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BAR is looking for articles for a new series of Special Reports on specific battles and the lessons to be drawn from them, in particular how they relate to the British Army of the 21st Century. If anyone is interested please contact BAR at armyreview@armymail.mod.uk

Cover Photo: Corporal Mark Larnier



Urban Operations

Fools learn from experience, I prefer to learn from the experience of others
Otto Von Bismarck

It is the duty of every soldier to reflect on the experience of the past in the endeavour to discover improvements in his sphere of action, which are practicable in the immediate future.

BH Liddell- Hart Thoughts on War 1944

Before, Dear Reader, you delve into the many fascinating articles in this second volume of the BAR Special Report: Urban Operations, it might be worth reading this short precis on the practicalities of urban operations. Written by Major Matthew Whitchurch it provides commanders with a clear and simple guideline, the dos and don'ts if you will, of conducting warfare in the urban area. (Ed)

Recently there has been a lot of material written around the study of Urban Operations. This short precis hopes to clarify some misconceptions and make the practice of Urban Ops clear.

How then should a commander think about operations in and around urban terrain? Current British Army doctrine states that the future of warfare is highly likely to be in the littoral and urban domains. Such operations will likely include support to civil authorities, both intrastate and interstate, peace support, counter-insurgency, defence engagement, limited and general war. Some people may recall the term, Fighting in Built Up Areas (FIBUA), now known across NATO as: Urban Operations.

What is Urban Operations?

The principles, practices and procedures in ground warfare hold equally true in urban areas as they would in rural settings. The characteristics of urban operations are:

1. **Restricted movement and vision:** *In urban warfare controlling operations is much harder and leadership has to be practiced by everyone from the top down.*
2. **The enemy's cover from view and fire in buildings with clear fields of fire along streets:** *Locating the enemy in these operations is difficult because he is likely to be hiding in buildings and other structures and having vantage points that the attacking force does not. The fighting is close and strenuous with heavy casualties likely.*
3. **The third dimension:** *Moving underground or over rooftops enables defensive points to be bypassed and dealt with later on. In defending urban positions many troops are required to hold a small area. A lot of troops are needed to clear buildings in an offensive.*
4. **Fighting by night:** *Delays, slow progress by attacking troops during the day as they clear building by building and street by street means that more can be achieved in fighting at night. However, the defenders must be exceptionally alert at night if they are to hold their positions. This is especially true against an army that is very adept at fighting at night.*
5. **Protection:** *Fighting in the urban landscape brings its own problems in terms of force protection. Debris, flying glass, falling brickwork, noise means that everyone would have to wear eye protection, gloves and helmets to avoid unnecessary casualties.*
6. **Civilians:** *No matter how hard you try to get the civilians out of the area there will always be some that will stay, no matter what.*

The Proven Approach

History provides several proven approaches to fighting in built up areas particularly with an emphasis on people, property and the press. Some of those approaches are listed below:

- **Try to avoid urban operations:** Success can be achieved by actually avoiding fighting in built-up areas. For example, the Soviet **pre-emption** at Lodz, Poland in January 1945 saw a forward detachment¹ of Regimental strength race ahead of the fighting area and take the vital high ground overlooking Lodz before the German defences arrived. When the Germans did arrive and engaged Soviet troops they decided that setting up a defence in contact was too difficult and withdrew. Lodz is a major industrial town and was taken intact by the Soviets. **This is the best way to carry out Urban Ops.**

The coalition of the first Gulf War in 1991 did not fight in Kuwait City by making it irrelevant through envelopment, proving that manoeuvre and agility are vital for



Fig 1: The dislocation of Kuwait City special arrows indicate the American 101st Airborne division moved by air and where the French 6 light division and American 3rd Armored Cavalry Regiment provided security. Photo: Jeff Dahl, Creative Commons Attribution-Share Alike 4.0 International license, Wikipedia.

1 The Forward Detachment is a force on battalion strength or higher that is sent ahead of the current battle to seize control of vital ground before the opponent is able to resist.

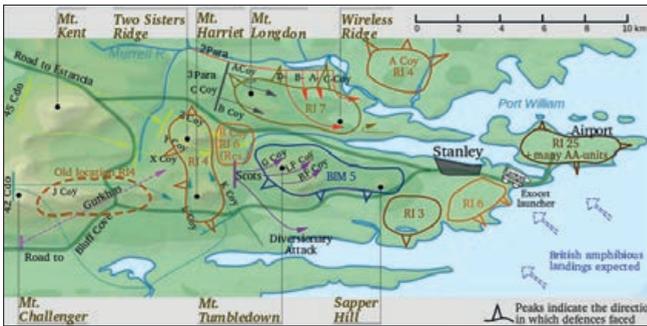


Fig 2: The Battle for Port Stanley outside the town, June 1982. Photo Createaccount (Eric Gaba) Creative Commons Attribution-Share Alike 3.0 Unported license, Wikimedia.

this type of operation. The result was that Kuwait City was liberated with very little damage to **property** or **people**. While there was some loss of life it was a fraction of what it could have been had the city been assaulted. In the Falklands conflict of 1982 the British decided to attack Argentine positions outside Port Stanley, enveloping the town and ultimately forcing the Argentinians to surrender saving life and damage to property. The lesson is this: **To be good at FOBUA (Fighting outside Built Up Areas) minimizes FIBUA.**

- **Human factor:** Most people, civilians and combatants alike do not like the feeling of being surrounded. This can lead to panic and the need to flee.² By allowing the opponent to escape through the passages left open behind him may allow the town or city to be taken with fewer civilian casualties. Silesia in South West Poland in 1945 is a good example of this.

Human nature and historical examples show that few are willing to fight to the death to hold onto a particular position. Therefore the 'parley' can be an effective tool in successfully completing urban operations. This means that once isolation is complete, appealing to the other side to either surrender or leave the area with or without all their equipment can be a very useful way of bringing the fighting to a successful conclusion with limited loss of life. The Israeli Defence Force (IDF) did this in their clearance of Beirut in the first Lebanese war in 1982. They persuaded insurgents of the Palestinian Liberation Organisation (PLO) to take safe passage out of the country. Skill achieved the aim with little or no fighting in the city and with an acceptable level of casualties. In Warsaw in 1944 the Germans held a parley with the Polish Home Army, who realized the Soviet attackers were not going to relieve them and took the German offer of surrender.

² City Fights page XX and the Note 33

- ***If fighting is unavoidable:*** First, do not put man against man. This will produce unnecessary and unacceptable casualties. Second, fire and movement are vital. Put metal before flesh. Third, drive the enemy into the open where he can surrender or be destroyed. Ejecting the enemy from his urban positions through fighting can be done by using a variety of weapons such as introducing flame into buildings by burning or using thermobaric or fuel air munitions. Smoke and CS Gas are useful alternatives to more destructive weapons such as flamethrowers. What weapons are used within this scenario would have to be based on the current Rules of Engagement (RoE) Fourth, isolate the objective and then conduct limited deliberate step-by-step offensive operations using combined arms at platoon level. For example, looking at the Soviet 8th Guards Army in Berlin in 1945 up to trials by the British Infantry in Berlin in 1985 illustrates that a platoon of infantry with two tanks in intimate support works very well. The idea is that the main infantry company supports the platoon with supplies, evacuation of casualties, prisoner handling plus relief in consort with a troop of four tanks with two vehicles providing intimate support and the second pair ready to relieve when required. In this instance, keeping it small pays.
- Here are three slogans that help clear thinking and clear action in urban operations:
 - Metal before flesh - let the weapons do the work
 - Sweat saves blood and brains save both
 - If the Jungle is neutral so is the city

Press, Property And People

These three factors are crucial to fighting in built-up areas because they are of key interest to the world at large and, perhaps most importantly, to politicians. Taking these three factors into account it is crucial to ensure you get it right.

- 1 ***Press:*** Today's technology and social media enables images of fighting to be seen instantly around the world. Therefore every action can be seen and everyone involved in urban operations must be constantly asking ***if what I am about to do is shown around the world, would it help or hinder this operation?*** It just takes one soldier to get it wrong or one action that might show soldiers looting or abusing civilians that can set the entire operation right back to ground zero.
- 2 ***Property:*** As a rule avoiding excessive damage to property during urban operations is wise, not just for combat but also for when the fighting is over. The less damage there is in the town or city the easier the post war



Pictured is a British Warrior Infantry Fighting Vehicle in use during a Joint Expeditionary Force Live Exercise in Salisbury. Photo Peter Davies, Crown Copyright

reconstruction will be. That said, the priority must be avoiding unnecessary casualties because rebuilding a city is relatively easy compared to mending people. For example: look at how well Sarajevo has recovered from the devastation of 1995 to today.

- 3 People:** *Finally urban operations (to varying levels) are wars amongst the people. To evacuate the population before and during the operation is best by a third party like the host nation or the United Nations. If that is not possible then offering safe refuge throughout the fighting is the next best thing. Most people, civilian and combatants alike will be more than happy to get out of the carnage in order to survive. All opponents should be treated in accordance with the Geneva Convention that aids in persuading them not to fight and helps to win through decency.*

For You The War Is Over....

Post conflict urban operations can be summed up as; hold the area and rebuild. Here the main effort is providing rule of law with transition to an improved security sector by the host nation. A key rule of thumb for operations in built up areas is - to allow 20 soldiers per thousand populations. Anything less than that is unlikely to work. Urban operations can take many years or even decades so patience in this case is a virtue.

Further Reading

One of the best works on urban operations is, *City Fights*, edited by John Antal. It is a collection of short case studies with excellent supporting lessons learned.

Questions

The following is a list of questions that any commander who finds themselves involved in urban operations should be asking:

1. *What exactly is the nature of the operation?*
2. *How do the proven approaches outlined above apply to the operation facing us? Pre-emption? Dislocation? Envelopment? Encirclement? Parley and or Reduction?*
3. *What case studies best help us before, during and after? Have we asked for help from the Lessons Team and the Urban Operations Training Advisory Team at Warminster?*
4. *So what are the implications of operating amongst the people? How do we move them out of harm's way? What of those who stay behind?*
5. *How do we win the battle of the media in the host country and especially at home?*
6. *What do we want from the chain of command?*
7. *Have commanders and staff considered the following:*
 - a. *Communications between different forces?*
 - b. *Have control measures been standardised to ensure good combat Identification (ID)?*
 - c. *Effective command needs to be planned out, has this been done?*
8. *What are the National caveats for ROE with the use of particular munitions and levels of engagement (lethal and non lethal)?*
9. *Given the need to minimise casualties how can ROE be adjusted to help?*
10. *Has the coordination of the relevant nations 'comprehensive approach' been considered?*
11. *What of the Host Nation? What can they do to help with: information, material and help by local people?*

FOREWORD

I again warn the commander of all units and formations not to carry out operations in battle by whole units like companies and battalions. The offensive should be organized chiefly on the basis of small platoon groups, with tommy guns, hand grenades, bottles of incendiary mixture and anti-tank rifles.

General VI Chuilkov Comd 62 Army



A Royal Marine from 45 Commando on the lookout for enemy troops inside an old Soviet building during the final battle of Exercise SABRE STRIKE in Skrunda, Latvia. Armed Forces from the United States, Norway and Royal Marines from the U.K played Enemy while Canada, Spain, Netherlands, Denmark, Italy, Latvia were all fighting to defend the base. Photo Leading Photographer Dean Nixon, Crown Copyright



Mao Tse-Tung sitting for a portrait that was published in 'Quotations from Chairman Mao Tse-Tung' 1955. Photo: People's Republic of China Printing Office, released

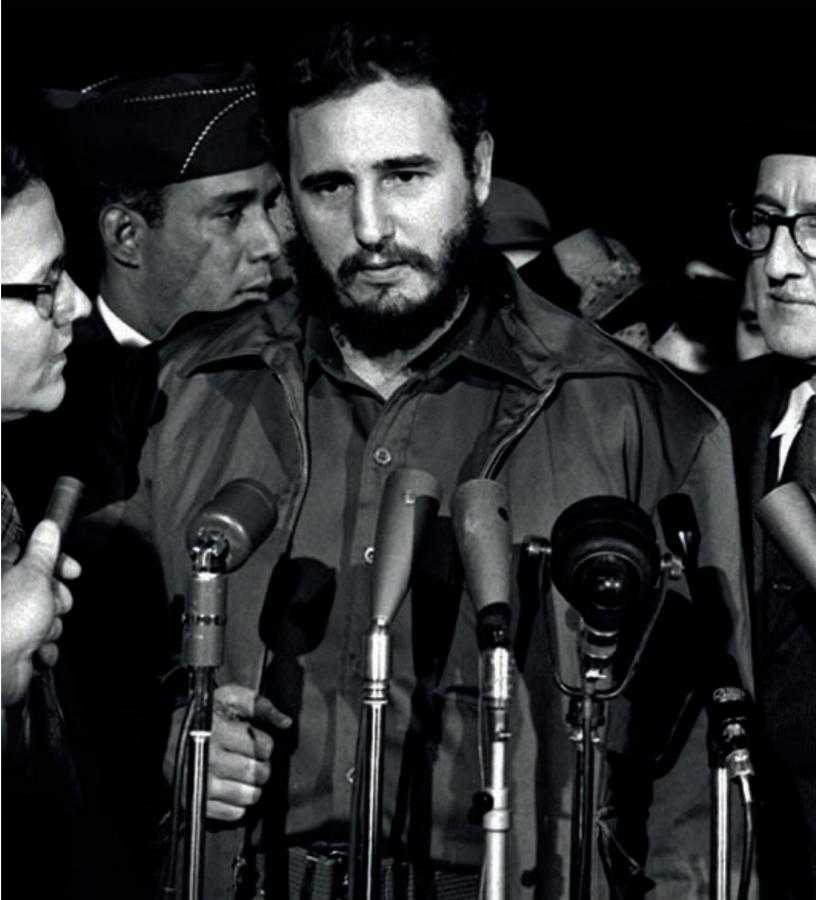
Urban Guerillas: Origins and Prospects

This article by Captain R A Stewart BSc, The 22nd (Cheshire) Regiment, was originally published in BAR 62, August 1979. Much of what it states remains relevant to urban operations today.

Undoubtedly one of Mao Tse-tung's most famous utterances was 'that the guerilla must be to the population as little fishes in the water.' Much as fish can only survive in water of a certain temperature so guerillas can only operate effectively if they have the sympathy and support of the people. Mao believed the masses to be the key to revolution, and in China the masses lived in the countryside. The stupendous success of the Maoist model for revolution within China seemed to bode well for revolutionary situations elsewhere. Guerilla warfare *a la Chinois* required an insurgency to be based on the masses in rural areas. The chances of its success in many Third World countries were felt to be particularly favourable in the early 1950's.

Mao advocated the full mobilisation of the population. On 27 January 1934 he stated '*Revolutionary war is a war of the masses; it can be carried out only by means of mass mobilisation and by relying on the masses.*' Guerilla tactics were the essential tool with which to achieve a successful revolution. In his *On The Protracted War* (1938) Mao made first mention of his now familiar three-stage theory. The 'people's war' must go through three stages of insurgency prior to taking power; these are the passive, active and finally counter offensive phases. Mao's revolution was to be rural-based and towns were to be ignored until the last stages of the campaign. The countryside was to rise up, surround and isolate the cities, and then finally pick them off one by one. Many expected all wars of liberation to follow the Chinese pattern closely. In the event, little of the sort happened. Some insurgencies (like Greece) failed in the counter-offensive stage, while others retrogressed from the active to the passive stage (Malaya). The Vietnam War became a focus of particular attention over the regional applicability and validity of Mao's theories. But it was in fact notably different from China's long civil war. The original Vietminh revolution was not a civil war, but a war of independence against a colonial power. The North Vietnamese, from a very early stage were able to conduct more conventional operations, with larger units, and to place less reliance on small scale tactics and guerilla operations. Perhaps it is worthwhile defining guerilla warfare. In the context of this article it is best defined by Robert B Asprey as '*... a type of warfare characterised by irregular forces, fighting small scale, limited actions, generally in conjunction with a larger political military strategy, against orthodox military forces.*'¹ Mao's doctrines enabled him to win the bloodiest civil war in the twentieth century. His insights were perfectly adapted to the subjective conditions confronting him, and were in the very best traditions of real politik and the age-old political/military wisdom of China. Mao's very great contribution was to define guerilla warfare as a military means to a political end in an agrarian context.

1 Asprey, Robert B., *War in the Shadows*, Vol 1, p xi



Fidel Castro arrives at the MATS Terminal, Washington DC April 1959. Photo US Library of Congress, Prints and Photographic Division, Released.

Fidel Castro thought much along Maoist lines when considering guerilla warfare. After all it was he who stated ‘. . . the city is the graveyard of the revolutionaries.’ Like Mao, Castro believed that the revolutionary countryside should be used against the imperialist cities. Mao used space to yield time, and Castro made a similar attempt at this in Cuba. However, Castro was quick to learn that Cuba was in no way spatially analogous to China. Thus he came to place less emphasis on permanent bases and gave additional attention to mobility to avoid detection. The Fidelistas developed the ‘foco’ idea that stressed the importance of strategic mobile forces that constantly changed location. The ‘foco’ concept made the guerilla base into the territory through which the revolutionaries happened to be moving at the time. Only in the latter stages of the war did the Cuban guerillas

establish fixed security zones in the centre of the Sierra Maestra from which to operate against Battista's forces.

Although not exactly like the Chinese model², the Cuban revolution seemed to substantiate further the belief in the supremacy of the countryside over city for revolutionary purposes. The implications of this seemed to bode ill for *status quo* - particularly in South America. Che Guevara was one among many who pointed to the significance of the Cuban 'victory':

*The armed victory of the Cuban people over the Battista dictatorship was not only the triumph of heroism as reported by the newspapers of the world; it also forced a change in the dogmas concerning the popular masses of Latin America. It showed clearly the capacity of the people to free themselves by means of guerilla warfare from a government that oppresses them.*³

Guevara believed that the Cuban revolution had contributed 'three fundamental lessons' to the conduct of revolutionary movement in Latin America. They were:

1. *Popular forces can win against the Army.*
2. *It was not necessary to wait until all conditions for making revolution exist; the insurrection can create them.*
3. *In underdeveloped America the countryside is the basic area for armed struggle.*⁴

It is evident that Guevara believed that a few tough and dedicated men could start a revolution without waiting for the economic and social conditions to be suitable. In the decade that followed the Cuban revolution there were a series of peasant revolts and attempt to set up guerilla 'locos' throughout South America. In the main they turned out to be dismal failures. The death of Guevara in the hill around Vallegrande in Bolivia on 8 October 1967 symbolised more than anything else the failure of the rural guerilla movement as whole. Guevara had forgotten the cardinal Maoist principle and paid for it with his life. After all, 'peasants and rural guerillas in countries as lightly urbanised as Venezuela and Argentina are no more likely to bring about revolution than Scots fishermen and Norfolk sheep farmers in Britain.'⁵

2 *Which even the Chinese themselves were prepared to admit – see Huck, Arthur, The Security of China, p 52*

3 *Guevara, Che, Guerilla Warfare, opening words*

4 *Ibid, p 13*

5 *Moss, Robert, Urban Guerillas, p 159*

The emphasis for revolution was about to switch to the cities. It was in them that the cult of the urban guerilla was to emerge in the late 1960s based at least in some part on the Guevara assumption that revolution could be made even if the conditions were not ripe for it.



Popularized cropped version of Guerrillero Heroico ("Heroic Guerrilla Fighter"), an iconic photo of Che Guevara at the funeral for the victims of the La Coubre explosion. Photo Alberto Korda, Released

Carlos Marighella, the Brazilian urban guerilla leader killed in 1969, wrote the *Urban Guerilla*. In this document Marighella argued that the main object of terrorist operations in cities was the creation of a 'climate of collapse' in which the morale of both civilian and military elements of the government would evaporate. He clearly does not see the city as a graveyard for revolutionaries but rather a battleground where his formula of revolt leading to repression, which in turn leads to civil war, can work. Marighella thought that the countryside had a part to play, but that the conditions throughout the world had now swung in favour of city revolution.

In this he may well have been right. No revolutionary theorist can ignore the people. The Tupamaros put it this way: 'where the population is there resides

the revolution.’ Revolution cannot take place in a vacuum. In China Mao's model placed emphasis on the countryside because that was where the masses lived. Castro made similar deductions. On the other hand Guevara's Bolivian venture failed because he had become a fish out of water. The revolution may well have been there but the people certainly were not. Marighella urged the case for cities because he clearly saw that was where the majority of the people lived. Through the ‘loco’ operating in the back streets and tenements of the cities, the insurgent movement would be able to survive and fight a war of attrition similar to that fought by guerillas operating in a rural area.⁶ Furthermore the subjective situation in the cities was getting very ripe for revolution.

Cities of the Third World are becoming like ‘. . . saturated sponges, mopping up the people that the land can no longer provide for faster than they can absorb them.’⁷ The visible results of this are slums, shanty towns and squatter camps that have cropped up like fungi around the outskirts of most Third World cities. These cities are growing at a rate of between 3 and 8 per cent a year. In some instances growth is even quicker than this; for example between 1963 and 1968 Saigon is reckoned to have doubled in size.⁸ The growth of Third World Cities is often compared to the process of urbanisation in Europe and North America in the nineteenth century. However the average rate of urban growth in Europe during the peak period of this urbanisation was only 2.1 per cent annually. Furthermore, in most contemporary Third World cities this stupendous growth is taking place without industrialisation. Failing to find jobs in industry most of these rural migrants have been reduced to little more than begging. Marx and Engels agreed that members of such an ‘underclass’ could only be ‘*absolutely venal and absolutely brazen*’, wholly concerned with the arid routine of eking out a living.⁹ Thus they were certainly not the ‘stuff’ of future revolutionaries. This is not the view shared by contemporary writer Frantz Fanon who saw that these ‘. . . hordes of starving men uprooted from their tribes and their clans, constitute one of the most spontaneous and most radically revolutionary forces . . . This lumpenproletariat is like a horde of rats; you may kick them, throw stones at them, and despite your efforts they will go on boring at the roots of the tree.’¹⁰

The slum dwellers of the Third World may well be in a saddle position between peasant and urban proletariat. Douglas Bravo, a Venezuelan guerilla leader, once commented:

6 Baylis, John, writing in Baylis et al, *Contemporary Strategy*

7 Moss, Robert, *Urban Guerillas*, P 130

8 Huntington, Samuel P., *The Bases of Accommodation, Foreign Affairs*, 1968, p 648

9 Marx and Engels, *Selected Works*, P 584

10 Fanon, Frantz, *The Wretched of The Earth*, p 103

*The floating population of Caracas cannot be described as urban, since the 300,000 men who live in the ranches of the city have brought with them typically peasant customs and habits. It has proved impossible to rid them of their peasant, rustic mentality. Apart from this, the people are unemployed, they do not work, they have not yet entered industry and cannot be described as working class. They are neither peasants nor workers; they have never worked in a factory and in some cases are not classified as unemployed.*¹¹

The situation begs the question as to how long such a state of affairs can last. There must be a limit to the flotsam and jetsam that a society can viably carry. The city poor may be wretched, but they do hear or see the occasional radio or television, fine clothes passing them in the street, and big cars passing by. Martin Oppenheimer in *Urban Guerilla* maintains that slum dwellers are ‘. . . . basically conservative so long as life is barely liveable’, but that they will catapult to revolution ‘. . . . the moment that life is no longer seen as liveable for whatever reason.’¹² It is of interest to note that in both Latin America and Afro/Asia, illegal squatters are showing increasing effectiveness in defence of their tiny plots. Thus it is more than possible that slum fringes contain volatile mass which may explode during periods of social transition or economic recession. But the way in which this will happen has yet to be mapped out.

There are other conditions which appear to favour the expansion of urban guerillas. Not the least of these is the realisation that the real guerilla may have been outclassed by his counter revolutionary opponents. Carlos Marighella was one who fully realised this:

*Guerilla warfare in the countryside is a desperately tough business, and all the evidence suggests that at present the counter-insurgency experts - in Latin America at least - are infinitely more adept at conducting a counter guerilla war than guerillas are at waging their own form of warfare.*¹³

Increasing technological improvements have tended to aid the counter revolutionaries in their task of isolating rural fish from their sea. In the cities on the other hand it is very difficult to isolate guerillas from the people and their supplies. Furthermore governments have tended to have few well-trained anti-urban guerilla forces. The perils of not having specialist counter-terrorist forces in reserve were illustrated by the Munich massacre of Israeli athletes on

11 *Ibid*, p 136

12 *Oppenheimer, Martin, Urban Guerilla*, p 42

13 *Marighella, Carlos, For the Liberation of Brazil*

5 September 1972 when eight Black September terrorists gunned them down at Fustenfeldbruck airfield. The hostages might well have stood a better chance if police training, equipment and motivation had been of a higher order.

The lessons of Munich may have struck home. The Germans have a counter-terrorist squad drawn from the paramilitary Border Defence Force which includes chemical and explosive experts. Within Britain it seems there may well be some kind of division of labour in this respect between the police Special Patrol Group and the Special Air Service. It was Black Power leader Stokely Carmichael who advised potential guerillas to 'Go to the city - the eye of the octopus'. His analogy indicated the guerilla's awareness that cities are the nerve centres of states and thus may well be the point at which governments are most vulnerable to pressure. Being at the eye of the octopus does have other advantages for a guerilla. He is close to the seat of political action. His reaction time to government moves is quicker because he hears about them sooner. He can even give propaganda news conferences following hard on government actions. He is in daily contact with the organisation and his communications are excellent. Finally he can be as anonymous as he likes, and this point needs further consideration.

Urban guerillas can walk openly in city streets without too much fear of recognition. They can get lost in the city crowds. Guerilla fish look very much like any other fish in the shoals. Moreover the local policeman, who knows most of the



Pictured is a British Warrior Infantry Fighting Vehicle guarding an FOB during a Joint Expeditionary Force Live Exercise in Salisbury. The British Army's airborne forces were testing their ability to fight alongside mechanised infantry from key European and NATO allies. 16 Air Assault Brigade was deployed in command of a highly capable multinational force on the two-week long Joint Expeditionary Force Live Exercise (JEF Livex) on Salisbury Plain. Photo Peter Davies, Crown Copyright

residents in his area by sight, is a casualty of the impersonal life of the modern city. He has no place among high rise apartment blocks, or, for that matter, among immigrant communities who tend to regard anyone in uniform with disgust. It is significant that 'wealthy' urban terrorists like the Baader-Meinhof gang in Germany chose modern apartment blocks as their favourite haunts - the kinds of places where rich men keep their mistresses and few questions are asked! In the absence of patrolling police - who in any case will almost certainly be forced off the street once the urban guerilla campaign gets under way - the authorities will have to rely on more formal ways of checking out their populations. Random identity checks, road blocks, searches, and their like are bound to cause ill feeling among innocent citizens who have to watch security forces tramping through their houses. Thus, above all else, counter-guerilla operations in urban areas require restraint. It is all too easy for soldiers to alienate the population while conducting search operations in crowded slums.

The primary aim of all counter guerilla operations must be to isolate insurgents from the civil population - to drain the water from the fish. But it is exactly this that is difficult to achieve and tends to give the urban guerilla the advantage. Three techniques for detaching terrorists from their supports will now be briefly discussed. These are persuasion, protection and, finally, physical isolation. All three are widely recognized counter terrorist tactics and they would probably prove to be decisive in any campaign if their success was assured. Unfortunately, what may be easy to suggest in theory is normally almost impossible in practice.

To persuade people to back the government, necessarily and immediately involves the media. In democratic societies where freedom of the press exists, any security force action which is any way disagreeable will be picked up and broadcast by television, radio, newspapers and social media. Indeed, one of the heaviest burdens that democratic societies have to bear is the fact that government action will be judged by moral and legal standards which the terrorists do not apply to themselves. In effect, public relations experts are denied the power to censor or apply a D Notice on a television interview with a terrorist chief. In less sophisticated societies, the authorities may not suffer from the same restrictions and press controls may be applied. But such methods have the effect of encouraging wild rumours and a distrust of official sources. Thus, in whatever way counter-terrorist forces handle their press relations, the advantage remains with the urban guerilla.

The second element is weaning the population away from urban guerillas by affording the masses protection. All well organised guerilla movement practise coercive terrorism to some extent. Defectors and informers, as well as the victims

of 'revolutionary justice' may all be punished in similar ways. Thus the Moslem national Liberation Front (FLN) in Algiers cut off the noses of Arabs found smoking in the Casbah, while the Provisional IRA beat up drug traffickers and petty criminals in the Catholic urban areas of Northern Ireland. In order to succeed, Security Forces must guarantee constant protection against intimidation. This will probably be exceedingly hard to achieve, as it is likely that the police may be viewed as an alien force. Until police forces are truly an extension of all sections of society, the chance of their full acceptance by likely revolutionary supporters are not good.

The physical isolation of guerillas from their supporters was partially achieved by the resettlement programme in Malaya and the system of strategic hamlets in Vietnam. However, any scheme that force people to leave their home is naturally unpopular and in an urban context is impractical. A system of cordons and picket lines, with army observation posts, may be the most that can be done. There is little real hope that urban guerillas can be isolated from the people. On the other hand there is very great danger in allowing so-called no-go areas, such as those of Londonderry in 1972. In practice this meant that Catholic householders in the Bogside and Creggan, whatever their private feelings about the Provisional IRA, were simply not in a position to be free agents. There was much 'freer' flow of information to the Security Forces after Operation Motorman in August 1972 when the Army re-entered the no-go areas of Londonderry. The operation itself illustrates yet another advantage which the urban guerilla may have - the desire by the security forces not to cause a bloody confrontation simply to get hold of guerilla leaders. Prior to Operation Motorman news was leaked that the Army intended to move back into the no-go areas, thus allowing Provisional IRA leaders and gunmen to slip away across the border. The Army preferred to lose its prey rather than struggle with Catholic crowds so visibly on television and in the newspapers.

In the minds of many, it is possible that urban guerillas attain a false glamour. The young, in particular, tend to associate with revolutionary causes. After all, West Germany's Baader-Meinhof gangs were almost all affluent children of the upper middle classes, and they became notorious (famous) for their opulent lifestyles. Furthermore, there was little ideological backing to the movement. In a pamphlet written by Ulrike Meinhof entitled *The Concept of the Urban Guerilla*, the group dubs the workers as politically retarded, left wing intellectuals as useless pedants, calls for launching a terrorist campaign regardless of existing social conditions, and presumes that such a campaign will miraculously unify the Left. A revolutionary without a political point might more accurately be described as a terrorist.

Thus pontification on the techniques for defeating revolutionaries is easy. But it is practical execution of the techniques that invariably never comes up to par. For example, all counter-terrorist theorist point out that intelligence should



The Operations Room of 40 Royal Marine Commando during the initial phase of Operation MOTORMAN IWM (MH 29783)

always be centrally controlled. All Security Force agencies in Northern Ireland knew it and yet, ten years after the troubles began that aim had not been achieved.

Nevertheless, many maintain that revolutionary guerilla warfare (both rural and urban) has largely had its day. One writer goes so far as to entitle his book *Autopsy on Guerilla Warfare*.¹⁴ But this does seem rather presumptuous. Certainly the subjective economics and social conditions of the Third World may be making guerilla warfare in the countryside less possible. Rural guerilla warfare has not been the overwhelming success that it was once claimed it would be. But it would be a mistake to write it off just yet. It is worth remembering that Mao always claimed time to be on his side; the war can be very protracted and reverses accepted. Time is on the side of the revolution.

Revolution must follow the people if it is to succeed and with increasing urbanisation throughout the world it would be sensible to expect a continuing growth of urban revolutionary action. Yet no guerilla movement in the cities has so far been able to move from the position of creating a great deal of disturbance to that of actually achieving political power. With the lone exception of the Tupamaros, none of the contemporary urban guerilla groups have good prospects. It might be that the urban guerilla is dangerous for what he inspires rather than what he achieves. He could help the dissolution of public willpower, an increase in politically acceptable extremes, and even the commencement of a right wing backlash that hits out indiscriminately. If the city was the graveyard of the revolutionaries, we should have expected urban terrorism to start its decline by now. Yet this does not appear to be the case. Whether the city will become their graveyard in the future will depend on the will and ability of both governments and people. The battle continues and its outcome is in the balance.

14 See Chalmers, Johnson's *Autopsy on Guerilla Warfare*

ARTICLES



Ulrike Meinhof, German journalist and member of the RAF (Red Army Faction), 1964. Wikimedia Commons



A vehicle Check Point on the road to Lifford in Eire manned by the Royal Welch Fusiliers in January 1974. The town of Strabane is seen in the background. © Crown copyright. IWM (MH 30549)

*Lieutenant General Sir Brian Horrocks (1895-1985):
Horrocks, commanding XXX Corps, with his Field
Commanders in Rees, on the east bank of the Rhine*

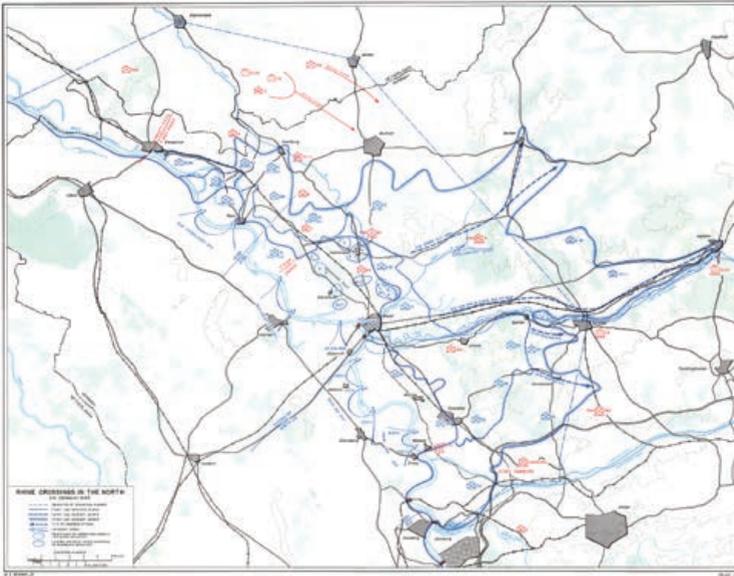


Street Fighting in Germany 1945

*This article by Major N K P Hope Royal Signals, originally published in BAR 81
December 1985 provides a detailed account of two days of street fighting in the
German town of REES.*

The action took place during Operation PLUNDER, the Rhine Crossing, between the 23rd and 25th March 1945. The principal contestants were the 1st Battalion Gordon Highlanders and the 12th Parachute Battalion of the Wehrmacht.

