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CANADIAN FORCES COLLEGE

ADVANCED MILITARY STUDIES COURSE 3

SEMINAR ESSAY #2

SYMMETRICAL WARFARE AND LESSONS FOR FUTURE WAR:  
THE CASE OF THE IRAN-IRAQ CONFLICT

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## Abstract

This paper evaluates the relationship between doctrine and technology in a conflict in which the adversaries had roughly symmetrical capabilities and identifies the lessons learned for similar situations that might arise between now and 2020 using the Iran and Iraq War as a case study.

## Symmetrical Warfare and Lessons for Future War: The Case of the Iraq-Iran Conflict

### Introduction

Recent conflicts in the 1980s and 1990s in the oil rich Persian Gulf Region have led a number of civilian, academic and military leaders to reflect on the application of technology to future warfare. Many have advocated that the most recent Persian Gulf War conflict between Iraq and the United States lead coalition is an example of the so-called "Revolution in Military Affairs" (RMA) and that this conflict clearly demonstrates that superior technology will be the winning factor in future wars. A lively academic debate has subsequently ensued as to whether this assertion is correct. Indeed, some authors such as Stephen Biddle, A.J. Bacevich and Martin Van Creveld assert that the coalition victory in the Persian Gulf War is misunderstood. Biddle suggests that rather than a revolution in military affairs, the Americans were able to take advantage and exploit Iraqi mistakes<sup>1</sup> while A.J. Bacevich maintains that American military is guilty of replaying the Persian Gulf War victory over and over again as proof that an RMA is in progress.<sup>2</sup> Van Creveld argues that the Persian Gulf War failed to introduce any significant strategic or operational level innovations despite opposite contentions by other observers.<sup>3</sup> In contrast, writers such as William E. Odom and Frederick J. Brown contend that the nature of war is changing and they use the Persian Gulf War as a defining example.<sup>4</sup>

It is useful to take a look back to the earlier Iraq and Iran War that took place between 1980 to 1988 and determine if there are any useful operational lessons that can be learned from that conflict. Are there operational lessons that can be applied to the RMA debate and provide an in-sight into the nature of war that could be expected in the next twenty years? Both Iraq and Iran experienced difficult lessons in symmetrical warfare in recent years. Iraqi forces have fought in the Arab-Israeli Wars, the Iran-Iraq War and the Persian Gulf War during Saddam Hussein's dictatorship. For its' part, Iran fought Iraq and threatened to take up arms against other countries in the region. There is a very real possibility that either or both of these countries will again go to war in the next twenty years in this highly volatile area.

Despite the long duration and significant casualties encountered in the Iran and Iraq War, it seems that this conflict has not received the attention it should have in the West. As Stephen Biddle contends in his article, "Victory Misunderstood: What the Gulf War tells us about the Future of Conflict", the West has focused on the RMA debate and erroneously missed the real lesson of that war. He contends that Iraqi mistakes and a "synergistic interaction between a major skill imbalance and new technology caused the radical outcome of 1991".<sup>5</sup> It is my view that the RMA debate is a very American centric perspective on studying war and it misses lessons such as those identified by Stephen Biddle. Indeed, there is a danger of western military academic institutions relying too

heavily on American views and American experts. The purpose of this paper is to demonstrate through a case study of the Iran-Iraq War that there are important lessons for all militaries to better develop their war fighting doctrinal philosophies and the use of available technology to defeat opponents with symmetrical capabilities in future wars.

The story of the Iran-Iraq War is one of mistakes and missed opportunities by both sides. This paper, begin with an examination of the technology available to each side at the beginning and during the conflict. It will then look at how the conflict was fought on the ground, in the air and in the Persian Gulf. It will then draw a number of general lessons learned that should be considered for future wars in the next twenty years.

