are used as arguments against Emergency Measures and planning. Some of these misconceptions have even found their way into editorial comment.

Misconception: Life would not be worth living following nuclear attack.

Fact: North America could survive a nuclear attack and recovery would be possible. A review of all available Canada/United States studies and nuclear test data indicate that food and water contamination would be a relatively minor problem. Food and water resources could sustain the survivors. Long-term biological effects from radiation would not be the major health problem. Ecological disturbances would not prevent recovery.

Misconception: Water would be poisoned by radiation.

Fact: Radiation in itself does not affect water. Only if radioactive particles from fallout get into water does it become dangerous. Water can be made safe to drink by filtering out the particles with paper, cloth or water-softening device.

Misconception: Food would be poisoned by radiation.

Fact: Radiation in itself does not poison food. When fallout particles stick to foods then the foods become contaminated. Peeling, wiping or washing will remove fallout particles. Food in cans and those covered by dust-tight wrappers such as polyethylene would be safe once fallout is removed from the container or wrapper.

Misconception: People exposed to fallout are a danger to others.

Fact: Fallout is not contagious. However, a person having fallout particles on himself or his clothing would endanger himself and others until the particles were removed from his clothing by properly cleansing or discarding.—*From the Emergency Measures Organization's "Digest".*

The Led Leader

(Continued from preceding page)

ammunition is held in first-line reserve, or how many grenades and types are available within his own organization. Much essential knowledge is forgotten as soon as a subaltern gains his first command.

On graduation subalterns should tread softy and surely. If a subaltern does not understand something, he should ask. If he does not know something, he should learn it. No one is infallible and company commanders expect mistakes. But never repeat one. Don't try to establish a reputation by outsmarting fellow platoon commanders. It is a sure way of earning their distrust. Emulate your company commander if he deserves emulation, but don't try only to learn from someone higher up. Your education will be incomplete if nothing has been learnt from the lower ranks.

Book Reviews

Napoleon's Seizure of Power

REVIEWED BY LIEUT.-COLONEL H.F. WOOD, CD, PPCLI

Major D.J. Goodspeed is an acknowledged authority on the subject of the violent overthrow of governments; his book, *The Conspirators,* won wide critical acclaim when it appeared in 1962 and it is today required reading in the political science courses of several universities. Now he has chosen to study a single *coup d'état* in great depth and has written a book on Napoleon Bonaparte's rise to power in France.*

In this reviewer's opinion, Napoleon the First was a very nasty little man with vast ambition, great powers of organization, a feel for battle that amounted to genius, and no manners. Goodspeed has not actually come out in support of this view, but his detailed account of how the government of the first western Democracy of modern times crumbled, and then fell, tends to support it.

The post-revolutionary French government suffered from all the imperfections of a hastily conceived experiment: it had not been properly thought out. It had evolved, very rapidly, out of passion, violence and a deep sense of injustice. As a result, the five Directors who ruled the country in 1799 were mere survivors of a period of great turmoil. These men had not done well. Instead of the peace and prosperity which seemed implicit in the idea of *liberté, egalité, fraternité,* there was disorder, inefficiency and much venality. Goodspeed has sketched, with a sure hand, the characters of those unhappy men—Gohier, Sieyes, Barras, Duclos, and Moulin. The problems confronting the young republic were beyond their ability to solve. Outraged monarchies threatened the nation from all sides, the machinery of government creaked at every joint and the people starved amidst corruption.

Into this charged atmosphere strode General Bonaparte, five feet two inches tall, an unknown Corsican until his Italian campaign of 1796, armed with a string of victories, a band of loyal followers and the widespread admiration of the people.

His campaign in Egypt, conceived in the beginning as a counter-thrust to British hostility, had bogged down. There were no further laurels to be won among the Pyramids. In characteristic fashion, he had simply abandoned the campaign, leaving his Army to survive as best it could, and had returned to France to seek fresh triumphs for his restless spirit. There, surrounded by men whose careers had flourished in the reflected glory of his own, he plotted the overthrow of the Directory.

He was, of course, successful. The bitterly divided factions that made up the two chambers of the infant republic's government were no match for the single-minded little general and his adoring subordinates. The day-to-day

**Bayonets at St Cloud (The Story of the 18th Brumaire),* by Major D.J. Goodspeed, CD. Macmillan Co. of Canada Ltd., St Martin's House, 70 Bond St., Toronto 2, Ont. 192 pp. $5.75.

Policemen in Battle Dress

Reviewed by J. Mackay Hitsman, M.A., Ph.D., F.R.Hist.S.

The Canadian Provost Corps is to be congratulated on the high quality of its Silver Jubilee volume.* There is just enough text to provide background for the profuse number of photographs, which illustrate much more clearly than words the activities of Provost personnel during the past 25 years.

The editorial board wisely decided merely to draw attention to the fact that military historians have ignored the existence of the Provost Marshal and his men in Canadian History prior to the Great War, 1914-1919, and to content itself with a few early references to British activities. Full credit, however, has been given to the part played by the Royal Canadian Mounted Police in getting the Canadian Provost Corps off to a good start during the early months of the Second World War.

Since war brings out the worst as well as the best in men there was need for a numerous and well trained military police. This reviewer has some vivid memories of the garrison police provided by units in Kingston and Barriefield Camp during the winter of 1939-1940. To say that they had their hands full seven days a week would have been the understatement of that hectic period. On 15 June 1940 the Canadian Provost Corps was born.

No one in his right mind would want to be reminded of the Canadian establishment at Headley Downs, which was generally considered to run close competition with the Glass House at Aldershot, and it is right that pictorial emphasis should be placed on the campaigns in Italy and North-West

**The Canadian Provost Corps: Silver Jubilee 1940-1965.* Copies may be obtained by writing to Major A.L. Ritchie, Directorate of Security, Canadian Forces Headquarters, Ottawa. $2.50.

Napoleon's Seizure of Power

(Continued from preceding page)

and hour-by-hour account of the moves and counter-moves of the *coup* make fascinating reading, and the author has enriched the narrative with vivid descriptions of the period drawn from original sources. The conspiracy could have failed (and very nearly did) a dozen times in the weeks preceding the events of the 18th Brumaire, but it did not. In the end, France had a dictator who went on to change the map of Europe.

If the Frenchman's sense of proportion has sometimes seemed tempered by his preoccupation with *la Gloire,* we can blame it on Napoleon. He put special French stars in the sky and called them Marengo, Wagram, Austerlitz, Friedland. But not even the French, absorbed as they always are with anniversaries, do much to celebrate the 18th Brumaire, and Goodspeed's good book goes a long way towards explaining why.

Europe, but I for one would have liked to see more than one photograph of Provost activities in the United Kingdom. By the time I was chased into a chair at C.M.H.Q. in London and became aware of the existence of No. 6 Provost Company at Henrietta Street, Lt-Col. A.D. Cameron was a rather distinguished looking full colonel who generally had lunch in the canteen at the same time as I did.

Unless a few other editorial slips are mentioned some readers might suspect that the Canadian Provost Corps was not getting an honest review. On page 14, for example, the first Provost Company was formed from R.C.M.P. personnel in November 1939, not 1940; 1st Canadian Corps was formed in the United Kingdom, even though several units were dispatched from Canada to become part of it.

The rest of the volume is recent history and more interesting to this reviewer, because much of the information is new to him. The extremely interesting pictures of Provost personnel in present day Germany, the Middle East, Cyprus and even the Congo, suggest that their duties are as varied and worthwhile as ever. Even military police duty in peaceful Canada seems to have its exciting moments.

We Stand on Guard

The veterans of the Second World War who were called out in August and September of 1939 to perform guard duty had quite a variety of experiences. One of these is described in an Okanagan Valley, B.C., newspaper, *The Vernon News,* dated 19 October 1939. It speaks for itself.

"At least one member of Canada's militia forces is ready to dispute any suggestion that home defence duty is a cushy job. He is Allen Jessop, a local boy who is on guard duty at a mountain outpost.

"For several days information from his comrades came into Revelstoke indicating that Jessop had had a lively encounter with a grizzly bear. The details were confirmed in a letter written by the young militiaman to his mother, Mrs. M.I. Johnson, of this city.

"When the bear continued to advance on him with complete disregard of any regulations, Jessop fired seven shots at the huge hulk, finding a mark five times. But the shots only infuriated the animal. Finally the grizzly was so close that the only thing left for the young guard to do was to employ the bayonet in the approved military fashion. The bear reared up and took a violent lunge at his antagonist, breaking the rifle in two. With his last means of defence gone, Jessop side-stepped the grizzly and sought refuge in a nearby tree.

"The wounds he had inflicted soon told on the bear, however, and before long it lay down and expired.

"Although reports say that Jessop's action evoked praise from his mates in the detachment, he admitted in his letter home that he was scared stiff."—*Contributed by Major R.H. Roy, Assistant Professor of History, University of Victoria, Victoria, British Columbia.*

The Story of the Edmontons

Reviewed by R.H. Roy, Ph.D.

The reviewer is Assistant Professor of History at the University of Victoria, Victoria, B.C.—Editor.

A City Goes to War is the rather unusual title of a regimental history. The city is Edmonton, Alberta, and the unit is the Loyal Edmonton Regiment.