By mid-March 1945, German resistance West of the Rhine had ceased and the Allied Forces were poised to force a passage of the Rhine itself. 21st Army Group under Field Marshal Montgomery were to cross on a twenty five mile front with XXX Corps, under General Horrocks, responsible for the sector from EMMERICH to REES. The Crossings around REES were given to the 153rd Brigade of the 51st Highland Division. The Brigade was commanded by Brigadier J R Sinclair DSO and had three infantry battalions; 5th Battalion Blackwatch (5BW), 1st and 5/7th Battalions of the Gordon Highlanders (1 and 5/7 Gordons). 1 Gordons, commanded by Lieutenant Colonel J A Grant Peterkin DSO, were to clear the streets of REES itself and it is this particular operation that is described here.



Map 1: Rhine Crossings in the North 24-28 March 1945. Photo: Wikimedia Released

Prelude

At 1700hrs on the evening of the 23rd the Divisional Fire Plan began. It was to continue until 2100hrs that evening when the first troops of 5BW commanded by Lieutenant Colonel B C Bradford DSO, MBE, MC made the initial landings on the far bank of the Rhine. At this time 1 Gordons, as reserve battalion of the 153rd Brigade, were still in the concentration area at MARIENBAUM. However, D Company, commanded by Major R W (Casey) Petrie, and a composite party made up of elements from each company, commanded by Major B D M (Bruce) Rae MC, were

to cross in Buffalo Landing Vehicles Tracked (LVsT) with 5BW. The LVsT came from 4th Battalion the Royal Tank Regiment (4 RTR), commanded by Lieutenant Colonel A Jolly DSO. D Company were to capture and hold the area around some farm buildings about seven hundred metres West of REES. These were to be used initially as a far bank concentration area and subsequently as Battalion HQ. The composite party were to lay out personnel and vehicle assembly areas at the disembarkation points, sign the route to the concentration area, lift any mines on the route and then guide their respective companies forward as they landed. At 2015hrs on the 23rd, the Battalion left the concentration area and marched forward to company waiting areas. These were established near the embarkation point and had trenches prepared in them so that troops did not have to wait in the open.

At 2200hrs D Company landed on the far bank. The returning Buffaloes had difficulty in getting out of the river over the muddy banks, and subsequently drifted down-stream away from the embarkation point before going ashore. As an expedient, the Buffaloes that had dropped 5/7 Gordons to the East of REES, and upstream of 1 Gordons, were brought down to try and recover the lost time. By 2300 B Company had also landed on the far bank. D Company had by now secured their first objective, the farm buildings, although some defensive positions had to be vacated when the thatched roofs of one of the buildings were set alight by enemy tracer fire. The Company had lost three men on Schu mines, used as booby-traps amongst the buildings.



Crossing the Rhine 24 -31 March 1945: An Achilles tank destroyer on the east bank of the Rhine moves up to link with airborne forces whose abandoned gliders can be seen in the background. IWM Released

By midnight Battalion Tac HQ was established on the far bank. OC B Company, Major George Morrison DSO, had gone forward with his batman to do a recce of the dyke and bank (Bund) that lay across the route to his company's first objective. They were on their way back along the riverside track, to D Company, when they were fired on from close range by a solitary German sniper hidden in a track-side bush. The Batman fell dead but Major Morrison managed to shoot and kill the sniper before he got his second shot off.

Perimeter Battle

So far enemy shelling had only been light, but as B Company prepared to move away at 0030 hours on 24th, the concentration area was subjected to heavier shelling. The IO, Captain K J R McDonald, sustained wounds to his face when several mortar bombs fell within the vicinity of Battalion HQ. B Company were to cross the Bund and clear the housing estate immediately to the North West of the town. This would then provide C Company with a secure left flank for their subsequent assault on the outskirts of the town itself. By 0500hrs A Company had also landed. With their arrival, the Battalion was now complete on the far bank; the crossing itself had not cost a single casualty. At 0055hrs B Company reached the Bund without incident, although they were exposed to fire from the South West corner of the town. This had been achieved by calling down a prearranged artillery concentration and a mortar smokescreen from the Royal Ulster Rifles who were holding the home bank. The Bund was cleared relatively easily by attacking the previously located enemy positions with grenades. B Company crossed the Bund and pursued the enemy survivors as they fell back into the defensive perimeter of the housing estate.

By 0215hrs B Company had managed to get in amongst the houses and gardens of the estate under the cover of darkness. Enemy resistance, however, was very determined. They were in company strength and split up into small fire teams, each occupying individual houses. The open nature of the area would have put the defenders at risk if they had attempted to withdraw under fire. As a result, they fought hard for each house they occupied and only surrendered in small groups. It became a very time-consuming operation and eventually about seventy prisoners of war were captured in just this one area.

At 0400hrs, C Company, commanded by Major Alec Lumsden MC, were able to pass through the B Company area along the Southern edge of the housing estate. As they approached the town they ran into heavy sniper and machine gun fire from the Western edge. By 0445hrs, one platoon of C Company were in the Western outskirts of REES and meeting stiff opposition. The enemy were using anti-tank rockets at close range as anti-personnel flame throwers. As a section

of Gordons entered a room of a house they would be fired on by Panzerfausts from adjoining rooms, through holes in the wall. When they rallied and counter-attacked, they would find the defenders had escaped through well-prepared tunnels in the cellars.

Both B and C Companies were still spread out in the open, amongst the housing estate and the ground North of the Bund between the estate and the outskirts of the town. Opposition was still resolute and, by 0500hrs., Major Lumsden had an additional problem. His rear platoon had been hit by a salvo of shells as they bunched up whilst crossing the Bund. The platoon commander, Lieutenant Titterton, was dead and there were twelve other casualties. To make matters worse, the platoon had split up and gone to ground on either side of the Bund. So Major Lumsden used his radio to call for a spare officer to be sent up from FAA and then asked Major Petrie, OC D Company, to get the remainder of his last platoon pushed over the Bund. When asked how things were going, he admitted that it was a bit sticky, but as it would soon be daylight things might change - he was right.

First light came at 0537hrs and with it the advantage switched decisively to the enemy. They were now able to bring down accurate sniper and machine gun fire on both B and C Companies. By 0600hrs the C Company position had been jeopardised by a group of Germans moving on to its left flank. B Company, who were still clearing the housing estate, had been unable to keep up with the C Company advance. OC C Company obtained permission from Lieutenant Colonel Grant Peterkin to withdraw. There was a sharp exchange on the radio between Major Lumsden and Major Morrison, and eventually C Company held on. It was about this time that Major Morrison, whilst breaking into a house through the front door, was bowled over by a German coming out. The German was a giant of a man, a parachute regiment sergeant major, carrying a Schmeisser sub machine gun. To everyone's surprise it was the wiry Scot who got up from the ensuing struggle. Soon afterwards the resistance in the housing estate crumbled and the left flank of C Company was re-secured. By 0700hrs B Company had almost completed their initial task. Having cleared the housing estate, they turned East towards REES and pushed on as far as the cemetery at the edge of the town. Here they went firm as flank protection for the subsequent operations of C Company.

Street Battle-Phase 1

By 0800hrs C Company were completely inside the town and meeting determined resistance from an enemy fighting from well-prepared and concealed positions. REES was in a state of ruin and chaos. Houses were shattered, streets blocked by craters and rubble and the defenders were using, to good advantage, tunnelled ways through the rubble of which the Gordons were completely unaware. There were



*Airborne troops study a sign outside Hamminkeln during operations east of the Rhine, 25 March 1945
© IWM (BU 2292)*

many individual acts of bravery throughout this confused 'close-quarter' phase of the battle. However, the contribution made by Private Blackman, of B Company, is particularly noteworthy. He narrowly escaped death when he was shot at by a German using a Panzerfaust as he was looking out of a window. He set out there and then on a personal vendetta, which was to continue to the end of the war, in search of the German who had shot at him. The PIAT was the British equivalent of the Panzerfaust and, by this stage of the war, had earned the reputation of being more dangerous to the firer than to the target. Despite this, Blackman began to fire his PIAT at any German he saw. This was to have a salutary affect on the general resistance in his immediate vicinity. He was, in due course, awarded the DCM in recognition of his actions in REES.

At 0950hrs on the 24th, the Divisional Commander, Major General T G Rennie DSO, was killed by mortar fire whilst driving to 152nd Brigade HQ. This immediately increased the pressure on the brigade commanders as, for a short time, they came more immediately under XXX Corps command and received the personal attention of General Horrocks. At 1000hrs C Company arrived at their objective in the town. During this time, D Company, having been relieved of rear area security by A Company, exploited Eastward along the river bank without meeting any opposition and were able to link up with C Company within the town

itself. Unfortunately, one of the platoon commanders of D Company, Lieutenant Rodger, and his platoon sergeant, Sergeant Matthews, had been killed by a shell whilst sheltering in a German trench on the North bank. This was a particularly cruel blow to the Company as Sergeant Matthews was one of the very few senior NCOs who was experienced enough to act as platoon commander.

By 1030hrs, A Company, having moved to the South West corner of the town, was able to relieve D Company and set about keeping the captured streets clear of the enemy. Meanwhile, D Company once again pushed on along the river bank and managed to clear as far as the main square. By 1100hrs both C and D Company were making good progress in a joint effort to clear the town of the enemy. They had now been identified, from prisoners of war, as being made up from a battalion of 8th Parachute Division and a Home Defence Unit. At mid-day on the 24th B, C and D Companies joined up in the town. The area of the town to the West of the main North South lateral road was now clear of enemy and the Battalion had consolidated along a four hundred metre front about fifty metres to the West of this road.

Street Battle-Phase II

At 1300hrs the Commanding Officer ordered A Company to move up and occupy the rubble along the edge of the main road. However, a recce by Major Rae revealed that this area was dominated by the houses on the East side of the road. After a fighting patrol reported that the area of the rubble was clear of enemy, it was decided to leave A Company in its present position. At 1500hrs the Brigade Commander ordered the clearing of REES to continue 'Without pause throughout the night if the operation should take so long. At all costs, it must be cleared by first light on the 25th.' 5 BW would assist by clearing all of REES to the North of the station road and carry out a company attack on the railway station at 2300hrs on the 24th.

The Commanding Officer asked if the operation could not be postponed until half an hour before first light as a night clearing operation through the rubble of REES seemed impossible and the troops, who had now been awake for over twenty four hours, needed to rest. Such a delay could not be sanctioned. The Corps Commander wanted REES cleared as a matter of highest priority. Until this was achieved, the enemy artillery observation posts concealed within the town could prevent, or at least severely hinder, the construction of the bridges that would allow armour and heavy artillery to cross the Rhine. By 1630hrs it became clear that the 5 BW plan entailed a wide sweeping approach to the station, and that the attack was more likely to occur at first light on the 25th. The Commanding Officer decided on his own initiative to delay the start of the Battalion plan until midnight of the 24th.

Throughout the evening, the enemy artillery concentrated their fire on the bridging operations on the South bank of the Rhine, whilst mortar fire was directed on to any troops in the open on the approach to REES. The Cathedral and the Mill Tower within the town appeared to be their principal artillery observation posts.

Dusk fell at 1900hrs on the 24th. In the intervening hours, company positions had been consolidated and isolated pockets of enemy cleared from behind the forward positions so that they could not interfere with the night operations. By 2100hrs, night operations had officially started. The Battalion, however, was still resting, so Brigade HQ was kept content by a series of progress reports indicating 'going slowly according to plan'. Shelling of the Western end of REES and the river bank by heavy German guns continued well beyond 2200hrs. 5 BW reported that their operation had started and progress was satisfactory, although there was some opposition.

By 0001hrs on the 25th March, twelve infantry battalions of XXX Corps had been brought over the Rhine by Buffaloes and approximately thirty amphibious Sherman DD tanks of the Staffordshire Yeomanry had also crossed independently. REES became the focal point of the divisional assault as the artillery fire being directed from there was disrupting supply routes. In addition to this, 5/7 Gordons, having cleared the island immediately East of REES during the preceding twenty four hours, were pinned down on the island by heavy mortar fire. This meant that they were unable to contribute to the effort by crossing the Alter Rhine and thus entering REES from the East.

At 0020hrs 5 BW reported that, with the exception of the area of the station, the North of the town was clear of the enemy. At 0100hrs A Company 1 Gordons moved off to occupy the rubble in the vicinity of the main lateral in preparation for operations that morning. Thirty minutes later they had completely occupied the central area of the lateral down as far as the market place. At 0140hrs 5 BW reported slow progress against the determined enemy established in the top floors of houses in the vicinity of the station and post office.

At 0200hrs, C Company 1 Gordons began their clearing operations in the Southern part of the town and initially met surprisingly little opposition. By 0405hrs, C Company had cleared all the streets of enemy up to the edge of the market place. However, by 0534hrs, first light, A Company had still been unable to cross the lateral because of the crossfire generated by the fire-fight around the station.

C Company reported a lot of snipers in the area of the market place and the cathedral square, which made any advance in that direction appear suicidal. By 0650hrs, C Company had turned south, away from the square, and set about crossing the market place in order to clear down to the river bank. It was here that the Gordons were first able to play their trump card. One troop of 454 Mountain

Battery from 3rd Mountain Regiment, commanded by Lieutenant J T H (James) McNair Royal Artillery, was attached to the Battalion for this operation. Their 3.7 inch mountain guns carried in a Weasel were the only artillery that could be transported in a Buffalo. So, until the bridges were complete, these were the only heavy calibre guns available for street fighting. The amphibious Shermans could not negotiate the rubble in the town but the 3.7 guns could be dismantled and man handled into position. Sniper fire was coming from a building about one hundred metres away in the South East corner of the market place.

Lieutenant McNair had not been in action before, but ably assisted by his troop sergeant, Sergeant White, they set about impressing Scots and Germans alike as they brought a gun rapidly into action in clear view of the enemy. The gun was fired. In the excitement, the range drum had been set incorrectly and the shell burst short of the target. The snipers no doubt believed that the next shot would be closer, as all enemy firing in that vicinity ceased immediately, signalling another withdrawal. As the fire fight around the station became more localised, A Company were able to cross the main lateral.

By 0700hrs they had captured the block of buildings immediately to the West of the main square and were now in a position to support an attack on the strong point and artillery observation post in the cathedral. Immediately A Company had gone firm, Major Petrie personally led elements of D Company in a swift assault against the cathedral. Despite strong opposition, the momentum of the attack rapidly quelled any resistance and the position was captured at 0715hrs. Major Petrie subsequently received the Military Cross for this action in particular and for the way in which he personally directed the platoons of his recently reconstituted company, containing many reinforcements who were fighting for the first time.

At 1000hrs, the Commanding Officer was wounded by fragments from a salvo of shells as he arrived at his new HQ, set up in a house in the South West corner of REES. The Second in Command, Major M A (Martin) Lindsay DSO, assumed command when the Commanding Officer was evacuated shortly afterwards. A Company were now conducting clearing operations in the centre of the town between the station and the cathedral. B Company were moving along the river bank and meeting opposition from within the town but the waterfront itself was being cleared of enemy. C Company was the anchor company occupying the cathedral square. The company HQ was in the South West corner and it was from here that Major Lindsay controlled the remainder of the operations. D Company were located just south west of the cathedral, covering the rear of B Company. One of the platoon commanders, Lieutenant A R Porter, had been killed by the same salvo that hit the Commanding Officer, having already been injured by a Schu mine during the previous evening.

With the capture of the Mill Tower at 1030hrs by B Company, the Royal Engineers were able, for the first time, to carry out bridging operations immediately South of REES unhindered by enemy fire. B Company turned Northwards to clear up the remainder of the town. They ran into very stiff opposition from a machine gun emplacement in a concrete pill box at a street junction one hundred metres East of the North East corner of the main square. This position was supported by a number of snipers dispersed amongst the houses along the approach road from the South. In a short period of time three B Company officers became casualties. Lieutenant V M Halleron was shot in the back by a sniper and died; Second Lieutenant A K Macdonald was mortally wounded by a burst of Spandau fire from the pill box and Lieutenant P G Burrell, a B Company spare officer called up to replace Halleron less than an hour before, was shot in the head and appeared to be fatally wounded.

Major Morrison was himself hit on the head by sniper fire but his helmet deflected the round and he was uninjured. Lieutenant Burrell recovered after hospitalisation. Lieutenant McNair, having helped to rescue one of the officers, set about redressing the balance. One of the few surviving officers in B Company, Captain W M (Bill) McFarlan, took Lieutenant McNair to an upstairs window overlooking the street. Captain McFarlan held a large wall mirror out of the window and, as Lieutenant McNair looked into it, the enemy machine gunner obligingly fired at his reflection, thus giving his position away. McNair rushed downstairs and, within minutes, he and Sergeant White pushed their gun into the street and put a shot clear through the offending window - no more Spandau! By moving through the rubble, they eventually found a good spot to fire at the pill box and destroyed that as well. After this action, the enemy withdrew to a final defensive perimeter, only one hundred metres square around the ancient fortification on the extreme Eastern edge of the town, where they had well prepared trenches and a large concrete emplacement.

At 1200hrs on the 25th March, General Horrocks visited the Battalion and congratulated them on a job well done. He explained how vital it was for the position to be fully cleared as soon as possible. He is on record as having paid them this tribute: 'The bravest thing I ever saw was the Gordons crossing the Rhine.' At 1230hrs 5 BW reported the capture of the station. However, at 1400hrs the plan to eliminate the final strong point had to be delayed. Originally, B Company, supported by tanks, was to have a daylight assault from the South. But the rubble choking the streets still prevented the tanks from getting into position to support the infantry. Since an attack from the South without this support would prove very costly, it was eventually decided that C Company should move so they could attack from the north, through 5 BW lines, during the hours of darkness.



German prisoners captured by the Commandos seen in a bomb crater. © IWM (BU 2333)

At 1430hrs 5 BW and 1 Gordons linked up at the Eastern end of the railway sidings and C Company started moving to form up for a night attack.

Dusk fell at 1900hrs on 25th March. C Company were now poised to make their final assault; but the German commander, Captain Hubner, had already told all his fit men to disperse and try and break out of the cordon set up by 1 Gordons and supported by 5 BW. He passed through C Company lines on his way to surrender to Major Lindsay in order to negotiate terms for the treatment of his wounded men. As these negotiations were taking place, a B Company platoon, led by Captain McFarlan, entered the strong point and found it clear of enemy. Thus ended a battle that had lasted for forty-eight hours, resulting in the capture of two officers and one hundred and twenty four other ranks. 1 Gordons losses were four officers killed, five wounded, twelve other ranks killed and forty-one wounded. The defenders of REES, who probably never exceeded five hundred men, had prevented 5/7 Gordons crossing the Alter Rhine until midnight on the 25th March and they had also managed to draw 5 BW in to the fight. They had, in effect, engaged or tied down all three battalions of 153rd Brigade and delayed the XXX Corps advance for two days.

Lessons

There is a popular quip which runs ‘The lesson to be learnt from history is that lessons are never learnt from history’. If it were true this would be a sad epitaph for the soldiers lost in this battle. The one contemporary lesson I would like to draw is that, if one of our battalions could impose a delay of forty-eight hours on a Soviet formation equivalent in size to 153rd Brigade we would be well-pleased with them. For the other lessons, I offer the words of Lieutenant Colonel Grant Peterkin, written whilst he was Commanding Officer 1 Gordons.

These notes are written on the experiences of a Battalion which has taken part in clearing two large towns, GENNEP and GOCH, against a determined and organised enemy. One town, GOCH, had been heavily bombed, but the other had not; civilians had been evacuated from both. The lessons learnt show that the principles as laid down in Infantry Training Pamphlet VIII are sound as far as they go.

Planning

More than in any other operation, very careful and detailed planning is necessary before launching any unit or sub-unit in to a defended town. Large scale maps, enlarged air photos and particularly low obliques are necessary so as to determine the key buildings upon which it is likely the enemy will base his defence. He does not hold every house or factory but those from where he can obtain a good field of fire and particularly those from where he can stop any encircling movement to his rear.

Principles

It is essential that each sub-unit starts from a very firm base and has a small compact objective, usually a key building, of which the commander has made a personal visual reconnaissance before starting.

Within the rifle company, it has been proved that it is unwise to have more than one sub-unit working at one time and that the commander of the succeeding unit or sub-unit must be right forward with the attacking commander to see the results and carry out his own reconnaissance. As always too, a reserve must be kept to deal with the unexpected posts which suddenly come to life.

The noise and echoes of street clearing are disconcerting and men must be always on the 'qui vive' to try and locate the enemy - the most difficult factor of all. It is essential that they fight lightly clad and without the small pack and pick and shovel, which catch in window frames, cellar doors, etc. A rifle and bayonet, the bren, a liberal supply of grenades, stout hearts and a very high standard of leadership are all that is required. The degree of control that leaders must keep in these operations must be great. Individuals and sections must be kept to their objectives and not allowed to chase the odd enemy soldier. It has indeed been learnt by bitter experience that town clearing is a tedious and most tiring operation which cannot be hurried. (Readers are invited to read the account of the rushed and ill-fated assault on THOMASHOF if they doubt this statement. It can be found in the Regimental History of 1 Gordons. It will also explain the Commanding Officer's unwillingness to be drawn into a large scale night clearing operation in REES).

Day or Night

It has been proved that, even in complete darkness, infantry can seize a limited objective in a town and completely clear that area, provided it is kept small. It is perhaps the best way to get a footing in the defended area, rush it immediately the artillery concentration lifts in the darkness, and catch the enemy whilst he is still below ground. Large scale clearing operations are not possible in the dark as it is impossible not to by-pass enemy - a principle - who come to life with daylight and cause damage and confusion out of all proportion to their numbers. Searchlights are not of any great assistance in a town.

Support Fire

Before H hour the greatest weight of artillery is required, but at H hour and afterwards it should lift from the objectives to the far outskirts of the town, as it is disconcerting to troops clearing streets to hear explosions in front of them. It also drowns the noise of snipers if fired in close support. However well-trained, in a street it is impossible to say with accuracy whose shell it was and the effect of a 25 pounder on a house is not sufficient to warrant its use in the close support of troops clearing a town. 4.2 inch mortars on the other hand, are valuable as the bombs reach the ground floor: however, because of their danger area, they are naturally best used on the back end of the town. Fire and movement by the infantry remains as important as ever, and the 77 grenade has proved its great usefulness to cover street crossings.

To Bomb or not to Bomb

From the infantryman's point of view, heavy bombing has every disadvantage and no advantage, unless carried out immediately before the assault. However, air photos lose their value and the danger area for heavy bombs precludes the immediate rushing of the objective as the last bomb falls. Craters and rubble preclude the use of tanks, Crocodiles or Wasps and make the evacuation of casualties even more difficult. It makes the drill of clearing through the back gardens impracticable and clearing houses from the top impossible. It also makes the enemy's task of hiding and camouflaging himself many times easier; his snipers always preclude the use of a bulldozer till very late in the operations. From our experience in clearing a town not bombed, to one that has been heavily bombed, there is little doubt that the infantry would ask the airman to go elsewhere, particularly as he does not kill or even frighten the defenders the infantryman is going to meet.

Enemy Methods

We have found that the enemy we have met, mostly paratroopers, have concentrated in and fought from the key buildings, and then from the ground floors; only the odd



Paratroops in Hamminkeln during airborne landings east of the Rhine, 25 March 1945. © IWM (BU 2293)

Spandau and snipers have been up a storey or two. Booby-traps were not met with in any large numbers; mines were, however, laid in and about all their demolitions, key road junctions and in some gardens, but the latter were usually marked.

The Results of Experience

Thinking back on our experience, the points that we especially note are perhaps:

- *How slow an operation it is and how quickly troops get tired,*
- *The smallness of the objective a platoon can take for certainty,*
- *The immediate effect of "flame warfare"-this was no surprise but the speed with which the enemy reacted was,*
- *The great additional difficulties the after effects of heavy bombs make for the infantry.*

Principles for Town Clearing

Lastly, the principles we will work on for the next town we clear:

- *Always plan to the last detail and brief each soldier visually if possible. Each man must know his particular role in the platoon 'Drill'*
- *Start each operation from a very firm base.*
- *Never operate more than one platoon at a time within a company area.*
- *Keep your reserve ready, but don't keep troops hanging about waiting their turn under fire. Once down they are sometimes difficult to get up again.*
- *Limit your objectives severely and base your operations on the 'key' buildings*
- *Never by-pass an enemy post - this does not apply to cut off troops if sent wide round the whole objective*
- *Fire and movement applies as much as ever-use flame wherever possible*
- *Don't overload the soldier.*
- *Pray that the troops are in great heart, eager to destroy the enemy in yet another stronghold for without the highest fighting spirit being present, the best plans made by the leaders will be of no avail.*

Soldiers from former 1/51 Highland Brigade practice attack exercises in the tunnels of Gibraltar. Photo: Marko, Crown Copyright



In the Jungle of the Cities: Operations in Built-up areas

This article by Jary and Carbuncle was published in BAR 121, April 1999 and was the sixth in a series of occasional articles that appeared over three years covering a wide variety of topics.

I recall with embarrassment, an incident at 45th Infantry Divisional Battle School during the Spring of 1944. An exceptionally tall and good natured Canadian officer had been sent to the School to give a talk on the street fighting he

experienced in Italy. It was an interesting talk but some of his advice ran contrary to that being taught at the School. When the lecture was over, the Chief Instructor, with insulting condescension, thanked this shy and kindly man for a vivid 'word picture' and, turning to the students, warned us that, as this officer's experience was probably unusual, we had best not stray from the DS Solution, as taught at that School. The poor Canadian did not even notice this refined English insult.¹

In dealing with the topic of Fighting In Built-Up Areas (FIBUA) readers should note that we are not following one modern trend of lumping OBUA with OFAW - operations in forests and woods - as a single topic 'fighting in close country'. The situations are different and call for radically different techniques. OBUA, and there is no escaping it, also demands specialist weapons if success is to be achieved without inordinate numbers of casualties.

This article deals mainly with the demands of high intensity conflict at the lower levels of command - platoon, company and at the most battlegroup - and at such levels 'high intensity' activities may take place in a wide span of operational settings. We are aware that US forces in particular are being drawn more and more into considering military operations in city centres against an urban terrorist type enemy, in situations where the military options are severely constrained by the presence of large numbers of civilians. Techniques being discussed for the precision targeting of small pockets of hostiles in a neutral civilian environment appear to us as being more appropriate to police or special forces activities rather than military operations. While acknowledging this trend, we are more concerned here with the orthodox OBUA' for which the Army is training at present. However, thirty years of Northern Ireland experience have thrown up a variety of equipment some of which must be suitable for gloves-off OBUA. We deal with one specific application later in this article.

A year or two ago I was a guest of my favourite TA infantry battalion. They were practising what we called street fighting and house clearance, which became FIBUA and now is OBUA - which as well as removing the non-PC word 'fighting' from the term, also gets rid of the potential anatomical confusion.

The battle drills rehearsed by my hosts were identical to those we were taught fifty-six years ago and we had largely discarded in battle as our Canadian guest lecturer had already done at Ortona. At the end of the exercise the Commanding Officer asked me if we had done these things in this way? We did not.

¹ Jary, Sidney, 18 Platoon, Sydney Jary publishing Ltd, 4th edition, Bristol, 1998, pp 18-19

Fighting in built up areas, like fighting in forests and woods, should be avoided like the plague. Sometimes this proves impossible, and to avoid the inevitable high casualties you need to organise the right sort of support, starting with HE and flame throwers. In my war, the Germans and Russians employed SP assault guns or artillery firing over open sights. We used armour including the AVREs, Churchill Crocodile flamethrowers, or our own 2-inch mortars, firing low angle, and also our anti-tank PIAT. Those choreographed room clearing antics, so beloved of the Battle Schools, do not work because even in my day the resultant high casualties could not be replaced. Today a similar casualty rate would be quite unacceptable. You need to have HE and flame capacity to blast and burn the opposition out of buildings. Highly destructive, and not recommended for IS operations, the junior commander has to choose between appalling destruction and, in this old soldier's opinion, the avoidable loss of his soldier's lives.

Further evidence as to the cost of present OBUA methods is coming out of Copehill Down. An example was published recently in BAR where a standard TESEX clearance of the village cost over 200 casualties, which we are aware is not an extreme figure for battalions exercising in the facility.² Such casualty figures, we repeat, are simply unacceptable in today's climate of opinion. The principle of engaging in dense, heavily attritional combat of this type is at variance with the manoeuvrist approach; there is a need here for application of 'a better idea'.

During the closing weeks of the Second World War, 43rd Wessex Division attacked Bremen. An extract from The History of the 4th Battalion The Somerset Light Infantry (4 SOM LI) in the *Campaign in North-West Europe June 1944-May 1945*, describes this battle very well indeed:

By the afternoon both battalions were pinned in Bremen by unexpectedly fierce opposition. The Brigadier came to see the Commanding Officer and ordered him to put in a left flanking attack round the 5th Wilts who were the Battalion nearest the railway. Two troops of Crocodiles were placed under command. The Commanding Officer went forward with Lt-Col Brind (Commanding the 5th Wilts) and quickly decided that the main trouble was based on a big road junction at the South East corner of the Burger Park. It was christened Hyde Park Corner.

The Battalion Plan was for C Company to assault and capture this area. With the road junction in our hands, A and B Companies were to attack Northwards.

² Davies, Major N.C., *Light Forces Against Heavy Armour: A New Approach*, BAR 119, August 1998, p 77



U.S. Army Soldiers from Charlie Company, 1st Battalion, 35th Armored Regiment run from their Humvee to a building during room clearing training on a military operations on urban terrain site on Baumholder, Germany, March 14, 2008. U.S. Army photo: Ruediger Hess, (Released)

A Company was to fight along the Eastern edge of the Burger Park where it was known that there was at least one concrete bunker housing the headquarters of Bremen defences. Finally D Company was to exploit Westwards to another road junction at the South-West corner of the Park. The attack was timed for last light and at 2000hrs. C Company, commanded by Major Watts, crossed the start point in the 5th Wilts area. As expected, the first real opposition came from the road junction and a stiff fight took place here. The enemy were dug in on the edge of the Burger Park. They were also firing Panzerfaust and small arms from the cellars and upper storeys of the buildings. The houses on this part of Bremen were very large and solid; the high walls around their back gardens made it impossible for the men to carry out their normal street fighting drill. No 13 Platoon, under Lt Lockerby, was to a large degree responsible for securing the road junction, although Sgt Burgess, commanding 14 Platoon, extracted 57 assorted Marines and Wehrmacht from the area of another large house. The Crocodiles were of inestimable value and the light from the fires that they started materially assisted in the control of the battle. By about 2130 hours, C Company was firm on the objective. Major Watts was awarded the MC for his conduct of the battle. A and B Companies now came through, attacking Northwards as planned. Crocodiles were in support of both Company attacks and the enemy got no quarter - if he attempted to come out of the houses to fight in the open he was caught by the fire from our own Bren Guns and the Besas of the Crocodiles; if he fought it out from the houses, he was at once burnt. The whole scene was magnificent and inspiring, with burning houses casting a lurid light over the flamethrowers as they slowly waddled up the streets, and over

the infantry as they dashed from house to house. The noise was terrific, with the roar of the flames and the crack and rattle of the small arms fire. While this attack was in progress, Brigadier Vandeleur and the Commanding Officer appeared at the road junction to see what was going on. The Brigadier, who is an Irishman, found the thirst for battle almost too much for him and it was only with difficulty that the Commanding Officer held him back from joining B Company's leading section! A Company's attack up the Eastern side of the Park went very well and it was not long before they spotted a huge concrete bunker which was expected to house the Headquarters of Bremen defences. Major Pope, of the 4th Wilts., who came over to contact Major Beckhurst during the battle, assisted in pointing out the bunker and he accompanied Major Beckhurst when, without opposition, he entered it. Major Beckhurst received the surrender of Major-General Siber, the 2nd-in-Command of Bremen defences, and his staff of some 25 officers. The Bunker was an extraordinary affair a square erection some 30 feet high, built of reinforced concrete, and with only one entrance. Inside was a rabbit warren of staircases and small rooms, all in the utmost disorder, although the air conditioning, lighting and water plants were all functioning normally. By 2300hours, A and B Companies were firm on their objectives and D Company was passed through to the other road junction as originally planned. They met no further opposition and by midnight the Battalion had completed all its tasks and established contact on the left with the 52nd (Lowland) Division.

We had taken some 250 PW.'s including 30 officers. Our own casualties were light, but Lance Corporal Stephens, MM, of A Company, who had been a stretcher-bearer with us throughout the whole campaign, was killed by a grenade as he went to tend a wounded man.

The area of Bremen which we had captured was known to include the Nazi H.Q. and it was found the following morning. Unfortunately we arrived too late, as the chief Nazi and his wife had just committed suicide in an upstairs room. They had both shot themselves and there was an empty bottle of brandy on the table between them. The cellars of the house were packed full of Nazi emblems and regalia as well as an armoury of several hundred weapons. Later the same day General Horrocks visited our H.Q. to congratulate the Battalion on what he describes as 'very fine exhibition of street fighting. Such a tribute, coming from him, meant a great deal to us.'³

³ *History of the 4th Battalion, the Somerset Light Infantry in the Second World War, published privately, <https://www.naval-military-press.com/product/history-of-the-4th-battalion-the-somerset-light-infantry-prince-alberts-in-the-campaign-in-north-west-europe-june-1944-may-1945/>*



A Churchill tank fitted with a Crocodile flamethrower in action. This flamethrower could produce a jet of flame exceeding 150 yards in length. IWM TR 2313

Late Second World War Techniques

4 SOM LI's experience in Bremen illustrates the sensible man's approach to OBUA in force at the end of the Second World War. Principles were:

- *Do not put man against man.*
- *Drive the enemy into the open, where he can be killed by tank fire or infantry stops, by introducing flame in to buildings (knocking a hole first where necessary)*
- *Refrain from creating a rubble wilderness by over zealous use of preparatory fire or bombing.*

The last of these points had been experienced over and over again - particularly at Cassino and Caen - but nevertheless the bombers were again brought in against the Rhineland towns, producing very defensible anonymous hollow heaps of rubble and a continuous obstacle to tank movement. In Xanten, Goch, Cleve, Rees and Wesel 'traditional' infantry street fighting methods had perforce been employed, at high cost in casualties and time.