### Weapons Technology Available to Each Side

The bloody war fought between Iran and Iraq from 1980 to 1988 provides an interesting study in symmetrical warfare where the two belligerents prosecuted a protracted war that lasted longer than either world war in this century and inflicted losses of over a million casualties.<sup>6</sup> Indeed one of the lessons listed by Robert O'Connell in his history of war and technology entitled *Of Arms and Men* is that symmetrical forces often neutralize one another.<sup>7</sup> The Iran-Iraq War began when the Iraqis invaded Iran in September 1980 to gain limited strategic objectives. The Iraqi's major objectives were to gain control of the Shatt Al Arab waterway to the Persian Gulf and to signal Iran that it could not export an Islamic Revolution to Iraq and the Arab states beyond. At the start of hostilities both Iran and Iraq possessed military equipment substantially purchased and supported by the world's two superpowers – the United States and the Soviet Union.

The United States provided a great deal of Iran's military equipment during the Shah's reign. Following the withdrawal of Great Britain from the region in the late 1960s, the Shah of Iran partially filled the strategic void left by the British. With considerable U.S. support, the Shah built up a strong military equipped with sophisticated western military hardware. The Americans believed it was in their best interest to help establish the Shah as the "policeman" of the region. In response to this development, the U.S.S.R. sold an array of weapons and training to Iraq to counter U.S. influence in the region. On the surface, one might expect that a rough parity existed in capability. However, the Shah's military was based mostly on poorly educated conscripts who would have had difficulty in operating and maintaining complex weapons systems such as the F-14 Tomcat fighter or fast battle cruisers. Consequently, the Shah had to resort to introducing a large number of American and foreign technicians into Iran to run these weapon systems. In the end this practice contributed in part to his eventual downfall as the religious clerics used this to good advantage against the Shah.<sup>8</sup> While the Shah relied on considerable western weapons technology from the United States, Iraq felt compelled to build up its own arms to counter the

Shah's goal of becoming the regional superpower. The Iraqis accomplished this with the purchase of advanced Soviet tanks, fighter aircraft and surface-to-air missiles.<sup>9</sup>

Both Iran and Iraq's ability to prosecute a war was extremely vulnerable to the reaction of the superpowers. Weapons on order, technical advice and critical replacement parts could easily be cut-off by the suppliers. While both superpowers were caught off guard by the Iraqi decision to initiate war with Iran, the United States welcomed the event because of on-going frustrations at dealing with Iran over the American hostage crisis. Consequently, Iran continued to suffer from adequate support to its U.S. weapons systems. As for Iraq, the Soviet Union initially cutoff supplies in response to being caught by surprise, but this position was later reversed.

### The Initial State of Each Military

It is important to understand the starting state of each belligerent's military doctrine and leadership at the beginning of the conflict. Both militaries changed significantly as the conflict continued. Both would field a considerable "People's Army" by the end of the conflict. Iraq started the war with a sound military based on strong centralized control executed by Saddam Hussein. In September 1980, the Iraqi Army fielded 12 Divisions of which it committed 7 to the attacks into Iran. The army was relatively well led and the Iraqi Army had a solid staff system based on the Prussian and Turkish staff models.<sup>10</sup> Iraq also possessed a credible air force. Naval strength was another matter. Iraq possessed only a small number of patrol boats and that left Iraq's ability to transport oil extremely vulnerable to Iran's capable navy.<sup>11</sup>

The state of military forces in Iran was quite appalling in contrast to Iraq when the war began. Iranian clerics had been able to overthrow the Shah, in part, because of his strong reliance on the American arms industry. Once in power, the clerics were very suspicious of the Iranian military that they viewed as an agent of American Imperialism. Indeed, the Revolutionary Regime executed some 500 general officers and purged some 10,000 officers from Iran's army.<sup>12</sup> The Iranian Air Force was left with very limited capabilities following the earlier loss of American technical and supply support. Only the Iranian Navy survived the military purges with a credible capability to conduct effective operations.<sup>13</sup>

### Opposing Forces

Iraq took advantage of the turmoil in Iran and the deteriorated state of Iran's military to redress outstanding grievances over land and sea access. It undertook a limited war to these ends and took attacked an Iranian military that was half it's former size, demoralized, poorly trained and widely dispersed along it's various borders.<sup>14</sup> Consequently, Iraq achieved most of its objectives fairly quickly although cautiously.

