

Fighting the Biological War

—Training the Total Force

By LTC Paul T. Musgrove
British Exchange Officer, US Army Chemical School

Biological warfare is not new as the articles by Colonel (P) Larsen and Dr. Robert Kadlec in the *CML*, *Army Chemical Review* (January 1996 and this issue) have demonstrated. During this century there have been many major programs to develop the materiel, doctrine and procedures for using biological agents. However, it took the events of the Gulf War to awaken the public, and those concerned with security and international affairs, to the idea that the products from one of these programs might be used against western interests. If the decade between 1959 and 1969 was the "golden age" of biological research (within the US and UK), the 1970s and 1980s were the fallow years. It can be argued that the renunciation of the use of biological weapons by President Nixon on 25 November 1969 was based on political rather than military judgement and was the major factor which caused these fallow years to occur. Gradon B. Carter, in his book *Porton Down*, states the case well:

"Regrettably, the Nixon rationale has been reiterated over the years since 1969, as if the United States had suddenly become aware of some hitherto unperceived feature of biological warfare of sufficient magnitude to render it militarily useless. This false rationale has bedeviled biological defence efforts ever since. The conjoint effort of the

1969 Nixon renunciation and the advent of the 1972 Convention [the Biological Warfare Convention (BWC)] was synergistic. As biological warfare became unmentionable it tended as a threat to become invisible. This dangerous lack of perception was almost fatal for biological defence research progress in several nations."

Gaining the necessary understanding to fight the coming biological war requires comprehensive education and training now.

Although the Soviet Union had signed the Biological Weapons Convention, the first public knowledge of their possible non-compliance came in 1979 with the outbreak of anthrax at Sverdlovsk. During the last years of the 1980s, the little work being done in the realm of biological defense in the US and UK was focused on the Biochemical Detector (BCD) being developed under the auspices of the Canada/UK/US Memorandum of Understanding on Chemical and Biological Defensive Materiel.

Biological warfare had become a "non-subject," at least in the west. Then in the final years we began to

wake up. Whilst the BCD was being developed, the very few military personnel working on the project woke up to the fact that although our military ideas on how to use BW agents might have been static for two decades, those of others might not have been. What had the opposition been up to? Who were the opposition? The term "poor man's atomic bomb," when referring to biological weapons, had been first used by a UN paper at the end of the 1960s, and there was evidence emerging in 1988 and 1989 that some of the poor men of the world had not let such an invitation go by without taking notice. We now know that whilst those at the bottom of the "official" intelligence net were compiling ideas on the future threat from a number

of open sources, those at the top were gaining much from elsewhere, including Vladimir Pasechnik who defected from Russia in 1989 with some very high-grade information about the covert Soviet BW program.

The feeling of the few in the late 1980s was that if we kept the reality of how vulnerable we were to BW attack to ourselves, the enemy (whoever they might be and several terrorist organizations were on our list), might not realize our vulnerability and forsake the weapon system. And then Saddam called our bluff. By doing so, and by showing that a biological weapon

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program could reach fruition within six years, he alone has forced the west to react and show the world that there is a genie and it could escape out of the bottle at any time. As any future enemy has much in the open domain to help him plan the attack, the time has come to consider carefully how we can combat biological weapons.

Why would biological weapons be used?

To combat any weapon, we must first gain an understanding of why and how it might be used against us. The characteristics of biological weapons give them a mass casualty capability. This capability to indiscriminately injure or kill many people over a large geographical area, together with the consequent surprise and shock, could cause the operational, strategic and political effect that the perpetrator was attempting to gain. This fact has not been lost on those who consider joint operational doctrine:

"It may not be the sheer killing power of these weapons that produces the greatest effect. It is the strategic, operational, psychological and political impacts of their use that can affect strategic objectives and campaign decision" —Joint Chiefs of Staff—Doctrine for Operations

It can be argued a step further—it may be that the enemy might use the capability to produce mass casualties, rather than their actual production, as an operational, strategic, or political tool. Such a tool could be used to convince a state to forego its intended path, be it political or military.

States, or other organizations, that wish to use biological weapons as a tool

of coercion, or political, strategic operational or tactical effect, have a number of alternatives including:

- Overtly develop biological weapons with the intent of using them to defeat regular military forces in a war of attrition.

- Develop and use biological weapons to degrade an opposing military force through denial of facilities necessary for the continuance of the war. These might include ports of entry, headquarters, operational airfields or large logistic bases.

- Develop and use biological weapons as weapons of terror against a civilian population to coerce a state into forsaking a planned course of action.

- Develop a small number of biological weapons with the intent of using them to cause a number of casualties significant enough to convince a state to stop military operations for fear of any or further biological casualties.

- Covertly develop a small number of biological weapons but leak information about their existence to the states they wish to coerce.