The Loyal Edmontons originated with the 49th Battalion, Canadian Expeditionary Force. This unit, commanded by Lieut-Colonel W.A. Griesbach, went overseas in the Spring of 1915, and from the moment of its first major battle at Sanctuary Wood, it gained for itself a reputation for valour and fighting ability which was second to none. The price was high. At Sanctuary Wood the 49th lost 300 men in one day; later, at Passchendaele, the battalion suffered seventy-six per cent casualties, the highest sustained by the regiment in any battle in both wars. Indeed, if the numbers of killed and wounded are the measure of a unit's glory, then the 49th Battalion, which had 3,259 killed and wounded, paid dearly for the First World War battle honours which are proudly displayed on its regimental colour.

Although 120 pages of this book are devoted to the First World War and 160 pages to the Second, only 25 pages cover the period from the time the Edmonton Regiment was formed in 1920 to the period when the unit was called out in 1939. Probably the major reason for this was that the regimental archives were destroyed by fire in 1941. Possibly, too, Lieut-Colonel Stevens, who is at his best when describing the battles in which the regiment was engaged, found this period somewhat dull and hurried through the unit's peacetime existence to come to grips with the enemy.

The Edmonton Regiment (not until 1943 did it become "Loyal") went overseas as part of the 1st Division in 1939. In this early period the author lists the comings and goings of the unit — where the band played, visiting dignitaries, billets and barracks, and so forth — as if he was unwilling to miss anything mentioned in the war diary. These "family" events are described chronologically, which tends to make this section of the book tedious to anyone but a veteran of the unit. Nevertheless, he does whip through three and a half years of waiting and training in England and, in the summer of 1943, once again displays his facility with a pen when he describes the regiment's landing in Sicily and the subsequent Italian campaign.

The Edmontons did well in Sicily, and proved themselves quite capable among the veterans of the 8th Army. One of the hardest battles fought by the unit was at Ortona. This is also one of the author's best descriptions, a not unusual case when the historian has a dramatic struggle to portray and

**A City Goes to War* (History of the Loyal Edmonton Regiment (3 PPCLI)), by Lieut-Colonel G.R. Stevens, OBE. Produced for The Edmonton Regiment Association, Edmonton, Alta., by Charters Publishing Co. Ltd., Brampton, Ont. $5.00.

ample material to select from. The ferocity of the street fighting and the tenacity of the German and Canadian troops are vividly described, both by drawing on the war diary as well as using eye-witness and newspaper accounts. The Edmontons suffered some 170 casualties in this battle alone.

In May 1944 the regiment took part in the Hitler Line attack, and although it sustained losses amounting to about 150 all ranks, it never gained the expected victory, owing, the author implies, to confused plans and countermanded orders. In the Gothic Line assault the unit took part in the opening battle, but was in reserve when the major attack went in. The Edmontons more than made up for this later in a brilliant night attack on San Fortunato ridge. This resulted in the unit punching a hole through the enemy's line by infiltration and hard battle, and deserves more space than was given it.

During the remainder of the war the regiment took part in all the 1st Division's battles, slugging it out with the enemy from the Po Valley to the Dutch polders. The Loyal Edmontons have a proud record which has long deserved to be told. Veterans and friends of the regiment should be pleased with the result, for certainly the courage and valour of the veterans as individuals and the unit as a whole shine through every page of the battle chapters.

Military buffs will raise their eyebrows at certain points in the history, however. To write that "In Normandy First Canadian Army ... encircled twenty German divisions at Falaise" is rather stretching a point. Lieut-Colonel Stevens would also find a number of people who would debate his statement that "... by the spring of 1939 it was evident that Canadians would be better prepared to take the field than their fathers in 1914." Describing the shelling of an "O" Group of the Seaforths in July 1944, the author claims that "it caused thirty casualties and complete disorganization". According to the Seaforths' historian, the shelling caused ten casualties and, despite the blow, Lieut-Colonel Hoffmeister still offered to carry on the attack on Leonforte.

A City Goes to War has numerous questionable bits and pieces of information of this nature, some of which indicate the author was too pressed for time to do a thorough job of research beyond the confines of the regiment itself. That he has dug thoroughly into the unit's archives and has made excellent use of battle narratives will be obvious to anyone reading the book. This in large measure is what makes the "battle" chapters such lively reading. The journalistic style (e.g. "The Canadian Prime Minister, suspicious as an old maid in a new bedroom ...") may go down well in a work of this type, but the professional military historian will doubtless question part of the result.

The history, praise be, has an index, and is nicely spiced with photographs, maps and the usual appendices.

Difficulties Should Rouse

Difficulties are meant to rouse, not discourage.—*William Channing, American philanthropist (1780-1842).*

The Guerrilla – An Analysis

Reviewed by Major S.R. Elliot, CD

The reviewer is on the staff of the Directorate of Military Intelligence at Canadian Forces Headquarters, Ottawa.—Editor.

One of the features of military writings over the past ten or fifteen years has been the attention given to warfare conducted on guerrilla lines.

Guerrilla tactics are not new. History contains many accounts of bands of men and women who hid in the wastelands of their country and carried on a form of resistance to the constituted authority of their day. Many of these weren't much different from bandits whose main purpose in life was to keep body and soul together on the proceeds of robbery. There were, however, a few guerrillas whose motives were entirely political.

In English history Hereward the Wake of the Norman Conquest period offers perhaps the earliest example. Irish folk-lore and writings tell of opposition to the rulers of that unhappy land. There has been a whole shelf of books on the subject of "Lawrence of Arabia", whose early actions in the Hejaz and in what later became Jordan, embodied classic guerrilla tactics.

A vast number of books were written after the Second World War discussing guerrilla activity on and behind every front in the world. Very few of these, however, have attempted to analyse and to codify the nature of those irregular wars.

And yet there is a need to examine this whole business of guerrilla operations. It is necessary to make the attempt to find out what makes a man become a guerrilla; to assess his capability in his changing environment, for conducting his clandestine warfare; to examine his sources of supply, the avenues through which he obtains his arms and recruits; and to attempt from such a study to plan techniques to counter him.

Perhaps the leading theorists in this field are the French. The traumatic experience of Indochina, followed by the loss of Algeria, has released an almost morbid desire within the body of French military thought to discover, firstly, why guerrilla activities developed in French possessions; secondly, what the guerrilla tactics were and why they were successful; and, thirdly, what counter-measures were successful and if possible why.

In consequence there is a vast library of such writings by French authors, some of which have been translated for the English-speaking market. Some of these works are biographical in nature. Individuals who served against guerrillas have discussed their operations and have attempted to derive therefrom a principle or principles for the guidance of others. Others have discussed the writings of leading exponents of guerrilla warfare, demonstrating how these writings have governed guerrilla actions in the past, and attempting to project how such writings will govern guerrillas in the future. But only a few of them have attempted a codification of both ap-

proaches. We have one of these rarities here.*

The author, Peter Paret, Associate Professor of History at the University of California, is also a Research Associate of the Centre of International Studies, Princeton, Consultant to the RAND Corporation, and is interested in contemporary defence problems.

His research has been most extensive: the bibliography occupies some seven pages.

His analysis begins with a hypothetical conversation by the Soviet leaders of the Khrushchevian era which establishes the premise that the atom bomb will never be used. In lieu of this weapon the weakest links in the colonial empires of the West will be attacked, that Communism and Communist theory is the basis for such warfare, and that the fundamental weakness in the Western world is the American anti-colonialist bias. I must confess that, in view of known postwar developments, I find this premise extremely easy to accept.

From his discussion of the "ground rules" of his presentation, Professor Paret goes on to outline the doctrine of revolution. He clearly defines the aim of revolution, stripping from it the mask placed there by the revolutionary propagandists. "The object of the conflict, on the part of the subversive aggressor, is the assumption of governmental authority."

He then moves on to a discussion of techniques and lists the five steps within which the guerrilla develops his techniques, commenting on the fact that these five steps are not clearly separated one from the other but are fluid.

The author examines the causes of insurrection, using as his one example the case of the early conflict in Indochina. Here, I feel, his historical facts are a little weak. He claims that the loss occurred as a result of the actions of Viet regulars and that the whole subversive organization grew up after that fact. I think it would have been more accurate to have acknowledged the situation that all of Indochina outside the areas of Japanese physical occupancy was a power vacuum into which the Communist-controlled Viet-Minh expanded. The development of this force resulted in the recruiting and employment of the regulars. This is a minor point, however. What is clearly stated is that the disciplined political conviction of the guerrillas followed by their conquest of the minds of the civilian population, was the chief reason for success.

Having outlined the nature of the threat, Professor Paret discusses the methods and techniques which must be employed to meet it, using French examples as his vehicle. In summary, these counter-measures must be "directed at the weak points of the subversive process". He details these. Psychological warfare used by the insurgent perverts the moral sense of the population. Our ethical standards are superior. Equal aptitude in psychological warfare should give the West the edge. The insurgent requires time.

**French Revolutionary Warfare from Indochina to Algeria,* by Peter Paret. Published by Frederick A. Praeger, 111 Fourth Avenue, New York, N.Y., as part of the Princeton Studies in the World Politics Series. 163 pp. $4.95 (clothbound).

In the Land of Prester John

REVIEWED BY COLONEL M.C. SUTHERLAND-BROWN, DSO, CD

The reviewer is Director of Operational Services and Survey at Canadian Forces Headquarters.—Editor.

It is fashionable today to send missions to Africa but here is a little book* telling of missions and visitors to Ethiopia from 100 to 1900 A.D. There was no doubt in the minds of many of these travellers that they were visiting the mysterious Priest-King "Prester John".