It is interesting to note that a war that Iran did not want and that Iraq wanted to keep limited eventually expanded into “People’s War” and “Total War”. A.J. Basevich in his article entitled, “*Preserving the Well-Bred Horse*”, warns Western readers not to make too much of the concept of a Revolution in Military Affairs. He suggests that the “two genuine revolutions” in modern warfare are Total War and People’s War. Moreover, he contends that the impact of politics, social and cultural changes are just as important to the understanding of future warfare as are changes in technology.<sup>15</sup> This statement is very true of the Iran-Iraq War. Indeed, the leaders of each country made a major impact on how their nation pursued the war. Both Saddam Hussein and the Ayatollah Komeini were strongly determined leaders who unflinchingly believed in their doctrinal approach to the war.

In Iraq, Saddam Hussein enforced strong personal control over his military commanders. This interference from the strategic level down into the operational level would have adverse consequences for the Iraqi army. While Saddam Hussein enjoyed the rank of a general officer, he was not a military man. He was a politician who rose to the leadership through the Ba’ath party. He was a civilian politician who had not been schooled in the operational art of war. Nevertheless, his fear of a potential military coup forced him to highly centralize Iraqi command and control structure.<sup>16</sup> Additionally, he highly politicized the senior officer corps by appointing all officers above the rank of colonel and he assigned a Ba’ath party organizer to monitor all units. Furthermore, Saddam Hussein structured his totalitarian regime built on concentric circles of support within Iraq’s social structure.<sup>17</sup> This concentric circle included the following elements from largest to smallest respectively – Iraq’s 6 million Sunni population, the 1 million Ba’ath party members, the state security apparatus, the 30,000 Ba’ath party leadership elite, nearly 2,000 elite leaders from Saddam Hussein’s home of Tikrit and finally the key leadership of state organizations.<sup>18</sup>

While this approach limited threats to his leadership from amongst the military, it also had a downside in that some of these politically appointed military leaders were inept in battle against Iran. Saddam Hussein dealt with this sort of setback by executing hundreds of officers during the war.<sup>19</sup> Moreover, he took an active personal role at the operational level to prosecute the war. He also restricted lateral communication in the army because of the fear of a coup. While Saddam Hussein was very much aware of the need to husband his small manpower resources through the war, he did not appreciate that the enemy might select a different course of action to resist him. And indeed they did! Consequently, the Iraqi approach was cautious on the offence and came to rely heavily on the active defence as the war turned in Iran’s favour. In retrospect, Saddam Hussein believed he would fight the regular Iranian military. He did not foresee that his forces would ultimately face a *levee en masse*.

Iran was also heavily influenced by the new social structure that was put in place in that country following the overthrow of the Shah. Iran's response to the Iraqi incursion into southern Iran was not what Iraq expected. Iraq expected to fight a conventional war against the standing Iranian military. Instead they found themselves fighting a "People's Army" as the clerics responded to the invasion by arming the Iranian people. Skeptical of regular standing armies, Iran took advantage of the Iranian people's spontaneous response to the invaders. Light infantry units were mobilized under the leadership of the young revolutionaries who had helped dispose of the Shah. These units became known as the Pasardan and their approach to operational level of war was widely different than the professional approach taken by Iraq's officer corps.<sup>20</sup> Indeed, the Iranians firmly rejected the idea of a professional officer cadre. Instead they relied extensively on the zeal of its troops to attack the Iraqis headfirst in human waves that would overrun their opponent. Thus, the two forces that met on the battlefields in the Persian Gulf region were quite different.

### Iran Counter-Attacks

Iraq eventually defeated the Iranian forces, but not without great cost in blood and money. Victory was achieved only after significantly transforming Iraqi society. After achieving his limited objectives in Iran, Saddam Hussein expected the Iranians to negotiate a settlement as prompted by the United Nations. However, Iran did not capitulate. Instead, Iran went on the offensive and threw Iraq out of Iran. It did this by using human wave attacks over and over again. The Iraqi military was shocked and surprised by this tactic that employed children to clear mine fields, the Basij and the Pasdaran to storm Iraqi positions. The Iraqis panicked at first under the shock and weight of these zealous attacks. At the end of the second phase of the war in 1982, the Iraqis had withdrawn their forces back into Iraq. While the Iraqi leadership sought an end to the war, the Iranian leadership pressed the fight into the Iraqi homeland.