Preparatory artillery fire against urban areas worked best if it consisted of a lot of smaller calibre shell (including airburst to minimize damage while keeping the psychological effects) rather than fewer heavy, though a small proportion of heavy crumps among the smaller bangs did no harm at all.⁴ On the other hand,

⁴ *Jary, Sydney, with Carbuncle, Gunners, BAR 116, August 1997, p 56 and references*

there was a lot of merit in dropping a house on the heads of its defenders - but while they were in the act of defending it, not skulking in the cellar. In 21 Army Group's war, this was a prime function of the Churchill AVRE firing the Petard.⁵ Where the defenders were occupying structures more solid than the average domestic residence, the Petard did sterling work in making the necessary hole for the flame. The Russians also adopted a building-dropping approach during the Battle of Berlin, using their heavy calibre assault guns (JSU-152) and all calibres of towed artillery, up to 203mm howitzers, firing direct.

The need for heavy-calibre assault weapons was recognised by all the major combatants except the Americans. The Germans had begun the war with the 150mm sIG 33 heavy infantry gun already in service. For the Battle of France in 1940 they improvised an SP mounting on Panzer I hulls, and the weapon or its derivatives appeared on a variety of AFV culminating in the Brummbar. Inevitably, it was the Germans who also produced, in the Sturmtyger, the apotheosis of assault artillery. In contrast, the lack of an assault artillery capability was a factor in Third US Army's difficulties in the old French frontier fortress zone in the autumn of 1944; in the final advances US forces improvised by keeping SP 155mm artillery pieces well forward but these had totally inadequate protection for the role.

Present Day Requirements

Late WWII techniques for the rapid clearance of built-up areas at minimum cost to the attackers emphasize the use of heavy-calibre direct fires and flame. Large calibre assault guns, AVREs, and Crocodiles were ideal weapons for OBUA but also had other uses. Present day British forces are much less well-equipped for this aspect of warfighting than were their predecessors more than half a century ago. The remainder of this article considers modern-day weaponry which either could be taken in to service by British forces or which might be used against us in future conflict (do unto others what you would rather not have done to

5 Woollett, Major-General John, then OC 16 Assault Squadron RE, to authors. The Petard projectile contained 261lb (12kg) of HE out of a total weight of 401lb (18kg). Petard AYRE shared with Crocodile the disadvantage of a very short effective range which prevented it from engaging targets from outside the reach of infantry short-range anti-armour weapons. Its German and Russian counterparts, with conventional armament, did not have this problem. Later AVREs, mounting first the 6.5-inch and then the 165mm demolition guns, had adequate range, but the difficulties of accommodating a weapon of this calibre in the confines of a Churchill turret led to the adoption of a unique design of gun. The peculiarities of this weapon, and a failure on the part of the Army as a whole to appreciate its utility in dense battle, were factors in the capability being abandoned after the Gulf War. Today's armoured engineer AFV are totally unarmed and cannot be considered as having an assault role. It should be noted that the US Army retains its 165s and plans to introduce an updated version.

you). It is not necessary to consider the extreme of all-out View 1⁶ warfare to envisage circumstances where the latter condition might apply, while the former was seen as a distinct possibility in February 1991 when it appeared that Iraqi forces might fight for Kuwait City.⁷ In assessing the priority which should be given to acquisition of equipment suitable for OBUA, there is a nice balance to be achieved between total cost of ownership, the consequences of not having the kit if circumstances calling for its employment arise, and the likelihood of that happening. However, we believe that there is scope for evaluation of what is available on the world market, limited purchases for training and to equip lead formations, and reserve powers to go for full scaling should skies darken.

The requirement is to develop, or rediscover, techniques which will speed up the urban battle and reduce the butcher's bill - and today one also has to think about keeping down the opposition's casualties, as a lower priority but still as a serious consideration. The key ingredients are a means of making defences untenable, and whatever is necessary to introduce that means in to the defences - modern analogues of the Crocodile's flame and the AVRE's Petard.



Pictured is M-AUDS, a mobile Counter UAV detection system mounted on the back of an in-service Coyote platform. The M-AUDS is a mobile version of a proven system which can identify, classify, track and defeat UAV's. Photo: Sergeant Peter George, Crown Copyright

⁶ *Two Speculative Views of Future Warfare and their Implications, AB/P (962)2, 2 May 1996*

⁷ *At that time, it may be remembered, Centurion AVRE, with its 165mm demolition gun was still in service*

Flame - Still a Contender?

Flame is one of those weapons which causes a sharp intake of breath and mutterings of 'Geneva Convention'. However, the UN Weapons Convention 1981 does not forbid the use of flame and incendiary weapons against military targets,⁸ and even if we refrain voluntarily from using it there is no guarantee that potential adversaries will do the same. The effects of flame in WWII are summarized in the Army's formal after action publication issued in 1952:⁹

'... it is beyond question that the use of flame materially reduced our own casualties and increased those of the enemy. It reduced the time required to overcome enemy resistance and, in a number of actions, proved to be decisive' (our emphasis).

We would point out that in many actions the majority of the 'casualties' were prisoners, and to this extent the use of flame against the unfortunate few actually saved the skins of the pragmatic many.

Flame Developments

Post-Second World War developments in flame warfare were aimed first at eliminating the need for specialist flame vehicles and units. The first step towards this was that all Mk 7 and 8 Churchills were produced with flame plumbing built in, but the more promising trend was illustrated by the Sherman Adder, which did away with the separate trailer, and although having a much smaller flame fuel capacity than the Crocodile, emerged as an 'occasional' flame tank capable of being grouped within a normal armoured unit. The other technical line of development from the war, which repays study, is the success of the Universal Carrier-mounted Wasp equipment, which proved surprisingly survivable in 'rural' operations, though as far as we can ascertain this was never used in built-up areas.

Post-war reports all call for more range for projected flame; the planning range of Crocodile was only 75 metres, which meant that it was outranged by the later models of Panzerfaust. Projected flame had reached its effective limit of capability by 1945. Flamethrowers using ballistic propellants were produced during WWII, but it is difficult to conceive of any pressure-operated flame weapon with the range much in excess of Crocodile's very best of 120yds immediately after pressuring-up. Given developments in infantry anti-armour weapons, this does not amount to a 21st Century solution, particularly as there are better ideas available. Churchill

8 Colonel ALS2 to authors during preparation of this article

9 Wiseman, Lieutenant Colonel D.J.C., The Second World War 1939-1945 Army: Special Weapons and Types of Warfare, Vol III, War Office, 1952, p 206

Crocodiles saw service in Korea, but interest in flame, along with other assault weaponry, died off as the heavy end of the Army became more and more oriented towards defensive operations and the mind set which went with them.

The solution lies in projectile, rather than projected, flame. Newer flame fills, such as tri-ethyl aluminium, give the possibility of obtaining an effective performance from quite small projectiles, the extreme being the round developed for the US M79 grenade launcher. In larger calibres this chemistry offers the possibility of attaining the Grail of flame weapons, the alternative round for tanks, artillery, or mortars. Flame projectiles offer major advantages over flamethrowers, but do lose out to some extent on the morale effect of the traditional weapon; there is no doubt that the jet from a tank flamethrower was one of the most frightening weapons of WWII.

Beyond the straight flame fills lie developments which enhance the performance of flame by increasing its ability to search enclosures and break down partitions within buildings. The Russian RPO(A) infantry launcher, available on the international arms market and therefore offering a threat to UK forces, fires a projectile containing a fill of 'volumetric explosive'. We have seen and heard this fill referred to as a fuel /air explosive; this is not exactly the case. The basic principle of a volumetric is that it is a partially oxygenated flame fuel. When initiated, the effect is a low-order explosion. This produces an expanding flame front at which the unoxidized residue of the fuel burns in atmospheric oxygen (hence the confusion with fuel/air).¹⁰ The explosive push forces the flame front into spaces within a building such as staircases and cellars, and is sufficient to demolish doors and stud partitions, while the combustion takes up all the oxygen in the air (the 'vacuum bomb' effect) .

Alternatives to Flame

The challenge is to produce an effect which will equal flame in offering defenders a choice of alternatives between sitting tight and suffering unbearable unpleasantness, or abandoning their defences and taking their chances in the open where, one hopes, they will have the opportunity to surrender. There are possibilities, but unfortunately the majority run into difficulties arising from worthy attempts to regulate the nastier side of war. In this context it is essential to consider what an adversary not constrained by a tender conscience might do to UK forces.

10 The explosive incendiary device employed by the IRA in the LaMon Restaurant incident produced a similarly devastating effect, using conventional HE for the first stage and petrol to generate the fireball.



Churchill Crocodile flamethrowers in action against the village of St Joost, north of Schilberg, during an attack by 1st Rifle Brigade, 20 January 1945. © IWM (B 13944)

Chemical: Carbuncle has long held the view that one of the roles of the 2S1 close support artillery battalion in Soviet combined arms groupings was to employ direct fire chemical in OBUA. Concentrations of vapour sufficient to achieve breakthrough of respirators can theoretically be achieved in enclosed spaces with comparatively small expenditure of ammunition, while extremely heavy liquid hazard levels - to suit saturation point - can similarly be expected. These effects need to be considered in any action against a chemically capable opposition.

Smokes: White phosphorus rounds are well-known as a sovereign specific for clearance of defences, though their use specifically in an anti-personnel role has been regarded by the UK during and since WWII as falling within the provisions of the 1925 Gas Protocol.¹¹ Opposition nations may be less punctilious. Red phosphorus smoke, as in Rarden APSE, remains an option, as being purely a smoke generating incendiary without chemical side effects (much more than 30mm calibre 'Will be needed in this context!). Hexachlorethane or other screening smokes, while they may neutralize defenders, are less likely to persuade them to abandon their positions. Hexachlorethanes are irritants and their use in

¹¹ *Wiseman, Ibid, p 225*

heavy concentrations in an offensive role again probably falls on the wrong side of a strict interpretation of the Gas Protocol.¹²

Other 'Non-Lethals': Clearing of enclosures would appear to be a promising application for non-lethal weaponry, particularly for use in Operations Other Than War (OOTW). Buildings provide a good environment for the generation of foams; although less spectacular in their effects than flame, one can envisage a situation where the defenders of No 7 Acacia Avenue, having seen their comrades across the road in No 4 entombed in a large block of polyurethane, may hasten to surrender (all right, that is hardly a 'non-lethal'). Large bubble foams, 'stickums', and sonic weapons¹³ may also have application. There is scope for the use of space-filling materials, stickies, or other unpleasantness to ensure that a building, cleared once by whatever means, stays cleared - and that application does not fall foul of legalistic quibbles over Health and Safety.

Target Acquisition: The development of sniper detection systems in the context of operations in Northern Ireland may, we feel, have a read-across to the more rough and ready world of big-war OBUA. The possibility of mounting a fire detection system on an AFV to provide rapid and precise reaction, either by activating a laser target marker or by a fully automated fire response should be explored.

Summary: Flame and red phosphorus smokes are immediately available as possible fillings for enclosure clearing, while enhanced flame - volumetric explosives - deserves further investigation. Non lethal methods appear to have an application to traditional OBUA going beyond mere political correctness, while some techniques evolved for internal security could be applicable to higher intensity operations. There is much scope here for individual ideas over and above what formal R&D procedures and monitoring of other nations' developments can produce; neither Petard nor Crocodile were products of the mainstream.

Delivery Systems

The requirement for weaponry in this context is for a projector which can launch a wall-busting projectile followed by an enclosure-clearer. The cheap option in this is to go for a man-portable launcher. This might also lead us towards a true

12 We recall that in the 1970s the Soviets raised objections on these grounds to NATO use of hexachlorethanes even purely as screening smokes. This caused a certain amount of umbrage as it was confidently expected that any smoke used by the Soviets would contain chemical agents as a deliberate addition! (Carbuncle records)

13 A genuine use for heavy metal?



Pictured is a member of the Army School of Infantry with the Javelin Anti-Tank Missile system resting it on a wall to demonstrate that it can be fired from various different positions and how it can be carried in the correct way. Photo: Stuart A Hill, Crown Copyright

multi-purpose infantry weapon system at platoon level, capable of undertaking, in addition to these roles, the anti-tank and area-effect weapon systems (and in this context, the British Army never took full advantage of all the ammunition options available within the Carl Gustav weapon system).

The problems with a shoulder-fired system are that we suspect that the requirement will push calibres up to around 100mm. This starts to indicate difficulties with the weight of the weapon itself, and probably even more fazing, with ammunition. If a platoon has to carry the ammunition required to deal even with ten houses, that is going to add up to a lot of large rounds. We also have the feeling that a solution based on dismounted firepower is going to cost casualties still in excess of acceptable levels.

We therefore find ourselves driven back to the mixture as set out at the beginning of this article, leavened with input from our own views on assault guns.¹⁴ We remain of the opinion, that the very close battle is no place for extremely advanced MBT. OBUA provides an even less attractive environment

¹⁴ Jary, Sydney with Carbuncle, *Sturmgeschutz – A Yesterday Solution to a Today Problem*, BAR 113, August 1996, p 65

for the use of MBT than rural close country; long tank guns and tight streets do not mix, confined spaces enhance the risk to infantry from muzzle effects, and high-velocity HESH is not the nature of choice as a wall-buster. We do not accept the view¹⁵ that present-day financial pressures eliminate the need for specialist forms of AFV - the same argument can be applied to any small-population system. We therefore feel that the requirements of OBUA reinforce the need for a medium-sized well protected assault gun type vehicle - though this should be a variant or at worse a development of an existing AFV.

In Sturmgeschutz, driven to a great extent by Carbuncle's views on the need to provide a medium calibre anti-AFV weapon to deal with the large number of moderately-protected targets on the modern battlefield while having an acceptable HE performance we opted, after some internal debate, for a long 75mm weapon. However, on the way we looked long and hard at a 120mm gun-mortar as an off-the-shelf alternative which would be more effective in the HE role. Although German and Russian WWII heavy assault guns mounted 150/152mm main armament, given the greater effectiveness of HESH over conventional HE, the high capacity of a low-stressed projectile optimized for short-range use, and the effectiveness of modern fillings, we would expect the 120mm to give a better than adequate performance in the hole-making role, and with a capacity around twice that of the two litres of the RPO(A) bomb - which represents about the maximum that can be expected from a shoulder-fired weapon - its flame generating capacity should be more than adequate.

We therefore feel that we ought to backtrack on the original suggestion as to armament of our proposed assault gun, FUSTUG.¹⁶ The 120mm has the advantage of being an available weapon, which we have already proposed as a combined replacement for the 81mm mortar in mechanized warfare and as a filler-in of the gaps in close support capability resulting from the universal adoption of 155mm tube artillery. If 120mm weapons are available on both FUSTUG and the conventional gun-mortar mounting there are obvious advantages as regards standardization and in terms of thickening-up the indirect capability on occasion. However, we do not think that there is a great deal of merit in pursuing the idea of a common mounting to cover both roles as the two requirements are too far apart. The indirect fire support mounting needs all-round traverse and a large onboard ammunition stowage, but lesser protection levels than the assault gun, which needs the smallest possible profile.

15 See, for example, letter from Major General A S H Irwin in BAR 120

16 There was a plan to re-visit the anti-moderate armour requirement in a future article

And we very deeply regret the passing of the RE 165 mm demolition gun.¹⁷

Conclusion

Shortly after the very fine exhibition of street fighting and house clearance by 4 SOM LI and their supporting Crocodiles in Bremen on 27 April 1945, the war came to an end on, for us, 5 May. The battalion was at Wilstedt, on the road to Bremerhaven, when the order was given, 'stand down and splice the mainbrace'. There was little celebration most of us slept soundly.

Suddenly, how to win battles took a back seat. If only a research team, possibly from the School of Infantry (then at Barnard Castle), had visited a selection of infantry battalions invaluable experience could have been recorded for the training of future fighting officers. Within weeks, the victorious and highly experienced army dispersed, many on release to civilian life. With them went invaluable battle-winning knowledge of what you could do, and more importantly, what you could not do. High on this list would have been lessons learned in OBUA, which now seem to have been forgotten.

Future conflict, whether at the level of OOTW or full scale war, is likely to see adversaries taking more and more advantage of urban close country, if only because this is one category of terrain where even the more enthusiastic proponents of air power admit its limitations. If British forces are called upon to take part in OBUA at the higher end of intensity, they need the right techniques and the equipment necessary to put those techniques into practice.

The most important single lesson learnt from the WWII experience of OBUA is to use machinery rather than men. The cost of doing it any other way continues to be indicated by instrumented exercises. In today's climate of opinion as affecting casualties, the only alternative to acquiring specialist equipment for OBUA may be to abandon the idea of fighting a serious enemy in an urban environment.

17 It is a great pity that no one noticed the potential for combining the design features of the Sherman Adder and the Centurion AVRE. The AVRE was the last British tank to carry a fifth crew member in a potential hull flame gunner's station. A flame pack could have been installed in place of the external fuel tank fitted to Mk 5 and later Centurions (at a cost of range - but a diesel conversion would have offset this drawback), and a mechanical pressurization system added to extract the greatest possible flame projector range. Coupled to the breaching effect of the 165mm demolition gun, this would have produced a truly formidable self-contained assault weapon system - had thinking included the need for assault weaponry.



*Members of the Kings Royal Hussars Battlegroup and the Royal Welsh demonstrate the combat power of their units during the Land Combat Power Visit (LCPV) rehearsals at Copehill Down, Salisbury Plain.
Photo: Sergeant Steve Blake RLC, Crown Copyright.*



40 Commando Royal Marines take part in urban Company-level attacks during Ex Toxic Dagger. 40 Commando Royal Marines and The Defence Science and Technology Laboratory (Dstl) staged the UK's biggest annual exercise to prepare troops for Chemical, Biological, Radiological and Nuclear (CBRN) operations in February 2018. Photo: DSTL photographer, Crown Copyright

FIBUA: The Tactics of Mistake?

This article by Jim Storr was originally published in BAR 128, Winter 2001-2002.

42 Commando's H-Hr was 0430hrs on 9 August 2001. By 6am they had accounted for about 40 of the 60 defenders of Copehill Down in a fairly traditional frontal slog. About 20 defenders held two buildings about 80 yards apart. Marine rifle troop had infiltrated into the other end of the village before H-H1; and the recce troop was holding a large building in the village centre.

Watching from the roof of the Church, the Operations Research analyst asked why the Marines were grinding forward so slowly. The enemy were isolated in two small pockets and effectively surrounded. It was fairly obvious to an objective observer, given the luxury of a bird's eye view that things should be done differently and could be done better.

Deja vu. The author had seen it many times before, with several different battalions five years before, in Copehill Down, on CATAC: Ten to twelve years before, many times whilst Ops Officer in Berlin. Sixteen years before, on a London District and South East District joint study period. What happens is:

- *We stress how important and how difficult, FIBUA is*
- *We continue to teach drills and tactics that are in principle unchanged since 1943.*
- *We pontificate, prevaricate and ignore the hard, concrete evidence that we can (and should) do things differently.*

Our perception of FIBUA seems to be characterized by superlatives. We see it as having extremely high ratios of force to space. We think it leads to extremely high casualties, particularly to the attacker. Therefore we employ firm, centralised control in the attack, and results in slow, methodical, set-piece assaults. In defence we envisage an initial series of planned operations and ambushes followed by the deliberate defence of an extensively prepared main position. Tanks are seen to be extremely vulnerable in FIBUA, and their use is therefore constrained. We also think that FIBUA requires extremely high ammunition expenditure.

Contradictory Evidence

However, there is evidence that suggests that our perceptions are both wrong and dangerous. The best objective evidence comes from a series of trials and historical studies that looked at combat degradation in the urban environment. This process was called Exercise KING'S RIDE V. Some of the relevant reports are referred to



Pictured is a British Warrior Infantry Fighting Vehicle (right) and Bulldog Armoured Fighting Vehicle (left) in use during a Joint Expeditionary Force Live Exercise in Salisbury. Photo Peter Davies, Crown Copyright

below.^{1 2 3} Discussions with civilian analysts involved with both the field trials and the historical studies suggest that the most important findings have been underestimated by military observers. Current FIBUA doctrine does not seem to give sufficient weight to them.

Other, more subjective evidence can be found in the files of one of the battalions (1 KINGS) which served in Berlin for two years in the late 1980s. Two documents are available, one written by the Commanding Officer as a PXR⁴ the other by one of his platoon commanders.⁵ Both those officers and the author of this article served with the Battalion for almost the whole of its two-year tour in

1 Lynam, Major J.M., KINGS OWN BORDER, 'Exercise KING'S RIDE V: Initial Impressions', Army Training News, April 1986 (Edition 16), pp 32-43.

2 Rowland, D., Defence Operational Analysis Establishment. The Effect of Combat Degradation on the Urban Battle. Journal of the Operational Research Society, Vol 42, No7, 1991, pp 543-533.

3 Thornton, R.C., and Thody, J.H., Defence Operational Analysis Establishment, 'Field Trials of Infantry Close Combat in Urban Areas'. DOAE Memorandum M88109, Report on DOAE Item 662, December 1988.

4 Commanding Officer's Post Exercise Report, Exercise NICHOLAS SILVER 15-20 January 1989, 1 KINGS file G206, 21 February 1989

5 McBride, 2nd Lieutenant D W A., KINGS, Fighting and Defending in a Built-Up Area: A Platoon Commander's Perspective, undated MS, ca, June 1989

the city (to avoid possible confusion, it should be noted that 1 KINGS was not involved in KING'S RIDE).

The KING'S RIDE trials were conducted in Ruhleben Fighting City with troops from 1st Battalion, the Royal Hampshire Regiment in 1985. One of the more important findings was that the deliberate attack tactics currently employed by the British Army led to the attackers losing on a number of occasions, whereas more rapid, Soviet-style tactics did not seem to. Casualties were broadly comparable in both cases. The (military) Trials Officer wrote:

... This came as a surprise to all. It had been generally held that a British approach, employing slow methodical methods involving (outwardly) less risk, would lead to success in slower time but with fewer casualties. In the event, however, conducting staff and observers noted that it tended to lead to failure to maintain the momentum and cohesion of the attack...⁶

This result is supported by 1 KINGS' subjective experience. Attacks by and against the battalion in training were usually slow and ineffectual. A few enemy infantry, with little more than the wit to change position from time to time, were able to hold up British-style attacks quite easily.

The historical studies were also illuminating. The key discovery was that, of over a total of 73 FIBUA battles in the Second World War, the attackers' casualties averaged 28 per cent of those of the defender. That is worth stressing: the defender, for all his advantages, loses three to four times as many casualties as the attacker.

When the attacker used tanks, this ratio rose on occasion to as high as 25 to one. Most of the battles cited occurred late in the war, when shoulder-fired antitank weapons were available in numbers. Clearly tanks are vulnerable at close quarters. However their firepower is considerable. That firepower has become more effective since the Second World War. A 120mm HESH round can be reasonably relied upon to blow in buildings in a way that a 75mm HE round could not.

Concerning the defence, the KING'S RIDE Trials Officer queried 'whether the large amounts of time which is needed to prepare proper strongpoint positions might not be better spent on other tasks'. More positively, CO 1KINGS wrote 'Defence was not about "walled-in fortresses" but about mobility, deception and initiative'. The historical evidence was similar; it concluded

[T]he practical effect of the study is to point towards the need for an aggressive counterattack posture rather than extensive fortification in defence.

⁶ Lynam, *op cit*, p 34

During the field trials, it was rare for (surviving) infantrymen to run out of ammunition, largely because of the habit of picking up ammunition from casualties. 1 KINGS conducted a force-on-force exercise using laser weapon effects simulators. The surprising result was that ammunition expenditure was halved. It seems that ammunition expenditure will be high in FIBUA, but our perception of how high is excessive. Running out of ammunition could probably be more a result of the protracted nature of battle than of extreme expenditure rates.

The perception of very high force densities is also misleading. A TEWT held in Copehill Down recently had the scenario of the village defended by a battalion, and attacked by a motor-rifle regiment. Several exercises in Ruhleben involved



PSD 56th Stryker Brigade, Kuwait Members of the Protective Services Detachment, 56th Stryker brigade, conduct urban operations training at Camp Buehring, Kuwait prior to moving to Iraq. Photo: Master Sergeant Sean Whelan, US Army, Released

two battalions attacking on a frontage of 200 metres. Such occurrences cloud perceptions as to real force-to-space ratios. Battalion GDP areas along the former Inner German Border typically included a couple of villages with about a hundred buildings, defended by at most a company group. 1 KINGS' main defensive area in Berlin was approximately a square kilometre, with about 50 blocks each with an average of 88 four-storey houses.

Simple multiplication shows that force densities would not approach the levels commonly imagined. Take the example of a company group holding a village of about a hundred buildings similar in size to Ruhleben or Copehill Down. At full strength, the company would have nine sections, or eighteen fire teams. Suppose every fire team occupies one house. The company would not even occupy a quarter of the available buildings. If the defence included strongpoints (of a number of fire teams in two or three buildings) the number of occupied buildings would go down even further. The conclusion is that although troop densities are high in FIBUA, there are normally unoccupied buildings and gaps around and between positions. Therefore manoeuvre is not only possible but necessary.

To summarize, there is evidence that British offensive tactics result in plodding, deliberate attacks that seem to lose momentum and fail. Casualties are high, but considerably higher to the defender than to the attacker. The use of tanks in the attack can significantly increase the defender's losses. Massive preparation of strongpoints seems to be a waste of effort; the defence should be conducted as a series of aggressive counterattacks. Ammunition expenditure is high but sustainable. Finally, troop densities, although high, normally result in numbers of unoccupied buildings and gaps between adjacent positions.

Understanding Why

Why do prevailing perceptions contradict the available evidence? The historical study remarked that its results were:

Particularly intriguing because they lead to conclusions which have been termed 'counterintuitive' and do not accord with many preconceptions.

Why is this? It seems to be because the British Army's major experience of FIBUA was against a tactically superior enemy.

Until 1939 the British Army had virtually no experience of FIBUA. In the Second World War it was, to be blunt, consistently bested at the lowest tactical levels by the Wehrmacht. The following quotation from Max Hastings's work on the Normandy campaign⁷ supports this:

⁷ Hastings, Max, *Overlord*, Michael Joseph, 1984, p 184

The American Colonel Trevor Dupuy has conducted a detailed statistical study of German actions in the Second World War: Some of his explanations as to why Hitler's armies performed so much more impressively than their enemies seem fanciful. But no critic has challenged his essential finding that on almost every battlefield of the war including Normandy, the German soldier performed more impressively than his opponents...

Hastings then quotes from Dupuy:⁸

On a man for man basis, the German ground soldier consistently inflicted casualties at about a 50% higher rate than they incurred from the opposing British and American troops UNDER ALL CIRCUMSTANCES (emphasis in original). This was true when they were attacking and when they were defending, when they had a local numerical superiority and when, as was usually the case, when they were outnumbered, when they had air superiority and when they did not, when they won and when they lost.

Wehrmacht infantry were generally very well trained and led. In 1917 and 1918 the German Army had developed and refined infiltration tactics, which they carried forward with great effect into the next war. This was especially so in FIBUA, where very low level leadership and flexibility is at a premium. Further objective evidence⁹ suggests that the Germans' better performance was due not to better individual soldiers but to better low-level tactics.

The British response was to be slow, thorough and deliberate; and to exercise firm, centralised control, particularly in FIBUA. This means narrow sectors, slow rates of advance, thorough clearance and reorganisation at every stage. It was the competent response of a tactically inferior army.

From 1945 until the mid-1980s the British Army had no real experience of FIBUA. Its Infantry re-read the war diaries of the last war and re-hashed them without analysis. FIBUA training was limited to an occasional attack on Imber Village. This seemed to confirm existing doctrine - scarcely surprising, given the ratios of force to space employed and the frontage available.

Since the mid-1980s the Army has had considerable opportunity to exercise in Ruhleben and Doughboy in Berlin, in Hammelburg and Copehill Down and Whinney Hill. However, our preconceptions remain. They are reinforced by the

8 Dupuy, Colonel T.N., *A Genius for War*, London, 1977, pp 253-4, quoted in Hastings, *op cit*

9 Rowland, D., *Defence Operational Analysis Establishment, The Use of Historical Data in the Assessment of Combat Degradation*, *Journal of the Operational Research Society*, Vol 38, No 2, 1987, pp 149-162, and private communication with the author

understandable desire of commanders to make best use of the available facilities. This leads them to put the maximum possible number of troops into the various FIBUA villages. Hence battalion and even brigade level exercises in Ruhleben and Copehill Down. Such exercises reinforce existing perceptions, and prevent low-level manoeuvre due to sheer overcrowding.

Such, perhaps, are the reasons why the Army has inherited its present perceptions and tactics. Because of those misleading perceptions, we do not appear to have looked at the available evidence objectively. That is why perceptions and evidence appear to be contradictory.

Moving On

It is stressed that current methods are wrong and dangerous. That they are wrong has been illustrated. That they are dangerous stems from their consequences. They dispose the defender to allow himself to be surrounded, and suffer up to four times the attacker's casualties. They dispose an attacker to slow, plodding, deliberate methods that will often fail: that will result in more casualties, in order to achieve the objective in a further assault. How, then, should we approach FIBUA?

If the defender can expect to suffer three to four times as many casualties as the attacker, it is sensible that he should choose not to defend. His best course is to counterattack at all times, wherever and whenever possible. CO 1 KINGS ordered his rifle companies to:

*Continue to attack the enemy whenever possible, in ambush and on ground of our choosing. Movement is essential to the success of this battle. It may be forward or lateral movement. . . Opportunities are to be taken when they occur.*¹⁰

Conversely, to choose to fight from strongpoints allows the enemy to surround and isolate the troops in them, and then destroy them with tanks.

The relevant part of the *Army Field Manual (AFM)*¹¹ describes the defence as comprising the perimeter force, disruption force, strongpoints and a reserve. What it does not explain is what the strongpoints are for. It suggests that their purpose is to enable the infantry to hold ground. This can be seen as an invitation to be surrounded. It encourages the defenders to fall back to what they perceive as a better position, but one which actually places them at a systematic disadvantage. Several passages in the references cited here state the need to spend time

¹⁰ Reference 4, paragraph 11

¹¹ *The Army Field Manual Volume IV Part 5, Fighting In Built-Up Areas, Army Code No 71346, (pt 5)*

in reconnaissance and preparation of routes, rather than in constructing strongpoints. Those routes should be forwards, backwards and to a flank: the point is that time should be spent in preparing to fight a mobile, aggressive battle rather than a static, defensive one.

The latest amendment to that part of the *AFM* recognises that defender's casualties may exceed those of the attacker, but does not draw any concrete deductions. It emphasises counterattacks slightly more strongly than previously. It still stresses the preparation of strongpoints. It even states that they should be 'prepared for continued resistance even when bypassed and isolated.'¹² Its keynote section¹³ does not specifically require the execution of counterattacks. It scarcely mentions the term at all. The terms 'offensive manoeuvre' and an 'aggressive defence' are used in an abstract and anodyne manner.

The amendment is clearly intended to suggest a more aggressive posture. However, it does not actually change doctrine from a positional defence, based on the holding of strongpoints, to one based on counterattacks. Doctrine for the attack is unchanged; namely meticulous and methodical planning coupled to a plethora of control measures.

Martin van Creveld¹⁴ suggests that in extreme conditions, command must be either firmly centralised or firmly decentralised. Both can be successful. Waterloo and El Alamein are good examples of firm, central command. However, it does not seem to work in FIBUA. Conversely, German experience suggests that decentralisation does work. Authority is devolved to the lowest levels. The minimum of orders are given. Commanders are well forward. That is not so that they can supervise their subordinates closely, but so that they can see opportunities first hand as they develop. They can then feed in reserves or bring fire support to bear to assist the leading troops. This means that in the attack, section commanders are simply given an H-Hour and an objective. They are directed, expected and encouraged to get there by any reasonable means. They are to infiltrate, get round, avoid and penetrate the enemy's positions. That is quite feasible, since there is plenty of cover and there are inevitably gaps in the enemy's positions. Platoon commanders are directed, expected and encouraged to support their lead section commanders, to open up the best routes, to push forward and get on to the objective, likewise the company commanders.

Objectives should be major urban features such as buildings dominating crossroads. There is little point in stating the mission as 'to destroy the enemy' at these levels. The enemy's destruction cannot normally be achieved unless

¹² *Ibid*, Amendment 2, sub-paragraph 0105a

¹³ *Ibid*, paragraph 0105 passim

¹⁴ *Van Creveld, Martin, Command in War, Harvard University Press, London, 1985, passim*



Viking Squadron supports 40 Commando Royal Marines whilst conducting an attack on Cileni village during Exercise Joint Warrior as part of the Joint Expeditionary Force exercise, May 3, 2018. Photo: PO Si Ethell, Crown Copyright

his withdrawal is prevented. In FIBUA this is most difficult because of the cover available. In addition, such a mission tends to result in head-on battles of attrition.

If the enemy's position is infiltrated on several axes by a more numerous attacker, he will feel vulnerable. He will be inclined to pull back to better-prepared positions to the rear. He will be encouraged to close up to his strongpoints. He will be located, surrounded and defeated in penny packets. If the enemy is bold and well led, he will counterattack strongly and unexpectedly. One can then resort to slow, deliberate and methodical tactics. However, the likelihood is that the enemy is not that good. The British Army is one of the few all-professional armies in the world. The Wehrmacht was exceptional, and its like will probably not be seen again in the near future. We should learn from its methods, and apply them to the fine soldiers and excellent training facilities at our disposal.

Some of the skills we currently teach are extremely good, insofar as they relate to what may be called 'housebreaking'. However, that is but a small part of the repertoire required. The skills of movement and infiltration, of scouting to find routes through and past, need more attention. This calls for fewer set-piece attacks on defended houses and more walkthroughs, talkthroughs, minor battle lessons and TEWTS.

Most importantly, our present perceptions of force to space and troop density must be overthrown. There should be space in every exercise and every TEWT for infiltration and manoeuvre. In practical terms this means attacking or defending

Copehill Down with no more than a company. To attack along its main streets with a company on each side of the road, each with only a single building's frontage, is to guarantee a frontal slogging match that proves little for either the attacker or the defender.

Thus present perceptions of FIBUA should be revised. Instead, it should be emphasised that FIBUA takes place on terrain that offers good cover to attacker and defender, leads to short engagement ranges; requires manoeuvre both in defence and offence; and requires loose, highly decentralised command and control. This is very different from the tightly controlled battle we currently try to stage. However, it is more consistent with the doctrine of directive control.