- Do nothing but convince through leakage of mis-information that you have a biological program and intend to use biological weapons if you deem necessary to further your own political aims.

How would biological weapons be used?

It is of note that only in three or four of the examples given above will biological weapons have to be actually used. In only the first two cases will the weapons be used for operational military effect. In the third and possibly fourth cases very limited use may pro-

vide the required level of terror. In the other cases the mere threat of use may be sufficient for the enemy to achieve his aim. If the weapons do have to be used, the method of doing so will vary as much as the use of any other weapon system varies.

In the first example, using these weapons to win a war of attrition, it is possible that they will be used as other operational weapons, such as gas or tanks in the First World War, should have been used on first use—in a large concentration of force and accompanied by well-planned and rehearsed operations to exploit the opponent's, our, disarray. The enemy's intent will be to exploit the surprise and shock of this massive first use of a new and effective weapon system to the fullest extent possible. This will occur in the political as well as the operational military arenas. The massive release of agent required is best achieved by the laying of long line sources of agent across the whole battlespace, along our front and flanks, and into our rear area. This can be done through the medium of aerial vehicles; aircraft, UAVs, cruise missiles; land vehicles operating along the front line or behind our lines when operated by enemy special forces; naval craft, military and civilian, on and sub-surface. The possibilities are only limited by the extent of the planner's imagination and materiel at his disposal.

If western forces need to use ports of disembarkation, large logistic bases to sustain military operations, or airfields to continue an offensive air campaign, any weapon system that can deny these facilities will be of use to the enemy. Persistent chemical agents were considered in the past to be particularly useful in this regard but improved chemical warfare doctrine, training and materiel have significantly reduced their possible effectiveness. Biological agents are not persistent in that re-aerosolization after passage of the cloud will not be sufficiently great to create a militarily significant risk. However, the measure of "military significant risk" will change over time depending

upon the perceived importance of continuation of the mission to achieve national goals. Although the commanders in the field may be prepared to accept the risk of continuing operations in an area that has been subject to fallout from a biological agent cloud, the public and politicians back home may have other ideas. The other factor is the continued reliance, especially in the operation of ports and major airfields, on civilian personnel, be they DOD contractors or local operators. Will they be willing to risk their health by continuing to work in such an area?

Terrorist use of chemical, biological, or radiological weapons has been the subject of much media speculation in the past. The Tokyo Sarin attack changed the opinions of some who had previously thought that such use of these types of weapons were beyond the realm of possibility. The use of radiological terrorism was well covered by CWO4 Turville in a previous issue of the *CML*, *Army Chemical Review*. The difference between both the chemical attack of the former and the possible radiological attacks suggested in the latter, and terrorism by use of biological agents is that the latter is considerably more difficult to detect. It could be extremely difficult to convince a skeptical public that an area such as a subway was clean after even a limited release of biological agent. Indeed, if an organization program claimed to have released an agent with a long incubation period in a specific area, we may have to wait out the time to incubation of the disease to determine whether it was making a valid claim or not.

To cause sufficient casualties to stop ongoing military operations, the number of biological weapons required is small, but the timing and placement of the attack is critical. It will be designed to maximize the effect of the attack on the political processes in the home state of the opposing force. This will require a careful assessment of the level of support for continued operations to be found in the home state, targeting of

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personnel that the public has sympathy for, and careful timing so that the force is not so committed to the operation that it is more difficult to withdraw than continue. From the perspective of the enemy, too large an attack (or too late) and the opposing force, we, might react against it with "overwhelming force," too small an attack (with few casualties) and the reaction might be one of awakening the wrath of the media and politicians of the home state who then demand greater measures to bring the perpetrators to heel.

Combating the threat of use or actual use of biological weapons

To combat the threat of use or actual use of these weapons, we need to be educated, trained, and ready to fight the biological war. As has been illustrated above, this is a weapon system that can be used against civilians as well as military, at home as well as during deployments overseas; but our primary responsibility is to consider the defense against the military use of the weapons and hope that others are considering the necessary political and civil defense measures. Only those steps that the military should be taking now are considered here.

Biological weapons are frightening. Chemical weapons are also frightening, but when they were first used those who were frightened the most, because they had received no prior education in what was going to happen, suffered the most. Those units in the trenches of the First World War, who with rudimentary education and training knew that it was better to stand their ground, experienced fewer casualties than those who abandoned the protection of the

trenches to run to the rear at the same speed as the advancing cloud of gas. Today it is accepted that the use of chemical agents against well-educated, trained, and equipped troops has little effect other than to temporarily degrade our performance through forcing us into a protective posture. We must strive for the same in the field of biological warfare so that any use of such agents against us becomes an irritant rather than an event of operational or strategic significance. Service personnel will become less frightened of biological weapons when they understand more about them and have been trained to lessen their effects.