The Iraqi leadership was shocked by the sustained fervid support for the Iranian government by the Iranian people during the war. Since Iraq expected the Iranian government to fall or to capitulate to Iraqi demands shortly after the initial invasion, it did not contemplate having to fight to defend its own homeland from invasion. Saddam Hussein had to be concerned about his own people's support once Iran took the offensive and continued it into Iraq. Fortunately, he was able to marshal continued support from the Iraqi population and financial support from the Gulf Cooperation Council whose members feared an Iranian Islamic revolutionary sweep throughout all the states in the Persian Gulf region. In order to stop the Iranians and eventually win the war, Iraq had to reorganize and find a winning doctrine to survive.

In order to halt the successful Iranian human wave attacks; Iraq adopted several complimentary measures. One weapon available to blunt Iranian operations was the use of chemicals. While much has been made of the Iraqi



chemical stockpile, they actually had much to learn about using this weapon in operations beyond hitting defenceless Kurdish villagers. Cases have been reported of Iraqi troops misapplying chemical agents and running into their own weapon with disastrous effect. For the most part, Iraq used various chemicals to disrupt Iranian operations behind the front lines. The most effective use was to isolate front line troops from their rear echelon support and to disrupt artillery fire support bases.<sup>21</sup>

More importantly than chemical weapons, Saddam Hussein reorganized his senior military leadership by appointing field commanders based on merit rather than political affiliation to the Ba'athist party. Throughout 1983, the army leadership had to deal with repeated direct attacks by Iranian human waves. The Iraqi army learned to absorb these attacks and then appear to give way before executing a deadly enveloping attack on the Iranian army's flanks. Moreover, after stemming the initial Iranian invasion, Iraq built an extensive road system behind its lines that permitted the generals to move troops and reserves quickly to repel Iranian offensives.

The Iraqis also used their air force to some effect to blunt attacks when necessary. However, the Iraqi air force was not particularly skilled at close air support operations. Nevertheless, they did contribute to help stop some of the more desperate attacks by Iran's human waves. The Iranian offensive campaigns such as the battles of Susangard (1981), Basrah (1982), Haj Umran, Mehran and Penjwin (1983), Hawizah Marshes (1984 and 1985), Al Faw (1986) all tested the Iraqi defences to the limit and taught the Iraqis valuable lessons in defensive warfare.

As the war prolonged, it was necessary for Iraq to mobilize more and more of the population. In time, it mobilized over a million men from a population of only 16 million. These troops became experts at fighting defensive operations as the Iranians continually went on the offensive. For the Iranian's part, they did amend their tactics and tried several indirect approach attacks after continuing to suffer substantial losses from direct assaults. However, by the end of 1986 the Iranians had suffered substantial casualties and it was clear that they could not continue to wage a "people's war" if victory was not achieved soon. At this point both countries planned what they hoped would be the final big effort to conclude the war.

In order to achieve final victory, both Iran and Iraq mobilized additional troops in early 1987. The Iranians mobilized additional 200,000 men to initiate "the last campaign". They then continued to initiate offensive operations and launched operations to retake the island of Umm Rassas in the strategic Shatt Al Arab waterway. In Iraq, Saddam Hussein and his senior leaders met in Bagdad to discuss the means to go over to the offensive to win a military end to the war as repeated diplomatic initiatives continued to fail. The Iraqi generals

successfully argued that Iraq needed to transition from a static defensive posture to a mobile posture in order to be able to eventually take the fight to the Iranians.

To this end, Saddam Hussein agreed to a general mobilization and the creation of additional elite Republican Guard units to encourage college students to enlist. These men responded to the call and were provided solid training in both defensive and offensive operations before they were sent to the front. This contrasted significantly with the Iranian approach that continued to focus on raw, relatively untrained, manpower. Additionally, Saddam Hussein agreed to decentralize command and control to his generals to enhance Iraqi ability to quickly respond to Iranian attacks and to better implement offensive operations. Once again, this contrasted with the Iranian approach where a conflict existed between regular army officers and the Pasadaran leaders on how best to prosecute offensive operations.