The visitors tell their own stories which are translated where necessary to English and there are good notes to help understand archaic or local terms. By nationality, the visitors were Greek, Egyptian, Portuguese, Arab, Scottish, English, French and Italian besides Ethiopians themselves. They were priests, soldiers, explorers, diplomats and traders and included the famous Sir Richard Burton. Readers who found interest in Alan Moorehead's *Blue Nile* will find renewed interest in *Travellers in Ethiopia.*

This is one of the early editions in the recently announced paperback series (Three Crowns Books) by the Oxford University Press. The cover, binding and paper are of superior quality while the type used in the printing is extremely clear and easy to read. It is to be hoped that other paperback publishers will try to do as well for $1.00.

Special mention must be made of the chapter on the traveller, James Bruce, and his claim to have discovered the source of the Blue Nile. History shows he followed the Portuguese discoverer by approximately

**Travellers in Ethiopia* edited by Richard Pankhurst and published by the Oxford University Press, 70 Wynford Drive, Toronto. Contains 148 pages, 12 pictures and 20 sketch maps. $1.00.

The Guerrilla — An Analysis

(Continued from preceding page)

Early action by security forces is necessary. Destruction of the growing insurgent organization is possible and every capture of his key men weakens it because he has neither the manpower nor the necessary flexibility. However total victory is impossible. All that one can hope to do is to contain the movement and so to render it impotent. Negotiation merely enables the insurgent to consolidate and so is a waste of time. Reforms, education of public opinion, repression of insurgent movements and their supporters are all necessary to prevent further deterioration in the early stages of the insurrection.

I would recommend that *French Revolutionary Warfare from Indochina to Algeria* be required reading in this field of counter-insurgency. Mr. Paret is to be congratulated for his contribution to our knowledge in this subject. Praeger Press and Princeton University have done a service to military thought in producing it.

Operation Musketeer

Reviewed by Lieut.-Colonel B.W.E. Lee, CD

The reviewer is Commandant of the Canadian Provost Corps School at Camp Borden, Ontario.—Editor.

"Musketeer" was the code name given to the Anglo-French invasion of Egypt in November of 1956. It turned out to be a dramatic and controversial chapter in British history. It was also a unique event, not only because outside pressures caused it to be called off halfway through, but also because it revealed a state of British military unpreparedness that had never been appreciated until the decision to mount the operation was taken.

This account is the first comprehensive study that has been made of the operation.* Though written, naturally, with a strong British bias, it does help to dispel much of the mystery which has always surrounded this episode. The writer, A. J. Barker, is at times strongly critical of British policy, both political and military, and gives the impression that he is still a devotee of "gunboat diplomacy". However, he is a thorough researcher and a lucid writer, in addition to being a knowledgeable soldier, so the reader can be grateful for a well-written, meticulous effort.

In addition to the story of the Anglo-French campaign, there is a chapter devoted to the simultaneous operation called "Kadesh" carried out by Israel against the Sinai peninsula. We seem to know even less about this brief campaign, and the detailed account supported by excellent sketch

**Suez: The Seven-Day War* by A.J. Barker. Faber & Faber, 24 Russell Square, London, W.C. 1, England. 30 shillings (approximately $4.62 Canadian).

In the Land of Prester John

(Continued from preceding page)

150 years. The penetration into the walled city of Harar by Sir Richard Burton and the founding of Addis Ababa are interesting.

On the military side, there were the invasions by Muslims, British and Italians. Brief descriptions and sketch maps of battles are worth noting. One chapter, recorded by a Portuguese Jesuit, gives many details of military administration and compares those of the Ethiopians with their adversaries in the 16th Century. The Battle of Adowa in 1896 is described by a British Vice-Consul who was sent to investigate it a year later. This Battle was the first defeat of a European power by an African since Hannibal 2000 years earlier. The cover design and one picture in the text are from a painting of the battle by a traditional Ethiopian artist.

In summary, the book very briefly describes life, politics and military affairs in Ethiopia over a period of some 1800 years and the interest taken in them by various European nations. If this book is typical, it is to be hoped that more will be available soon in this paperback series.

The War Diary of a Regiment

"This book," the author states in his introduction, "is different in some ways from many of those which have gone before. It is not a treatise on the military art. It preaches no moral, nor does it defend any one system of operations at the expense of all others. It does not... poke criticism at the much abused and too-little appreciated commanders who made much of the story possible. Instead this is, as the title suggests, a War Diary—simply a journal of some of the events which occurred in the course of a Regiment's doing the job it was supposed to do."

This is as good a description of *The Westminsters' War Diary* as one might wish to find.* The author makes little attempt to garnish this story of a British Columbia regiment which, carrying the battle honours of the 47th Battalion, C.E.F., was mobilized as a machine gun unit, was reorganized as a motor battalion when it was concentrated in Camp Borden as part of the 5th Canadian Armoured Division, and which fought some of its stiffest battles as an infantry battalion.

The greatest part of the book, as might be expected, deals with the regiment in action. Little more than two dozen pages are used to describe the life of "The Westies" from the time it was called up in September 1939 until it sailed for Italy in 1943. The equipping and training of the men, the trip overseas, the impact of wartime Britain, the unit, brigade and divisional exercises—in brief, the story of the creation of a battle-ready unit from the original group of ill-trained and poorly equipped militiamen is

**The Westminster's War Diary* (an Unofficial History of The Westminster Regiment (Motor) in World War II) by Major J.E. Oldfield, MC. Printed by Mitchell Press Ltd., Vancouver, B.C., and available from The Armouries, 6th Street & Queen's Ave., New Westminster, B.C. $5.25.

Operation Musketeer

(*Continued from preceding page*)

maps is a welcome addition to the library of the military history buff.

One is apt to wonder why the British government yielded to the United Nations demands for a cease-fire and subsequent withdrawal of its troops. The author hints at United States and Soviet pressure but does not elaborate. More information on this aspect would be welcome. However, this is mainly a soldier's story of a soldier's action and the author comments but little upon the reasons for the politicians' actions.

The book is well illustrated with interesting and excellent photographs and some good sketch maps which enable the reader to follow the short but lively war. There is also an *aide-memoire* to date of events and several appendices of interest.

The author, once a lieutenant-colonel in the 14th Army and now retired, numbers among his accomplishments the *March on Delhi,* a story of the Imphal campaign which has been reviewed previously in the *Journal.*

hardly touched. To say, for example, that Exercise Spartan "lived up to its name" may mean much to the veteran who took part in it, but little to the non-participant. Nor would the latter gain much information about this exercise from the short paragraph devoted to it. This might be reasonable if the author decided that space did not permit him to say more. It is strange, however, that this exercise took up only four more lines than a description of an officer who was involved in a motorcycle accident.

This lack of perspective in Major Oldfield's book is noticeable in other areas. There is far too little background given to his regimental battles, although within the confines of the unit his description of these battles are often very well done. His emphasis on the comings and goings of the officers is noticeable, but as the author was himself an officer serving with the regiment during the era he describes (1939-1945), perhaps this is understandable.

Despite the criticisms one might make regarding the author's style, his failure to quote sources, or his intense emphasis on the regiment to the exclusion of the forces which shaped and guided it, there is no doubt that the spirit of "The Westies" comes shining through these pages time and again. The 20-page description of their fight on the Melfa River, during which Major Mahony won the Victoria Cross, is an exciting story which any soldier would enjoy. During the push to Misano, and later when he goes into some detail outlining the Westminsters' action in the Po Valley, Major Oldfield is at his best. One cannot help but feel that in the latter area an extraordinarily good "Battle Study" could be written of an infantry battalion surmounting the problems of dykes and canals.

This regimental history—or war diary, as it might be termed more properly—will be welcomed by veterans of the regiment especially, and by those who fought side by side with them.—*R.H. Roy, Ph.D.*

Fowler at His Best

For those interested in the intricacies of the English language, the following is quoted from "Modern English Usage" by H.W. Fowler, one of the editors of the Oxford English Dictionary.—Editor.

"storey, story. Whether these names for the floor & the tale are etymologically the same word or not—on which the doctors differ—, there is an obvious convenience in the two spellings. It is, for instance, well to know *storied windows* (illustrating biblical or other stories) from *storeyed windows* (divided by transoms into storeys). The DIFFERENTIATION, however is still a probationer, & indeed lacks the support of the OED; that is sadly against it, especially when the 19th-c. quotations are found to show *-ry & ries* four times as often as *-rey & reys;* but there is yet a chance that it may win through; so may it be!"

When We Were Very Young

One of the unfortunate aspects of a study programme, if properly organized, is that there is seldom any time to wander down the interesting side trails which lead from the broad highway of the main study theme. This is particularly true in Military History. In general, we tend to take the text, or texts, listed as references and consider ourselves fortunate if we can master the broad political background of the war, or, if the scope calls for a particular battle, the general strategic situation leading to that action. We then attempt to master the chronological outline of the particular period of operations, apply to the actions which took place, certain criteria of "Principles of War" and "Qualities of Leadership", assess the effects of the observance (or otherwise) of them and then finish with a summary of the action. We do not have the time nor — and this is to be regretted — do we often have the inclination to learn something of the domestic political and social background of the nations concerned. And yet, if we are to develop a clear understanding of the motives which induced a nation to go to war, we must have some knowledge of this background.