Summary

To summarise, the Army's perceptions of FIBUA are contradicted by available evidence. As a result, its tactics are inappropriate. They will lead to attacks that bog down of their own inertia. In defence we will be systematically outmanoeuvred, and defeated in detail. Our perceptions seem to be due to the Army's experience at the hands of a tactically superior enemy in the Second World War. This has prevented change to a more positive doctrine. Such a doctrine should be based on decentralisation of command in the offence, and counterattacks in defence. It would require changes to current training methods, particularly as they relate to ratios of force to space.

We have excellent training facilities and instructors. We merely need to shake off our perceptions as to the real nature of FIBUA, and change our tactics accordingly.





Pictured are 40 Commando Royal Marines attacking Cilieni village at Sennybridge training area during Exercise Joint Warrior, May 3, 2018. Photo: PO Si Ethell, Crown Copyright.

The Author wishes to thank Dr D Rowland of the Defence Operational Analysis Centre, West Byfleet, Mr J R Searle of the Royal Military College of Science, Shrivenham, and Dr H-A Doughty for their assistance in the preparation of this article.



A Stormer vehicle fires a Starstreak High Velocity Missile (HVM) on Ex Javelin, as part of the 1 Yorkshire Regiment Battlegroup in British Army Training Area Suffield (BATUS), Alberta Canada.

The Combat Service Support (CSS) Battlegroup, part of the Yorkshire Regiment Battlegroup is made up of 4 Royal Logistic Corp, 4 Battalion Royal Electrical Engineers (4 REME), 4 Medical Regiment (4 Med Reg) and 174 Provo Company Royal Military Police. Photo Sergeant Mark Webster RLC, Crown Copyright

Combat Service Support (CSS) in Urban Operations

This article by Lieutenant Colonel J M Brown RLC, was originally published in BAR 140 Autumn 2006.

They are the post-modern equivalent of jungles and mountains - citadels of the dispossessed and irreconcilable. A military unprepared for urban operations across a broad spectrum is unprepared for tomorrow.

Lieutenant Colonel Ralph Peters (2004)

Whilst there appears to be recognition that urban operations (UO) are likely to increase, if not predominate, in the future, the British Army appears not to be carrying out enough specific training, equipping or preparing for CSS, to succeed in this operational environment.

*In World War II (WWII), over 40% of all battles took place in built-up areas. Battles in bigger towns, such as Stalingrad and Berlin, represent only a small proportion. Battles mainly took place in small and medium-sized townships, i.e., in villages and towns...Towns are of great importance in battle. Soldiers of any type must consider this fact.*¹

Sullivan argued that Saddam Hussein always wanted to ‘bog down coalition troops in urban warfare in Baghdad and other cities.’² Suffice to state, it appears that the relevance of troops being capable of conducting successful operations in urban environments is as relevant now as it was in the classic urban battles of history.

‘The world is in a period of massive urbanisation [and] more people than ever live in major cities and megalopolises.’³ The likelihood of involvement of British troops in urban environments and operations in the future, due to a world-wide expansion of urban dwellings, intimates the requirement for a coherent policy for urban operations and the means of supporting such operations - namely Combat Service Support (CSS).

The British Army appears not give enough thought to the subject of urban operations. In particular; it does not truly consider the urban CSS requirement, it does not acquire the correct equipments to carry out urban operations and its requisite CSS, and it does not conduct enough urban training or have access to suitable training establishments. Whilst all of this is true for the Combat and Combat Support Arms, this is particularly true of the Combat Service Support units and soldiers who are generally ‘the poor cousins’ in terms of the amount and types of equipments they are issued with and the training they receive. Admittedly, the British Army has some doctrine and limited training appertaining to combat in the urban environment. However; with the rising spread of urbanisation, the non-linear and non-contiguous battlefield, the spread of asymmetric warfare by third world nations and terrorists⁴ - and the extension of the ‘Three Block War’ (3BW) concept

1 DDC 1972 p 3

2 Sullivan, Terry, *Power without Persuasion, The Politics of Direct Presidential Action, Presidential Studies Quarterly, May 2004, p 4*

3 Antal, John and Gerecke, Major Bradley, *City Fights, Selected Histories of Urban Combat from World War II to Vietnam, Penguin Random House, 2003, p 429*

4 For example, such tactics as moving battle into the urban environment is seen as a way to off-set the traditionally stronger technological and fire-power advantages of many western nations

from the tactical to the grand strategic level of conflict, it is argued that the British Army and particularly its CSS elements are currently, inadequately prepared for the urban operations of the future.

Fighting in urban areas is considered 'primordial combat. It is clearly distinct from the elegant manoeuvrist approach to operations that characterized the conduct of the [1st] Gulf War'.⁵ This type of 'savage' combat is surrounded by stories of heroism and self-sacrifice, as typified by some individuals in books such as *Black Hawk Down* and *Stalingrad*. In any war, soldiers do remarkable things in the face of fire, but it is, nevertheless, essential to maintain perspective and gain a realistic view of the issues involved with urban operations, rather than chase the heroic myths of urban combat or become overwhelmed by the tales and scale of past urban destruction.

The Fighting

*Hand grenades and bayonets were used as the principal weapons in house to house fighting.*⁶

*In the streets the fight is close; it is instantaneous; there is nothing harder in combat.*⁷

During the twenty-six day battle for Hue, 1968, the United States Army estimated enemy casualties at 5000. In the first battle for Grozny 1994 - 1995, despite obfuscation on both sides, and, depending on which source is read, it is estimated the total number of casualties on both sides was 5,000 - 35,000.⁸ Suffice to say thousands lost their lives or were wounded.⁹ It is clear that urban battles, regardless of decade, are dangerous and result in many casualties. Furthermore, as evidenced in Iraq, 2004, whilst the threat is dangerous enough - from random snipers, ambushes, bomb-throwers and RPG attacks - asymmetric threats from other elements such as suicide bombers only add to an already fraught situation.

5 Rosenau, James N., *Along the Domestic-Foreign Frontier: Exploring Governance in a Turbulent World*, Cambridge University Press, June 1997, P 382

6 45th Infantry Division history on the fight for Aschaffenburg, 1945

7 Eversmann, Matthew, *SFC, Task Force Ranger, Bravo Company, 3/75 Ranger Regiment during the Battle of Mogadishu*, 1993

8 Blandy (1996, p.10), of the UK Defence Academy, Conflict Studies Research Centre, gives official figures for the Federal Armed Forces, 11 December 1994 – 1 December 1995 as: Overall losses and casualties: Killed – 2034; wounded – 7172; Prisoners and missing – 691. Perhaps more telling is his statement, 'It should be noted that for every Russian killed by Chechens, five die due to lack of care, carelessness or other reasons.'

9 Knezys, Stasys and Sedlickas, Romanas, *The War In Chechnya*, Texas A&M University Press, 1999, pp 180-183; also Seely, Robert, *Russo-Chechen Conflict, 1800 -2000, A Deadly Embrace*, Frank Cass Publishers, 2001, pp 258-263



Army soldiers scan for enemy snipers at the Nineveh ancient ruins in Mosul, Iraq, April 4, 2007. The Soldiers are with 2nd Battalion, 7th Cavalry Regiment, 4th Brigade Combat Team, 1st Cavalry Division. U.S. Air Force photo: Staff Sergeant Vanessa Valentine, Released.

The Three Block War

In one moment in time, our service members will be feeding and clothing displaced refugees - providing humanitarian assistance. In the next moment, they will be holding two warring tribes apart - conducting peacekeeping operations. Finally, they will be fighting a highly lethal mid-intensity battle. All on the same day, all within three city blocks. It will be what we call the three block war.

General Charles Krulak, USMC (Retired)

The reality of the Three Block War (3BW) was manifest during Operation TELIC, 2003. Once the port of Um Quasar had been captured much of the military reaction to subsequent incidents was conducted by individuals from 23 Pioneer Regiment and 17 Port & Maritime Regiment, both units of the Royal Logistic Corps. Whilst their efforts concentrated on reconstructing and running the port for the Allies, they continued patrolling, providing relief for the civilian population and carrying out a multitude of other tasks (Hopkinson, Interview, 2004). Meanwhile, across Iraq, warfighting continued, as did humanitarian work:-

*We did this, especially around Basra. In Um Quasar as well. At one stage we were receiving the force, an air war was going on in the north, war-fighting in Um Quasar and we were trying to feed and water the population.*¹⁰

*I think the 3BW is a fact of life. On Op TELIC, whilst not necessarily street to street - although there was some of that happening...whilst artillery rounds were going down in Basra, we were distributing aid and regenerating power in Um Quasar.*¹¹

*In Iraq, running out of areas such as Safwan, we had humanitarian operations going on, just down the road we are peacekeeping and in Basra, we were fighting and taking incoming. It's happening now, and there will be more of it in the future.*¹²

Whilst not a universally recognised military phrase in the British Army, the reality of Krulack's 3BW is a well-recognised operational requirement. Brigadier Binns¹³ argues that 'the 3BW is a bit of a misnomer in that it implies we have to deal with warfighting, peacekeeping and humanitarian aid in a three block area. In Iraq, our experience is that it happens in the same block, in the same area.' The original 3BW concept is now a micro and macro growth phenomenon.

In any theatre of operation, it is likely that the British Army, alongside its allies, will conduct the full spectrum of operations during a campaign, to one degree or another. If these different parts of the 'spectrum' do not occur simultaneously, then at the very least it is likely there will be transitions from one to another, and possibly back again. Iraq was, and is, a clear indicator for future operations. Further, what also adds to complexity in an environment where the military is stretched both physically and mentally in terms of manpower and resources, is an asymmetric enemy.

10 Mack, Author Interview, 2004

11 Cowling, Author Interview, 2004

12 Hickson, Author Interview, 2004

13 Brigadier Binns, interviewed by author, 2004

A discussion of asymmetric tactics, whilst relevant, is not within the remit of this paper, but the civilian issues are key facets of the urban problem for the military. The difficulties manifested by a civilian population in an urban environment are myriad. Whilst armies conduct military operations, the civilian population, if they have not been forcibly moved or if they have remained voluntarily - as was the case in Iraq - need to continue their daily existence. This has ramifications on all aspects of military operations.

A further issue is that military forces, including the British Army, do not tailor force size to cater for tasks other than warfighting or specific missions – they do not have the manpower and are unable to afford it. However, once ensconced on military operations, especially in an urban setting, dealing with civilians becomes reality. A stretched force, not tailored for anything other than immediate missions and warfighting, has no choice but to carry out other tasks,¹⁴ as well as combat. The logistical effort cannot be denied and this means troops who should be fighting or supporting the fight are, arguably, misused. As a result, commanders need to envisage how they will be successful in the face of adversity from the enemy, coupled with a lack of all-encompassing capability. Add this to the complexity engendered by an asymmetric urban environment, and success in the 3BW at any level of conflict - which is, arguably, now an essential prerequisite for a successful end-state¹⁵ - becomes monumentally difficult.

The 3BW exacerbates the already difficult urban operational environment. Nevertheless, success in the 3BW is essential and this means troops must be allocated to conduct the tasks required to achieve it. Inevitably, this means troops and resources, dedicated to sustainment become key factors for success. It is here that CSS in Urban Operations comes to the fore.

CSS in Urban Operations

*We used armoured vehicles in Belfast, but then we go to Iraq and because we have big green trucks we think it's alright to use them in cities. It's not.*¹⁶

As a broad vision, the End-To-End (E2E) study (DCCS, 2003) recommended that the British military:

14 *Other tasks include: Refugee control, Prisoner of War (PW) guards, traffic control, power regeneration, humanitarian relief, medical support, peacekeeping, screening civilian population for hidden enemy/insurgents, policing, judicial disputes and so on.*

15 *See Glossary.*

16 *Pike, WO1 (RSM), Urban Warfare Training Wing, Copehill Down, UK, 2004*



Queens Lancashire Regiment on patrol in Basra with Saxon, armoured personnel carriers. Photo: Corporal David Whittaker Smith, Crown Copyright

- *Minimise the deployed footprint, drawing resources back, where possible, to where they can be used most effectively and efficiently;*
- *Concentrate support facilities at the logistic centre of gravity; and*
- *Streamline the end-to-end supply chain, reducing excess capacity and duplication and adjusting organisational boundaries to ensure the smoothest possible flow of the required level of logistic support to the front line.*

The ACGS (2003) concept paper echoes the E2E CSS outline, arguing that directed logistics, ‘with its predictive ability to move only that which is strictly necessary, at just the right time and place, then to replenish swiftly, is conducive to effective urban operations.’ There is no scientific evidence to prove this,¹⁷ and a Dstl interviewee cited Russian experience in Chechnya, arguing that directed logistics may not work in the urban environment. The Russians found that the urban environment was not conducive to good communications, and, therefore required logistic mass forward - close to the urban environment - in order to react to a constantly changing situation. The nature of urban operations, with small, geographically dispersed units and combat teams, who are in close-quarter battle means CSS replenishment is demanding, frequently required and difficult.

¹⁷ *Dstl, Author Interview, 2004 and Frankland, Author Interview, 2001*

The necessity to maintain tempo and initiative means withdrawal to resupply may not be desirable, indeed, it may not be possible. In such circumstance, a 'push' versus 'just-in-time pull' system may be more apt. Clearly, tactical situations dictate the CSS response, but nowhere is the tenet of flexibility more apposite than urban operations. This must be realised from the strategic to tactical level by all supply chain personnel - not just those in or near to the fight.

The aspirations of E2E are laudable, but it remains to be seen if the envisaged concepts and practise can be applied to urban operations or, indeed whether they are suitable.

Acquisition

Until specific CSS doctrine is fully determined for urban operations, there is no current acquisition for specific urban CSS systems, nor, it is surmised, is there likely to be any developed. Clearly, there needs to be a balance between urban and other types of operations and in most, if not all cases, it is unlikely that urban specific equipments for CSS troops will be developed. None of this precludes the use of current in-service equipments or systems for CSS in urban operations, as evidenced during Op TELIC where AFV 432's were used, out of role, to deliver replenishment to troops in Basra.¹⁸

There are specific equipment issues which warrant another study, but particular consideration also needs to be given to procurement of more (currently) in-service personal equipment for issue to CSS personnel. Urban specific equipment also needs to be available for the combat arms and the issue of protection opens a debate into CSS armoured delivery vehicles. Further consideration also needs to be given to equipment required for the non war-fighting aspects of the 3BW. What needs to be resolved is exactly what equipment is required for the urban CSS task, which returns to the issue of doctrine upon which to base equipment scalings, thereby allowing for acquisition.

Contractors

The use of civilian contractors on the battlefield should not be seen as a replacement for military force, rather, an enhancement. 'It is clear that outsourcing has the scope to be of use and could allow both the military and industry to become collaborative, intelligent customers and capability providers. This is not, however, an instant solution or panacea to all military logistic issues. Ultimately, military success must be ensured as far as is possible...'¹⁹ Contractors can supply missing military skills for the urban environment, particularly in areas such as

18 Sourced from various interviews conducted by the author in 2004

19 Brown, 2004, p.16, arguing for a judicious use of contractors

reconstitution of civilian infrastructure. In the 3BW imperative, this could be critical and where possible logistic troops should be replaced as soon as possible. However, ‘The level of contractor support required to deliver capability for deployed operations needs careful consideration. Sufficient skilled Service personnel must be retained to prevent an over-reliance on contractors (MOD, 2003).’ The same document (p.38) goes on to state that experience in Iraq operations ‘demonstrated that MOD cannot necessarily rely on contractor support in regions where the threat level is high. Foreign and Commonwealth Office travel advice and the conditions in the Gulf affected some contractors’ willingness to provide support. Two instances were reported of contractors refusing to deploy or remain in theatre.’ Finally, the control, safety and protection of contractors and their status under the Geneva Convention must be considered. In light of the threat, such as civilian kidnappings and murders in Iraq, - most, if not all of which are taking place in towns and cities - the issue of employing contractors outside of a benign environment must be thought through carefully.



Members of 1 Yorkshire Regiment (1 York) Battlegroup conduct live firing during Ex Prairie Lightning in British Army Training Area Suffield (BATUS), Alberta Canada, as part of the Combat Service Support (CSS) Battle Group. Photo Sergeant Mark Webster RLC, Crown Copyright

Combat Supplies

Ammunition

It is generally believed that urban operations are characterized by high ammunition expenditure rates. Whilst there is no modern model for this and therefore a lack of raw data²⁰, it is estimated that, ‘The ammunition consumption rate for the first day of combat in a built-up area can be up to four times the normal rate. Even though it could decrease during succeeding days, consumption remains high.’²¹ Specific natures have higher consumption rates than other operations: High Explosive, grenades, precision munitions for airpower, engineer demolitions/explosives, smoke and small arms ammunition.²² This places demands on the supply chain, both in terms of physical re-supply by CSS troops to the fighting echelons, and, at a macro level, the replenishment from the home base. The former requires thought on delivery systems, particularly for the ‘last 500 yards’ where the likely requirement for man-portability, as evidenced in Grozny by the Russians, is critical. The latter is directly linked to procurement of sufficient stocks, coupled with strategic and operational lift. In an age of directed logistics, the ramifications of stock levels, just-in-time delivery and strategic lift capability require further thought and refinement.

Fuel and Lubricants

A generalisation holds that fuel and lubricants consumption will be reduced or even becomes a negligible requirement for urban operations. There is no data to confirm this.²³ It is suggested scale needs to be taken into account as there is clearly a difference between urban operations vehicle movement in a small town compared with a large city. Furthermore, the use of armour, other vehicles and generators, which generally will be running with engines idling when not in direct use, means fuel and lubricants are being used continually. Whilst stocks may be available in a benign environment from civilian sources such as garages, military stocks will be required to some degree. CSS fuel vehicles and storage facilities are soft targets, and, therefore, location of fuel dumps, depots and fuel tankers requires careful planning, regardless of type of operation. Protection will be critical, as will route security to and from re-fuelling points, both of which may require combat troops to be allocated to the task. Whilst units, ‘may not use much fuel daily, there will be a greater requirement for packed fuel when it is needed.’²⁴

20 See the Dstl interview by author, 2004

21 AFM Vol 2, Pt 5, 2002, p.A-7-2

22 WW II data, evidence from Grozny and other considerations suggest the likelihood of these ammunition requirements. (See Frankland, 2001, CDF 2003, and AFM Vol 2, Pt 5, 2002).

23 Dstl interview by author in 2004

24 AFM Vol 2, Pt 5, 2002, p.A-7-2

It should also be acknowledged that packed fuel (jerry cans) is both manpower and time intensive.

Rations

For troops, the calorific intake required for urban operations is estimated to be some 5000 calories as a minimum.²⁵ This suggests that there is likely to be a requirement for ration supplements during urban operations. Whilst local sources may be an option, both the standard of the food and the consideration of the urban population requirement must be considered. Feeding is likely to be carried out at sub-unit or individual level, as time and safety allow. The rotation of troops from fighting should allow for centralised feeding of hot meals – not only is this nutritionally necessary, but good for morale.

Water

Consumption is likely to increase in urban operations, regardless of climate. Not only will dehydration occur more quickly in urban fighting through physical exertion, the medical services, which use vast amounts of water, are likely to have an increased demand to cope with the extra casualties induced by the nature of urban combat.

Water is difficult to deliver. Regardless of packaging, it is bulky and a time-consuming operation. Local sources are a way around this problem and specialist engineers can assist with this. However, like rations, both the standard of the water and a consideration of the civilian population requirement must be taken into account. Clean water is critical as a health issue and planning for delivery, possible production and quality control must be robust.

Command, Control and Communications (C³)

C³ is complex in urban operations. For CSS troops it is arguably more difficult than it is for the Combat Arms, as current and future scalings of secure or insecure communications are inadequate for all CSS personnel to be issued personnel radios, or even for sufficient vehicle borne radios. Also, due to the terrain, radio is likely to be less effective. This means CSS commanders at all levels have immense difficulty in controlling troops once deployed. Communications also present one of the biggest obstacles to casualty evacuation.²⁶ The poor communications problem emphasises the requirement for mission command but this does not alleviate the fact that in a fluid situation, possibly whilst under attack, communications are essential for command, control and coordination. This reinforces the

25 CDF, date not known and Frankland, 2001

26 AFM Vol 2, Pt 5, 2002, p.A-7-3



3 Close Support Logistic Regiment, Royal Logistic Corps (3 CSLR) undertaking early morning preparations for a Combat Logistic Patrol (CLP), Camp Bastion during Operation Herrick XVIII. Copyright: © IWM. Original Source: <http://www.iwm.org.uk/collections/item/object/205394442>

requirement for robust communications to assist command and control,²⁷ and British commanders need to determine methods for overcoming the difficulties of inadequate C³ assets in urban operations.

Equipment Support (ES)

‘The most important single lesson learnt from WWII experience of OBUA²⁸ is to use machinery rather than men’.²⁹ Bearing this historical observation in mind, enemy action and the terrain itself will be harsh on equipment and it is likely that attrition of equipments would be high. Constant idling, followed by short, rapid, low gear/high-revolutions movement will wear on engines affecting reliability, availability, maintainability and durability.³⁰

AFM Vol 2, Pt 5 advocates, ‘a forward repair policy during urban operations. Although some maintenance operations may be consolidated in civilian

27 *The British Army currently does not have such communications for all CSS troops and vehicles. Whilst scalings with BOWMAN will improve the current situation when fully introduced (Hornsby, 2004), it is not a panacea. This author argues that overall, the CSS communications problem is not going to be significantly improved by the introduction of BOWMAN, although some would believe otherwise.*

28 *Operations in Built Up Areas.*

29 *See BAR 121, April 1999, In The Jungle of the Cities, Jary and Carbuncle*

30 *Durability, is a ‘measure of the systems capacity to withstand the pressures and demands of the environment in which it is expected to be used’ (BMD, 1996, p.77). It is an untested measurement for equipments in sustained urban operations (dstl, Interview, 2004) and therefore presents an OA requirement for the future.*

facilities, many vehicles will have to be repaired near the fighting positions.’ However, forward repair, under fire, is unlikely to be a realistic option in urban operations and therefore vehicle casualty recovery to a ‘safer’ repair area, preferably using armoured recovery vehicles with a suitable self-defence capability, is likely to be a better option. In a more benign setting, the options are greater and the tactical situation will dictate ES and maintenance response. The ability for all vehicles to be tow, winch and crane capable would be useful, but this would likely come with a prohibitive acquisition cost and a training bill. Another important consideration is that ‘unit armourers and their small-arms repair kits provide only limited maintenance. Commanders should plan for increased weapon maintenance demands.’³¹



FV430 Mk3 Bulldog vehicles arrive in Iraq just before Christmas 2006 with the RGJ Battalion based at Basra Palace, the first to use them on operations and for patrols in Basra City. Additional armour provides enhanced safety for driver, commander and troops while other features include air conditioning and an improved engine and transmission for peak performance and reliability. The vehicle has already proved its worth with many soldiers favouring Bulldog as a vehicle. Photo: Corporal Andy Benson RAF, Crown Copyright

31 AFM Vol 2, Pt 5, 2002, p.A-7-2

CSS Firepower

Generally, British Army CSS troops lack significant firepower, relying only on standard personal weapons.³² Whilst some improvements have been made in Iraq, unlike their Combat Arm counter-parts, heavy machine guns such as GPMG and the .50 Browning, underslung grenade launchers, grenades, short-range anti-armour weapons and so on, are rarely, if ever, issued or trained with, even for and on operations. It is argued that these are critical.³³ Indeed, Pike states, 'the lack of kit and lack of firepower for the logistic troops leads to a lack of confidence.'³⁴ Furthermore, realistically, a light enemy armoured vehicle in an urban environment could currently destroy a British CSS convoy with impunity. Currently, the lack of adequate CSS firepower means protection and security for CSS assets requires consideration and an allocation of combat power.³⁵

Protection and Security

To ensure CSS success, 'a reasonable degree of security is necessary to allow CSS units to carry out their tasks. [However] at best CSS units can conduct only limited local self-defence and this at the price of lost CSS activity.'³⁶ The priority given protection and security, whether by allocation of combat troops or through CSS self-protection, will need balancing against the threat. The 3BW and asymmetry complicates this, as does the requirement for rear area security outside of the urban operational setting on the Line of Communication. Also, 'Focused Logistics' has not addressed the issue of its own vulnerability to enemy action.³⁷

Positioning of logistic facilities will require a threat assessment as well as terrain considerations. Area protection and anti-armour weapons, which CSS troops traditionally do not have, need to be allocated. Armoured vehicles may need to be allocated to CSS missions for short or sustained periods. Basic soldiering skills by CSS troops must be augmented by training for the urban fight. Finally, the CSS plan, troop and vehicle movements must be an integrated part of the combat plan to ensure cohesion and avoidance of fratricide.

32 5.56mm SA 80 and the LSW.

33 Based on the interview conducted by the author

34 Pike, Author Interview, 2004

35 Allocation of combat power for CSS protection rarely occurs as there are not enough combat troops to carry out this function, as well as primary combat tasks and missions.

36 AFM, Vol 1, Pt 1, 2002, p.4-20

37 Moore D. and Antill P., *British Army Logistics and Contractors on the Battlefield*, RUSI Journal, February 1999

Medical Issues

The medical issues for urban operations are considerable, ranging from treatment of troops and civilians, to casualty extraction and the prevention of disease. Space precludes a full investigation into medical issues, but if Pike's comment - '...we pay lip-service to our medical services - we don't practise it right because on exercise, there is no blood and guts' - is correct, then there is a cause for concern. Civilians aside - although they will be a factor and a problem - it is generally acknowledged that urban operations can result in high casualties³⁸ through sustained close quarter fighting, burning and collapsing buildings, and blast and incendiary injuries.³⁹ This will add to the burden of medical troops and place demands on the medical supply chain. It will often be difficult to evacuate casualties, both from their fighting positions and from the built-up area generally, exacerbated by rubble, other obstacles and the positions troops will be in, such as sewers and multi-storey buildings. This places a premium on the level of medical training given to both the individual soldier to apply 'buddy first-aid,' and medical personnel further back in the casualty evacuation chain.

Casualty evacuation (CASEVAC) will be critical and whilst wheeled and tracked ambulances should be free from attack under the Geneva Convention, they can give away friendly troop dispositions. Further, as proved in Iraq, not all belligerents have read or pay attention to the 'law of war.' However, CASEVAC will happen and to alleviate the burden, an ambulance shuttle system with collecting points, ambulance exchange points, and relay points has to be established. By establishing an ambulance shuttle system, the distance required to carry casualties by stretcher teams is shortened. This also allows personnel familiar with the area to remain in that area and to continue their search, rescue, recovery, and evacuation mission. The use of predesignated collecting points, may aid the evacuation effort.⁴⁰

The use of helicopters (for casualty evacuation) should not be ruled out, but it should not be assumed either, particularly from forward positions. However, 'Helicopters may be able to evacuate casualties from the roofs of buildings or to insert medical personnel where they are needed.' This can be particularly useful as helicopters can also be used to deliver supplies prior to casualty collection.⁴¹ [However], 'The vulnerability of helicopters to sniper fire, [as well as rocket and

³⁸ *US doctrine and Russian experiences in Chechnya suggest casualties may increase by a factor of three to six. (CDF, date not known).*

³⁹ *AFM Vol 2, Pt 5, 2002, p.A-7-3*

⁴⁰ *AFM Vol 2, Pt 5, 2002, p.A-7-3*

⁴¹ *The same does not apply to wheeled and tracked ambulances which can only be used legally to transport medical supplies.*

missile attack] has to be considered and weighed against the probable success of the evacuation mission.⁴²

The high intensity of urban operations is extremely stressful and can result in higher than normal psychological casualties. Non-linear combat, the fear of constant attack, isolation through separation and lack of communications, exposure to civilian casualties - especially women and children, minor injuries and physical exhaustion are casualty inducing factors, psychologically, suggesting frequent troop rotation and a requirement for forward basing of psychological medical teams.

Non-Governmental Organisations (NGOs), Private Voluntary Organisations (PVOs) and Indigenous/Civilian Capabilities

Despite the difficulties involved in working with NGOs, they can be extremely useful organisations to 'utilise.' Whilst the vast majority of them purport independence and non-partiality, leading in many cases to non-cooperation with the military; it is often possible to 'coordinate' their approach. This is a difficult area, not least because of the proliferation of such organisations which can mean, by weight of sheer numbers of organisations present - each with their own agenda - they become unwieldy, repeat effort and become an unorganised conglomeration. However, the benefits must be harnessed, particularly in the 3BW scenario, as NGOs have the potential to alleviate the logistics burden for civilians from CSS troops. Recognising the limitation of not being able to 'command' NGOs, the use of Civil-Military Cooperation (CIMIC) teams and liaison officers cannot be underestimated, and - like contractors and indigenous capabilities such as medical facilities - should be used and encouraged where possible, providing military success is not compromised.

Specialist Equipment

Urban operations require specialist equipment for combat and CSS troops.⁴³ Currently however, the supply chain is not set up for the specialist items required - they either do not exist or there are not enough of them. Prior to Operation TELIC, the UK Urban Warfare Training Centre were consulted on urban assault

42 AFM Vol 2, Pt 5, 2002, p.A-7-3

43 For example: *Combat requirements include; mouse-hole charges, grappling hooks, rappel and belay gear, chainsaws, fire-fighting equipments, weapon-mounted lasers/flashlights, and more medical supplies. CSS troops require; better vehicle protection (armour add-ons), night vision goggles, enhanced firepower capability, area defence weapons and cab-borne satellite navigation. This list is not exhaustive. It is collated from several doctrinal sources and Frankland, Interview, 2001.*

packs. The dedicated assault packs require 14 NATO Stock Numbers (NSNs) per assault pack. The availability of some items is lacking. We sent them [the packs] to Iraq, but they did not arrive. Things like mouse-hole charges do not exist as a NSN. 'The supply chain needs to be in place for all of this specialist kit because it just isn't there.'⁴⁴

This lack of sufficient equipment undermines urban tactical, and thus, operational capability and furthermore means British troops enter urban terrain untrained in the right techniques using the right equipment. Currently, 'adapt and overcome,' through innate flexibility, is the British way and this has sufficed on recent operations. It is suggested that this cannot continue if the British Army is to operate predominately in urban terrain, in the future.



Trucks are loaded, and the FOB accommodation is cleared in FOB Shawqat, Afghanistan. Photo: Corporal Si Longworth RLC, Crown Copyright

44 Pike, *Author Interview*, 2004

Transport and Delivery

Critical to CSS is a means of delivery and the transport or mechanism to deliver it. The British Army's current 'B' vehicle fleet is not particularly viable in urban fighting. Whilst suitable in a benign environment, soft-skinned vehicles are highly vulnerable to every type of weapon, including the stone-age projectile. Therefore, notwithstanding the up-armouring of various B vehicles in the deployed fleet in Iraq and Afghanistan, protection is an issue. Furthermore, in smaller urban areas, roads may not be suitable for large wheeled or tracked vehicles, where mobility may be restricted by narrow streets, small turning areas, rubble and barricades. Load-bearing vehicles such as DROPS generally use flat racks with no sides, and, bearing in mind re-supply will probably need to be man-portable for the last '500 yards,' are unsuitable for resupply missions with broken down stocks, to widely dispersed troops and sub-units in cities. Whilst 4 Tonne trucks may be more suitable in size, they still lack protection and mobility may still be a problem. Currently, as with specialist equipment, 'adapt and overcome' is the order of the day. It is clear from the use of armour for CSS missions in Basra (Interviews, 2004) that *'there needs to be some sort of protected vehicle for supply'*.⁴⁵

The use of helicopters has been discussed previously⁴⁶ and whilst there are risks associated with their use, they can be highly versatile assets. Risk versus requirement in the tactical scenario is key, but the load carrying capability, plus the firepower they are capable of employing, means they must be considered.

Air delivery systems are also an option. In Arnhem and Warsaw, parachute delivery was employed but were largely unsuccessful due to inaccuracy. However, technology means there are possibilities available for the future. These include:

- *Unmanned Aerial Vehicles - Current UAV technology allows for small payloads of 35lbs. However, remotely piloted helicopters carrying sizable payloads are already available. The USMC are developing Broad-Area Unmanned Responsive Resupply Operations based on a twin rotor helicopter.*
- *Parafoils with guidance units, GPS and engines can be used to fly to pre-designated Landing Zones (LZ).*

Conclusion

This brief examination of urban operations CSS shows the subject to be broad, multi-faceted and complex. Thus, it has only been able to briefly elaborate on some key issues. The requirement for efficient logistics in the guise of Combat Service Support for military operations is manifest. All military operations, world-wide,

⁴⁵ *Ibid*, 2004

⁴⁶ *See Section 3.5 and 4.4.8.*



require logistic support, and the military supply chain is designed to achieve this. However, military operations, especially combat operations, are often difficult at the tactical and operational levels. These difficulties are exacerbated by issues such as the environment. Arguably, of all environments, the urban operating space is the most difficult for a military force to contend with. Historical and conventional wisdom acknowledges this fact, and military commanders and their logisticians recognise the complexity the urban environment engenders.

The expeditionary nature of the British Army dictates a necessity to support and supply troops in all environments, but none are more complex and difficult



The Kings Royal Hussars (KRH) Battlegroup and the Royal Welsh demonstrate the combat power of their units during the Land Combat Power Visit (LCPV) rehearsals at Copehill Down, Salisbury Plain, in preparation for a visit by the Secretary of State for Defence. Photo :Sergeant Steve Blake RLC, Crown Copyright

than urban conurbations. CSS is a key requirement for military success and that success is, arguably, going to be required on an increasing number of urban operations in the future. CSS troops and units must be prepared for urban operations but currently, as shown by this study, they are not. This lack of capability must be addressed now.



Map of the Lebanon (CIA)

Intelligence Lessons from Hizballah's Ground Campaign 2006

This article by James Spencer was originally published in BAR 148 Winter 2009/2010

In order to derive effective lessons for the British Army operations in the MENA region an in-depth analysis of the technologically advanced elements of Hizbollah's operations against Israel's Lebanon Campaign of summer 2006 is in order. However, this analysis does not examine the relatively competent conduct of Hizbollah ground operations. It addresses Israeli Defence Forces (IDF) experiences only where these have a bearing on Hizbollah's capability - other papers¹ have covered the issues. In summary, however, Israel's mistakes seem to have been:

- *inaccurate Intelligence preparation of the environment (IPE)*²;
- *unrealistic political aims*;
- *poor intelligence*;
- *'air arrogance'*;
- *a failure to integrate all arms and services*;
- *and inadequate training and equipment (this latter an issue in common with the UK for Op TELIC 1.)*³

Hizbollah exploited these tactical weaknesses caused by IDF 'Victory Disease', greatly multiplying Hizbollah's limited ground effect.