The final showdown between the two antagonists took place through several consecutive battles that have been grouped together and called the Karabal campaign. This series of engagements became the decisive battles that finally broke Iran's ability and will to continue the conflict. In the initial battles the Iranians continued offensive operations that played into the Iraqi static defensive plans. However, the Iraqis had trained their new Republican Guard divisions behind the front in combined operations using mock layouts. Consequently, in the Karabal battles, the Iraqis used extensive fire power from artillery, armour, helicopters and infantry with devastating effect against the Pasadaran who were only lightly armed with rifles and RPGs.

After stopping the Iranian offensive, the Iraqis went over to the offensive in the Al Faw Peninsula in the Tawakalna Ala Allah (In God we trust) campaign. The extensive rehearsals conducted at the multi division level prior to this engagement paid dividends as the Iraqis overcame the Iranian defenders in relatively short order. The Iraqi army quickly recaptured territory lost to Iran, captured thousands of Iranian troops and equipment and defeated the Iranian forces. The Iranian army disintegrated during this offensive and the war was finally brought to a conclusion with both sides back at their respective borders after eight long years of bloodshed.

## The Air War

At the outset of the war, it would appear that the Iraqi Air Force was in a position to make a significant impact on hostilities. While the Iranian Air Force outnumbered Iraq's in the number of airframes available, many of these could not be flown because of supply and technical problems. However, the Iraqi Air Force proved incapable of achieving air supremacy throughout the war. The failure to do so was a result of Iraq's lack of a proper strategy and doctrine to use its air force. The effectiveness of most air forces relies on sound leadership, good command and control and a viable force structure.<sup>22</sup> Just as in the army, the

command and control of the Iraqi Air Force was highly centralized to prevent a coup attempt against Saddam Hussein. Consequently, the air force was very tightly controlled with an adverse impact on combat readiness. Indeed it was virtually grounded in 1982 after a purge following a reported coup attempt against the Iraqi leader.

Training also suffered because of tight restrictions. As in the army, lateral communication among officers was restricted. This had a terrible impact on air force readiness and combat capability as Iraqi pilots were prevented from flying in large strike formations and encouraged to operate in isolation. Consequently, individual and squadron combat skills fell significantly below even Soviet standards. The one exception occurred when Iraqi pilots were exposed to realistic French Air Force training to transition to the Mirage F1 and the Super Entendard.

With regard to force structure, the Iraqi Air Force gained access to excellent French combat aircraft with exceptional armament such as the Exocet missile system as the war progressed. However, the introduction of additional weapon systems put a further stress on the Iraqi Air Force as it had difficulty diversifying its support system to maintain and generate effective combat sortie rates. Ironically, actual combat capability decreased at a time when new more capable weapons systems were acquired.<sup>23</sup>

As for the Iranian Air Force, it proved relatively effective at generating a combat capability with its U.S. built aircraft despite the loss of American technical and parts support. The Iranian Air Force was able to mask its limited capabilities from Iraq and was able to mount surge operations over short periods that led the Iraqis to believe their capabilities were much higher.

Air operations began with surprise Iraqi air strikes against Iranian airfields on the opening day of hostilities. However, the results were quite poor because of inadequate operational training. Few Iraqi pilots had ever dropped or fired live ammunition and the results showed in combat. Iraq lost over 100 aircraft in the first year of the war until the air force was grounded in 1982 in a series of raids and counter-raids with Iraq.<sup>24</sup> The Iranians were able to cobble together sufficient combat sorties to neutralize Iraqi air power. The situation changed somewhat by early 1983 when Iraq acquired F-1 Mirage fighter-bombers from France. In that same year Iraq fired its first surface-to-surface missile at Iran. With considerable capital from its oil exports across land pipelines and financial support from the Gulf Cooperation Council, Iraq continued to increase its air force structure with the acquisition of additional F-1s and Super Etendard fighters.<sup>25</sup>