We are now able to detect the operational use of biological agents by using the Biological Integrated Detection System (BIDS) and Long-Range Biological Standoff Detection System. We all have sufficient means to protect ourselves from biological agents as long as we are told when to take up a protective posture, which can be as limited as donning the mask, and when to relax protection. Development of vaccines and post inhalation treatment regimes are proceeding well. Within the Chemical Corps, attendees of the Chemical Officers Basic and Advanced Courses receive a week of instruction on biological defense. The Joint Senior Leaders Course attendees receive an introduction on how to combat biological weapons. The time is right to expand this education and training outside the School and the Chemical Corps. This is an inter-service, all arms battle that requires us all to have an understanding of our role in the fight. We, therefore, have to educate and train the total force so that the surprise and shock of first use of this weapon

type is reduced, so that we can fight on despite the temporary loss or degradation of a significant facility, and so we can face up to the terror produced by the use of these weapons.

The first step in this process is for us all to consider what the enemy is trying to achieve by use of the weapon. This has been hampered since 1969 by the lack of development and training in the offensive use of the weapon systems in the west. To combat the effects of a weapon system, we must understand what the enemy intends them to be and, (as has been illustrated in the examples given above), in the case of biological weapons they will not necessarily be limited to the death or injury of personnel. If this is accepted, we should ensure that all our service personnel know it. They must know that their own death or injury is not the primary intent of an enemy, and can be combated by in-service equipments such as BIDS and the M40 mask. They must also know what the primary intent is because they will all have a part to play in combating it and consequently frustrating the enemy's original aims in using the weapon.

The second step is to ensure that we are able, as a force, to frustrate the enemy's aims. We must ensure that our commanders and staffs are trained to fight the battle on a bad day. We all know that most can be marksmen when the sun is shining, the range is being run well, and the firing position is comfortable. It is another story when it is raining and cold and the soldiers find themselves firing their personal weapons in anger, and the enemy not only fires back but sometimes does not fall when hit. Our enemies know that they cannot take on the western powers in a military confrontation of our design and win. They will turn to any method of warfare that is available to them, such

as biological, that helps to level the playing field to their advantage. They will try and develop an asymmetrical battlefield. Exercises, especially those designed to train corps and echelons above corps leaders and staffs, should contain realistic biological attack scenarios to train us to fight on these battlefields which may not be entirely to our liking. Although these may hamper other aspects of exercises, or even prevent "successful" outcomes (letting the good guys win), the absence of such scenarios prevent us gaining experience in this form of warfare before the real thing occurs. Joint force and corps commanders, logistic staffs, airbase commanders are just a few of those who need to learn how to carry on operations through and despite a biological attack. They will only do so by learning about biological warfare techniques and agents and then practicing the defense through realistic exercises before the play-off.

Thirdly, we must create and continually foster a desire in all our personnel to aid the senior political and military leadership in their efforts to counter the proliferation of the means to wage biological warfare. We all have a part to play in convincing an enemy that use of these weapons will prove to be counter-productive, and therefore the development of the necessary doctrine and materiel is not worth the cost. We can do it through training hard in all aspects of NBC defense and letting future enemies know that we are trained and ready. We can do it by being ready to accept risks in fighting the biological war to ensure that casualties from all the enemy's weapon systems are minimized and the total war is won. We can do it by looking for signs that an enemy is preparing to launch a biological war and then taking any step necessary to frustrate his plans before the launch. We

can do it by accepting the fact that biological weapons need not be the Armageddon they are sometimes portrayed as and continuing to find ways to counter their effects through education, training, and materiel development. Perhaps most importantly, at the moment, we can do it by continuing the discussions about biological warfare and ensuring that the total force is educated, trained, and ready to counter the aims of a biological attack.

The bottom line

Fighting the biological war is not simply about saving American lives so that we can continue the other parts of the battle without having to send more servicemen to the front. It is about preparation, planning, education, training, and materiel development so that we can lessen the strategic, operational, psychological and political effects should biological weapons ever be used against us. The enemy will not use these weapons simply to kill or incapacitate our personnel. He will use them to exploit any of our perceived weaknesses. We must reduce the weaknesses by educating and training the total force in biological warfare and we should have started yesterday.

At the time this article was written, LTC Musgrove was the USACMLS British Exchange Officer. LTC Musgrove was commissioned into the Royal Electrical and Mechanical Engineers in 1974. Following service with the Commando Logistic Regiment Royal Marines, he entered Downing College, Cambridge University, to read Engineering. In 1979 he was posted to Cyprus and then returned to the 3d Commando Brigade Royal Marines. He has had tours in Berlin and the United Kingdom. After attending the Army Staff Course in 1987/88, he was assigned to the Chemical Defence Establishment at Porton Down. Prior to arriving at Fort McClellan in 1993, LTC Musgrove commanded a vessel and port equipment maintenance unit.