Political & Demographic Background

In 1920, for colonial reasons, the French formed Lebanon out of the city-state of Beirut, and parts of Greater Syria west of the Lebanon Mountains. This led to political complications as the predominately Christian ('Phoenician') Beirut was coalesced with substantial Sunni and Shi'a Muslim, and Druze Arab populations whose focus had always been Damascus.

On independence in 1943, the two sides agreed to support the idea of an independent Lebanon, and not to invite foreign patrons to intervene in Lebanon's affairs. The unwritten National Pact of 1943 was based on the last, 1932 census

1 Such as Cordesman, *A Preliminary 'Lessons' of the Israeli-Hezbollah War*, (http://www.csis.org/media/isis/pubs/060911_isr_hez_lessons.pdf) and McGregor G *Hezbollah's tactics and capabilities in Southern Lebanon Jamestown Foundation Terrorism Focus 01 Aug 06* (<http://www.jamestown.org/terrorism/news/article.php?articleid=2370089>)

2 Seymour Hersch claims (http://www.newyorker.com/archive/2006/08/21/060821fa_fact) that the ex-pilot Gen Halutz planned to emulate the aerial bombardment campaign on Serbia that NATO used to open up Kosovo unopposed. This was possible in Serbia due to the homogenous ethnicity, and strong central control of armed force; there are 18 sects / ethnicities in Lebanon, many of which have militia. There was also a credible ground element ready to force entry to Kosovo, if the air campaign had failed.

3 Vide Mahnaimi, *Uzi Humbling of the supertroops shatters Israeli army morale Sunday Times 27 August 2006* (<http://www.timesonline.co.uk/tol/news/world/article620874.ece>)

(in which the Maronite Christians were a marginal majority), and allocated the Presidency to the Christians, the Prime Ministership to the Sunnis, and the Parliamentary Speakership to the Shi'a. Since then, a combination of Christian emigration, low Christian and high Shi'a and Sunni birth-rates, and rural to urban migration has left Muslims in a majority, and the Shi'a probably the largest demographic element, but the poorest and least politically represented of the 18 sects and ethnicities of which Lebanon is comprised.

In 1974, Imam Musa al-Sadr (a relative of Muqtada' al-Sadr) founded Harakat al-Mahrumin, a Shi'a empowerment / civil rights group, from which grew the Shi'a Lebanese Resistance Detachments militia (Afwaj al-Muqawmat al-Lubnaniyya), better known by its acronym AMaL - the Arabic for 'Hope'.

In 1982 after Op PEACE FOR GALILEE, Israel occupied South Lebanon as far as the River Litani. Partly as a result of the occupation, Amal split, and the more militant Hizballah ('Party of God') formed, initially following a terrorist strategy and Modus Operandi. During that period, the Israelis allied with and sponsored the renegade 'South Lebanon Army' officered predominately by Christians from the Maronite community interlaced with Shi'a, and operated formally against the PLO in South Lebanon. The SLA pressed many Shi'i and Maronite youths into their ranks, and engaged in disappearances and torture of their opponents, suspected or otherwise, in the notorious Kiyam Prison. Hizballah gained much kudos from its 'resistance' to the hated IDF / SLA presence, and took credit for the IDF withdrawal in 2000.

After Israel's 2000 withdrawal, as so often, the client was left vulnerable to vengeance by their ethnic counterparts. In the case of South Lebanon, many SLA members fled to Israel, although some have returned. However, the Christian population reduced dramatically, leaving a more homogenous, more hard-line, predominately Shi'a society, dominated by Hizballah. It was into this polarised political environment, and rugged physical environment, that the IDF re-entered in summer 2006.

Hizballah Intelligence Preparation of the Environment & OPSEC

The 12 Jul 06 Hizballah raid was by no means unusual⁴; Hizballah had been trying to capture IDF personnel to use as bargaining chips for a prisoner exchange with the Israelis; a previous attempt in Nov 05 had failed. This raid did, however, show some interesting features which suggest good surveillance at the least. The site, Shtula - from which the soldiers were seized, is a black spot, out of sight and communication from surrounding IDF OPs. As a result, it was formally

4 *Blanford, N Hizballah-Israeli border exchanges intensify Jane's Intelligence Review - 01 Mar 05*



Forces of the United Nations Interim Force in Lebanon (UNIFIL) are pictured in action along the Blue Line on the Lebanese-Israeli border. Merkava tanks of the IDF are in the foreground (UN)

out of bounds, except for transit, to IDF personnel. But since Hizballah identified an exploitable pattern, it seems to have been frequented nonetheless – probably for the traditional cigarette break.

Hezbollah's ability to harass the Israelis and study their flaws, like a tendency for regular patrols and for troop convoys on the eve of the Sabbath, gave Hezbollah confidence that the Israeli Army 'is a normal human army, with normal vulnerabilities and follies,' he [Timur Goksel] added.⁵

While a diversionary rocket attack drew IDF attention, the Hizballah raiding party engaged the patrol vehicles with RPGs and small arms fire, killing three and capturing two IDF personnel. They then withdrew into Lebanon. A MERKAVA II AFV attempted an immediate follow-up but was then struck by a secondary Command Wire IED, killing its crew of four. Hizballah has a Modus Operandi of such initial contact, followed by secondary incident.

⁵ Erlanger, S and Opel, R.A *Disciplined Hezbollah Surprises Israel with its Training, Tactics and Weapons* New York Times 07 Aug 06 <<http://www.nytimes.com/2006/08/07/world/middleeast/07hezbollah.html?th&emc=th>>



Shtula; the far hill is in Lebanon, up which Hizballah took the captured IDF soldiers. The banner marks the capture site. Photo © S Negus 2007)

While not expecting the onslaught that followed the specific operation, Hizballah appears to have carried out an intelligence preparation of the battlespace (IPB) of the border areas, and from that, worked out assembly areas, avenues of approach, and killing areas.

It is known that Hizballah study IDF doctrine: Sh Hassan Nasrallah, the leader of Hizballah, even commented openly on the first draft of the *Winograd Report*. During 18 years of IDF occupation of South Lebanon, Hizballah carried out a thorough assessment of IDF tactics, techniques and procedures, and were able to integrate their understanding of IDF doctrine into their IPB; Iranian IRGC advisors are likely to have assisted in this doctrinal analysis. Together with the IDF customary use of reserves (likely to be trained in predictable drills, and rusty from lack of practice), it is unsurprising that Hizballah were able partly to anticipate IDF courses of action.

Bazzi records that 'Even before the war, the group had dozens of translators working in its southern Beirut offices to monitor Israeli media and phone intercepts.'⁶ An increase in transmissions, in particular within a specific mobile phone cell, would have provided a combat indicator, and a relatively accurate location (to 100m2), quite apart from the usual ELINT harvest.

6 Bazzi M, Hezbollah cracked the code *Newsday* 18 Sep 06 <http://www.newsday.com/news/nationworld/world/ny-wocode184896831sep18,0,3091818.story?coll=ny-worldnews-print>



A United Nations Interim Force in Lebanon (UNIFIL) observation tower near the Blue Line on the border between Lebanon and Israel. (UN)



Destroyed UNIFIL patrol base in El-Khiyam, southern Lebanon. On 25 July 2006, the base was destroyed by an Israeli air strike, killing four unarmed UN military observer. (UN)

Around the framework generated by the IPB, and taking advantage of the highly complex terrain, Hizballah built extensive fortifications in the intervening 6 years. This work went undetected, by both UNFIL and the Israelis/US:

When Israeli troops discovered and dynamited the [Labboune] bunker days after the cease-fire, they found a structure consisting of firing positions, operations rooms, medical facilities, lighting and ventilation systems, kitchens and bathrooms with hot water - sufficient for dozens of fighters to live underground for weeks.

The bunker was built within view of a UN observation post and an Israeli military position, respectively 100 yards and 300 yards away. Neither the UN nor the Israeli army knew the bunker existed. 'We never saw them build anything. They must have brought the cement in by the spoonful,' says a UN officer.⁷

While in Labboune OPSEC had been assisted by Hizballah's 2002 declaration of the area as a 'security zone' (in other areas 'nature reserves' were similarly declared off-limits) the stealthy nature of the operation and the more homogenous nature of the population is likely to have assisted discretion. With HUMINT reduced, the IDF will have had to rely on IMINT, vulnerable to camouflage and deception, and mostly negated by sub-surface activity.



Bunkers uncovered in Southern Lebanon (IDF)

⁷ Blanford, N After The War, Hizballah Reevaluates Christian Science Monitor 25 Sep 06 (<http://www.csmonitor.com/2006/0925/p07s02-wome.html>) cf also <http://www.time.com/time/world/article/0,8599,1604529,00.html> and <http://www.csmonitor.com/2007/0511/p01s02-wome.html>

Hizballah are estimated to have had at least 40 such bunkers, of which 33 were discovered and destroyed by either the IDF, or UNFIL subsequently. Hizballah also had numerous OPs overlooking the Blue Line (border with Israel), which were known (possibly deliberately revealed) to the IDF, and shelled heavily on 29 May 06.

In anticipation of IMINT collection efforts, Hizballah had also prepared, protected and camouflaged much of its rocket artillery, often employing reverse slope positions.⁸

*Multiple rocket assemblies [...] were placed in small, superbly camouflaged concrete bunkers, dug inside thick natural groves or agricultural plantations, making them virtually invisible to air surveillance. [...] To fire the rockets, the bunkers were opened, the rocket assembly was hydraulically or manually tilted from its horizontal position to the required angle, and the salvo was fired by means of a remote control box located in a nearby house. Each individual launcher was pre-targeted at an individual Israeli destination, yet enough such launchers were dug into the ground of Southern Lebanon so as to hit most Israeli towns and villages.*⁹

It is probable that Hizballah's IPB had identified likely IDF concentration areas. In this Hizballah may have been assisted by previous UAV flights over northern Israel.¹⁰

*Curiously enough, on various occasions, the Hizballah fired Chinese-made Type-81 cluster munitions rockets into Israel, containing anti-armor bomblets. Since such ordnance is designed to destroy military equipment and is relatively ineffective against buildings or persons, the reason for its use by the Hizballah is unclear. Perhaps the Hizballah was trying to retaliate against Israel's own use of cluster munitions. Another likely explanation is that the Hizballah was aiming at Israel's armored corps massing for the land offensive in Southern Lebanon.*¹¹

Hizballah may also have attempted to interdict Israeli operational assets:

8 Blanford, N personal communication 19 Jan 08

9 Rubin, U *The Rocket Campaign against Israel* op cit

10 Cook, Jonathan *The Second Lebanon War, A Year Later in Counterpunch* dated 16 Aug 07 (<http://www.counterpunch.org/cook08162007.html>)

11 Rubin, U *The Rocket Campaign against Israel during the 2006 Lebanon War* Mideast Security and Policy Studies No. 71, Jun 07 <http://www.biu.ac.il/Besa/MSPS71.pdf>



Some of the unexploded devices that a United Nations Chinese battalion involved in the demining of the town of Hiniyah in Lebanon, 2006. (UN)

The brunt of the rocket attacks fell on civilian targets, although some evidence exists of attempts to hit military targets. The heavy fire on Safed can be attributed to the location of the IDF's Northern Command headquarters within the city's limits. Attacks on Mount Meron might have been aimed at the well-known IAF installation on its top. [...] The 2006 attacks [on Migdal Ha'emek] could thus be interpreted as the Hizballah's attempt to foil operations from that air base.¹²

What is quite certain is that Hizballah had also prepared the likely manoeuvre corridors, digging in blast explosives to attack the MERKAVAs' belly armour, as well as IEDs on the sides of the roads.¹³

Since the end of the conflict, and UNSCR 1701 (which both provided for more robust terms of reference, and larger numbers of more confrontational Blue Helmets), it is understood that Hizballah has made extensive preparations north of the Litani River, out of UNFIL's AO.¹⁴

¹² Rubin, U *The Rocket Campaign against Israel* op cit

¹³ Erlanger, S and Opel, R.A *Disciplined Hezbollah Surprises Israel* op cit; Blanford N personal communication 19 Jan 08

¹⁴ *Geopolitical Diary: The Winograd Report and Olmert's Fate STRATFOR Morning Intelligence Brief 30 Apr 07* (http://www.stratfor.com/products/premium/read_article.php?id=287873)

SIGINT

Of all the aspects to Hizballah's conduct during the conflict, their SIGINT capability is the most worrying:

Apparently using techniques learnt from their paymasters in Iran, they were even able to crack the codes and follow the fast-changing frequencies of Israeli radio communications, intercepting reports of the casualties they had inflicted again and again. This enabled them to dominate the media war by announcing Israeli fatalities first.¹⁵

It is unlikely that techniques alone would have allowed Hizballah to crack (probably US-sourced) encryption and frequency hopping capabilities. Hizballah must have had some SIGINT capability. An earlier Jane's Defence Weekly Report stated: ‘

Following the signature and ratification of a joint strategic defence co-operation accord in November 2005, Syria and Iran have moved to consolidate their collaborative strategic signals intelligence SIGINT capabilities in the region.¹⁶

While the main SIGINT station was sited in the (Syrian) Golan¹⁷, this would have been insufficient to intercept tactical level (strength) communications, suggesting that at least some traps were within Lebanon. Bazzi¹⁸ uses the slightly odd phrase ‘hack into Israeli radio communications’, which may imply a physical interception of landline, as happened to IDF infantry landline in their assault on Beirut in 1982.

However the interception was effected, not only were Russia / Iran / Syria / Hizballah able to track the frequency-hops, and to break the encryption, but they were also able to have the Hebrew transmissions translated into Arabic (allegedly in the basement of the Iranian Embassy in Beirut) and passed back to the front line within a tactically significant space of time: ‘*We were able to monitor Israeli communications, and we used this information to adjust our planning*’.¹⁹ Although this statement may have elements of Information Operations (IO) in it, as one

15 Mahnaimi U, *Humbling of the supertroops op cit*

16 Iran and Syria advance SIGINT co-operation Jane's Defence Weekly 13 Jul 06 (<http://jdw.janes.com>)

17 Schiff, Z *Hezbollah received intel from Russian-Syrian listening post during war Haaretz* 03 Oct 06 (<http://www.haaretz.com/hasen/spages/769512.html>)

18 Bazzi M, *Hezbollah cracked the code op cit*

19 Bazzi M, *Hezbollah cracked the code op cit*

veteran analyst notes, this shows an unparalleled degree of communication between up to three different nations, and a fourth non-state actor.

One crumb of comfort is that [a Hizballah commander] 'acknowledged that guerrillas were not able to hack into Israeli communications around the clock.'²⁰ Unless there were physical (likely temperature) complications, this may imply a human factor.

Bazzi also quotes 'a senior Lebanese security official' as stating that 'Hizballah also monitored cell phone calls among Israeli troops', which has been corroborated in part.²¹ When using a digital (but not analogue) mobile telephone, the communication from the telephone to the talk-through is encrypted, but thereafter goes down the same, vulnerable fibre/copper as normal telephony. However, Bazzi's statement above that Hizballah was able to intercept IDF mobile telephones before D-Day suggests that the interception (and decryption) was done between telephone and tower. Reservists in particular are likely to have been less intercept-aware when talking to their families at home.

Hizballah also used intercept product in their IO campaign, regularly pre-empting IDF announcements of casualties:

When we lose a man, the fighting unit immediately gives the location and the number back to headquarters. What Hezbollah did was to monitor our radio and immediately send it to their Al-Manar TV, which broadcast it almost live, long before the official Israeli radio.²²

Some analysts have pointed out that IDF raiding parties etc continued to achieve surprise, and have used this to suggest that Hizballah therefore did not have the ability to intercept signals traffic, merely telephones. This, however, ignores the routine use of Tactical Satellite communication - nearly impossible to intercept - by direct action / strategic recce assets, a capability not available to the Field Army.

Hizballah also showed an understanding of Emission Control: according to Colonel Pat Lang²³ much of the decrypted SIGINT was passed via buried cables (elsewhere fibre optics²⁴) to the strong points; a Soviet SOP adopted by many Arab states. (This does not explain how Hizballah's mobile anti-tank teams were informed.) There is also suggestion that Hizballah had some secure communications themselves:

20 Bazzi M, *Hezbollah cracked the code op cit*

21 R Sale, *private communication 29 Aug 06*

22 Mahnaimi U, *Humbling of the supertroops op cit*

23 Sic Semper Tyrannis http://turcopolier.typepad.com/sic_semper_tyrannis/2006/09/an_interesting_.html

24 Debka-Net-Weekly 266 23 Aug 06

But Iran and Syria also used those six years to provide satellite communications and some of the world's best infantry weapons, including modern, Russian-made antitank weapons and Semtex plastic explosives, as well as the training required to use them effectively against Israeli armor.²⁵

Given that the Israelis seem to have been unable to act similarly, there is also the possibility that Hizballah had their own encrypted communications, although there have been no reports of this. Blanford describes a use of 'veiled speech' at the tactical level:

Each fighter had a code number and one of the Hizbs told me that a conversation could go like '42, 42, this 83. Meet me by the house of the woman who broke your heart 20 years ago'. 'How would the Israelis be able to understand where that meant?' he asked.²⁶

At the operational level, OPSEC was likely enhanced by effective use of mission command:

Goksel highlights the remarkably dispersed nature of the Hizbollah guerrilla forces, which operate in small units with very little communication through to any overall chain of command. Much of what is done is according to previously agreed tactics; this makes it very difficult for the Israelis to disrupt communications because it is simply not very important for units to coordinate with each other or with a notional 'centre'.²⁷

In addition to the SIGINT capability, live satellite TV reports were broadcast from the seat of missile explosions inside Israel, and television crews also 'counted them all out' as IDF units crossed the start line into Lebanon. As in other theatres, a free press is a double-edged sword.

Hizballah also harnessed their SIGINT capability at the geo-strategic level: despite the best efforts of the IAF, *al-Manar* ('The Lighthouse') never went off air, demonstrating the importance which Hizballah attach to IO - as did the IDF. *Al-Manar* allowed Hizballah to project their military success against Israel (which had unwisely declared unfeasible campaign aims) to the Arab World whose (mostly Sunni) rulers had been initially critical of Hizballah. Not only were Hizballah first with the news - establishing credibility - but they were also

25 Erlanger, S and Opel, R.A *Disciplined Hezbollah Surprises Israel* op cit

26 Blanford, N *personal communication* 19 Jan 07

27 Goksel, T *Hizbollah's lack of structure its strength* *Asia Times*, 10 Aug 06

accurate, consolidating it. The success of an Arab force against the hated Israelis, who had previously humbled the Arab armies in the 1948, 67 and 73 wars, caused a popular ground swell across the Arab World - precipitating a retrenchment of the criticism by the rulers, worried by the seeming rise of Shi'i Iran.

UAV Recce

Iran has had UAVs since the late 1980s, both indigenous and purchased (including, ironically, a Chinese version of the Israeli HARPY.) It appears to have supplied several to Hizballah, with the IRGC having trained Hizballah ground controllers.²⁸

Hizballah used their UAV assets for both reconnaissance, and to attack Israeli targets. They carried out several flights over Northern Israel in the months leading up to the conflict²⁹, videoing the ground. This appears to have been integrated within the targeting information:

The long-range Iranian-made missiles which later exploded on Haifa had been preceded only a few weeks ago by a pilotless Hizbollah drone aircraft which surveyed northern Israel and then returned to land in eastern Lebanon after taking photographs during its flight. These pictures not only suggested a flight path for Hizbollah's rockets to Haifa; they also identified Israel's top-secret military air traffic control centre in Miron.³⁰ [How secret this IAF location was is debatable - Blanford points out that it is just visible from Lebanon, clearly via Google Earth, and had been attacked by Hizbollah in May 2006.]



HARPY UAV Paris Air Show (Jastrow) (Wikipedia Commons)

28 Sale, R private communication 13 Sep 06

29 Hezbollah Mirsad-1 UAV Penetrates Israeli Air Defenses Defense Industry Daily 20 Apr 05 <http://www.defenseindustrydaily.com/hezbollah-mirsad1-uav-penetrates-israeli-air-defenses-0386/>

30 'zx8' Hizbollah disables Israel's top-secret military air traffic control centre using drone aircraft. 08 Aug 06 (http://www.truthbox.org/index.php?option=com_content&task=view&id=55&Itemid=2)

Hizballah also flew UAVs during the conflict, possibly for reconnaissance, possibly for BDA. In this they were less successful: in early September 06, an ABABIL-3 was shot down by an IAF F-16 from Ramat David Air Base before it could penetrate Israeli airspace. Of more interest was its payload:

*The Ababil-T in its standard configuration carries a daylight television camera as well as a medium-sized, high-explosive warhead. The UAV was flying at night, indicating its sensor package has been modified to include an infrared system.*³¹

Hizballah also launched 4 UAVs against Israel on the nights of 07 August and 13 August 2006. The UAVs were ABABIL-Ts, recce UAVs modified for 'suicide' missions to carry a small payload of 40kgs of explosive in place of the ISTAR fit. The pre-programmed, explosive-carrying UAVs were thus primitive cruise-missiles.

*Since those attacks occurred when the ceasefire was already in the offing, it is reasonable to assume that they were meant to strike Israel 'south of the south of Haifa,' so as to fulfill Nasrallah's vow. The UAVs were probably programmed to hit the Tel Aviv metropolitan area instead of the Zelzal rockets that had been destroyed by Israel (or vetoed by Iran).*³²

TI & Awareness

Another possible first in the Middle East was Hizballah's possession, and use of Thermal Imaging (TI). Concern was raised over the requested provision of Image Intensifying NVGs to Syria (that they should fall into Hizballah's hands). Hizballah's possession of TI, on ATGMs sold by Russia to Syria³³, both confirms the fear and makes the PNVG issue irrelevant, as Russia is also likely to have supplied them.

In his *First Look*, Dr Cordesman reports Hizballah (and thus likely Iranian) possession of the Russian-made AT-14 KORNET-E:

The AT-14 is a particularly good example of the kind of high technology weapon the US may face in future asymmetric wars. It can be fitted to vehicles or used as a crew-portable system. It has thermal sights for night warfare and tracking heat

31 *La Franchi, P Iranian-made Ababil-T Hezbollah UAV shot down by Israeli fighter in Lebanon crisis Flight International 15 Aug 06 <http://www.flightglobal.com/articles/2006/08/15/208400/iranian-made-ababil-t-hezbollah-uav-shot-down-by-israeli-fighter-in-lebanon.html>*

32 *Rubin, U The Rocket Campaign against Israel op cit*

33 *Simon, S private communication 13 Jan 07*

*signatures, and the missile has semi-automatic command-to-line-of-sight laser beam-riding guidance.*³⁴

Since TI usually requires a means of cooling the active element of the detection system, its continued use by Hizballah over 34 days implies either extensive pre-dumping, or a competent logistics chain for in-place sustainment.

Iranian possession of TI is likely to cause NATO forces less of a problem, since their tank engines are at the rear. TI's continued presence in the ME, however, may cause the Israelis more problems, as the MERKAVAs have their (heat emitting) engine at the front - partly to increase crew survivability.

Hizballah were also aware that IAF aircraft and UAVs would be searching for launchers, and took steps to conceal their physical and thermal signatures:

*'...numerous dummy missile firing sites with fake heat signatures were targeted during the course of the campaign.'*³⁵

and:

*The two-by-three-meter positions consisted of a hydraulic launch pad in a lined pit. The pad could be raised to fire the 122-mm rockets from a launcher at its center, and then lowered and camouflaged with vegetation. The farmers received instructions by cell phone regarding the number of rockets to launch and in what direction and range. They were often provided with thermal blankets to cover the position in order to keep IAF aircraft from detecting the post-shooting heat signature.*³⁶

Advanced Anti-Tank Capability

Most of the IDF armoured losses took place during the attempts to exit the steep-sided Wadi Saluki during the final stages of the campaign. Tactical commanders, possibly for political (casualty avoidance) reasons, failed to commit an infantry screen or adequate indirect fire support to clear the anti-tank teams. Hizballah had identified this as a 'slow-go area' and fully exploited the terrain.

While not strictly an intelligence issue, it is worth considering various aspects of Hizballah's anti-armour campaign. There are two issues of importance:

34 Cordesman, *A Preliminary 'Lessons' op cit*

35 Moores, *B A military assessment of the Lebanon Conflict Winds of Change 24 Aug 06* (<http://www.windsofchange.net/archives/008970.php>)

36 Schiff, *Z How the IDF blew chance to destroy short-range rockets Haaretz 05 Sep 06* (<http://www.haaretz.com/hasen/pages/757743.html>)



The Armour forces assemble in the field before entering combat in Lebanon (IDF)

Israeli military observers remarked that Hezbollah seemingly had accurate intelligence about the capabilities of Mark III and Mark IV and they targetted the Mark III selectively.³⁷

Such granularity shows not just good recognition training, but excellent fire discipline. Of more interest is the description of the means of attack. Hizballah seems to have adopted a mobile ‘swarming’ defence: small, nimble anti-tanks teams using the local terrain (and in some cases tunnels) to excellent effect. Hizballah were assisted by their possession of the KORNET and METIS-M ATGMs, and RPG-29s. Some of these missiles had tandem warheads, capable of defeating IDF Stand-Off Cages and Explosive Reactive Armour. It has been widely suggested that Israeli Intelligence - civil and military - was unaware of Hizballah's possession or competence with these weapons.³⁸

However, it is the use of the missiles that is most interesting: ‘the weapons were fired in massive volleys.’³⁹ The anti-tank teams were small (3 - 6), yet many shooters seem to have engaged the same target simultaneously. Although there is no confirmed reporting, given the intelligence required for recognition of MERKAVA variants, this may have been an effort by Hizballah to overload the IDF Defensive Aides Suite - to beat its re-cycle time, or exhaust its under-armour ammunition.

The result was impressive: ‘Forty-five per cent of the Israel Defence Force's (IDF's) MBTs hit by Hizballah ATGMs during the fighting were penetrated.’⁴⁰ No MERKAVA IVs were included in this figure, which may suggest that the IDF DAS was adequate:

37 AN Other private communication 14 Sep 06

38 Sale, R private communication 13 Sep 06

39 Sale, R private communication 13 Sep 06; Franke, S private communication 12 Sep 06

40 Israeli armour fails to protect MBTs from ATGMs *Jane's Defence Weekly* 25 Aug 06 (<http://jdw.janes.com>)

An Israeli-invented radar defence shield codenamed Flying Jacket and costing £200,000 was installed on only four tanks. None of them was struck by anti-tank missiles.⁴¹ [‘four tanks’ may be a mistranslation for (MERKAVA) tank IVs.]

- *Hizballah’s Recognition of IDF IFVs was excellent, to the extent of being able to distinguish between MERKAVA III and MERKAVA IV.*
- *Hizballah may be aware of DAS limitations and attempt to overload the system’s recycle time / exhaust its ammunition leaving it vulnerable.*

Human Intelligence & Counter-Intelligence

Neither HUMINT nor CI are new concepts; Sun Tzu devotes a chapter on it, and Moses sent spies into the land of Canaan (Numbers Ch 13.) The general assumption, however, is that states conduct organised HUMINT collection. The IDF is aware of Hizballah’s attempts to:

...locate and recruit Israeli Arabs - including Israeli Arab political figures - for the purpose of using them for intelligence missions by the organization, and its attempts to establish contacts even with Jews in Israel. An example of such tactics was Hezbollah’s handling (up until September 2002) of about 10 Israeli Arabs from the villages of Beit Zarzir and Shfaram - including a lieutenant colonel on active IDF service and others who had formerly served in the IDF and in the Israeli police. [...] they delivered their Hezbollah handlers details on the movements and formation of IDF forces in northern Israel, information on IDF’s intelligence gathering technologies such as stationary cameras and cameras mounted on hot air balloons, and operational intelligence on former Northern Command Chief Gabi Ashkenazi. Furthermore, some of those involved were asked to deliver to Lebanon maps, unique communication devices used by the IDF, etc.⁴²

There is also a suggestion that Hizballah may have run a penetration agent within the FBI - who was then re-assigned to CIA clandestine operations:

41 Mahnaimi U, *Humbling of the supertroops op cit*

42 *Intelligence and Terrorism Information Center at the Center for Special Studies Hezbollah’s use of Israeli Arabs as a tool for furthering its efforts to increase anti-Israeli terrorism and gather intelligence on Israel Special Information Bulletin August 2004* http://www.intelligence.org.il/eng/sib/8_04/hezb.htm

*A U.S. official familiar with the case said Tuesday that the government's investigation has uncovered no evidence so far that the agent, who was employed by the CIA until last week, had compromised any undercover operations or passed along sensitive intelligence information to Hizbullah operatives. After joining the CIA in June 2003, the agent was an undercover officer for the agency's National Clandestine Service, the espionage division, working on Middle East-related cases. The agent was reassigned to a less sensitive position about a year ago, after first coming under suspicion, officials said.*⁴³

On the CI side, the legendary capability of Israel's MOSSAD (coupled with the sure knowledge of some remaining SLA members with a burning need for revenge and a knowledge of interested parties) have made Hizbullah members discreet:

*Hezbollah commanders travel in old cars without bodyguards or escorts and wear no visible insignia, Mr. Goksel said, to keep their identities hidden.*⁴⁴

Given the lack of tactical and operational knowledge available to even IDF Strategic recce - the MAGLAN platoon - it appears that any Israeli HUMINT asset in South Lebanon was unsighted, or neutralised by Hizbullah CI - or unable to communicate with his/her handler over 6 years:

Evidently they had never heard that an Arab soldier is supposed to run away after a short engagement with the Israelis,' said Gad.

We expected a tent and three Kalashnikovs - that was the intelligence we were given. Instead, we found a hydraulic steel door leading to a well-equipped network of tunnels.⁴⁵

The two raids by Israeli SOF into Baalbek, the first seeking Hassan Nasrallah, and the second⁴⁶ Sh Muhammad Yazbik (a senior Hizbullah figure) were both 'dry holes'. Unless queued by SIGINT⁴⁷, this suggests information from a deep asset,

43 *Isikoff, M & Hosenball, M A Hizbullah Mole? Case against CIA spy shocks counterintelligence community. Newsweek 13 Nov 07 (<http://newsweek.com/id/70309>)*

44 *Erlanger, S and Opel, R.A Disciplined Hezbollah Surprises Israel op cit*

45 *Mahnaimi U, Humbling of the supertroops op cit*

46 *The second raid was after the ceasefire, and thus was nominally to interdict Hizbullah weapons re-supply. However, the rank of one of the casualties (Lt Col), the presence of two HMMWVs, and the fact that the IDF SOF broke cover to engage in a lengthy gun-battle suggests a more offensive purpose.*

47 *Given the COMSEC Hizbullah otherwise showed, this is moot. If the queue was SIGINT, given the two failures, this may have been a Hizbullah deception operation.*

and the failure implies that the Israeli HUMINT asset has been identified, and either turned or supplied disinformation - a Counter-Intelligence coup:

On Aug. 2, Israeli commandos targeted the Iranian-funded, Hizbullah-run Dar al-Hikma Hospital. The commando assault and Israeli strikes throughout the region around the ancient town killed 16 people, according to Lebanese police. Baalbek residents said four people were taken away and none were Hizbullah fighters.⁴⁸

and

The commandos, dropped with two Hummer vehicles by helicopter, were engaged in a firefight in which three Hizbullah were killed, before they were evacuated by helicopter.

DEBKAFfile's military sources report the Israeli commando raid probably targeted newly filled weapons stores. Also located at Bodai is the office of senior Hizbullah official Sheikh Mohammed Yazbek, where the raiders apparently hoped to find information leading to the two kidnapped Israeli soldiers Ehud Goldwasser and Eldad Regev.⁴⁹

Electronic Warfare (EW)

The failure of the IDF's EW campaign, and the great strides made by Hizbullah (doubtless with extensive Iranian and Syria backing) is another aspect of great concern. Hizbullah showed the usual ability to react to IDF tactical ECM:

Then Hezbollah used radio detonators, which the Israelis also defeated, and then cellphone detonators, and then a double system of cellphones, and then a photocell detonator - like the beam that opens an automatic door.⁵⁰

It is, however, at the operational level that there is more concern, both defensively, and offensively:

48 Greenberg, H IDF officer killed in Baalbek operation 20 Aug 06 Ynet News (<http://www.ynetnews.com/articles/0,7340,L-3292974,00.html>)

49 An Israeli special operations officer was killed, two were injured – one seriously – in a pre-dawn commando raid at Bodai, 30km NW of Baalbek Debkafile 19 Aug 06 <http://www.debka.com/>

50 Erlanger, S and Opel, R.A Disciplined Hezbollah Surprises Israel op cit



IDF destroy Hizbollah post (IDF)

Israeli EW [electronic warfare] systems were unable to jam the systems at the Iranian Embassy in Beirut, they proved unable to jam Hezbollah's command and control links from Lebanon to Iranian facilities in Syria.⁵¹

The IDF-linked DEBKAfile was even starker, writing that: 'In combat against Hizballah, both [complementary US and Israeli devices and methods] were not only found wanting, but had been actively neutralized, so that none performed the functions for which they were designed.'⁵²

Hizballah (possibly with IRGC assistance) was able to hit the INS HANIT with a C-802 SILKWORM. IDF-linked sources have sought to play down ECM problems, suggesting that HANIT's crew had forgotten to turn on their BARAK ECM, allowing the SILKWORM to hit. While human error is always possible (and Israeli Intelligence's lack of knowledge of Hizballah's arsenal might have added to the sense of complacency) it seems unlikely. Other reports suggest:

⁵¹ Athanasiadis, *I How hi-tech Hezbollah called the shots Asia Times 09 Sep 06* (http://www.atimes.com/atimes/Middle_East/HI09Ak01.html)

⁵² DEBKA-Net-Weekly 266 11 Aug 06



The Navy rocket ship Hanit after its rehabilitation and return to continuous operations this week at the Navy Ashdod base. (IDF)

Iranian technicians and Iranian supplied equipment allowed Hizbullah to jam the countermeasures on the Israeli ship, allowing the upgraded Iranian Silkworm missile to severely damage it.⁵³

The SILKWORM struck the HANIT just above the waterline, but failed to initiate, possibly because the ship was within the missile's arming range. Given the presence of SILKWORMs in the Persian Gulf, especially on Larak Island in the Straits of Hormuz, such counter-ECM is a worrying development.