In addition to targeting Iran's oil line, the Iraqis also targeted the will and morale of the Iranian people through a bombing campaign against Iranian cities. However, the air attacks against Iranian cities and economic targets were only moderately successful. Despite enjoying a five-to-one advantage in aircraft, the

Iraqi air force could or would not mass its strength in a sustained effort against a strategic focus. While it is clear that Iraq could not maintain all of these aircraft, it is also clear that they lacked a strategy to determine their opposition's operational center of gravity and to use their available air power against it.<sup>26</sup>

## The Tanker War

The air war gradually turned in Iraq's favour, but the Iraqis failed to capitalize on the gradual deterioration of Iran's air capability. As the war continued, Iran was forced to cannibalize its fleet of F-4 and F-14 fighters. Additionally, the quality and quantity of its pilots dropped as attrition and lack of training took its toll. As Iraq's air capability increased, it turned this capability against Iran's vulnerable oil delivery system. Iraq declared an economic exclusion zone in the Persian Gulf and began to directly attack Iranian oil tankers in addition to attacks on Iranian oil production facilities. The capability to attack Iran's oil tankers was significantly improved in 1984 when Iraq acquired and used the French, fire and forget, Exocet anti-shiping missile. While the Iraqis were impressed by this weapon's capabilities in the Falklands/Malvinas Conflict in 1982, the weapon actually proved less effective against tankers. Nevertheless, the attacks had significant strategic implications even though the tactical attacks were not that effective. In addition to the introduction of the Exocet missile, the Iraqis also introduced air-to-air refueling which allowed them to surprise the Iranians and execute long-range air strikes against oil industry targets.<sup>27</sup>

The Iranians struck back at Iraq and its supporters by also attacking shipping in the Persian Gulf. The Iranians were also able to buy missiles from abroad and established Chinese-made Silkworm surface-to-surface missile batteries at key choke points in the Gulf. The two belligerents then exchanged attacks on oil shipping in the region with mixed results. For Iraq's part, it could only prosecute the tanker war with aircraft as it lacked a navy. The Iraqi Air Force caused damage but its overall campaign was fractured and it never massed sufficient sorties to deal an overwhelming blow to Iran. Indeed this was a consistent feature of Iraqi air power. It was frequently penny-parceled out in attacks against the enemy's air force, oil industry, cities and the Iranian army. This showed a lack of an appropriate doctrine for air power and the lack of a coherent strategy to apply that doctrine.

The Iranians, on the other hand, used aircraft, small patrol boats, surface-to-surface missile and mines to attack western shipping to good effect. The damage inflicted was sufficient that both the U.S. and Soviet Union eventually sent forces into the Gulf to protect their shipping interests. It is interesting to note that while the U.S. Navy was able to inflict considerable retaliatory damage against Iran for attacks on U.S. flagged shipping, the Iranians exploited a major weakness in the U.S. Navy's order of battle. Incredibly, the U.S. Task Force did not possess an adequate mine countermeasure capability. Consequently the

U.S. Navy was extremely embarrassed to lose an escorted oil tanker to a World War 1 type Iranian mine.

### Operational Lessons Learned

This case study of the Iran-Iraq War offers a number of valuable lessons concerning symmetrical warfare and the possible use of technology in future conflicts. While some apply at the strategic, operational and tactical levels of war, they are all inter-related to an extent as they all effected the outcome of operations on the battlefield.

At the strategic level, both Iran and Iraq hamstrung their professional military officers by imposing tight command and control structures that limited initiative at the operational and tactical levels. Stephan Pelletiere in his work, *The Iran-Iraq War: Chaos in a Vacuum*, suggests the following:

there is a threshold that an army crosses and becomes modern. That threshold is the conceptual awareness of its general staff of what modern arms are supposed to do. It does no good for an army to possess all of the latest equipment – as was the case with Iraq – if it hasn't the faintest notion how these weapons are supposed to be employed. Army commanders have to see that modern weapons systems are meant to be used in specific ways, and under certain circumstances, if they are to accomplish what they are meant to.<sup>28</sup>