Unfortunately there is one war in which Canadians participated that is by no means well served by historians of the Canadian scene. In consequence it is by no means easy to discover the domestic and social background of that war. It is the South African (or Boer) War. Fortunately a few historians now are beginning to close the gap. One of the most recent is Professor Norman Penlington whose book, *Canada and Imperialism** is the subject of this review.

This is a serious historical work, of perhaps more interest to the student of political thought in the 1890's than to the soldier. Nevertheless it contains a good deal of interesting and useful information on the state of the Army just before that conflict. It explains the position of Canada in the world of the day and it shows how that position led us to support Britain in South Africa. We tend to think that Canada's position in the world's councils has been a development of long standing. It comes as something of a shock to realize that our present status has been achieved within the lifetime of many people still very much alive today.

The first chapter sets the stage for Professor Penlington's theme. "The Federation... in 1867 was essentially the product of American pressure, British support, and Canadian need... At the end of the nineteenth century Britain... responded to Canadian overtures for help, but did so in the expectation of Canadian military aid." A discussion of American pressure follows. He lists tariff disagreements, the Fenian raids, American support of Riel in 1869-1870, and the loss of emigrants to the United States in the '80s and '90s. Not that British support was whole-hearted. There was a strong Little-England sentiment in Britain in the 1870's which saw colonies as a

**Canada and Imperialism,* 1896-1899, by Norman Penlington, University of Toronto Press, Toronto 5, Canada. 288 pp. $7.50.

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burden on the Mother-Country and which took practical expression in the withdrawal of British troops from Canada in 1871.

The trend was reversed partly by the external pressures of German unification which saw the defeat of France in 1870 followed by competition for colonial territories and the building of a large army and an expanding navy. In addition, France, humiliated in Europe, turned increasingly to expansion abroad. These twin imperial expansions led to a series of minor crises. In addition, foreign tariff walls were being raised against British goods and there was increasing competitions from the developing industrial communities of Germany and the United States. Consolidation of the British Empire both politically and economically was not only desirable but necessary. Action to achieve this came to a focus in the person of Joseph Chamberlain, Colonial Secretary in 1895. An extremely able man, he did much to strengthen the Imperial links.

Canada's defences during this period were in what can only be described as a sorry state.

The theory in 1871 was that Canada would be able to defend herself in lieu of the withdrawn British forces. The total Canadian strength was about 43,000 men for which an annual appropriation of about $1,500,000 was made. This was about one-quarter of the British expenditure on Canada. By the late '70s the appropriation was reduced to $550,451.

Efficiency was at a low ebb. The Royal Military College of Canada, formed in 1876, had provided but 20 officers for the militia and 10 for the permanent force by 1898. Officer training within the army consisted of a few short, two- or three-day courses, short courses of three months and a few long courses of six or nine months. Instruction was elementary. There were no pensions. The troops could not be expected to "show willing". "In 1890 desertions, other military 'crimes' and discharge by purchase amounted to nearly half the force."

The militia was no better. Its strength, which had been authorized at 35,000, seldom reached much more than half that figure. The organization was chaotic. The equipment consisted of worn-out Snider rifles dating from the 1860's, the artillery wanted something "better than the smooth-bores of 1793". Clothing and equipment was either lacking or unsuitable, except for the cavalry which erred on the other side.

What was worse than the neglect, however, was the fact that the Headquarters organization and planning was non-existent. Perhaps the only influence which kept an army in being in Canada during those difficult years was the presence of a few military enthusiasts.

As the external political pressures build up, Britain took more of an interest in the matter of Canadian defence. Agreements were reached regarding the maintenance of fortifications at Halifax and Esquimalt. The Army Act of 1886 provided a British officer to command the Canadian Army, and a basis for its control. Not that the regulations were obeyed; it was obvious, even at that time, that Canadians go their own way in such matters. In fact it was made very clear

that Canada was not going to be a voiceless appendage in any Imperial adventure, quite apart from day-to-day matters of military discipline.

Militia reform was taken in hand after 1896. The forces which demonstrated the need for this reform were, firstly, the disagreement between the United States and Britain over the demarcation of the Venezuela/British Guiana border which created a good deal of tension in Canada. Secondly, the efforts of Sir Frederick Borden, cousin of Sir Robert Borden, who had a firm knowledge of the deficiencies of the Militia, and, although not a strong, clever officer of the Crown, nevertheless had the advantage of remaining in office during a lengthy period of prosperity and public interest in defence. The third force was Chamberlain, who "exploited every channel of influence" to ensure that Canadian defences were improved.

The book outlines some of the items with which the Colonial Secretary concerned himself; the list makes impressive reading. However, Canada was far away and direct control of affairs difficult to achieve from London. It wasn't until 1898 when Major-General Hutton and Governor General Lord Minto were appointed that real progress was made. Professor Penlington devotes a good deal of space to the activities of these two gentlemen and of the reaction of entrenched apathy to them.

As a serious work on Canadian political history, this book tend at times to be somewhat heavy going. The discussions on the Alaska boundary dispute, for example, will require almost constant reference to a map if the reader is to derive any benefit at all from the material. In general, however anyone who seeks knowledge of Canada's development in detail, carefully documented with excerpts from contemporary writings, will find a good deal of pleasure in reading and rereading *Canada and Imperialism* by Norman Penlington. — *Major S.R. Elliott.*

So Who's Minding the Store?

Phil Silvers — our old friend Sergeant Bilko — relates that one of his worst moments occurred when he was toastmaster at a Washington banquet attended by the President, the Vice President, the Cabinet and the Supreme Court, leading members of Congress, and the Joint Chief of Staff.

As he stood up to begin his "pitch", he was suddenly overwhelmed by the realization that he, Phil Silvers, up from burlesque, was expected to entertain an audience of the most important men in the country, and he couldn't think of a thing to say.

For an agonizingly long 30 seconds he looked from one famous face to another without saying a word, and, finally brought the house down with a querulous "So who's minding the store?" — *From an article by Lieut.-Colonel Richard J. Arnold in the Military Review (U.S.).*

Jutland — Who Won?

Reviewed by Major R.C. Curtis, Royal Artillery

The reviewer is a British exchange officer with the Directorate of Land Forces and Combat Development at Canadian Forces Headquarters, Ottawa.—Editor.

It may be appropriate that, in this year of integration, this book on naval history should be reviewed by an Army officer. It is surprising the number of non-naval men who are interested in naval history; in this reviewer's case it is partly because of a naval background and partly, it must be admitted, because naval history is more readable than military history and catches the imagination more easily. A sea battle is faster moving and less protracted than a land battle and it is easy to show the passage of events on a chart. In contrast to the diagram of a land battle, the chart of a sea battle is admirably uncluttered and has no map detail such as roads, houses and woods to distract and confuse the reader. The course of each ship or collection of ships can be plotted and timed so that the pattern of the battle can be seen at a glance.

Geoffrey Bennett's book is the latest in a long line of books written about the Battle of Jutland.* Previous authors have tended to be partisan in their approach to the question of which of the two British Admirals, Jellicoe or Beatty, was chiefly responsible for the inconclusive end to this battle which, on paper and in the eyes of the British public, should have resulted in a resounding British victory. Between the two world wars the Royal Navy itself was fiercely divided on this question and was split into two factions, pro-Jellicoe or pro-Beatty. This feud was not really ended until the start of the Second World War. The author of this book, unlike the majority of his predecessors, is impartial and does not attempt to apportion any blame to either man. In an interesting appendix he traces the history of this controversy and, as a result of being allowed access to hitherto unpublished admiralty papers, is able to provide a fitting epilogue to the whole question.

The battle, fought in the North Sea in May 1916, was the last of the classic big fleet actions to take place with opposing ships seeking to sink each other by gunfire or torpedoes alone. As nearly 250 ships were engaged (150 British and 99 German), the task of describing the battle without filling the reader with too much detail is extremely difficult. Despite this the author has succeeded in producing a readable and concise account of the battle, of interest to both naval and non-naval readers.

At the same time he has contrived to give a very clear picture of the contrast in character between the two principal British admirals: Jellicoe, the strong, calm tactician who, twice during the battle, managed to achieve the classic naval manoeuvre of crossing

**The Battle of Jutland* by Geoffrey Bennett. Published by Batsford Ltd., London, and available in Canada from The Copp Clark Publishing Co. Ltd., Toronto. $6.60.

the enemy's "T". He has been criticized as being too cautious and of lacking the "Nelson touch". Perhaps he was justified in using caution. Winston Churchill, then First Lord of the Admiralty, said of him that he was "the only man on either side who could lose the war in an afternoon". This could have been the case had Jellicoe allowed the partial destruction of the British Grand Fleet. Beatty, on the other hand, was dashing, impetuous and plentifully imbued with the "Nelson touch". His only comment to his Flag Captain on seeing the second of his battle-cruisers blow up was, "There seems to be something wrong with our bloody ships to-day", coupled with an order to alter course to engage the enemy more closely. Somewhat naturally, the two German admirals, Scheer and Hipper, are not so fully assessed. The author does, however, make a convincing case for describing Hipper, who commanded the German battle-cruisers in the battle, as the ablest admiral on either side in the whole war.

There were many shortcomings in the British fleet during the battle and these are fully discussed in the final chapter, "Who Won?" Some of these weakness were: the gunnery of Beatty's battle-cruisers was markedly inferior to that of the British battleships and also to that of the Germans—this could be blamed on inadequate range facilities at the battle-cruiser base at Rosyth; the reporting of information to the British Commander-in-Chief was generally weak throughout the battle, as a direct result of this serious weakness the German fleet was allowed to escape to the safety of its base during the night; there were serious faults in British ship construction, which caused the loss (by the explosion of their magazines) of three battle-cruisers and one armoured cruiser; British ammunition was inferior to that of the German's—shells tended to break up on impact instead of piercing the armour-plating and then detonating.