Conclusion

Hizbullah showed excellent morale, sound intelligence & counter-intelligence, competent tactics (albeit in a highly specific, carefully prepared environment), mission command, good logistics, sound planning and political / military integration, good training, excellent civil military affairs, and creative (and enduring) IO. This was not the performance of the historical Arab Army, with political commanders, poor morale and lack of initiative, but the actions of a disciplined, competent cadre.

It is unlikely that all Hizbullah's capability at the time was demonstrated. Iran (and Syria) are reported to have re-supplied Hizbullah with more modern weaponry since then.⁵⁴ This is likely to concentrate on the anti-air campaign - in 2006 Hizbullah managed to down a CH-54 heavy lift helicopter using an ATGM, but had little success against IAF strategic aircraft destroying Hizbullah long-range missiles or Lebanese infrastructure.

⁵³ Sale, R private communication 29 Aug 06

⁵⁴ Blanford, N Hizbullah's reaction depends on its constituency Bitterlemons <http://www.bitterlemons-international.org/inside.php?id=812> 11 Oct 07



A south Beirut suburb ruined in the recent conflict between Israel and Hizballah

Hizballah had six years to plan, prepare and rehearse for an operation in a relatively small area, with strategic support of Iran and Syria, and a broadly supportive population. They faced a casualty-averse enemy, using armour in complex terrain. Nevertheless, Hizballah was able to contain Israel through a well co-ordinated defence including many sophisticated aspects, and using assets unknown to Israel.

While the relationship between Hizballah and Iran is more complex than client - patron (and Hizballah is far from being merely a proxy of Iran) the close relationship is likely to mean passage of tactics, training and information will flow both ways.

Hizballah capability has already made the IDF modify its operational profile greatly - the use of piloted close air support and rotary aircraft was notably less than one might have expected, due to IDF assessment of Hizballah's possession of advanced SAMs; IDF naval assets stood off much further from land than in previous conflicts.

It is likely that Iran, and its regional clients and subordinates, will have access to the same capacity to degrade and defeat the high-technology capability on which much of the West's (and Allied) 'edge' is predicated.

On the regional level, Hizballah's capability has increased the already considerable concern over Iran felt by Sunni Arab rulers, epitomised by the evocation of a 'Shi'a Crescent' by King Abdullah II of Jordan. Israel's failure, albeit in a highly specialised environment, removed the aura of invincibility formerly surrounding the IDF; efforts to refurbish this, such as the air-strike on Dayr al-Zawr, have been unsuccessful.

While HM Forces remain committed to Op HERRICK, they will remain within striking distance of Iran, and its proxies. Although HMF retain a technological edge, the gap has narrowed significantly, and many of the areas in which HMF believed themselves to be supreme, they find their absolute capability compromised. Should Iran and the UK find themselves in direct or proxy conflict, many of the UK's casualty reducing advantages are likely to be neutralised.

An example of a Russian T34 Tank seen at the annual War and Peace Revival Show held in Hythe.



Lessons from Soviet Urban Operations 1945

Lieutenant Colonel (Retd) Matthew Whitchurch MBE explores some of the lessons to be learned from the Soviet Urban Operations of 1945 and applies them to the British Army of today. This article was originally published in BAR 160 Spring/Summer 2014.

The idea is to defeat the enemy and not necessarily fight him.

From the film The Better Idea 1996

What follows here are some little known lessons from the Soviet Armies of 1945 that provide us with useful insights of how to fight in (and around) built up areas.

The lessons demonstrate the pre-emption and dislocation of an opponent through the principles of *offensive action*, *flexibility*, and *cooperation* with good *economy of effort*. Mobility, deception and simple command underpin these operations.

What examples are there similar to this in recent western urban operations?

The Soviet Vistula to Oder Operation - Jan 1945

*If conducted in sufficient strength an operation of this type can rapidly overrun large tracts of territory with comparatively little fighting.*¹

After four years of fighting the Wehrmacht, one of the best armies in the world, the Soviets had learnt a great deal about how to fight in and around built up areas. They knew that avoiding urban combat was wise. Where possible they would out manoeuvre the German defence leading to impressive results. In 22 days they moved from the River Vistula to the Oder (over 500kms from the centre of Poland to within one hour's drive on Berlin) with a strength of 2,203,600 troops and with a casualty list² (killed, wounded and missing) of 194,191, of whom 62,000 would later return to service. They destroyed some 45 German divisions and took more than 150,000 prisoners. By contrast the Allies took 85 days to clear France the previous summer with a similar strength but with 250,000 casualties. The British experienced similar numbers at Gallipoli in 1915 and Third Battle of Ypres in 1917.³ Thus the Soviet result is impressive.⁴

For those not familiar with this part of the Second World War the Soviet offensive operation began on the River Vistula in Poland. Their plan was to attack and clear the German Army from an area beginning at Warsaw through to the River Oder in Germany, launching from three bridgeheads captured in the *exploitation* battles of the summer of 1944.

Here are three little known lessons of these successful urban offensive operations:

Lesson 1 - The Capture of Lodz

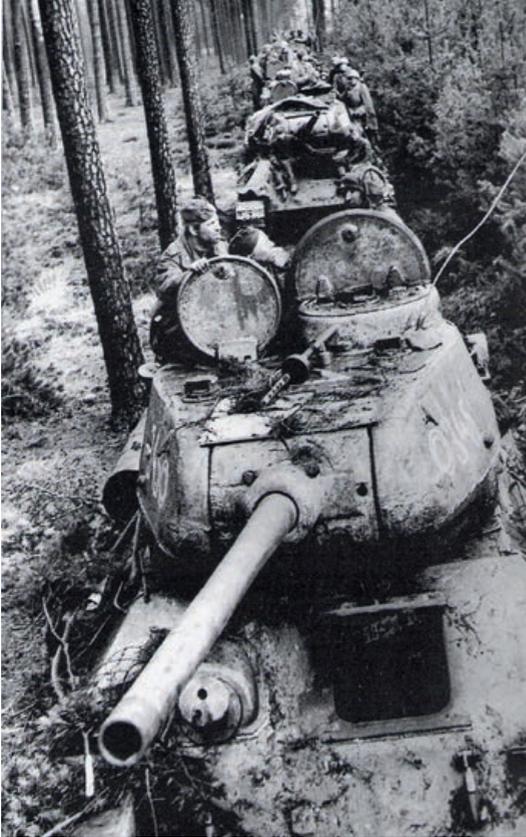
The Soviet attackers captured the town of Lodz by *pre-empting* the German defence. They sent a regiment in advance of the parent division to seize key terrain before

1 *From View of the Vistula - Oder Operation From Design for Military Operations The British Military Doctrine 1996*

2 *From When Titans Clashed by David Glanz and Jonathan House. Page 299.*

3 *This view is taken from an acknowledged expert who served in France in both 1917 and 1944. He is Major General Hubert Essame. See the final chapter of The Battle of Normandy*

4 *The best account of German and Soviet practice is in the Appendix of Christopher Duffy's Red Storm on the Reich.*



Soviet tanks of the Third Guards Tank Army in action during the offensive to Germany (1945), Wikimedia

the Germans were ready. Imagine the difficulty of preparing a town for defence when from the moment you arrive you are constantly under effective enemy fire!

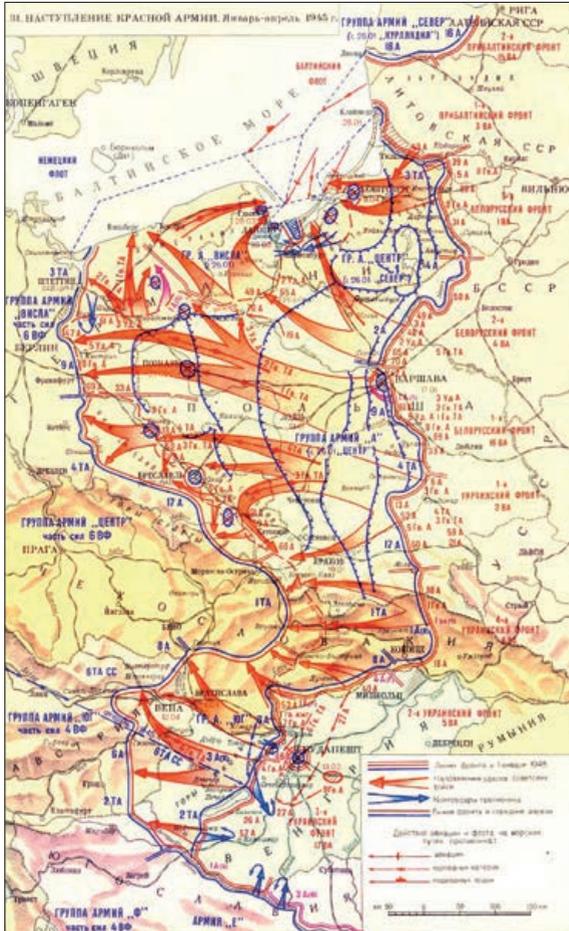
This Soviet regiment was to act as a *Forward Detachment*⁵ and exploit concurrently whilst the *strike* took place elsewhere by other formations. The regiment was an all arms group of battalion strength. It raced ahead, bypassing any resistance and seized the vital ground before the Germans could occupy it. The German main defence effort was fixed on the western side of the River Vistula and had little depth, leaving Lodz virtually undefended. The tempo of Soviet operations and their acceptance of risk paid handsome dividends. This *pre-emption* cost few civilian casualties and provided the prize of an undamaged industrial town. When was the last time the British Army planned or conducted a *pre-emption* attack like this one?

Indeed, what should the British Army of today take away from a study of the Lodz attack? Look at how mobility avoids urban fighting. Launch a fresh party of troops (the *Forward Detachment*) to take the vital ground affecting the town before the enemy is able to do anything because he is busy elsewhere.

⁵ See Col David M Glanz's book *The Soviet Conduct of Tactical Manoeuvre*. Scan chapter 6 to understand the thinking behind this concept.

Lesson 2 - The Intact Capture Of The Silesian Industrial Region

The benefit of the undamaged capture of an industrial area for post war reconstruction needs no explanation. The Soviets used their mobility to envelop and encircle Silesia compelling the German defence to withdraw.⁶ (See the Map).



Map of the Soviet Red Army on German Forces 1944-45, Wikimedia

⁶ See the British Training film C1772 *From the Vistula to the Oder*. It shows well the capture of Silesia. Obtainable from British Defence Film Library. Equally see *Red Storm on the Reich* by Christopher Duffy pages 89 to 93.

This tactic is clever because it plays on human nature. No army likes being surrounded⁷ and after the catastrophic *encirclement* battles of Stalingrad in 1943 and Belarus in 1944 the Germans were very nervous at the prospect of being surrounded by envelopment. This creates the urge to withdraw (off balance) and abandon any effective denial schemes of delay or demolition. Once surrounded, desperation takes hold and the defence fights because there is no viable alternative. The opponent's cohesion is shattered.

Lesson 3 - The Capture Of Poznan (Or Posen)

On the attached map, identify the city of Posen and then ask this question - why fight hard and suffer heavy casualties if you can go around the city? Can you ignore it? The Soviets isolated the Poznan fortress leaving it for later reduction - if required. They made the fortress irrelevant by *dislocating* it. However, it would take a lot of troops to encircle the town for two reasons. Firstly, the defender could not be allowed to break out and disrupt the attacker's communications, secondly to prevent any relief of the fortress by the defenders. Such thinking enabled the Soviet offensive to maintain tempo, taking objectives that were more important.

The story of Poznan⁸ started with flawed information that it could be captured off the line of march. The Commander of the 8th Guards Army⁹, Vasili Chuikov, decided his priority was to sieze bridgeheads on the River Oder. In addition to the Poznan problem he had to account for penetrating the Meseritz¹⁰ fortified region. This equivalent of the Maginot Line was, in fact, not very well defended, and as such, his Army reached the western side of the River Oder by 31st January 1945.

On assessing the situation I realised that if we threw the main forces of the 8th Guards Army into a battle for Poznan, we should be helping the enemy to gain time. We might be involved in protracted street fighting for possession of the fortified works. The enemy would take advantage of this to get his shattered units back to the prepared fortified areas on the borders of Germany and thus make our advance to Oder and Berlin harder.¹¹

7 This is Sir John Keegan's point from *Face of Battle* and how this relates to *Urban Operations* from the chapter on *Stalingrad in City Fights*.

8 As footnote 4. The film shows the assault on Poznan and effect on other operations.

9 See pages 94 to 101 of *The End of the Third Reich* by Vasili Chuikov, Commander 8 Guards Army.

10 The Meseritz region was built by the Germans in the early 1930s as protection against a re emerged Poland and the ambitious new Soviet Russia. It had been largely neglected after 1938.

11 See, Chuikov, *The End of the Third Reich*

The Soviet 8th Guards Army, with 5 divisions, isolated the roughly 80,000 German troops defending the town and then Chuikov summoned the German commander, inviting him to surrender. He declined. From here the Soviets used their Stalingrad¹² experience by forming *Storm Detachments*; a Soviet battalion reorganised into several *Storm Groups* that had a maximum of platoon strength. This was a combined arms platoon of two tanks or self-propelled guns or man-portable towed guns, infantry of no more than 24 as tank riders, 4 engineers capable of demolitions, flame throwing and smoke. The rule was always to put metal before flesh by effective fire before any movement. The infantry platoon commander was the storm group leader. His men were organised into three sections: an assault section to take the objective; another section to hold the objective with heavy weapons and a reserve section. As standard Chuikov insisted that:

*I again warn the commander of all units and formations not to carry out operations in battle by whole units like companies and battalions. The offensive should be organized chiefly on the basis of small groups, with tommy guns, hand grenades, bottles of incendiary mixture and anti-tank rifles.*¹³

The Soviets divided Poznan into small areas so each Storm Detachment could clear their objectives step by step with plenty of firepower. It is these 'Corporal's Teams' that would later work very well in the fighting during the Battle of Berlin. The Red Army's clearance of Poznan took 23 days.

So What Do We Learn?

Is there a common lesson from the Soviet experiences of the Vistula-Oder campaign? The answer is - yes. The key is - to be good at fighting in built up areas it is crucial to ensure that you can fight outside of these areas. By use of pre-emption and dislocation through intelligent movement and threat of force (or tactical manoeuvre) urban victories can follow that have a lower cost in loss of equipment and lower numbers of casualties than would normally be the case. However, if that fails then seeking the surrender of the enemy is the next step to

12 Study of General Vasili Chuikov is rewarding. He commanded 62 Army in Stalingrad and can be held responsible for their development of combined arms urban fighting down to platoon and section level. His army is honoured with a new title of 8 Guards Army taking them to wars end in Berlin.

13 Quote on page 203 from article by David Stone - Stalingrad and the evolution of Soviet Urban Warfare - this excellent article shows how the Soviets developed their urban operating methods.



try. But if this fails then encircle and reduce step by step with lots of firepower keeping the enemy at arm's length and minimizing close contact. The idea is to defeat the enemy and not necessarily fight him.



An example of a Soviet T34 tank used during the Vistula-Oder Soviet operations and reprinted here by kind permission of the Tank Museum, Bovington, Dorset.



Assisted by captured German medics, a soldier from the 2nd New Zealand Division brings in a casualty aboard a signals jeep, as the Eighth Army continues its advance towards the Po River. IWM

TRIESTE 1945: Foreshadow of Hybrid War

Major Matt Lewis looks at the battle of Trieste in 1945 as a foreshadowing of Hybrid War that the British Army faces in the early 21st Century. This article was originally published in BAR 164, Autumn 2015.

On the fault line of 'super power' politics, and of Europe's most enduring ethnic tension - Trieste - the ancient industrial port at the northern apex of the Adriatic, has played a prominent role in the evolution of military conflict over the course of the recent few centuries. Even before Churchill's famous presage of 'Cold' war: *From Stettin in the Baltic to Trieste in the Adriatic, an 'Iron Curtain' has descended across our continent* the city's contradictory and conflicted personality could be characterized in the lives of two remarkable figures of the mid-Twentieth Century. Both Boris Pahor, the Slovene author whose emotionally fraught masterpiece *Necropolis* recounted his experiences as a Holocaust survivor; and Odilo Globocnik, friend of Eichmann and Himmler and SS Commander for the Adriatic Littoral, were born in the city at the start of the century, when it served as principal port to the Austro-Hungarian Empire.

In the spring of 1945, Trieste was the final objective for both the British Eighth Army and Tito's Fourth Yugoslavian Army. At the spearhead, General Freyberg's New Zealand Division (and to their flank the 2nd Polish Division) had arced around the 'Argenta Gap' and through the flatter, more industrialized landscape of *Venezia Giulia*. Griddled with canal and irrigation infrastructure, the terrain presented similar challenges to manoeuvre as those experienced on the break-out north from Cassino, and through the cultivated fields that skirt beneath the Tuscan hills. It was, however, in the final, decisive approach to Trieste that the Allies encountered the complexity that has since become commonplace in the contemporary operating environment. In a battlefield heavily situated by a polarising political context, the formally structured Allied and German armies, as well as disparate bands of ethnic partisans, fought for primacy within a cavernous and congested urban space.



Rorkes Drift Company of 2 Royal Welsh Battle Group conduct a company attack during the TES training as part of Ex Prairie Storm 1 on BATUS training area, Alberta Canada. Photo Sergeant Mark Webster RLC, Crown Copyright

In the late summer of 2013, officers from 2 Royal Welsh, traced the progress of Freyberg's New Zealand Division across the Po Valley and into Trieste with the intention of building the conceptual development of the Lead Armoured Battle Group (LABG) from its field training at BATUS.

It was not simply a lesson in history the objective was to use the context of the Spring of 1945 as the prism through which to examine the utility of the LABG in the urban littoral environment. There were three elements to the study: reflections on the use of armour in urban operations [*congested and constrained*]; considerations of 'war amongst the people' within the context of Krulak's '3 Blocks' [*cluttered and contested*]; and the heightened complexity presented by the urban littoral in the 21st Century [*connected and coastal*]. The study showed, in addition to numerous tactical insights, a tendency for the British Army to place its strategic thinking into overly-comfortable *Clausewitzian* compartments - particularly in this last decade of COIN operations - in such a way that might not enhance our ability to make sense of future uncertainty.

The Urban Battlefield

*Trieste, May 6 - (AP) - The Stars and Stripes flew over troubled Trieste today along with the Union Jack of the New Zealand troops and the Red, White and Blue of Marshal Tito's Partisans as American doughboys moved into this trouble spot which Tito's men claim for Yugoslavia.*¹

Since the Industrial Revolution, the acceleration of globalisation has been unprecedented and irreversible. From the middle of the Twentieth Century, and particularly since the explosion of mass communications, industrialised and densely populated areas have acquired strategic and political symbolism. Even in Afghanistan, control of the administrative centres has brought with it control of the rural hinterlands; in short, *cities are where flags are flown*.

To merely mention Beirut, Gaza, Fallujah, Benghazi or Tripoli is to immediately evoke the grim spectrum of conflict that has come to characterize the *hybrid threat* of the contemporary operating environment. Indeed from the hills that surround Trieste, the chaos that would befall a conventionally structured armoured task force, the like of which attempted to seize Grozny in December 1994, is strikingly evident. Here the urban landscape rapidly isolates armoured groups and vehicles. In the first three days of fighting in Chechnya the Russian 131st Brigade lost 20 of its 26 tanks and 102 of its 120 APCs.

¹ *The Milwaukee Sentinel 7 May 1945 pg 2*

However, perhaps the history of Trieste illustrates a less *people focused* approach to conventional operations in unconventional environments; to one that reflects the layered human terrain of Krulak's *Three Block War* optic. Krulak states that we need to be able to conduct a lethal, mid-intensity battle whilst simultaneously holding warring tribes apart and delivering humanitarian assistance to the displaced. Yet in the contemporary operating environment, populations are not passive – on Sunday 29th April 1945, two distinct groups of Partisans drove the German occupiers of Trieste from dispersed positions throughout the city back to the prepared strongholds of the Castle, the Law Courts and the Coastal fortifications:

They captured the Trieste radio station, seized the prison, and liberated 378 political prisoners. Their leaders took over the Prefecture, and constituted themselves as rulers of the city...Soon after daybreak they were joined by Partisans of the 9th Partisan Corps, who moved into the outer suburbs, close to the Slovenian-inhabited countryside, and sent columns into the heart of the city.²

For an Army unaccustomed to the ad hoc requirement for interoperability, there was some significant resistance to incorporating partisans into a coherent order of battle with a unified purpose. But there should be no similar obstacles today. Indeed, we must ensure that the current framework and institutional trust necessary to harness 'organic' military capability, in order to leverage decisive effect, is not lost as we transition to contingency.

War Amongst the People

In attempting to transform the people from object to subject in war, we own the risk that they will be further targeted. In *Necropolis*, Boris Pahor recalls one response to the hostile asymmetry of Trieste:

To deal with the Slovenian resistance the Gestapo turned an abandoned rice processing facility near the seaside into a death camp, making it easy for them to dump the incinerated remains of their victims into the sea.³

Now preserved as a memorial to the tens of thousands that died at the *Risiera di San Sabba*, the building still stands in the centre of the city - stark concrete walls channeling the visitor to the centre of the courtyard, where the foundation stones of the furnaces are topped in black marble. Around the walls of largest

2 Cox, Geoffrey, *The Race for Trieste (1977)* William Kimber. London. pg 161.

3 Pahor, Boris, *Necropolis (2010)* Dalkey Archive Press. London. pgs xiv-xv



The Spearhead Platoon of the First Battalion of the Duke of Lancaster Battle Group, deploys on a five hour foot patrol around the vicinity of Northern Basra during Op Telic 11. Corporal Mark Nesbit RLC, Crown Copyright

‘processing room’, pictures tell the story of Trieste from the first persecutions of the Slovenes under Italian Fascism (1922) through the years of occupation, to the bloody climax of the war in 1945. There are three moving images: of executed Slovene Partisans hanging from the walls of the *Risiera* as (Italian) Triestinos continue about their daily business; of the vapid faces of Chetnik militiamen, drafted into Trieste as a paramilitary police force by the Nazis; and of Odilo Globocnik, son of Trieste.

In Marcel Ophüls’ excellent *Le Chagrin et le Pitié* [*The Sorrow and the Pity*] (1969), he states that occupation by a foreign power has a fragmentary effect on a population. He observed in German occupied France how hostile occupation establishes artificial dividing lines between ‘resistance’ and ‘collaboration’; skewing the social contract that otherwise keeps communities cohesive.

But the deliberate social dissolution of Trieste would appear to have been far more systematic than the French experience. With a Slovene population already heavily subjugated by Fascist Italy, the introduction of Cossack and Chetnik militias testified to a particularly brutal and obnoxious method of counterinsurgency. Driven less by coherent (nationalist) ideology, but more by a perception of grievance fueled by an anecdotal history - and political opportunism; their anarchic, and seemingly arbitrary campaign in the rural areas around the Yugoslav border contributed to their abiding reputation for murder and violence. With no small measure of Kiwi understatement, Geoffrey Cox recalled:

[They]...spread themselves over areas to the East of Trieste, living off the land and fighting the Partisans. It was as remarkable a tangle of men and faiths and weapons as could be devised. Little wonder that in the White House...Harry Truman was to declare that he was 'not going to get mixed up in a Balkan turmoil'.⁴

An architect of Operation REINHARD (the codename of the 'Final Solution') Odilo Globocnik was returned to his hometown of Trieste under a cloud: rumours of extortion and incompetence having curtailed his tenure as SS Commander of the Eastern Lublin district.⁵ An aggressive anti-Semite, it was Globocnik's initiative to ethnically demulsify the city, contain the partisans, and extend the reach of Op REINHARD. His approach to counterinsurgency on the three-way fulcrum of Germanic, Latin and Slavic cultures, is a grotesque illustration of the disregard for second and third order effects of integrating a population into the battle space.



Vehicles of the 21st Tank Brigade passing through a wrecked village at the approach to the pontoon Bailey bridge over the River Po. IWM

⁴ Cox op cit. pg 160

⁵ It which capacity he assumed the title of 'Czar' of the Belzec, Sobibor and Treblinka death camps. See: <http://www.jewishvirtuallibrary.org/jsource/biography/Globocnik.html>

Trieste: The Urban Littoral

It is the complex ethnography of Trieste that makes it so representative of the modern urban littoral environment. David Killcullen states that accelerated urbanisation over the last few decades continues to change the ethnic composition of the world's cities.⁶ Access to water and other natural resources, tribal conflict and the increasing infrastructural and technological connectedness of the urban landscape has resulted in 80% of the global population living within 60 miles of the sea, and 75% of major cities having a coastline.⁷ The subsequent logic is compelling:

...warfare is a central and probably a permanent human social institution, one that tends...mainly to occur where the people are....And it follows that since the places where people live are increasingly crowded, urban, coastal and networked, the wars people fight will take on the same characteristics.⁸

On 17 January 2014, 13 foreign nationals were killed in a complex suicide attack on a Lebanese restaurant in the diplomatic quarter of Kabul. The operations room in ISAF Headquarters learned of the attack almost instantaneously, but not from a passing patrol, the emergency services or broadcast media. A deluge of posts on *Twitter* alerted the watchkeeper to the situation well before formal channels of communication had responded: even in the most impoverished areas of the developing world, mobile telecommunication (and the associated capability) is ubiquitous.

The *Future Character of Conflict* has already cautioned us that in the future, the armies of the Western powers will not be able to rely on qualitative or quantitative technological advantage. Citing the spread of affordable technologies, such as satellite-enabled telecommunications, the report is damning of the *Revolution In Military Affairs* 'hubris'⁹ that sees future resource best invested in re-establishing *technical* rather than *tactical* asymmetry.

6 *The vulnerability of these coastal populations was evidenced in the Mumbai attacks of 21-26 November 2008, when Jewish, Hindu and Christian sites were targeted by Islamists, who approached the city from the sea having hijacked an Indian trawler and landed at Colaba Jetty.*

7 Killcullen, David, *Out of the Mountains: the Coming Age of the Urban Guerilla* (2013) Hurst & Company. London. pg 28-29

8 Killcullen *op cit.* pg 28

9 DCDC Strategic Trends Programme: *Future Character of Conflict* (2010). pg.7 [Hereafter FCOO]

*Future operations are likely to be conducted in increasingly complex terrain. We must adjust capabilities for operations in the urban and littoral environment, where the people live; operations will be about influencing people.*¹⁰

With the ‘democratisation’ of technical progress, traditional assumptions on where the technological advantage of our future force lies have become subverted. As the New Zealand Division discovered in Trieste, and demonstrated in the (albeit uncomfortable) coalescence of Partisans into their TASKORG, our key strategic advantage lies in our people: the unrivalled interpretive, sensory analysis of ‘boots on the ground’.

Conclusion

The lessons of Trieste in 1945 extend well beyond the obvious deduction that militaries confronted with hybrid threats must be accustomed, even ‘comfortable’ with complexity. There are wider, philosophical challenges to the orthodox and influential Clausewitzian distinction between the enduring nature of war and its changing character. In a recent post for the *War on the Rocks* blog, Christopher Mewett restates the classic position:

*The nature of war describes its unchanging essence: that is, those things that differentiate war (as a type of phenomenon) from other things. War’s nature is violent, interactive, and fundamentally political.*¹¹

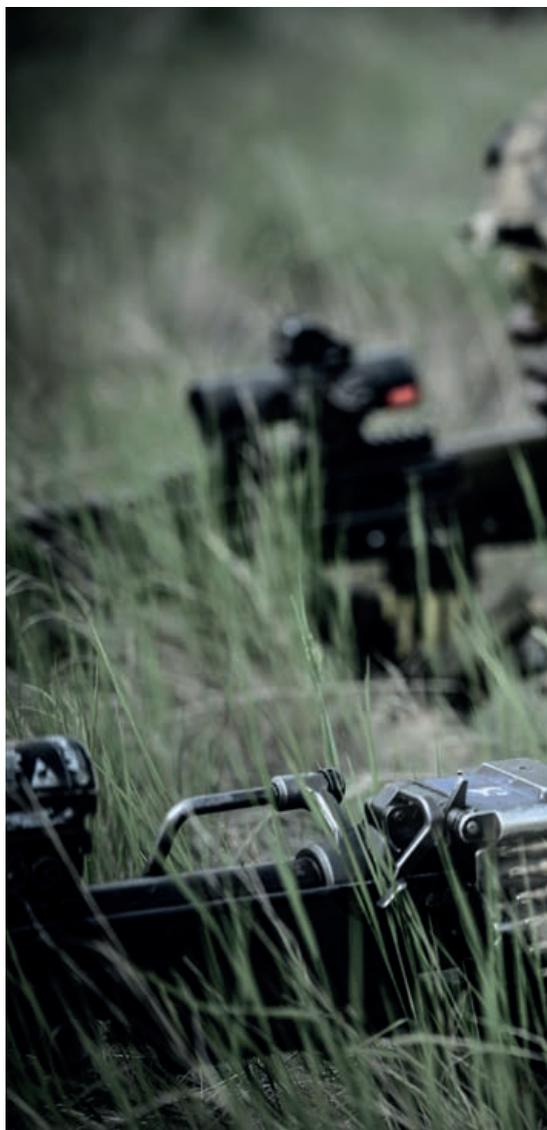
But the difficulty for Clausewitz, writing at the zenith of the European Enlightenment (and with his references to the ‘spirit of the age’ evoking images of Napoleon on his white charger) is that ‘politics’ in its Aristotelian sense is an inherently *normative* discipline - open to a vast degree of interpretation. What is more, in situating the ethnically contested and brutally subjugated Trieste into the context of a Clausewitzian construction of (Prussian) ‘politics’, we are left making no sense of Odilo Globocnik; or of the *Risiera di San Sabba* and the technology of the carbon monoxide chambers; or of behaviour of the Cossack and Chetnik militias. Indeed, the recollections of Boris Pahor in *Necropolis*, do not bear witness to the ‘interactive’ ebb-and-flow of politically motivated violence, but to an aggressive hysteria - not founded in ideology but in something murderously irrational and intellectually spurious.

¹⁰ FCOC pg.36

¹¹ Mewett, Christopher, *Understanding War’s Enduring Nature alongside it’s Changing Character* (21 Jan 14). At: <http://warontherocks.com/2014/01/understanding-wars-enduring-nature-alongside-its-changing-character/>

Perhaps institutionally, in this age of *hybrid threats*, we should instead look to Clausewitz's great contemporary GWF Hegel, who would no doubt reject the idea that the wars over multiple millennia can be placed in vague and analogous political categories. Instead of simply looking at phenomena as *they are* in order to roughly categorize and compare, Hegel adopted a *dialectical* approach to human and technical progress, looking at social phenomena as a series of interacting and often contradictory relationships.

For Hegel, irregularities within the contemporary operating environment; such as the subversion of technology, or the exploitation of ROE and the use of the population as a shield, should all be conceived in relation to what a mission is to expected achieve, its significance in terms of space and time, and the subsequent effects of intervention. When we look at examples of armed conflict, such as that witnessed in Trieste in 1945, we need to remember Clausewitz's tenant that we must fight the war that is rather than the war we want it to be.





Soldiers from the 2nd Battalion The Royal Welsh Battle Group conduct a final exercise during Ex Prairie Storm 1 on BATUS training area, Alberta Canada. Photo Sergeant Mark Webster RLC, Crown Copyright

A soldier from 2nd Battalion The Royal Regiment of Wales clears a stairway during Exercise Urban Warrior at Cenzub, France in December 2012. Photo Corporal Mark Larner RY, Crown Copyright



Land Warfare Training and Capability Deficits

Major Tom Kelly of the Directing Staff, ICSC(L), Defence Academy looks at some of the deficits in current land warfare training. This article was originally published in BAR 167 Summer 2016.

The future of land warfare remains elusively unclear and, as a consequence, is difficult to plan and train for. There are inherent difficulties in trying to predict the transitory 'character' of conflict and therefore, it is the enduring 'nature' of conflict that can give us an idea as to what future land conflict will look like. Horizon scanning suggests it will be amongst the people, in mass urbanised areas, situated within the littoral environment. This is not revolutionary thinking nor are the assertions of this article. The hypothesis is that land warfare has had multiple constants that have had a varying degree of importance depending on the context of the conflict, these being that 'tanks are here to stay', 'mastery of the urban environment is pivotal to success', 'everything has the potential to go 'bang'' and the 'air paradigm, more often than not, will be contested'. Superimposed upon these factors is the quality of 'the force'. The assertion here is that 'the return to contingency', partnered with the development of the A2020 construct has exposed a dangerous training capability delta between our 'aspirations' and our 'capacity', that could result in 'a historically successful Army..... caught unprepared by a resourceful and imaginative enemy.'¹

The UK has always punched above its weight and does punch above its weight.²

The context

In order to fulfil the political remit to 'punch' on the world stage, genuine change, including financial investment, must be implemented immediately. The 'drivers' that are likely to govern the deployment of UK land forces are; that conflicts will be of national importance, but probably not survival and they will be played out in the media. The 'people' element of the Clausewitzian Triangle,³ will have a disproportionate influence upon the strategic narrative and capacity to endure. Consequently, deployments will be time sensitive, financially restricted, casualty aware and with a clear 'end state.' Set against this back-drop the UK is currently prosecuting interventionism through the 'air' paradigm. Technological enhancements have facilitated stand-off and the capacity to deliver precision ordnance. It is undeniable that this tactic appeases the 'home base'. Yet, the fact remains if it lacks coordination with professionally competent land forces it has only transitory success. Experience from the Second World War reveals 'bombardment alone never had and never will drive a determined enemy from

1 Farquhar, Lieutenant Colonel S.C., *Back to Basics, A study of the 2nd Lebanon War and Op CAST LEAD*, p35.

2 Hammond, Philip, *Former UK Defence Secretary*, 14 Feb 2012.

3 Clausewitz suggested that warfare, as an instrument of politics, was controlled by the people, government and military in a triangular relationship.

his position'.⁴ 62 years later the Israeli experience during 2006/08 reiterated that 'airpower alone is not decisive.'⁵ 'War is ultimately decided by ground forces'⁶ and it is 'the human element that wins and loses battles.'⁷ This is uncontested by UK Doctrine and as such, will equate to the deployment of British soldiers on kinetic operations, therefore, why are the 'means' for a credible, enduring ground-based 'punch' lacking investment?