It took a considerable period of time, but Saddam Hussein eventually loosened the reins and permitted his general officers to properly execute the operational level of war and apply the weapons at their disposal to the best possible effect. The Iraqi generals were thus able to develop a transition plan, from the static defence at which the Iraqi forces were so adept, to an offensive capability. In contrast, the Iranians were never able to resolve the on-going dispute and rivalry between the Pasadaran and what was left of its professional officer corps. Both the initial Iraqi emphasis on political appointees and the Iranian refusal to embrace a professional officer corps placed each country at a disadvantage. It was clear that neither military force was capable of properly exploiting the weapons technology available to them as long as amateurs were left in charge. As Anthony Cordesman points out in his study of this conflict, "military professionalism remains a critical variable in war".<sup>29</sup>

Another important lesson learned from this conflict that is equally applicable to future wars is the important link between training and technology. Once again both sides encountered considerable difficulty in many areas related to technology and training. As one example, inadequate training certainly plagued both opposing air forces. The few American trained Iranian pilots available were fairly aggressive and this is attributed to their exposure to U.S. training methods. In contrast, the Iraqi pilots were less aggressive because of

their more conservative Soviet training. Yet, French, Indian and Egyptian trainers indicated that Iraqi pilots were formidable “Top Guns” after exposure to their training regimes that placed emphasis on aggressiveness and team cooperation. On land, the Iraqis also learned to place greater emphasis on training and preparation for complex combined arms operations. This was seen in the training provided to new recruits and the use of large-scale battle rehearsals.

Both sides to the conflict also learned an important lesson in the vulnerability of relying on foreign suppliers for their weapons systems. Each country had significant difficulty supporting the major weapons systems that they had acquired from the two super powers. This caused each side to cannibalize its available aircraft to generate sufficient combat capability. The two opponents also searched for and found other weapon suppliers who were willing to provide arms for cash. Thus, the Iraqis were able to purchase advanced fighter-bombers and missiles from France while Iran bought munitions, such as the Silkworm missile, from China.<sup>30</sup> The need for state of the art weapons systems also demonstrated a surprise lesson in that one never knows who might be a potential arms supplier. Indeed it was ironic to see Israel supply arms to Iran, the U.S. to Iraq and the U.S. to Iran in the clandestine Iran-Contra deal. Another surprising lesson learned to remember in future conflicts is that while one can amass a fleet of extremely complex weapon systems, they can still be vulnerable to an inexpensive World War I sea mine.

The Iran-Iraq War also foreshadows the tremendous cost of weapons technology in future conflicts. These two belligerents enjoyed access to considerable oil revenues and yet they both encountered difficulty in providing state of the art weapons to their operational forces. Iran depleted its considerable financial reserves very quickly and needed to keep the oil lines open through the Gulf. Iraq also spent a considerable fortune financing the war and its domestic operations. The Gulf Cooperation Council states provided billions of dollars to support Iraq’s war effort in the hope that Iraq would keep Iran and its desire to export its revolution throughout the Gulf region.<sup>31</sup> However, one drawback to outside financial support is that funding can be cut off at another nation’s whim in the same manner as outside reliance on weapon systems. Future wars will be very expensive if nations wish to field the best technology available.

At the operational level, there was an absence of a solid doctrine in either armed force. It has already been explained that Saddam Hussein kept close control of all military forces. However, the Iraqi military was handicapped in that it did not have a joint doctrine between its army and air force.<sup>32</sup> This led to the failure to properly employ the considerable air assets available to Iraq. Moreover, the Iraqi army did not have a doctrinal basis on which to conduct operations when it first started the conflict. It took several years to establish one and it certainly did not have the time to evolve fully along the lines that doctrine

has been developed in other military forces. The Iraqi use of high force ratios in offensive battles was not a guarantee of success against a highly motivated opponent and the Iraqis learned that it was important to develop combined operations to support armour with infantry to improve chances for success.<sup>33</sup>

The Iranian army on the other hand was far worse off as it basically had no doctrine other than a head-long charge by a *levee en masse* against the enemy. This reliance on sheer mass and shock effect was “no substitute for effective organization and command and control”.<sup>34</sup> As military forces have benefited in the past, it will remain important for future combatant nations to possess armed forces grounded on sound doctrinal basis. If they do not, it is conceivable that they will waste money of weapon systems that will have little chance of contributing to victory.