The combination of all these faults and shortcomings, which have an all too familiar ring to members of all three services, was responsible for the British Grand Fleet's inability to bring the battle to a decisive end. Who actually won the battle itself may forever remain a matter for argument and conjecture. However, as the author points out, victory is not measured by a comparison of casualties and losses but by results. It is undeniable that after this battle the British Grand Fleet remained in undisputed possession of the North Sea for the rest of the war. The complete German High Seas Fleet did not put to sea again until its final surrender at Scapa Flow in November 1918.

* * *

Other Books Received

Between Niger and Nile by Arnold Toynbee. It is another book based on the travels of the famous historian. Specifically, *Between Niger and Nile* deals with several countries of North Africa and touches on the claims of "Negritude" and "Arabism". Oxford University Press, Toronto, 1965. $4.25.—*MCS-B.*

(Continued on next page)

The War of 1812 by Harry Coles, being another in the series *The Chicago History of American Civilization* edited by Daniel J. Boorstin. The author (professor of history at the Ohio State University) narrates the main operations on both land and sea during the three-year struggle. He examines the conflict from the British and Canadian as well as the American point of view, relating events in America to the larger war going on in Europe. University of Toronto Press, 1965. $5.95.—*JGD.*

Military Information Systems (The Design of Computer-Aided Systems for Command). Edited by Edward Bennett, James Degan and Joseph Spiegel. A series of nine essays which explore some of the major aspects of information-system technology and discuss the possible designs of computer-aided military information systems. Includes references as well as notes on contributors. Published by Frederick. A Praeger, New York, and available in Canada from Burns & MacEachen Ltd., 135 Railside Rd., Don Mills, Ont. $6.00.

The Cult of Silence — 1835 Style

A man who exercises absolute authority must be constrained by a perpetual reserve. He cannot unbend towards his inferiors without inviting their familiarity and so impairing his power. He cannot let himself go in friendly discussion for fear lest some avowal of his set a bad example. I have known officers who withdrew into a Trappist silence, and whose grave lips never opened under their moustaches except to issue a command. Under the Empire this studied manner was nearly always adopted by the senior and general officers. The example had been set by the master, the custom rigidly preserved, and with good reason: for, to the essential consideration of keeping familiarity at bay, was added the importance of maintaining the dignity of their elderly experience in the eyes of young men better educated than themselves, who arrived in a steady stream from the military schools, with letters stuck after their names and all the assurance of prize-winners, whom only silence could keep within bounds.—*Alfred de Vigny, "The Military Necessity" (1835).*

Season with Regulars

Another thing—people are still persisting in stressing the difference between Regular and Territorial divisions. This, to my mind, is lamentable. If the Regulars are so much better than the Territorials (which is not generally true, in my opinion) then they should be used to leaven the Territorials and not be kept as a *corps d'élite* in separate divisions. We shall not win this war so long as we cling to worn-out shibboleths and snobberies. I am sure of this. Cobwebs want removing at once.—*General Auchinleck in a letter to the Vice-Chief of the Imperial General Staff, 29 June 1940.*

CANADIAN ARMY ORDERS

Listed below is a résumé of Canadian Army Orders for the information of military personnel. Details of these orders are available in all Army units. — Editor.

CAO 10-5
Physical Education
(Issued: 2 Aug 35)

This revision establishes a common Service policy and methods governing physical education and physical fitness efficiency standards.

CAO 10-6
Recreation
(Issued: 2 Aug 65)

This new order establishes a common Service policy on recreation.

CAO 23-4
Canadian Forces Movie Guild
(Issued: 19 Jul 65)

This new order notifies the formation of the Canadian Forces Movie Guild to provide a centralized entertainment film service for Canadian Forces personnel overseas, at sea, and in isolated locations.

CAO 77-4
Committal to Service Detention Barracks
(Issued: 5 Jul 65)

This new order details the administrative action required by units dispatching detainees to a Service detention barracks. It also notifies the scale of issue of clothing and equipment for detainees.

CAO 107-7
Reporting of Fires
(Issued: 26 Apr 65)

This new order introduces a standard format for submitting fire reports within DND. This new procedure supersedes paragraph 12.73 of the AWS Manual—Fire Safety. In addition, QR (Army) 30.05 will be cancelled.

CAO 107-8
Investigation of Fires
(Issued: 26 Apr 65)

This new order contains general instructions for conducting a summary investigation or board of inquiry into a fire incident in accordance with QR(Army) 21.61. It supersedes HQ letter 1733-21, TD 8209 (QMG) dated 21 Mar 59 and the AWS Manual—Fire Safety, paragraphs 12.74 to 12.83.

CAO 128-36
United Nations Medal
(Issued: 7 Jun 65)

This amendment to Annex A notifies the institution of a distinctive ribbon for the UN Medal for service in West New Guinea and replaces the ribbon previously authorized for United Nations Temporary Executive Authority in West New Guinea.

CAO 144-4
Passports, Visas, and Related Documents
(Issued: 7 Jun 65)

This revision details the documents required for travel to foreign countries and the method of obtaining passports and visas.

CAO 174-15
Water Supplies at DND Establishments
(Issued: 10 May 65)

This revision clarifies and updates the responsibilities of the CO, medical staff, and AWS for water supplies.

CAO 174-42
Charges for Medical Care
(Issued: 2 Aug 65)

This revision notifies the areas of responsibility concerning applications and related charges for medical care provided by the CFMS to dependants and other civilians.

CAO 174-53
Inoculation of Domestic Animals —Isolated Postings
(Issued: 10 May 65)

This new order provides for mandatory inoculation of household pets prior to members proceeding to isolated or semi-isolated units.

CAO 174-54
Medical Care — NATO Personnel in Canada
(Issued: 19 Jul 65)

This new order notifies the policy on the provision of medical care to NATO forces in Canada.

CAO 212-11
Postage Expenditure Outside Canada
(Issued: 10 May 65)

This new CAO sets out accounting procedures for postage expenditures incurred by Canadian Army formations outside Canada.

CAO 215-1
Photographs—Purchase and Publication
(Issued: 2 Aug 65)

This revision notifies the procedure for obtaining DND photographic prints and also includes a revised price list.

CAO 218-7
Official Mail—Methods of Mailing
(Issued: 24 May 65)

This amendment includes cash accounts, cash vouchers and master drawings in the list of items to be forwarded by registered mail.

CAO 227-5
Local Purchase of Defence Supplies —General Instructions
(Issued: 26 Apr 65)

This amendment to Annex A authorizes DMP (Army), CO of ROD, and OIC of ROD Branch, COD, to purchase expendable stationery items, except pens, up to $25.00 per purchase. This amendment was previously notified in HQ 6029-1 TD 5018 (DQOP) dated 23 Mar 65.

CAO 227-6
Procurement of Supplies and Services Through Regional Offices of the Department of Defence Production —General Instructions
(Issued: 26 Apr 65)

This amendment to Annex A authorizes DMP (Army), CO of ROD, and OIC of ROD Branch, COD, to sign purchase requisitions for office stationery and supplies to a maximum of $10,000 per requisition.

CAO 256-3
Special Provisions Governing Promotion and Seniority
(Issued: 10 May 65)

This amendment to Annex D clarifies the military training required by an ROTP graduate to qualify for the rank of lieutenant.

CAO 271-11

Postings to Alert Wireless Station

(Issued: 19 Jul 65)

This revision centralizes the issue of northern clothing and requires the dispatching unit to issue one CAFD 811 to cover the entire journey to Alert.

CAO 272-10

Transportation by Commercial Airlines

(Issued: 21 Jun 65)

This new order details the policy and procedure for authorizing the use of commercial airline service for duty travel.

CAO 273-11

Temporary Duty Service and Civilian Personnel

(Issued: 19 Jul 65)

This new order sets out the policy and procedure for temporary duty. It details the approving authorities, general instructions, and procedure for obtaining visit clearances.

CAO 286-20

Importation of Private Motor Cars

(Issued: 21 Jun 65)

This new order sets out the regulations for importing private motor cars when proceeding on, or returning from duty outside Canada, and incorporates the related transportation entitlements now contained in CAO 271-13.

CAO 298-3

Canvassing—Stations, Units and Other Elements

(Issued: 10 May 65)

This revision clarifies the procedure and instructions governing entry of life insurance agents and investment company representatives to stations, units and other elements.

Helmet-Mounted Infrared Binoculars

Helmet-mounted infrared binoculars for night-time mobility are undergoing tests by the [U.S.] Army Mobility Command's Engineer Research and Development. The binoculars permit driving in the dark with illumination by the invisible infrared rays from filtered vehicular headlamps. Because the binoculars are helmet-mounted, the driver is able to use both hands for steering and operating the vehicle.