*I do not fear snipers or planes, I fear tanks.*⁸

Institutionalise Combined Arms Manoeuvre (CAM) in the 'Whole Force'

Since the conception of the tank it has been fashionable to predict its demise and champion its limitations,⁹ yet it continues to appear as a regular feature on multiple battlefields around the world¹⁰, divided by both time and context. A platform with the capacity to manoeuvre and hold ground in the land battle is a 'force multiplier'¹¹ and will therefore endure. This is supported by both Russian¹² and Chinese¹³ investment in this field. Consequently, potential adversaries could procure equipment that enables the technological and numerical¹⁴ overmatch of UK Forces in the 'close' battle. The Reactive Force (RF) has an enviable CAM capability and it would be fair to champion the credibility of this force. However, previous conflicts indicate that the over-design of a force and the compartmentalisation of capability does not survive 'contact.' During 2006 Israeli forces engaged in hybrid warfare reflected that there was a fundamental 'lack

4 Clarke, General Mark, *Commander of the US 7th Army campaigning in Italy during 1944, 'The Day of Battle - the War in Sicily and Italy 1943 - 44*, Rick Atkinson, p472

5 Farquhar, Lieutenant Colonel S.C., *Back to Basics, A study of the 2nd Lebanon War and Op CAST LEAD*, p83.

6 General Shazly, Chief of Staff of the Egyptian Army, stated this in the aftermath of the Arab/Israeli conflict of 1973 and is detailed in 'The Crossing of the Suez.'

7 ADP Ops, Chapter 2

8 Unknown Syrian Rebel, *BBC News*, Sep 2013.

9 Dixon, Norman, *The Psychology of Military Incompetence*, cites General Harper in the aftermath of the Battle of Cambrai who, 'refused to acknowledge the utility of the Tank,' p90.

10 WW2, Korea, Vietnam, The Six Day War, The Yom Kippur War, Iran/Iraq War, Soviet Afghan Intervention, India v Pakistan, Op Desert Storm, Op Iraqi Freedom, Op Telic, Op Enduring Freedom (The Northern Alliance), Op Herrick (DAN), Libya, Syria, Georgia, The Balkans, Kosovo, Egypt, ISIS, Boko Haram, Al Shabaab, Russia v Ukraine, etc.

11 Force Multipliers; doctrine, training, equipment, morale,

12 The technologically superior Russian T-14 'Armata' represents the 'biggest change in the Russian Armoured fighting Vehicle family since the 1960/70s' 'Janes,' 22 Apr 15

13 Chinese developed VT4 (MBT3000), 2015. Of note the tank is quoted by Military Today.com as being 'specifically for export.'

14 The Russians aspire to field 2,300 T-14's, *New York Times*, 16 Jun 15.



Russian T80 Main Battle Tank at the Third International Engineering Technologies 2014 Forum. The Forum included the exhibition and demonstration Oboronexpo 2014 where this shot was taken. Photo Vitaly V Kusmin, Creative Commons Attribution-ShareAlike 3.0 Unported License.

of CAM experience¹⁵ amongst the force and ‘no cooperation between infantry and armour.’¹⁶ The clear lesson for the UK is that large numbers of the Adaptive Force (AF), destined to reinforce the RF, will be required to conduct some form of CAM on deployment and require prior exposure.¹⁷ This is an expensive capability gap that carries potentially significant, high-impact risk. The AF must be afforded ‘basic’ CAM experience¹⁸ if the ‘ready to fight’¹⁹ mantra is to equate to a Divisional force capable of prosecuting a potentially protracted fight.

What Tank?

Of no less importance, is the capacity of the ‘whole force’ to identify both ‘friendly’ and ‘hostile’ armour. This will become even more complicated depending on our choice of allies. Personal experience indicates that our soldiers are not competent at identifying the numerous vehicle types operating on the modern battlefield and

15 Farquhar, Lieutenant Colonel S.C., *Back to Basics, A study of the 2nd Lebanon War and Op CAST LEAD*, p15.

16 *Ibid*, p19.

17 During Herrick 6, 2 MERCIAN, a Light BG, was required to conduct CAM throughout the tour. The vignette used in BG Tactics to illustrate ‘the Obstacle Crossing,’ involved the use of Vikings, M113s (Danes), Warriors (1SG), BTR class vehicles (Estonians) and hybrid weapons platforms used by the Czech Special Ops Group.

18 Platform familiarity, including weapon system capability and battlefield manoeuvre.

19 3XX ‘Strap line.’

have very little awareness of their capability. The concept that ‘every soldier is a sensor,’²⁰ must equate to an investment in training for the ‘whole force’ predicated on identifying armoured vehicles; UK, allied and potential adversaries.

Tank Killing

Once ‘friend and foe’ are established, we must be capable of successfully blocking and then defeating an adversaries CAM. Hunting and killing tanks is a skill that is not routinely practiced. This is on a battlefield where the tank is destined to remain a key player and adversarial mass and technology is likely to subordinate the UK. Logic suggests that low technology counter munitions, partnered with basic training, could redress this balance, especially in the urban environment. Infantry must ‘fight’ against armour without the luxury of immediate armoured support, in a variety of environments. To complete this capability development, there must be resourced, centralised, direction regarding the regularity of anti-tank simulated and live firing training. Accounts from Chechnya suggest that tank killing can be conducted effectively by small groups of determined individuals armed with the right equipment; however the greatest ‘weapon in their arsenal’ is professional competence and confidence.

*Recent experimentation has shown that the [British] Army is not fully ready, in both preparedness and capability terms, for the demands of future operations in the urban environment.*²¹



A Javelin Anti-Tank Guided Weapon is shown being fired from the back of a Pinzgauer vehicle on Salisbury Plain Training Area. Crown Copyright

20 *CFDT, New Basics, 2012*

21 *Record of decision from the Army Force Development Committee held on 9 Dec 11.*

Masters of the Urban Environment

Tactical success in the urban environment is likely to be the pivot upon which future operational success rests. If this assumption, drawn from the rhetoric surrounding the 'future character of conflict,' is believed, then the 'means' must be allocated to the training of the 'whole force' in this environment. The above statement was made four years ago in the wake of SDSR 2010. Since that time, the *Doctrine Note Operations in the Urban Environment*, due to be published shortly, will introduce new principles for urban operations. It reflects new thinking on such themes as the 'system of systems,' urban shaping operations, and the application of Integrated Action. In late 2016, this Doctrine Note will be supplemented by the *Urban Tactical Handbook*.²²



04: Building entry, 2 MERCIAN, B (Malta) Company, Whinny Hill, Urban Training facility, Catterick Training Area. Ex Urban Ram 3 (June 2015), Crown Copyright

22 See *British Army Review (BAR) No 165, Winter 2016, Army Update, p14*



Developmental Atrophy

The rapid mutation of conflicts fought in the urban environment into unquenchable resource pits will necessitate the requirement for ‘mass.’ This mass must be generated on standardisation and inter-organisational understanding. However, while the doctrine is about to be released it has been slow in coming. Lacking doctrine, the development and institutionalisation of urban warfare has become problematic. The cessation of the ‘Urban Operations Instructor Course,’ for approximately 18 months, was costly in terms of time lost in training. At the time of writing one of the few positive moves is the transition in course ownership to the Infantry Battle School. Lacking updated doctrine and centralised training the Army has been adjusting to contingency and preparing for conflict, in an environment upon which our future success rests, without coherence. As a priority, the execution and institutionalisation of CAM in this environment must be of the utmost concern to the development of the ‘whole force’ capability.

Setting The Condition

It is not only the theory of urban warfare that is unsupported, the UK urban operations training estate is in dire need of redevelopment. Its aging infrastructure is based on European settlements, predicated on the regularity of town planning and the predictability of internal building structures. It is acknowledged that they continue to serve a valid purpose, enabling the exercise



Troops and armour from 2nd Battalion The Royal Regiment of Wales and attached elements form up for a group photograph at Cenzub, France during Exercise Urban Warrior in December 2012. Photo: Corporal Mark Larner Ry, Crown Copyright

of theory and generalist TTPs, however, there is a requirement for sprawling ‘shanty’ structures, factories, high rises, new/old builds, underpasses, trench networks and tunnels²³ - the true complexity of an urban environment on the modern battlefield. CENZUB²⁴ provides a good example of what ‘good’ can look like, although it also requires improvement. Additionally, every infantry barracks should have a ‘skills house’ and room clearance observation platform, to provide continual ‘top up’ Collective Training (CT0-1).

Inadequate training in even the most basic manoeuvre and combat skills inhibited Russian Operations.²⁵

23 The IS use of tunnels in Jobar and Sinjar, detailed by the BBC, 14 and 25 Sep 2015 respectively would suggest this is an enduring means of movement and enhancing force protection in the Urban environment.

24 Situated in Northern France and costing £76 million to develop (Gov UK, 6 Jan 12), UK access is granted for 6 weeks per annum under a Joint French/UK construct, captured by the Anglo-French ‘Gaulish Agreement.’

25 US Marine Corps Intelligence Activity, Urban Warfare Study: City Case Studies Compilation, 1999, Lesson 13, p9.

Developing Capability in the Urban Environment

Training to develop capability in the urban environment is difficult to justify to budget holders, but it is morally essential. The best training is that which allows the instructor to find synergy with the objective capture of evidence, fuelling an After Action Review (AAR) and therefore, learning. As such, the use of simulation in the urban environment is integrally linked to capability progression. The reality is that virtual/constructive training, enabling TEWTs and synthetic wrap, is almost non-existent and live simulation is limited largely to the use of the Low Level Urban Skills Trainer (LLUST). This system, which significantly enhances the institutionalisation of low level skills, is only available at three locations²⁶ and is optional for usage.

Collective Training progression in the urban environment must be centrally tracked and reviewed by external observers. Battle Groups should undergo a similar training progression to that experienced in BATUK/BATUS and be awarded Collective Training 3/4 (CT3/4) as a result of meeting clear training objectives. On completion, the Battle Group should then be kept at readiness for an extended period and deploy as urban warfare specialists. 'It so happened that for our part, the tactics and methods of conducting combat operations in a city found no place in combat training programmes.'²⁷ We can avoid the Russian experience in Chechnya, but only with investment now.

Implications

Make no mistake, urban operations are 'very infantry-intensive affairs that produce large numbers of casualties,'²⁸ and as Sun Tzu suggested, best avoided where possible. However, where unavoidable, maximising the capability of an 'Urban Operations Battle Group' will be pivotal to its success. The platform dependency characteristic of the RF, the necessity to generate 'mass' and the capacity to execute manoeuvre that is both 'vertical in nature,'²⁹ as well as horizontal, without affording significant force elements to conduct a 'guard' function, would suggest the flexibility and mass delivered by a fully resourced³⁰ Light Infantry battlegroup should provide the 'centre of gravity' for the conduct

26 LLUST is provided by CUBIC and is only available at Copehill Down (SPTA), Celenei Village (SENTA) and Whinney Hill (ITC).

27 US Marine Corps Intelligence Activity, *Urban Warfare Study: City Case Studies Compilation, 1999*, p9, Col Kostyuchenko, commanded during the Chechen War.

28 US Marine Corps Intelligence Activity, *Urban Warfare Study: City Case Studies Compilation, 1999*, p2.

29 *Ibid.*

30 *Principally the full manning of the third Rifle Platoon in each Company*



The Low Level Urban Simulation Training (LLUST) After Action Review (AAR) facility, Whinny Hill, Urban Training facility, Catterick Training Area. Ex Urban Ram 1 (May 2014). The AAR is being delivered by a Corporal as a member of the exercising troops and is intuitive and inclusive enough for Private soldiers to add real value. 2 MERCIAN, B (Malta) Company. Author, Crown Copyright

of urban warfare. The Russian Army developed a Battle Group (BG) capability predicated upon the requirements of urban warfare during the Chechen War:³¹

- **Equipment:** Requirements are likely to be different to those currently held for conventional warfare, eg, 'fire engine ladders,' high mount, high trajectory, stabilised weapons platforms³², crowd control equipment (baton guns, shields, visors, fire extinguishers), angle grinders and sledge hammers (specifically to gain access to locations), boats (many cities sit on rivers), chicken wire, hessian, sand bags (including sand) bar mines and claymores. This list will necessitate an enhanced logistical node throughout all echelons.
- **Alternate Communications:** Communications are regularly reduced. This issue is likely to be exacerbated with adversarial tracking and jamming capability. Royal Signals (RSIGs) should be embedded at subunit level and the use of line must be considered as an alternate means of communications.

31 US Marine Corps Intelligence Activity, *Urban Warfare Study: City Case Studies Compilation*, 1999, p2.

32 The use of Russian anti-aircraft platforms, in particular, the ZU23-2/4 has proven consistently useful in the urban environment.

- **Personnel Enhancements:** *The following recommendations are principally distilled from the Russian experience in Chechnya and are additional to the communications and logistical attachments identified above.*
 - **Mobility/Counter Mobility:** *Royal Engineer (RE) assets necessary to enhance and deny mobility will require integration at subunit level at a rate of a Section per Platoon. Tractor assets should be available at BG level.*
 - **GEO:** *Up to date, appropriate scale mapping will be extremely important at the lowest tactical level.*
 - **Enhanced Marksmanship:** *Snipers and sharp shooters will be disproportionately effective; this assumption will require a significant uplift and organisational reinvestment in the sniper capability across the Infantry.*
 - **Dogs:** *Search and attack dogs will regularly be required at subunit level.*
 - **Route Control:** *The movement of vehicles, through the echelons will require significant coordination. The Russians required an entire Provo Brigade to conduct this task during the Chechen conflict and the complications of recovery will require a dedicated, protected REME recovery force.*
 - **Artillery Assets:** *Critical Royal Artillery (RA) assets are likely to be Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR), Precision Strike, the Fire Support Team and Air Defenders. Infantry Mortars (60/81mm) will be the most regularly used Indirect Fire assets.*
 - **Civil Capacity building:** *Specialists, most likely integrated civilians, capable of resurrecting the civil authorities are critical at Battlegroup level.*
 - **Language Skills:** *Interpreters will be required at Platoon level.*
 - **Medical Uplift:** *Evidence suggests that casualties (friendly, adversarial and civilian) will be significant and therefore an uplift of medics will be critical in dealing with the expected quantity forward.*

- **Media:** A BG media cell responsible for proactive media engagement will strengthen and importantly 'speed' the proliferation of UK messaging at the tactical level.
- **Intelligence:** Subunit intelligence analysts will significantly enhance the capacity to understand the evolving situation and exploit localised opportunities.

In short, if urban warfare is set to be the pivotal battlefield of the future, the generation of capability in this field needs to be taken seriously, resourced and centrally controlled, or we will fundamentally fail to 'train as we mean to fight.'

*They make booby trapped houses - if you open the kitchen door it will explode.*³³

*We encourage people not to pick up anything that doesn't belong to them. Even if you see an expensive phone or something like that on the road better leave it..... this way you will save your life.*³⁴

Things Always Go 'Bang'

Future warfare will include the use of Improvised Explosive Devices (IEDs) and mines. Humans have traditionally made traps, ostensibly of the victim-operated nature, in order to inflict casualties on prey and adversaries. The concept is not new. It will endure as it is low risk, reaps success and strikes at the very heart of the will to fight. The incidence of IEDs on Op TELIC/HERRICK took a heavy toll on Coalition Forces, significantly curtailing physical and physiological manoeuvre and undermining public support. It is the assertion here that the fundamental tool to counter this threat is a 'mindset' intuitively geared to hunting out threats through enhanced situational awareness and is captured by *Soldier First - Combat Hunter*.³⁵ *Military Annual Training Test 9 (MATT 9)* is not broad enough to counter the evolving threat in this arena and it is fair to assume that in the IED battle, we will not, at least initially, hold the 'initiative.' This will equate to casualties. *MATT 9* must be enhanced with *Soldier First - Combat Hunter* and regular judgemental training.

*1/3 of all houses encountered by the Israeli Defence Force were booby trapped.*³⁶

³³ *Peshmerga Fighter, BBC News, 21 Oct 2014*

³⁴ *Holoborodkho, Serhi, Ukrainian Official, 21 Aug 2014*

³⁵ *RMAS Publication, predicated upon the capacity to FIND and 'out think' potential adversaries in all environments.*

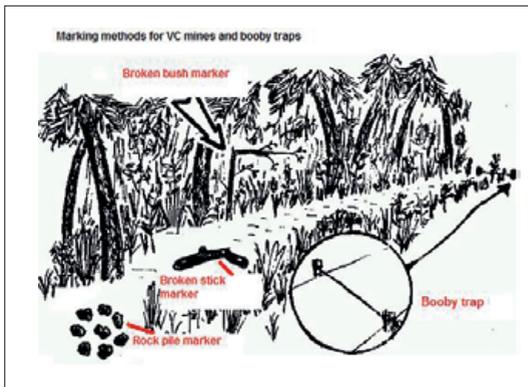
³⁶ *Farquhar, Lieutenant Colonel S.C., Back to Basics, A study of the 2nd Lebanon War and Op CAST LEAD, p71.*

Learn From History

Much can be derived from the codified doctrine established by conventional armed forces³⁷ that have prosecuted warfare through the exploitation of 'booby traps.' The Vietnam War provides a perfect opportunity to understand the 'mindset' and tactics of a mass non-conventional bombing campaign. The formalised methods used to 'lure' an adversary into executing themselves provides an insight into the tactics of an, as yet unknown, adversary and should be deconstructed for 'whole force' consumption. Additionally, the most significant IED events from Northern Ireland, Iraq, Afghanistan and the ongoing conflicts that we are not involved in, need recreation in virtual simulation and delivery to all ranks to build situational awareness. It is also recommended that IEDs of some nature are used in all training scenarios to assist in the institutionalisation of a proactive, inquisitive, combat-orientated mindset.

Winthrop Method

A logical extension of the Counter-IED (C-IED) battle is a greater understanding of the environment, the consequence of this being an enhanced capacity to 'find' where a principally non-conventional adversary hides their 'means' to fight. There is an acknowledgement that we fight on a non-linear battlefield, therefore can we assume that if our enemies might not surround us at all times, their weapons will?



The mindset of an adversary does not change, they will always exploit patterns to strike human weakness. 'Vietcong Minemarkers', US Army FM 5-31, published 1965.

37 US Army Field Manual 5-31 'Booby Traps', 1965

The Air Paradigm

The control of the air is fundamental when attempting to prosecute a successful land campaign and intrinsically linked to the Manoeuvrist Approach. Aerial supremacy was achieved in Bosnia, Kosovo, Iraq, Afghanistan and Northern Ireland and the Land Contingent has forgotten many of the key lessons associated with operating without aerial supremacy. The Wehrmacht experience in Normandy and the Ardennes Offensive offer a compelling insight into the problems of conducting tactical actions without aerial supremacy. Even 'Daesh' employs aerial ISTAR to enable manoeuvre. Consequently there is a necessity to reflect upon the reality that 'basic' soldiering throughout the battlespace must be attuned to the aerial threat. It is recommended that an advisory team review/establish a set of tactical Standard Operating Procedures (SOPs) for operating without aerial supremacy and ramifications of this development are built into training scenarios.³⁸

*Do everything possible to train them before deployment.*³⁹

*The best plan in the world is useless if the young officer or his men have not the training or the will to carry it out.*⁴⁰

Summary

We will not be in a position to plead 'ignorance of the coming war'⁴¹; we must resource the 'means' now to achieve Operational success and this equates to more than simply purchasing new equipment. The solution to the capability delta is the resourced acknowledgement of the 'whole force' concept and is likely to necessitate some of our most innovative thinking when it is set against a backdrop of financial friction and competing priorities. For example, the financial saving as a consequence of the Army being undermanned could offer significant opportunities for reinvestment. We must continually work to eradicate our combat naivety, 'train as we mean to fight' and invest in ensuring our people truly are the 'agile edge,' capable of improvisation and 'holding the initiative.'⁴²

38 *There are clear ramifications for the Equipment and Doctrine DLoDs and the employment of low tech weapons platforms to complement the inservice equipment, eg ZU 23-2/4 could assist in offering a flexible system to provide a more robust denial of the air.*

39 *General Petraus, Observations from Iraq.*

40 *General Shazzly, Chief of Staff of the Egyptian Army, The Crossing of the Suez, P34.*

41 *Dixon, Norman, Psychology of Military Incompetence, p122*

42 *Agile Warrior 11, Summary of Insights.*





A Challenger 2 Main Battle Tank thunders across Salisbury Training Area during an Armoured Fighting Vehicle Commanders Course undertaken at Warminster. Photo: SAC Lee Mathews, Crown Copyright

A scene on the beachhead the day after the initial landings showing amphibious craft landing unopposed on the beaches. Part of the invasion fleet can be seen in the background. © IWM (A 25289)



Task Force BUTLER, Op DRAGOON and The Modern British Division

Major Simon Hall, Future Plans, examines Operation Dragoon that took place 15th August 1944 and draws comparisons with modern Divisional warfighting. This article was originally published in BAR 170 Autumn/Winter 2017.

Operation DRAGOON was a Joint, Coalition, initially Maritime-led insertion (that subsequently transitioned to a Land-led operation) involving the integration of land, air and sea based operations and the delivery of some 151,000 Allied troops onto the beaches of Southern France on 15th August 1944.¹ Ground forces eventually totalled 3 US Divisions and 5 French Divisions.

Task Force BUTLER was a short-notice grouping designed to exploit rapidly inland with the intention of cutting off and destroying a fleeing German Army. Using operational historical examples, this article draws comparisons between Task Force Butler and modern Divisional warfighting and concepts. The similarities between Task Force BUTLER (TF BUTLER) and STRIKE² are also examined.

History

Whilst Operation OVERLORD is perhaps one of the most famous phases of the Second World War, Operation DRAGOON, on the other hand, is seldom studied. Whilst it lacks the highly impressive statistics of OVERLORD it was no less vital to the Allied campaign plan. The DRAGOON operational aims were to secure the ports of Marseille and Toulon in order to provide a southern gateway into France that would allow the in-load of troops and supplies from the south to reinforce, and eventually link up with, Operation OVERLORD. This was a VI Corps operation commanded by Major General Lucian Truscott, comprising 3rd, 36th and 45th US Infantry Divisions and Task Force BUTLER³ commanded by Brigadier General Frederic B. Butler. Hugely complex in nature and fraught with political issues during its conception, Operation DRAGOON, formerly known as Operation ANVIL took months to finalise and get complete Allied buy in. In fact Churchill was keen to see the operation cancelled, in favour of a second front focussing on

1 Clarke, Jeffrey, and Smith, Robert, *Riviera to the Rhine*, Whitman Publishing, (1993), p 92

2 STRIKE can march independently over substantial distances to provide alternative options for the Joint Force particularly as the threat from increasingly sophisticated and inter-locking anti-access area and denial systems challenges power projection and freedom of manoeuvre; risk is reduced through the ability to operate dispersed, distributed command and control delivered by reach back, and reduced logistic need that minimises the support structure, thus reducing the quantity of 'boots on the ground'. Its potential reach and mobility at distances of up to 2,000 km allows a relatively small force to achieve an effect comparable to a much larger force. At the core of the STRIKE capability is an empowered company group of mechanised infantry vehicles integrated with Mounted Close Combat (AJAX) that collectively provide firepower and dismounted infantry mass, thus being able to deliver an effect that is far greater than the sum of the parts. HoC Cbt/Plans/20.04 STRIKE CONEMP V7 dated 5 Oct 16.

3 A large, all arms Brigade-sized group, with armoured reconnaissance, armour, mechanized infantry, artillery, engineers, medical and military police assets to enable the force to be self-sufficient and highly manoeuvrable.

operations in the Mediterranean that would cut-off the Soviet advance through Eastern Europe.⁴

Operation Dragoon involved a huge maritime task force, not only to deliver the troops, vehicles and supplies ashore, but also to provide the ship-to-shore gunfire to soften up the coastal defences.⁵ Air power was also decisive in shaping the battle and the air bombing campaign was initiated on 5th August to destroy roads, railways, bridges and airfields; leaving only one bridge standing in the region. There was a second sustained fire mission that began some 2 hours before the beach landings in an effort to further soften up the German defences. In addition, a mass parachute drop took place involving the US 1st Airborne Task Force⁶, who parachuted into Le Muy⁷ in advance of the beach landings and the French Zeme



Landings in southern France, 15 and 16 August 1944, near St Raphael. Invasion activity at sea during the landings in southern France and subsequent beach scenes when the beachhead was 24 hours old ©IWM (A25285)

4 *The strategy and operations of Op Dragoon from Riviera to the Rhine parts 1 and 2 by Jeffery Clark, US Army Centre for Military History*

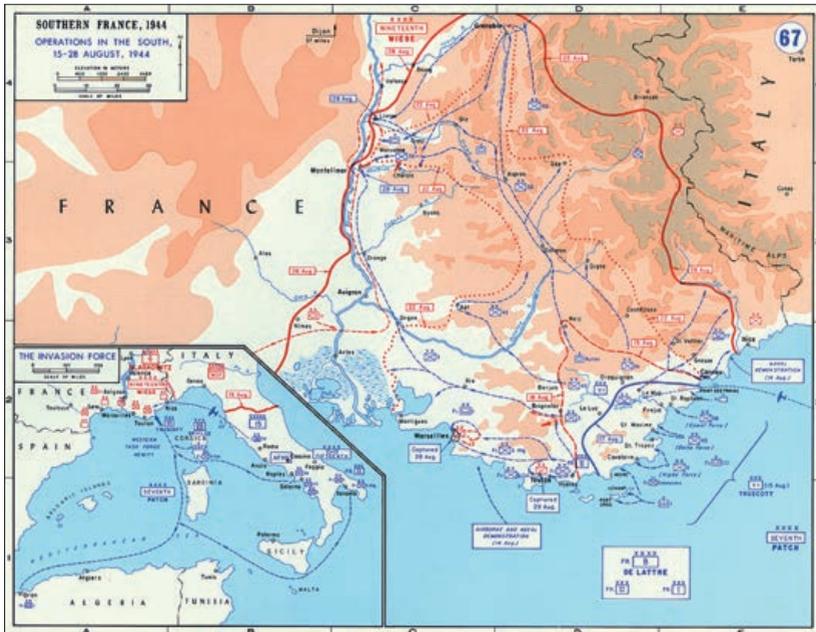
5 *There were 9 Escort Carriers and 98 Destroyers involved in Op DRAGOON, whereas OVERLORD had no Carriers and only 65 Destroyers; Polmar, Norman, Aircraft Carriers: A History Of Carrier Activity And Its Influences On World Events, p 343.*

6 *1st AB TF was based around British 2nd (independent) Parachute Brigade and consisted of UK, US and Canadian troops.*

7 *A small town approximately 30 km north of Saint-Tropez and the coast line.*

Corps provided the force that would ultimately liberate the towns of Toulon and Marseille. H-Hr for Operation DRAGOON was 0800 hours on 15th August 1944 and within 24 hours the Allies had landed 94,000 troops and 11,000 vehicles on the beaches around Fréjus and Sainte-Maxime.⁸

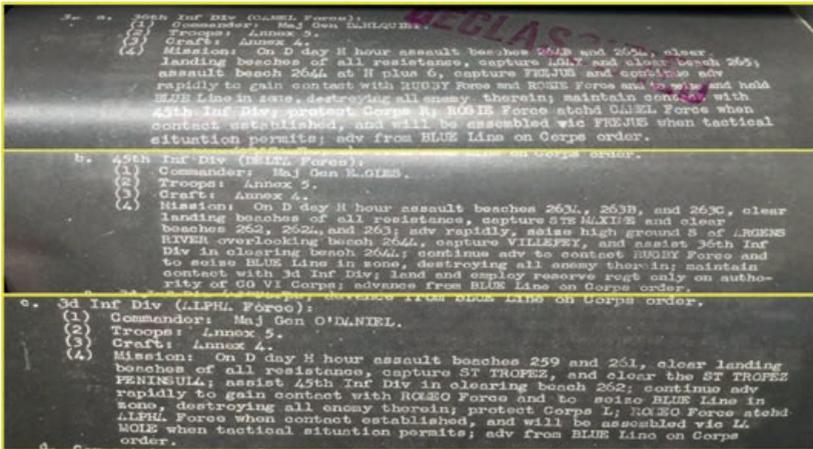
Within a week of landing on the French coast, the force had liberated Grenoble, some 190 miles north of the landing sites. The operation was a greater success than Truscott imagined having achieved his mission while losing only 17,000 soldiers injured or killed, but capturing 130,000 German soldiers.⁹ This equates to less than 5% Allied losses considering that 380,000 Allied troops landed within the first month following the start of Operation DRAGOON.



Map 1: In 1938 the predecessors of what is today The Department of History at the United States Military Academy began developing a series of campaign atlases to aid in teaching cadets a course entitled, 'History of the Military Art'. The maps were created by the United States Military Academy's Department of History and are the digital versions from the atlases printed by the United States Defense Printing Agency. We gratefully acknowledge the accomplishments of the department's former cartographer, Mr. Edward J. Krasnoborski, along with the works of our present cartographer, Mr. Frank Martini. U.S Army, released

8 Stewart, Dr Andrew, *Operation Dragoon: New Introduction*, 2011.

9 Hickam, William, *WWII: Op DRAGOON*, 2016, www.militaryhistory.about.com



An example of the original Operation Dragoon Reports.

The 3rd (UK) Division Staff Ride

The 3rd (United Kingdom) Division conducted a staff ride between 3rd and 7th October 2016 in the South of France following the Operation DRAGOON campaign of August 1944. The staff ride had access to a wealth of information, a weighty pre-reading pack and also involved both military historians and academics during the week-long study. The operation was studied from the initial maritime beach landings, all the way to the battle for Montélimar and included: the Maritime and Airborne task forces, Land Component Command, VI Corps, exploitation, Mission Command, Task Force BUTLER as a STRIKE Brigade, urban operations, complex terrain, logistics, withdrawal and the delay from a German perspective and generating tempo.

Fortunately, the staff ride was able to obtain copies of some of the original Operational Staff Work issued by VI Corps and 36th Infantry Division.¹⁰ Indeed, The Divisional Field Order was some 150 pages in length, with the bulk being the intelligence report and the main body consisting of only 5 pages. Looking at the VI Corps Divisional missions it is clear that the original Corps intent was really only to establish a beach head and an initial break out known as the 'Blue Line'. The exploitation thereafter was very much on orders.

Lessons

Innovation and the importance of inculcating it into modern soldiering:

Innovation in soldiering is by no means a new concept and limited resources will always be a factor for any Armed Forces. Even during the Second World War, when nations' economies were completely geared to the war effort there still were

¹⁰ Kindly provided by US Staff College at Fort Leavenworth.

not quite enough resources, whether that was ammunition, vehicles, or LSTs (as was the case in Op DRAGOON).¹¹ TF BUTLER was no exception and there are a number of good examples of innovation at the lowest level, such as the use of artillery spotter aircraft for forward reconnaissance that enabled his force to exploit rapidly north and use the element of surprise against the German 19th Army. TF BUTLER was a cobbled together formation that had no pre-existing headquarters, having been rapidly organised.

Butler realised that he would have to create a brigade command radio net and rather than start from scratch, he bolted onto an existing, fully functioning, long-range radio net; the Corps Reconnaissance Squadron. Butler also knew that his force would be extended and that Command and Control(C2) would be a challenge, so he chose to co-locate his brigade headquarters with the Reconnaissance Squadron and use the existing net. The main benefit of this procedure was that reconnaissance radio nets were optimised for long range communications so he could maximise his C2 reach.

This theme of doing more with less is still very true today as is the concept of inculcating innovation into everyday life for our soldiers and officers. Indeed, there is now a cell in Army Headquarters that is geared to innovation in the British Army. However, if we truly want to inculcate innovation, then we need to measure innovative performance; something that could be done through the annual reporting process. Formal education should also incorporate innovation at key stages throughout soldier and officer careers; for example, innovation could be a module of Corporal and Sergeant Command Leadership and Management (CLM) training and could be incorporated into the Junior Command And Staff Course (Land) (JCSC(L)).¹² Interestingly, in 2002 the government set up an innovation unit to help improve public services and drive down costs. Originally a part of the Department for Education, the unit is a collaboration of public service practitioners who develop life changing solutions to social challenges.¹³ War forces soldiers to be innovative as the alternative could mean unacceptable failure; therefore we are forced to look at different ways of adapting doctrine and capability to make things work.

Mission Command and STRIKE: TF BUTLER didn't exist before 1st August 1944, but deployed on Operation DRAGOON two weeks later and was then dissolved on 30th August. There was insufficient time for the various sub units to train together and yet the TF managed to exploit 235 miles in-land, clearing

11 *LST - Landing Ship, Tank. A large shallow draft vessel used to transport men and equipment and get them onto the beach.*

12 *JCSC(L) The future Capts' Warfare Course.*

13 *Taken from www.innovationunit.org/our-mission*

thousands of miles of roads and managed to defeat or capture large numbers of German forces with few casualties.¹⁴ This was an excellent example of rapid task organisation that worked very effectively. Butler understood his commander's intent, the situation, the enemy, the environment and was fortunate enough to be able to force generate a bespoke organisation that would counter these factors. He struck a careful balance of protection, manoeuvrability and firepower: maximising his medium armour (Sherman M4 and Stuart M3 tanks) as there was no real Allied heavy armour at that time in the campaign.

Butler also understood the importance of indirect fire support and whilst field artillery was in short supply, he had an abundance of 60 and 81mm mortars that allowed him to organise these down to company and, sometimes, platoon groupings.¹⁵ This meant troops at the lowest level could quickly react to a rapidly changing situation, enabling the infantry to suppress targets of opportunity without having to wait for a divisional asset to be tasked.

Recent experimentation with the Royal Dragoon Guards Battlegroup on Exercise IRON STRIKE in Canada¹⁶ drew similar parallels and they concluded that task organising support weapons; such as machine guns, anti-tank and mortars at the lowest level proved to be vital to the survivability of a heavily dispersed force.¹⁷ There were periods of time where Butler did not have



The bombardment of southern France before the landings. 15 and 16 August 1944, on board the destroyer HMS Lookout, HMS Ramillies bombarding off Cape Negro, ©IWM (a25227)

14 Volpe, Major MJ, TF Butler: A Case Study In The Employment Of An Ad Hoc Unit In Combat Operations, During Op DRAGOON, Fort Levenworth, 2007.