The driving binoculars feature two image converter tubes mounted binocularly, and a high-voltage power supply mounted on the rear of the helmet. The unit weighs approximately one pound. — *From the Army-Navy-Air Force Journal and Register (U.S.).*

Sulking Soldier is No Soldier

Convicts had violence put upon them. Slaves might be free, if they could, in intention. But the soldier assigned his owner the twenty-four hours' use of his body; and sole conduct of his mind and passions. A convict had licence to hate the rule which confined him and all humanity outside, if he were greedy in hate: but the sulking soldier was a bad soldier; indeed, no soldier. His affections must be hired pieces on the chess-board of the King. —*T.E. Lawrence, "Revolt in the Desert" (1927).*

THE ROYAL CANADIAN DENTAL CORPS

Golden Jubilee

Royal Canadian Dental Corps 1915-1965

by

CAPTAIN E.W. GAZO*

The Early Years

The dental health of members of the armed forces has been a problem concerning the authorities as far back as the 17th century. At that time the sole requirement was the possession of the requisite number of teeth to enable the soldier to bite off the cap of the charge before loading his musket. Under our modern concept, however, dental services have become an integral part of the overall health services and the physical welfare of the individual has become of more importance.

It was not until the South African War that Canadian dental surgeons for the first time operated in a theatre of war. Two dentists, Dr Eugene Lemieux of Montreal and Dr David Henry Baird of Ottawa, father of Brigadier K.M. Baird, the present Director General of Dental Services, served as part of the Canadian Army Medical Corps (CAMC) in South Africa in 1900-1902 with No. 10 Canadian Field Hospital, and the 2nd (Special Service) Battalion, The Royal Canadian Regiment.

When the First World War broke out in 1914, Canadian dentists were again sent overseas to complement the health services of the CAMC. However, by 1915 the need became evident for a self-administered Corps which would be specifically responsible for the oral health of troops proceeding to, or already serving overseas. This new corps was formed in the Spring of 1915 and was designated the Canadian Army Dental Corps (CADC). Within three months, treatment sections were in full operation throughout France in support of various field units. In recognition of outstanding service, a total of 87 honours and awards were presented to CADC personnel.

1918-1938

The CADC now was assigned a new responsibility, that of rendering the servicemen dentally fit to return to civilian employment. This proved an enormous task as 60,000 men were being released each month and over two-thirds required extensive treatment. Accordingly, the establishment for the CADC actually increased for a short period following the First World War.

As all components of the Canadian forces dwindled to a peacetime structure, so eventually did the Dental Corps until only a skeleton formation

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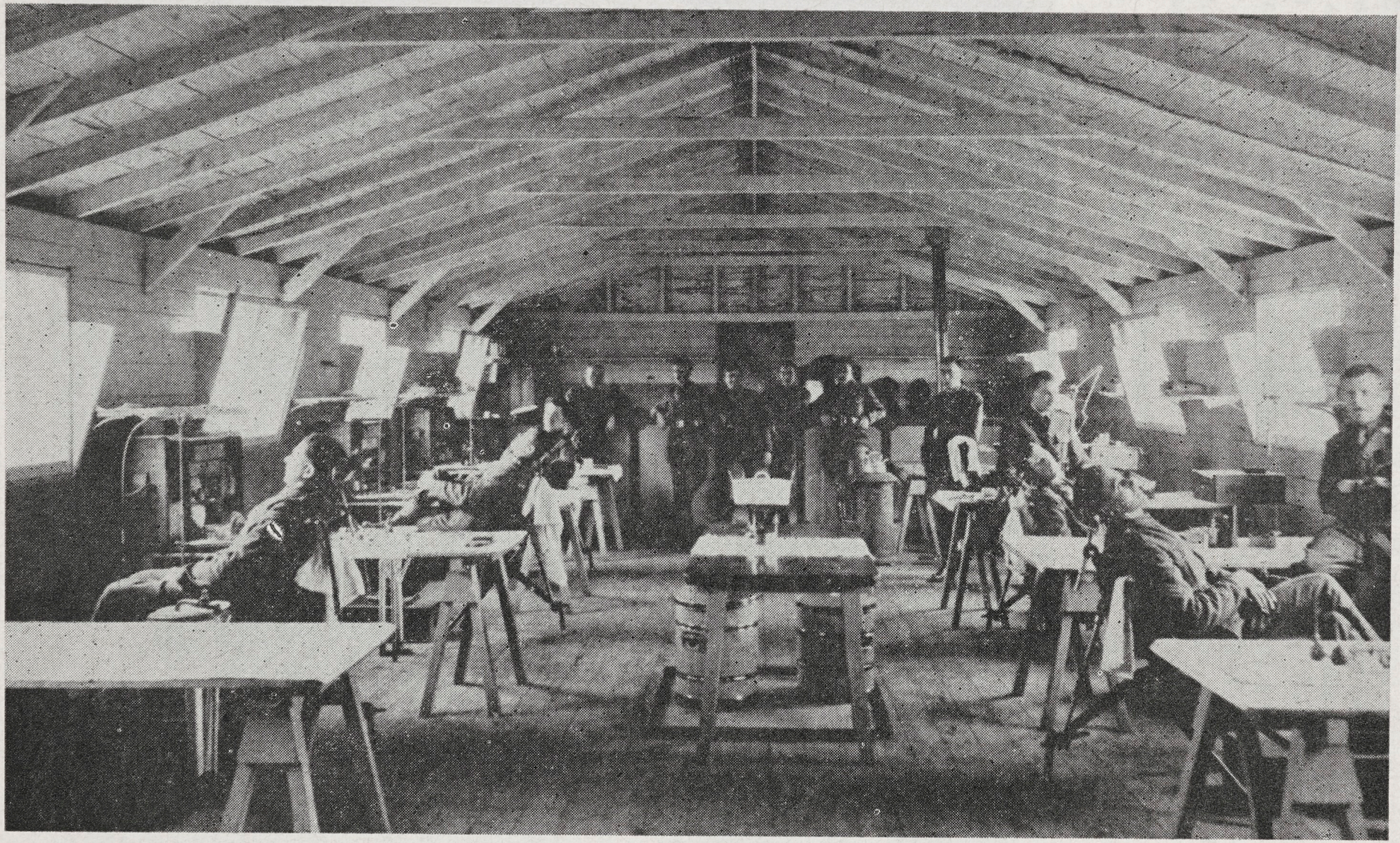
**A member of the Royal Canadian Dental Corps (Regular), the author is serving at No. 1 Dental Detachment, Canadian Forces Headquarters, Ottawa.*—Editor.

existed to provide treatment. It was a time of apathy, interest in the Dental Corps *per se* diminished and its autonomy was threatened. By 1930, despite the Corps asserting itself to a degree by adopting "emerald green" as its official colour, its existence in the Canadian Army was almost entirely on paper. In 1935 the CADC was reorganized to place the dental service under the Director General of Medical Services. The same year the Canadian dental service was extended to include servicemen of the Royal Canadian Navy and the Royal Canadian Air Force.

In the spring of 1938, a committee of the Canadian Dental Association approached representatives of the Department of National Defence with

A First World War dental parade: the year was 1915.



A First World War dental clinic at Bramshot, England, 1917-18.

A dental clinic in operation at Camp Petawawa, Ontario, 1941.

a plan for mobilization of the Dental Corps, based on a thesis prepared by Dr F.M. Lott of the University of Toronto. In the autumn of 1938 these proposals were accepted by the Minister of National Defence and the Adjutant General. One year later the "emerald green" unit was redesignated "The Canadian Dental Corps" ("Army" having been dropped due to the new tri-service responsibility).

The Second World War

The Corps, with its new administration, found itself developing at a most inappropriate time—the eve of another world war. As the Canadian Armed Forces prepared to go overseas, dental clinics were quickly provided across the Dominion to support the heavy recruitment programme. This initial role was successfully completed through the efforts of many dentists and auxiliary personnel who volunteered to aid the national cause.

To provide treatment for the Royal Canadian Navy, clinics were set up aboard ships and near shore establishments. Considerable treatment was accomplished, and in many instances dental officers also initiated improvements in hygiene and sanitation resulting in a rise in the morale of the ships' company.

The formation of six additional dental companies was required to provide treatment for the rapid expansion of the RCAF and the British Commonwealth Air Training Plan.

Throughout Canada, training programmes for dentists and technicians were accelerated to meet the heavy requirements. Equipment and supplies were bulk-purchased and shipped to the United Kingdom. Through the generosity of many civilian organizations, the Dental Corps procured a number of mobile dental vans which were to prove important in keeping pace with mechanized units in the theatres of war.

Detachments from the various military districts united to form the 1st Divisional Dental Company. This unit arrived in the United Kingdom on New Year's Eve 1939, and within three weeks was operating in clinics throughout Great Britain. During a review of this unit in the early months of 1940, all ranks received the personal congratulations of His Majesty King George VI who commented favourably on the alacrity of their mobilization and on reaching peak function in such short time. During the first year one of the dental detachments saw action when they accompanied a commando force to Spitzbergen, an Arctic archipelago 600 miles from the North Pole.