15 TF BUTLER had 11 x 81 mm mortars and 36 x 60 mm mortar barrels.

16 Ex IRON STRIKE was a Collective Training (CT3) experiment held at BATUS in October 2016 with the Royal Dragoon Guards Battle Group and a Canadian LAV Company to test the STRIKE CONEMP.

17 20161109 - IRON STRIKE Observations, 12 AI Brigade, dated 9 Nov 16.

communications to his higher headquarters and he relied on mission command and understanding the commander's intent. The speed at which TF BUTLER exploited with a force that was arguably less manoeuvrable than a modern equivalent is noteworthy. The Strike concept of employment also mentions the requirement for 'junior leadership thriving on the autonomy generated through Mission Command' and 'the ability to operate dispersed, distributed C2 delivering reach back'; all of which were evident in TF BUTLER in 1944.¹⁸

Taking Risks: Anybody can take risks, however it takes skill and careful judgment to balance risk against reward and not simply gamble with individuals' lives. Invariably a commander will give his subordinates more latitude to take risk if he trusts their judgment. In the case with the newly formed TF BUTLER, General Truscott chose one of his most trusted officers to lead the task force, someone he had already fought alongside; Brigadier General Butler who was also General Truscott's Assistant. Butler constantly balanced his will to move quickly and exploit opportunities, creating tempo and forcing the Germans onto the back foot against over extending himself.

On 20th August 1944, having had no communication with 36 Infantry Division's Headquarters for some time, TF BUTLER was located at Sisterone and Aspres in anticipation of a move north to Grenoble. Fuel and ammunition were now both in very short supply as neither the ports of Toulon or Marseille would be liberated until 28th August, therefore supplies were being ferried into makeshift areas inland from the original landing beaches, which were not established for major logistical in-load. Butler received his new orders to move west to Montélimar in the early hours of 21st August from Dahlquist to seize the high ground north of Montélimar and cut off any German escape.¹⁹

The initial skirmishes in the area were successful for TF BUTLER, but very nearly left them defenceless and unable to move due to lack of resources.

There was much discussion on the Staff Ride about our willingness to take risk in the modern era, both on operations and 'in-barracks' and the general feeling was that commanders do not really want their subordinates to take risks. Whilst we are not 'at war', we should be far more willing to take a calculated risk when the outcome could be so beneficial and the risk to life is low. By creating an environment where there is no fear of failure in the training environment far more can be achieved. Donald Trump famously said 'Sometimes by losing a battle you find a new way to win the war.'²⁰ Commanders must be able to fully

18 HoC Cbt/Plans/20.04 STRIKE CONEMP V7 dated 5 Oct 16.

19 Clark, Jeffery, *The Strategy And Operations Of Op Dragoon From Riviera To The Rhine Parts 1 And 2*, US Army Centre for Military History

20 https://www.brainyquote.com/quotes/topics/topic_failure.html

understand what the missions risks are and be able mitigate the outcome so that it falls into acceptable parameters. Failing that, they must seek to transfer the risk to the higher authority where it might be treated by a larger and better-resourced organisation. Ultimately, any risk-taking must be done completely consciously and be fully communicated to the higher commander. Good use of mission command may lead to unwanted risk-taking, but is mitigated by trust built on experience.

Training: In 1944, VI Corps' Divisions spent a full week conducting rehearsals along the Italian coast between 31st July and 6th August 1944 to simulate the beach landings. Whilst there was not enough time to carry out a full rehearsal of the unloading of all the ships involved, it was felt that owing to the previous operational experience of the force that this lack of specific rehearsals was a risk that could be tolerated.

By contrast, TF BUTLER never had an opportunity to train together before Operation DRAGOON, yet they still achieved mission success. Discussion on the staff ride attributed this to a blend of trust (between Truscott and Butler, and Butler to his subordinates), Mission Command (within TF BUTLER), good communications and innovation. Time is always limited and we must seek innovative ways of training or training smarter to make best use of such a limited resource. We only truly learn from our mistakes, yet the UK mind-set still has a fear of failure; the US are very happy to embrace it and anecdotes from recent the *Army War-fighter Assessment (AWA)* with 1(US) Armoured Division highlight where 2 senior officers were arguing over who had made the greatest mistake.

Looking inwards, we should be comfortable with seeing more Battle Group failures in BATUS/BATUK on Collective Training 4 (CT4)²¹, but we also need to have a robust method of correcting the mistakes and re-validating the unit. It is far easier (and more comfortable) for a commander to play it safe, be risk averse and do what he knows, rather than attempt something new and potentially get it wrong in the process. Commanders should be given a real opportunity to be innovative and try something new; something that carries with it a high risk of failure. Of course, this could then lead to that unit failing BATUS and not getting their collective training validated. Rather than give that commander an adverse OJAR, they should be favourably reported on for having the courage to take a risk.

Unfortunately there are very few opportunities to undertake (CT4) training so how do we create a less pressurised environment to enable creativity and dispel the fear of failure? Also, the negative impact on morale could be devastating for a unit who fail their CT4 event. It will require a complete culture change and very strong leadership

21 According to *Transforming The British Army An Update – 2013*, CT4 is 'defined as task organised unit or battlegroup training conducted in a combined arms formation context.'

across the rank structure to get the most out of failure in the current climate. If we want STRIKE to work properly it will need to be trained with CT4 to failure so that we understand the limitations and can allow commanders the freedom to experiment long after MIV, AJAX and all the other platforms have been delivered.²²

Generating Tempo: In 1944 General Truscott and his staff had access to ULTRA; the Allied intelligence project that tapped the very highest level of encrypted communications of the German Armed Forces.²³ This gave the Allies the ability to decode all the German radio messages, massively increasing their advantage and offering a clearer view of enemy strengths and dispositions. *ADP Operations* describes tempo as ‘acting more quickly than the enemy’ where this is both the pace and quality of the decision-making followed up by swift action, arguably this idea has stood the test of time.²⁴

Generation of tempo is a key factor in gaining the upper hand on your adversary and is not all about moving around the battle space quickly. Sometimes it is necessary to pause and assess the intelligence to make a better informed decision. By employing mission command, something that is part of UK doctrine and should be in our DNA, the commander fosters a trusting relationship that will allow subordinates to keep operating to their commander’s intent, even when communications have failed. By minimising the time between decision and action the opportunity to generate tempo can be maximised. The more the decision making process is centralised, the slower that loop will be and arguably tempo would decrease.

Given the nature of STRIKE and its ability to operate extended over many hundreds of kilometres, communications will undoubtedly at times be difficult, even with planned future communication system such as MORPHEUS. Therefore, subordinates will need to operate for extended periods of time with scant orders and absolutely must understand the commander’s intent. This in turn places far more emphasis in delivering a Commander’s intent that is sufficiently detailed to endure to the finish of a fluid operation.

Interoperability: Interoperability was not the buzz-word that it is today in 1944. It is hard to say whether or not it is more difficult now to perfect interoperability than it was in 1944. However, whilst the imperative of war made interoperability an absolute necessity today’s technology means that interoperability is a much greater challenge

22 *MIV - Mechanised Infantry Vehicle; a medium weight wheeled armoured personnel carrier.*

23 *Online encyclopaedia Britannica <https://www.britannica.com/topic/Ultra-Allied-intelligence-project>*

24 *ADP operations, Oct 16, paragraph 0508, page 5-2 to 5-3.*



The Household Cavalry (HCR) carry out Regimental Crew Training on Salisbury Plain to test basic mounted soldiering in preparation of the HCR going to BATUS (Canada) to carry out Strike Experimentation. Photo: Shane Wilkinson, Crown Copyright

to perfect. The electromagnetic spectrum that we operate in has become very congested in recent years with the thirst for live information being quenched from satellite, UAV, voice and other data sources, all being beamed around the battle space.

Whilst we have some of the best Electronic Counter-Measures (ECM) available on the market, ECM can interfere with other communications equipment that is not protected against it. This was often an issue when deployed on operations with other nations and patrolling together where specific Tactics, Techniques and Procedures (TTPs) had to be employed to prevent ECM fratricide.

Back in 1944, communications between the different nations and their air, maritime and land forces was arguably the greatest challenge and is something that we still struggle with today. The Very High Readiness Joint Task Force (Land) (VJTF(L)) is a great modern example of operational interoperability between 14 different nations; there are numerous interoperability 'known knowns' and probably a few 'known unknowns'. Recent training events such as Exercise VENERABLE GAUNTLET have proved how effective this force can be. Another example can be drawn from the interoperability between the Canadian LAV company that supported the RDG battlegroup on Exercise IRON STRIKE in October 2016, where they had to fight hard to operate together effectively and sometimes accepted that there would be gaps in the interoperability, but despite the challenges the exercise was cited as a success and has helped prove some of the STRIKE concepts.

Having reduced the size of our Armed Forces following the last Defence review, it has been necessary to invest more heavily in some of the niche land capabilities such as CBRN, Precision Strike, and Route Proving and Clearance. As we look to Eastern Europe as a future area of operations, we will need to rely more heavily on our allies and NATO partners to provide strength in numbers against a sizeable, peer adversary.

Summary

The issues raised here are all interlinked and certainly innovation, training and mission command complement one another. The STRIKE concept is evolving and will continue to do so for some time. We have the commander's intent as to what we want STRIKE to do in broad terms, and in the future we will need innovative people to be trusted enough to train in novel ways of working to get the very best out of our future capabilities. This is almost identical to Truscott's trust in Brigadier General Butler, giving him almost free reign to design and use the task force as he saw fit.

The Army is unlikely to get all the new capability it wants for STRIKE owing to difficult financial pressures, therefore it is necessary to do more with less and be innovative with how we work. Butler's team had to be very innovative with the task force as it was cobbled together with 'the unwanted toys' seemingly cast aside from other units. Similarly, STRIKE will undoubtedly have to fit in with the Army's existing capability whatever that may be. Time and training opportunity will always be in high demand, but opportunity for commanders to conduct useful battle group training in a variety of environments against a peer adversary must be sought. In contrast, Task Force BUTLER had no time to train together before they deployed on Op DRAGOON, yet their exploits were deemed a success. If we test to the point of failure perhaps then we will begin to really learn and truly get the most out of our people.



Douglas C-47 "Skytrains", 12th Air Force Troop Carrier Wing, loaded with paratroopers on their way for the invasion of southern France, 15 August 1944. US Air Force Photo, Released



Armoured vehicles roll into Copehill Down, to provide cover as part of Exercise Lion Strike. Copehill Down is a UK Ministry of Defence training facility located on Salisbury Plain, Wiltshire, England. It is a 'FIBUA' (Fighting In Built Up Areas) urban warfare and Close quarters battle training centre where exercises and tests are conducted. Photo Corporal Si Longworth RLC, Crown Copyright

Ruining Copehill Down

Professor Anthony King, provides recommendations on how to turn Copehill Down into a premiere urban training facility by deliberately degrading it. This article was originally published in BAR 172 Summer 2018.

The British Army has now officially accepted that urban warfare is the most likely environment for any future conflict and it has begun to prepare for this eventuality through a series of initiatives. For instance, 1 Armoured Infantry Brigade has been designated as the Army's urban experimentation brigade. It is currently conducting a series of exercises and trials in order to improve the British approach to urban operations, among other tasks.

These developments are important. Yet, the energy which has been expended on enhancing urban capability has only highlighted a serious shortcoming in the Army's training estate. The Army's urban training facilities are inadequate for the exigencies of the contemporary environment that troops are likely to face. The fact that Copehill Down remains its best facility is an indictment.

Indeed, Copehill Down becomes something of an embarrassment when compared with the facilities that Britain's NATO allies have constructed in the last decade. The Americans have, of course, led the way here. The US Army's Fort Irwin consists of a large and complex urban area. In 2005, The US Marine Corps built an imitation town out of 13,000 iso-containers at their 29 Palms Training Area. Range 220, as it is called, is able to accommodate a full Marine Expeditionary Brigade. In 2011, The French Army opened *Centre d'Entraînement aux Actions en Zone Urbaine* (CENZUB) whose central feature is a complete modern town. Consisting of factory, metropolitan, suburban and estate areas, it is designed for the training of brigades. Also the Bundeswehr has recently opened its newest urban training area at Schnöggersburg. It is bigger and has more features than CENZUB including a tunnel system. Copehill Down pales by comparison with these facilities.

In order to achieve the goal of urban excellence, an urgent reformation of the British Army's training estate is plainly required. In the longer term, it must be hoped that the British Army will construct a major urban facility worthy of a professional twenty-first century force and capable of preparing a full brigade for full-spectrum conflict. Yet, in the meantime, short-term measures are required to ensure that the Army maximizes the utility of its current facilities.

Despite the current inadequacies, it is possible to be very optimistic here. The disadvantages of Copehill Down are evident. Yet, it also has unique strengths. It is a well-founded site, through which tanks and armoured personnel vehicles can be driven without restriction and from which live ammunition can be fired. Although there are not enough of them, its individual buildings, themselves well-structured, provide a diversity of challenges for training troops from every arm and service.

Copehill Down also has a decisive advantage over its comparators like CENZUB. After a recent demonstration in the village, a Commanding Officer was

refreshingly honest with his soldiers: 'I know that Copehill Down is crap – but we have got to make the best of it'. Ironically, he highlighted not the weakness of Copehill Down but its greatest strength: its very poverty. It is vital that the British Army recognize and exploits Copehill Down's potential.

New urban facilities like CENZUB look impressive and they are excellent training venues. However, there is a major shortcoming with all of them. They are hopelessly sanitized. They are consequently completely unrealistic. The briefest survey of recent urban combat demonstrates that British troops will not fight in the pristine, empty streets and housing blocks that are found in CENZUB or, indeed, Range 220 but in squalid and bewildering ruins; it is instructive that one of the most useful pieces of equipment in Mosul was the bulldozer. Before military operations could even begin, coalition forces had to clear streets, choked with rubble and detritus.

It is here that Copehill Down offers the Army a unique opportunity. Precisely because the facility is now so old and dilapidated, the site can be re-configured and, indeed, deliberately degraded in a way that is impossible in apparently better facilities like CENZUB. There are three simple and relatively cheap innovations that the Army could implement with almost immediate effect that would turn an average training facility into one that is genuinely the premier site for company level urban training in Europe.

1. **Rubble:** *Copehill Down is messy and can easily be made messier still. For instance, during 1 Mercian's recent Urban Dawn exercise, one of the streets was blocked with a series of mud and wire berms, which engineers were forced to clear with a Trojan vehicle. Suddenly, as the Challengers advanced down this filthy street, Copehill Down began to look something like the images from the ruins of Mosul or Aleppo. It would be possible to transform the whole of Copehill Down by filling its streets with heaps of rubble, which have to be negotiated in assault and exploited in defence. It would not be difficult or expensive to procure this material; any local council has an excess of the stuff. Rubble could be permanently dumped on the streets and left in place. Alternatively, a large rubble dump could be created outside the village (a small one already exists to the south by the carpark) that could then be bulldozed into the appropriate positions, in line with specific training requirements. At the end of any exercise this rubble could be cleared. The 'rubble-isation' of Copehill Down will transform its value as a training venue.*
2. **Iso-containers:** *At present, Copehill Down is insufficiently dense; the houses are simply too far apart to imitate the kinds of streets in which British troops*

need to learn to operate. At present some iso-containers have been used at the western end of the village to increase the size of the facility. Copehill Down could be transformed by the aggressive exploitation of iso-containers, as the USMC's Range 220 shows. For instance, one of the most unrealistic elements of Copehill Down at present is the isolation of each building. Houses standalone surrounded by wide areas of grass and trees. These gaps could be filled in by the emplacement of new two-storey iso-containers structures, fitted with doors, window, stairs and mouseholes. These iso-containers would not look particularly aesthetically pleasing but they would multiply the problems for attackers - and defenders. At the same time, the iso-containers could be used to create a genuine shanty-town area on the edge of the village with tiny streets and densely packed buildings. One hundred cheap, easily procurable and judiciously positioned iso-containers would revolutionize Copehill Down.

3. **Tunnels:** *Copehill Down lacks tunnels. This is a major disadvantage. All recent urban operations have involved extensive subterranean activity. There is no prospect of building an extensive tunnel system under the current village. It would be prohibitively expensive and structurally difficult. It is also entirely unnecessary. Instead of trying to create a tunnel system in the village itself, for training purposes, it would be perfectly adequate to construct a large and complex artificial sub-surface system in an area immediately outside the village. There are two inexpensive ways of doing this. Either, engineers could dig a network of shallow covered trenches, which imitate tunnels and through which troops could crawl or creep. Alternatively, the Army could procure a number of circular large or small concrete culverts that engineers could simply arrange into a complex configuration on top of the ground. Externally, these culverts would, of course, look absurdly unrealistic. Yet, once troops are inside these culverts, the fact that they are not actually sub-surface becomes irrelevant; they will be dark and constricting. Indeed, it might be possible to insert some culverts into the village itself running them over the surface into some of the buildings.*

At present, Copehill Down fails to meet the British Army's requirements. To become genuinely proficient in twenty-first century urban combat, the Army needs a facility in which it can exercise and test a full combined arms brigade with all its enablers. Such a facility is, unfortunately, a very distant prospect. In the meantime, it has to make do with what it has. Fortunately, in Copehill Down, it has a facility which, with a few determined alterations, could be quickly transformed from its current status as an embarrassment into one of the very



finest areas for company-level exercises in Europe. Defaced with rubble, enlarged by modified iso-containers and augmented by an artificial tunnel system, it would not look pretty. Visiting dignitaries would not be impressed by it as they are by CENZUB. Yet, to win ugly, sometimes it is necessary to train ugly too.



The Secretary of State for Defence Rt Hon Gavin Williamson MP visits troops at Copehill Down training village where he was given a demonstration of Urban Operations from units of 3rd UK Division. He was given the opportunity to get into the heart of the action when he moved into a target building during the second assault. Photo Sergeant Mark Webster RLC Crown Copyright



Pictured are 40 Commando Royal Marines attacking Cilieni village at Sennybridge training area during Exercise Joint Warrior as part of the Joint Expeditionary Force exercise. May 3, 2018. Sennybridge Training Area (SENTA), located upon Mynydd Epynt, is the principal one of three military training areas in Wales. Photo: Petty Officer (Phot) Si Ethell, Crown Copyright

Urban Operations Package: Applying Strategic Discussion at the Tactical Level

This article by Lieutenant S. J. Durrant was originally published in Combat 2016 and is reprinted here by kind permission.

'The high-intensity urban fighting we've practised since basic training is now finally allowed to be unleashed on our enemy. There is no weak-stomached four-star general to hold back on our reins. We pour through compound gates, rifles shouldered, targets falling as we trigger our weapons – the militiamen refuse to give up the fight. They make us earn every house and every inch.'

Staff Sergeant Bellavia, House to House.

By 2035 the majority of the world's population is expected to live in cities and urban areas.¹ *Future Operating Environment 2035*, (*FOE 2035*) supersedes the 2010 *Future Character of Conflict (FCOC)* and describes the 'characteristics of the 2035 operating environment to provide insights that can inform future Defence capability development.' It highlights the increase in urbanisation that will occur by 2035 and that the urban environment will be hugely challenging for armed forces to operate within.²

One underlying trend observed both in *FOE 2035* and *FCOC* is increasing complexity. Globalisation, the speed of communication, technology, the emphasis on culture and identity, and the abilities of non-state actors are just some of the myriad of factors that will underpin the difficulties we will face. At the tactical level it seems that a capable force will be one that can deploy at very short notice and has the flexibility to face unforeseen challenges at every step. Mental agility will be our greatest asset; a moment of poor understanding or short-sightedness could have far-reaching, perhaps even strategic, implications.

Future war-fighting operations are likely to involve far greater levels of confusion and friction than ever before. Our training should reflect these complexities and in a variety of complex and realistic environments. The majority of the world's population is likely to occupy ever-growing urban areas and therefore it will be in this environment where we are most likely to operate. So why then does the majority of both mounted and dismounted close combat training take place in the rural environment? By only conducting normal/rural training it is difficult to see how units will meet the more demanding challenges laid out in *FOE 2035*.

Bridging this gap is difficult; urban training is currently neither mandated nor resourced. Units may attempt to address this on an ad hoc basis by spreading available resources just a little more thinly but this does not feel like a satisfactory strategy to prepare for the most likely operating environment of the future.

¹ *UN Department for Economic and Social Affairs (2007), UN World Urbanisation Prospects Database*

² *Future Operating Environment 2035 (2015), Development, Doctrine and Concepts Centre, MOD*



Members of 2nd Battalion, Royal Anglian Regiment, part of the 7th Armoured Brigade take part in a live mortar firing exercise. A soldier walks across the grassland carrying 'Greenie' Mortar Bomb carriers ready for another firing. They are using the 81mm (L16) Mortar, the standard mortar used by British Armed Forces. Photo: Stuart A Hill AMS, Crown Copyright

The Poachers were concerned by this disparity and, as a Battalion (BN), set about addressing this shortfall in capability. A conceptual study day focused our attention on infantry considerations in the urban environment. This was followed by a self-generated, two-week dry and live fire urban operations package.

Conceptual Study

For 2 Royal Anglian, tackling these issues of complexity began with an urban operations conceptual study day. The study day considered historical examples and the likely future of urban warfare, including how we should best train to prepare for such a fight. We studied the capabilities of likely enemies, both insurgent groupings and near-peer armies, as well as consideration of allies capabilities, using them as a benchmark for self-analysis.

Flexibility in fighting structure, the ability to rapidly re-task organise, quickly showed itself to be fundamental to success. The actions of the Russian army at Stalingrad were studied very closely. Their ability to generate specialised shock sections quickly was pivotal to their success. By carefully selecting the required equipment for each mission and carrying little else, fire teams manoeuvred easily through the city and delivered devastating effects. This was something that we later looked to employ during our own exercise. The variety of equipment now

available to an infantry platoon demands careful consideration as to how it is best employed, if at all, in every specific scenario. We were inspired as to those possibilities by one guest speaker who had served with the Israeli Defence Force. He described novel ways of employing existing equipment, such as attaching cameras to dogs to aid situation awareness, and highlighted future planned capabilities. Our own Future Infantry Soldier Technology (FIST) kit is not dissimilar once deployed on exercise.

As flexibility of structure is important, so is flexibility of thought: a manoeuvrist mind knows when to use firepower and when to use softer levers to influence the enemy. The purest examples of manoeuvrist warfare can be achieved without a single shot being fired; the enemy's will is broken and they find themselves defeated without any kinetic action. This can be true at an operational or strategic level (as with entire armies surrendering once surrounded); it can be equally true at the tactical level (as with a lone shooter surrendering, if given the option, prior to a hard entry being gained into their building). This kind of success is underpinned by influence and manipulation. To have a cognitive effect on the enemy, you need a thinking enemy; an enemy that feels emotions and that has the ability to influence their outcome. This is perhaps the most difficult aspect to capture in the training environment. We can all be guilty of exercise heroism and are unlikely to capitulate even if FES either side of have been overmatched and destroyed.

Implementation in Dry Training

The dry phase of our package lasted for one week and saw individual skills built up to company group level operations. The JNCO instructing had recently completed an Urban Assault training package with the Special Forces Support Group, and this proved invaluable. Common training errors were avoided, such as confusing the difference between FIBUA and Enhanced House Assault, and the instructors were able to further develop the soldiers' individual and collective skills with each battle lesson. Sufficient time needs to be allocated for a great deal of repetition of drills at the lowest levels of ingrained skills within soldiers' muscle memory. Fire teams and sections climbed through doorways and windows in every way imaginable with instructors constantly trying to exploit their drills and expose weaknesses. It wasn't uncommon for troops to be snatched or disarmed when moving through doorways too slowly. Adding complexity and friction is essential if we are to meet the challenges that operating in the urban environment will set us.

The exercise was structured as a series of battle lanes, rather than on a continuous exercise scenario. This proved far more productive; being able to quickly re-set and run through a section or platoon attack lane in a different manner promoted a learning environment, allowed for experimentation, and

resulted in less fear of failure than would have been the case if we had run a continuous exercise. Full battle preparation, including the orders process and rehearsals, were focused on during the company phase where more time was allocated for doing so.

Managing such an exercise at the unit level is definitely recommended. The package was very well resourced, and having an exercise conducting team provided by Battalion HQ allowed the companies to train as a whole throughout. This meant that, when not being exercised, the Company HQ elements were free to either participate at the lower levels themselves or scrutinise the tactics being employed. In addition, recce and assault pioneer sections were attached to the rifle companies, enriching the training experience and the rifle companies' knowledge of the wider Battalion's capabilities, which is difficult to co-ordinate for individual CT2 exercises.

Allowing for a commander to successfully apply soft effects during dry training requires significant control on the part of those running the exercise and a great deal of discipline on the part of those playing opposition forces. One potential method of managing a thinking enemy is to have pre-set reactions to BLUEFOR actions. For example, if the BLUEFOR gain entry at the bottom floor, OPFOR are to attempt an escape through the window; if all exits are covered and OPFOR are given the option, they should attempt to surrender; if not, OPFOR should fight until destroyed; if OPFOR run out of ammunition, they are to attempt to conceal their weapons and pose as civilian, etc. Incorporating judgemental training is also beneficial: challenging the soldiers to consider their courses of action is essential. The actors in the future battlespace will not be binary and merely sit neatly at either the red or blue end of the spectrum. By including civilian elements, and blurring the lines between blue and red forces, we can, in some small ways, attempt to replicate the complexities of the future battlespace.

Conducting force-on-force training is an excellent way to ensure both parties have the desire to win and that both are thinking in the right manner. One company spent time conducting a free-play force-on-force battle exercise to encourage lateral thinking. Platoons were tasked to either attack or defend against one another, and scored themselves on mission success and number of casualties. This provided experience in fighting a force with similar capabilities, and the competitive nature inspired greater effort from those taking part.

Adding Realism: Tactical Effect Simulation (TES)

TES training equipment was used whenever an enemy force was present during the dry phase of training and presented the training audience with a range of benefits: an element of fear and with it a greater awareness of threats; a method of assessing marksmanship and the effects of fire support; the ability to analyse

an exercise in detail through AARs. TES will also happily test the CASEVAC chain, particularly in the urban environment. It should not be limited to individual weapon systems; vehicles, support weapons and buildings should all be equipped with TES to allow for a much broader battle simulation.

To make the most of TES kit all exercise participants must commit themselves fully to its use. It exposes weaknesses, and in the urban environment even the smallest of errors will be punished. A realistic enemy should not self-regenerate on the spot, nor should friendly forces. Some compromises may have to be made. For example, if TES grenades are unavailable then L111 practice grenades will have to be used. These clearly won't 'TES kill' and enemy, so the battle requires careful marshalling to stop frustrations occurring. Invest time zeroing TES kit as you would with a normal weapon system, and be aware that automatic weapons have some TES fire effect limitations.



Troops from 2nd Battalion The Parachute Regiment on Exercise Urban Eagle in preparation for becoming the British Army's global rapid reaction force. The fortnight-long training on Salisbury Plain is designed to refresh the paratrooper's key skills of fighting in built-up areas and dealing with public disturbances. From house-to-house fighting to dealing with hostile crowds, paratroopers have practised the full range of skills they need to operate in built-up areas. Photo: Corporal Daniel Wiepen, Crown Copyright

FOE 2035 & Future Infantry Soldier Technology (FIST)

FOE 2035 describes how technology will be a key driver for change in terms of both its advancement and its pervasiveness. We must invest time in perfecting the use of our own technologies to match potential future threats. Our Company deployed on the urban operations exercise with a full complement of FIST equipment, including: Helmet Mounted Night Vision System (HMNVS) Laser Light Module (LLM) Mk. 3, the Commanders' Target Locating System (CTLs), Field Thermal Sight (FTS) and the Lightweight Infantry Periscope (LIP).

Through broader use of night optics, we found that in the urban environment the term 'fight at night' might be better rephrased as 'fight in the dark'. Closing doors and windows to block the sunlight as building assaults are conducted allowed for maximum use of night-fighting technology, to the surprise and detriment of the enemy force. Once in the dark we were able to clear buildings far more safely; drills were slowed to silence movements and enemies were systematically destroyed, often without knowing we were in the room. Even when tested against enemies using similar equipment, the disorientation and self-questioning that resulted from the darkness played to our advantage when in the assault. Where required, the LLM's strobe function is excellent at adding to that disorientation, and 'going loud' was always followed by silence once the contact had ended. The IR laser can be scanned through rooms to judge distances and aid in clearance without presenting such a large signature as an IR flood.

The CTLs has a variety of uses in the urban environment. An observer can use the bearing to/from functions to indicated targets to a friendly unit when other methods become confused. In addition, commanders made use of the range to/from functions to calculate the heights of doors and windows in order to tailor their approach and break in. Visibility in the urban assault or defence can be poor; smoke is used extensively and enemies are easily concealed by shadows or at the backs of rooms. In these circumstances the FTS is excellent at quickly detecting heat signatures, leading to rapid and accurate target indications.

Key Lessons Learned

The importance of fighting light, and 'fighting small'³, cannot be underestimated; stripping to only essential kit increased speed and stealth of movement through and over obstacles. This must be supported by a reliable resupply chain however, or it will quickly prove unworkable. Careful thought should be made as to the method of load carriage; it might be that stripped webbing plus a small daysack are more practical than having the same amount of kit in webbing alone, due to

³ *Ensuring load carriage equipment is kept as small as possible to allow easier access to small spaces (mouse holes, attics, etc.)*



Royal Marines enter a building to clear it of enemy troops during the final battle of exercise SABRE STRIKE - a large scale NATO-led training package in the Baltic states. Photo Leading Photographer Dean Nixon, Crown Copyright

the greater profile webbing presents. We found that having the ability to swiftly back-load equipment, even within the platoon, greatly assisted those at the front.

The use of deception was the greatest factor in the successful clearance of buildings and therefore reduced casualties. Splitting an enemy's attention across two entrance points was enough to gain the advantage in most circumstances. Methods of deception could be very rudimentary; we regularly made noises to 'stack up' at the bottom of a stairway before moving through a trapdoor, and vice-versa. Where possible, once a floor was cleared, we would hold the stairs and trapdoors, and the next assaulting force would re-break-in to the following floor. This would typically involve the next section using the windows and mouse-holes from the outside of the building, reducing the likelihood of being channelled through fatal funnels such as stairs. Provided the outside face of the building was sufficiently covered, this greatly increased security.

Finally we learnt, much as the Russians did at Stalingrad, the utility of being able to regularly and rapidly –re-task organise at the section and platoon level. When conducting three or four-man clearance drills, a section can quickly become ineffective after clearing only a few rooms. Rather than echeloning the next section, which required the next commander to conduct his own assessment

(decreasing momentum), the lead section commander simply pulled manpower forwards with him. This has to be carefully balanced by the platoon commander, too slow and the point becomes exposed, too quickly and rooms become crowded. The same occurred at the company level; sections could quickly detach and re-attach to support another platoon's advance.

Importance of Live Training

The training benefit derived from the urban Live Fire Tactical Training (LFTT) package and use of the shoot-through facilities cannot be overemphasised. Confidence with live ammunition is only gained through live training where a soldier's situational awareness is more sharply focused. There are also cross-over benefits of these enhanced skills when returning to dry training. Confident and considered weapon handling is even more pertinent in the urban environment where soldiers may need to operate in much greater proximity to one another.

Replicating the complexities of the urban environment required innovative thinking and therefor the Battalion-designed buildings with materials and to a specification that would meet Pam 21 regulations. By conducting live training in the urban environment, one enforces careful consideration of the effects of different types of ammunition. During dry training, one tends to ignore the shoot-through effect of ammunition within buildings or consider the position of friendly forces beyond the confines of the room one is clearing. Not so in our shoot-through buildings where situational awareness could not have been felt more keenly. Additionally, many targets would be considered as 'hard' and so ricochet danger areas are much more of a consideration than in a rural setting. The ability for ammunition to penetrate different types of cover is demonstrated during Phase One and Phase Two training, but is rarely considered in the conventional training thereafter. To focus on this during urban training, where ammunition penetration is a critical factor, shoot-through facilities were mixed with solid buildings where firing wasn't an option; every individual progressed through the added pressure of having to calculate where and why you could and couldn't fire, adding to the mental challenge posed by a complex environment.

Summary

It is likely that the majority of future conflict will take place in the urban environment. Despite our doctrine and policy signposting this, units are neither mandated nor resourced to conduct urban training. If the likelihood of operating in this environment in the future is not reason enough, the challenge of training in this complex environment stretches both the individual and the collective beyond the levels attained in a more normal/rural training environment.



Royal Welsh personnel from the NATO enhanced Forward Presence Battlegroup conduct urban training, also known as OBUA (operations in built-up areas) or FIBUA (fighting in built-up areas) alongside their Estonian counterpart in the village of Varstu in the south of Estonia. The exercise saw the troops attack an abandoned block of flats being occupied by an opposing force. This block was next to three blocks inhabited by residents of the village who were able to watch events unfold. Photo Sergeant Siim Teder, Estonian Defence Force.

2 Royal Anglian has certainly benefitted from a prolonged and focussed training package in the urban environment. Time taken to thoroughly and innovatively prepare the package and training aids meant the maximum value was derived by those Poachers going through it. Less the few who had been on urban operations courses, most of our soldiers had not concentrated on urban operations for a sustained period. Only now has the Urban Operator Instructors' Course been resurrected after an absence of several years. Other exercises typically feature a token urban mission thrown in at the end of an otherwise rural training event.

In order to succeed, units will have to replicate this environment as closely as possible. Highlighting lessons from historical battles during conceptual studies will focus training objectives and avoid wasted efforts once deployed on training exercises. Exercises based around battle-lanes and repetition alleviates some pressures (such as the fear of failure) and promotes creative and lateral thinking in an environment where tactical experimentation is actively encouraged. A realistic training environment with a complex and thinking enemy can in some ways be replicated through the careful implementation of TES and the close management of OPFOR. Imaginative use of the wealth of FIST equipment now available can offer real opportunities; the possibilities in the urban setting are endless and, again, only through trial and repetition will the best solutions become SOPs. Finally, LFTT provides lessons in inoculation, situational awareness and weapon effect that are unavailable elsewhere in training, and by training live our soldiers will develop the mental robustness and agility required to succeed despite the stressors of conducting operations in urban terrain.

The views expressed herein (including editorial content) are those of the author concerned and do not necessarily conform to official policy.