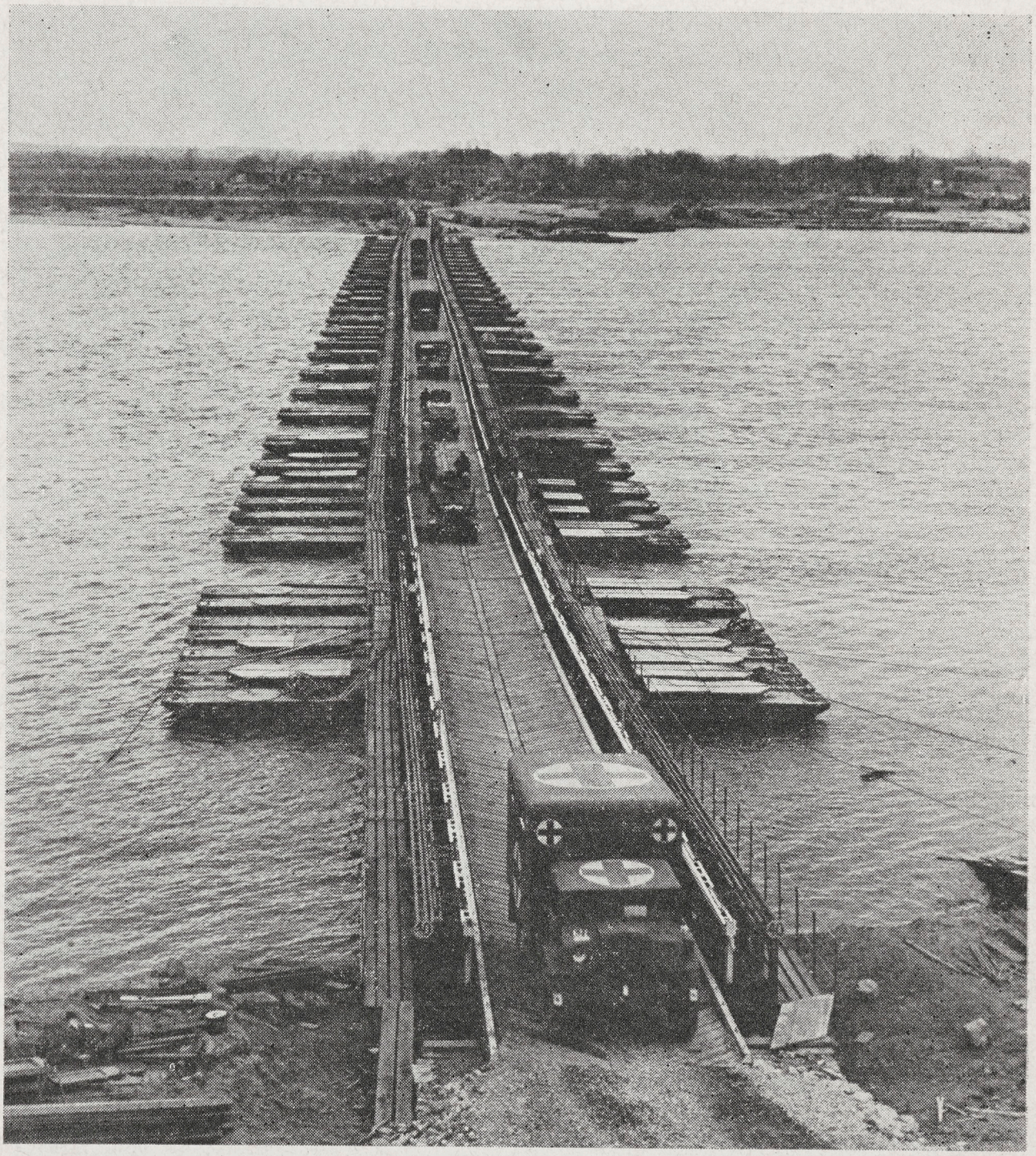
By the second year of the war dental teams were established in many parts of the globe—in the Aleutian Islands, the Middle East, India, Ceylon and Burma, Iceland and Jamaica. In fact, the dental detachment in Hong Kong in support of the Winnipeg Grenadiers and Royal Rifles of Canada became prisoners of war when that garrison fell to the Japanese on 26 December 1941. However, these men continued to provide dental treatment for fellow POWs for the duration of the war with the supplies obtained through the efforts of the Red Cross.

The early years in England during which the Canadian Army was training for the demanding tasks ahead provided an opportunity for the Den-

The mobile vans used by the Dental Corps made possible the treatment of dental troubles almost at the front lines during the Second World War.

tal Corps to carry out its own role of making the troops as dentally fit as possible. In addition, dental officers and technicians attended special courses required to fit them for new responsibilities peculiar to a dental service in wartime. It was a busy period and CDC personnel had little occasion to complain of inactivity.

In July 1943, with the plans for the invasion of Sicily completed, the 1st Divisional Dental Company boarded



A mobile dental clinic crossing the Rhine River, 1945.

the *Empress of Russia* for the Mediterranean. For almost two years, this unit supported the British Eighth Army across the razor-backed mountains of Sicily and Italy. When the unit was finally disbanded in March 1945, records indicated that treatment had been afforded to members of the Canadian Forces, the Eighth Army, the Free French Force, the Greek Mountain Brigade, the United States 5th Army and the Desert Air Force.

Operation Overlord

The emphasis on dental treatment gradually assumed a lesser importance

as preparations were intensified for the impending invasion of continental Europe. The Corps itself was involved with considerations concerning the equipment and supplies to be used during and immediately after D-Day. However, when the time came all companies were ready to move and able to operate under whatever conditions prevailed.

On D-Day the Canadian Dental Corps was represented on the Normandy beaches by three detachments from No. 5 Company with the 3rd Canadian Division, one with each of the Field Ambulances of the assault brigades. By D + 30 the balance of No. 5 Company and all of No. 9 Company from 2 Canadian Corps were in France and busily engaged in providing not only emergency treatment but regular treatment for the troops out on rest. Technical dental supplies reached all clinics despite heavy shelling, air raids and stormy channel conditions. The primary role of the Corps now became one of conservation and maintenance of manpower for the fighting units by the prevention of any loss through oral disability.

At this particular critical period and throughout the remainder of the war, it was generally conceded by the Allied Comanders that the dental services

During the Second World War many of the women who joined the armed services served as chair assistants in the Corps. They relieved many men for service in theatres of war.

Korea 1953: A mobile clinic in operation during the Korean Campaign.

provided by the Canadian Dental Corps were second to none, whether rendered in a static clinic, mobile van or by a dental officer with an emergency kit.

The Post-War Years

The CDC was reorganized as a component of the peacetime forces effective 1 October 1946. The authorized establishment was 93 dental officers and 147 other ranks for the Directorate, No. 11 Company RCDC (Army), No. 12 Company (Navy), No. 13 Company (RCAF) and No. 1 Central Dental Stores. On 15 January 1947 His Majesty King George VI approved the grant of the title "Royal" for the Corps.

This establishment remained fairly constant until two more companies, No. 14 at Winnipeg in June, and No. 15 at Montreal in November, were authorized in 1950 because of an increase in the size of the armed forces.

Again in 1950, as part of the Canadian contribution to the United Nation's Forces, No. 20 Field Dental Unit (later No. 25) was sent to Korea. For five years, seven mobile field clinics and one clinic with the reinforcement group in Japan provided treatment until the return of the Canadian Forces to Canada late in 1954. Two detachments continued to serve until March 1955, one remaining in Korea until the autumn of 1957.

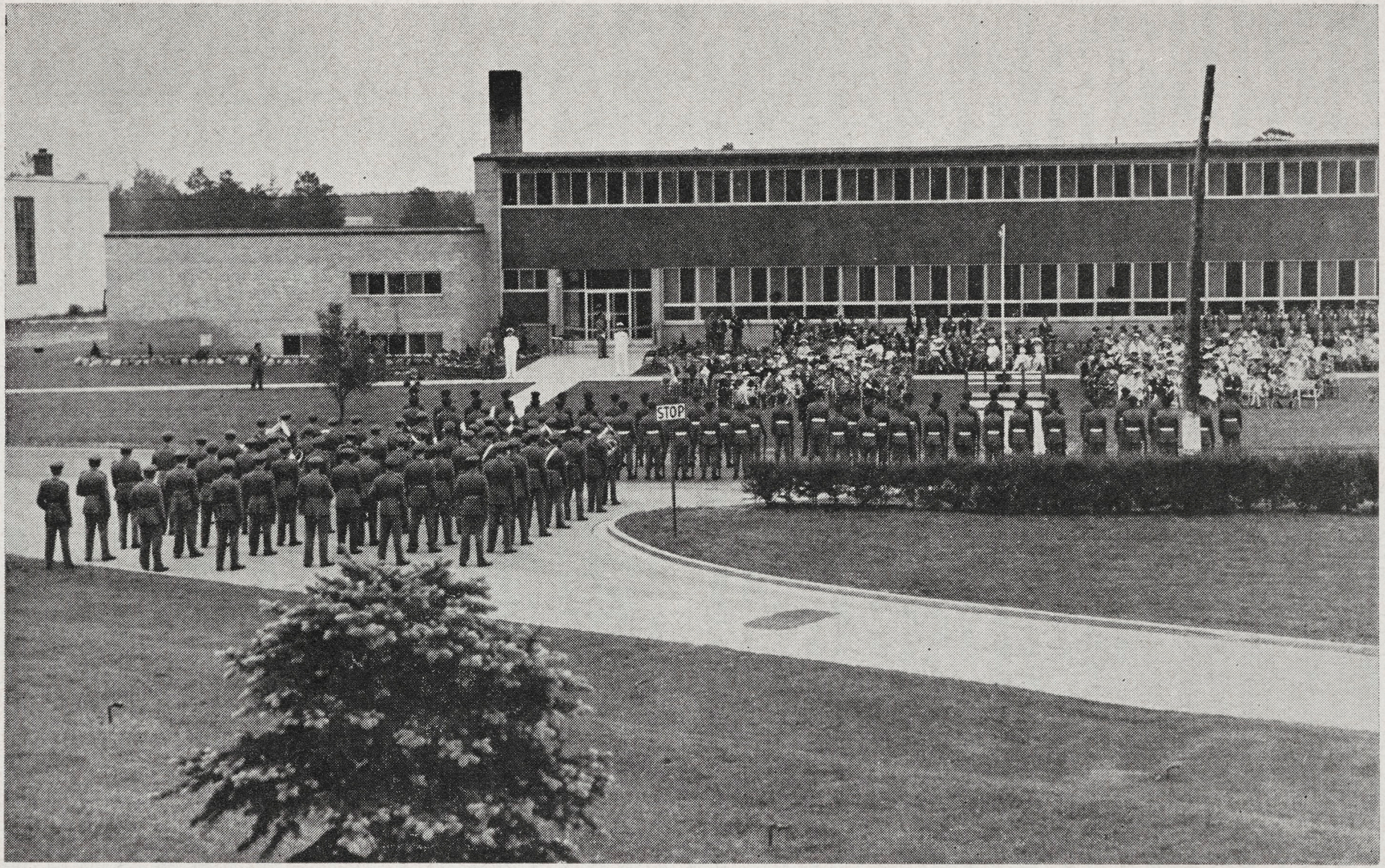
During the early 1950's, two dental units were established in Europe in support of Canada's NATO role. To this present time, they serve the personnel of the Canadian Infantry Brigade Group and No. 1 Air Division, RCAF, in Germany and France.

The RCDC currently has two UN commitments. In 1956 a dental detachment of two sections (now three) was sent to Camp Rafah on the Gaza Strip in the Middle East. The officer in charge of this detachment is also the Senior Dental Staff Officer for all UN forces in this area. Since March 1964, dental detachments have also served on the island of Cyprus in support of the Canadian Contingent there.

The RCDC Today

The RCDC of today has changed in many ways since the years in France, 1914-1918. In order to maintain the high standards expected of it, the RCDC conducts professional and trades training courses, has modern equipment in all clinics and continually plans for improved accommodation.

The RCDC School was moved from Ottawa to a modern and well equipped building in Camp Borden that was officially opened in 1958. The training of RCDC tradesmen is conducted at this school for the trades of technical dental therapist, clinical technicians, laboratory technicians and dental as-



The official opening of the Royal Canadian Dental Corps School at Camp Borden, Ontario, on 13 June 1958.

sistants. The equipment technicians and storemen are trained at No. 1 Dental Equipment Depot, Camp Petawawa.

Dental officers receive their Captain to Major Qualifying Course at the school and are also sent on clinical refresher courses for post-graduate training. Further training is made available at various universities in Canada, the United States, Britain and in Europe. RCDC officers for several years have also attended post-graduate courses conducted by the United States Navy at Bethesda, Maryland, and with the U.S. Army at Walter Reed Army Medical Centre in Washington, D.C. An instructor exchange programme between the U.S. Navy and Army and the RCDC School has developed as a result of the close liaison and relationship between the Dental Corps of both countries.

Various plans have been offered to dental undergraduates as a post-war continuation of a wartime expediency. These plans have granted financial aid for education in return for specified length of service following graduation. The Dental Officer Subsidization Plan (DOSP) now in effect commenced in April 1961. An undergraduate is now offered up to 45 months' free tuition, cost of instruments, supplies and $75.00 per year for textbooks. He may receive 24 months' pay as an officer cadet and 21 months' pay as a 2nd lieutenant. Following graduation he is required to serve for five years with the Corps in the minimum rank of captain. At the present time there are approximately 100 undergraduate students in all dental faculties across Canada who are being subsidized by the Department of National Defence and who will come to full-time service with the Corps on graduation.

The past fifty years has been a period of a great change in the profession of dentistry and, as a direct result, in development of dental services in the Canadian Forces. It is also true that the RCDC can take pride in the role it has taken in bringing about this change and especially so in making Canadians aware of dentistry as one aspect of total health care. The Corps has always been proud of its record of service and this remains as important in peacetime as in wartime. There appears no reason why it should not continue to become an even more enviable tradition in the years to come.

The Most Dangerous Area in the World

"You are About to Enter the Most Dangerous Area in the World — A Public Highway" is a sign used in the U.S. Army's Accident Prevention Programme.

Another device is "Mirror, Mirror on the Wall", with the information: "Behind this door stands the 'Best Accident Preventer'." Curiosity in this case, rather than killing the cat, can keep him alive. When the curious "victim" opens the door of a cabinet bearing this advice, he sees a reflection of his own image, emphasizing the theme that safety is everyone's concern. — *From an article "What's New in Accident Prevention" by Thomas H. Wilkenson in the Army Information Digest (U.S.).*

THE CANADIAN PROVOST CORPS

SILVER JUBILEE FOR PROVOST CORPS

The Canadian Provost Corps, the Army's police force since the early days of the Second World War, observed its silver jubilee 15 June 1965 to mark 25 years of service in peace and war.

Highlight of the celebrations was the unveiling on 13 June of a corps memorial at the Canadian Provost Corps School in Camp Borden, Ontario, by the wartime provost marshal and former commissioner of prisons for the Province of Quebec, Colonel P.A. Puize.

The Corps' Regular Army units—platoons serving with Canadian Infantry Brigade Groups in Canada and West Germany and static units in Canada—celebrated the event with a

In the Second World War: A Canadian Provost Corps pointsman directs traffic past a burning building during the Falaise battle in France, 1944.

Canadian Forces Photograph

In the Middle East: With the pyramids as a backdrop, Sergeant P.B. Reach, Canadian Provost Corps, drives on a desert patrol outside the Egyptian capital of Cairo.

variety of functions, from formal mess dinners and balls to sports days and "cook-outs".

Joining in the festivities were members of the United Nations' provost detachments in Cyprus and Egypt, former service policemen and some 250 Militia policemen in towns and cities across Canada. Regular Army provost corps strength today is approximately 1000 all ranks.

The first Canadian military police

corps was formed in April 1918 with Colonel Gilbert Godson-Godson as Dominion of Canada provost marshal. It was disbanded in 1920 after distinguished service in France during the First World War.

In November 1939, the first active force military police company was formed in Ottawa from Royal Canadian Mounted Police volunteers. After a quick conversion from "mares to motorcycles", they joined the 1st Canadian Division for overseas duty.

On 15 June 1940 the corps dropped the term "MP", adopted the name Provost and received a new badge embodying the Royal Cypher.

About 8000 served in the Army's provost forces overseas during the Second World War. The first to see action was a detachment of No. 2 Provost Company which landed and

Canadian Forces Photograph

In the Congo: Two military policemen with the United Nations Emergency Force investigate a minor traffic accident in Leopoldville, the capital of the Congo. On the right is Sergeant J.E. Hubert of the Canadian Provost Corps. On the left is a constable with the Nigeria Police and next to him is a member of the Norwegian Military Police.

Below: Colonel P.A. Puize, OBE, ED (left) a retired Permanent Force officer who was appointed first Provost Marshal during the Second World War, and Colonel L.H. Nicholson, MBE, a former Provost Marshal and present Honorary Colonel Commandant of the Corps, read the memorial tablet to fallen members of the Canadian Provost Corps after its unveiling at the Canadian Provost Corps School, Camp Borden, Ont., 13 June last. The memorial is situated in "Stewart Square", named in honour of the late Lieut.-Colonel J.R. Stewart, MBE, CD, who served as Provost Marshal following the Second World War and who made a major contribution to the development of the infant Corps.

Another view of the memorial.

fought with Canadian troops at Dieppe, France, in August 1942.

Members of the corps have served since in United Nations, operations in Korea, Japan, the Congo and with truce teams in Viet Nam, Laos and Cambodia, and currently are serving with UN and North Atlantic Treaty Organization forces in Egypt, Cyprus and West Germany.

In Winnipeg, jubilee events on 12 June included the presentation of a plaque to "D" Division of the RCMP, Winnipeg, in recognition of their contribution to the formation of the corps in 1940.

Ottawa's military policemen held an anniversary ball on 11 June.

Service policemen in Halifax paraded to church in Windsor Park where presentations of commemorative plaques were made.—*Information Services, Canadian Forces Headquarters, Ottawa.*

British Army Reform

Since 1938 it has been laid down (in the British Army) as a fixed principle that in future no man should be eligible for a commission unless he had served six months in the ranks. It is interesting and significant of the progressive spirit of the War Office of today to note that this sweeping measure of Army reform originated in the Department of the Adjutant-General and owed nothing to external or political pressure. The rule fulfilled two purposes: first, the road to a commission was now thrown wide open (or even wider, for it had always existed) to every private soldier; secondly, the army officer of the future would carry with him throughout his service a personal and sympathetic knowledge of the point of view and habit of mind of the rank and file. Thus the private would be rendered increasingly aware of the Field Marshal's baton in his knapsack, while the officer would have become familiar, by actual experience, with the knapsack's humbler and more material contents.—*Ian Hay, "Arms and the Men".*

Regimental v. Staff Officer

The feeling between the regimental officer and the staff officer is as old as the history of fighting. I have been a regimental officer in minor wars and realized what a poor hand the staff made of things and what a safe luxurious life they lead. I was a staff officer in the First World War and realized that the staff were worked to the bone to try and keep the regimental officer on the rails; I have been a higher commander in one minor and one major war and have sympathized with the views of both staff and regimental officers. — *The late Field Marshal Wavell.*

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