In developing doctrine, it is important for countries to understand how culture may impact operations either adversely or positively. Ronald Berquist has suggested that one explanation for the Iraqi penchant for individual air operations might lie in the roots of their descendants from Bedouin tribes. The Bedouin warrior relied on small-scale raids whereby he struck quickly and then ran off before an active pursuit could be organized.<sup>35</sup> This similar tactic can be seen in the Iraqi air force hitting Iranian air bases and then running to Jordanian and Saudi Arabian airfields to avoid retaliation attacks. Along similar lines it has been suggested that the early Iraqi towns people were excellent in defence and this may explain the Iraqi penchant to fight defensively and to make extensive use of artillery.

Another important lesson from this conflict that is applicable to future war is the relationship of will and belief in one's cause to technology. The Iraqis placed a great deal of emphasis on the ability of its military hardware to attrit and enemy force and to hold on to limited objectives until the other side's government was overthrown or it capitulated.<sup>36</sup> The Iraqis clearly misunderstood the strength of support that the clerics were able to muster from the Iranian people. Iran was able to do this by using religion as a powerful morale tool that pitted believers against non-believers. As James Bill contends, the power of morale versus technology can be very strong when morale is tied to religious principles.<sup>37</sup>

## Conclusion

It is interesting to note that Iraq failed to apply many of the lessons that could have been learned from its war with Iran to the Gulf War fought against a very different opponent in the United States and its allies. However, the 1991 Gulf War was fought quickly on the heels of the fight with Iran and time and inclination did not permit change. With regard to Iran, it is doubtful that it would wish to sustain similar high casualties in a future conflict despite the size of its large population. If properly addressed, the lessons learned from this war could

permit Iran or Iraq to perform better and win in a possible future conflict in the region.

Future wars will be expensive and countries will need to ensure that they purchase weapons that properly support their doctrine and objectives. Countries will need access to reliable funding and to reliable arms suppliers. Once properly equipped, they will need to ensure their forces are properly trained, that the equipment and forces are sustainable and that clear objectives and enemy courses of action are considered.

As it would seem likely that one or both could once again become embroiled in war in this strategically volatile region, it would serve Iran and Iraq well to study the major lessons from this war regarding the use of technology in future wars. Indeed, the problems are common to many nations and should be given close attention.

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## Endnotes

<sup>1</sup> Stephen Biddle, "Victory Misunderstood: What the Gulf War Tells us About the Future of Conflict" *International Security* Vol 21, No 2 (Fall 1996), p. 176.

<sup>2</sup> A.J. Basevich, "Preserving the Well-Bred Horse" *The National Interest* (Fall 1994), p. 48.

<sup>3</sup> Martin Van Creveld, "High Technology and the Transformation of War, Part 1, *RUSI Journal* (October 1992) p. 76.

<sup>4</sup> Basevich, pp. 45-46.

<sup>5</sup> Biddle, 140.

<sup>6</sup> Dilip Hiro, *The Longest War: The Iran-Iraq Military Conflict* (London: Grafton Books, 1989), p.1.

<sup>7</sup> Robert L. O'Connell, *Of Arms and Men: A History of Wars, Weapons and Aggression* (Oxford: Oxford University Press, 1989), p. 91.

<sup>8</sup> Stephen C. Pelletiere, *The Iran-Iraq War: Chaos in a Vacuum* (New York: Praeger Publishers, 1992), p.13.

<sup>9</sup> *Ibid*, pp. 44-45.

<sup>10</sup> Stephen C. Pelletiere, and Douglas V Johnson II, *Lessons Learned: The Iran-Iraq War* (Carlisle Barracks: U.S. Army War College, 1991), p. 69.

<sup>11</sup> Pelletiere, p.33.

<sup>12</sup> Pelletiere and Johnson, p.69.

<sup>13</sup> Pelletiere, p.33.

<sup>14</sup> *Ibid*, p.35.

<sup>15</sup> Basevich, p.??.

<sup>16</sup> Douglas A. Kupersmith, *The Failure of Third World Air Power: Iraq and the War with Iran* (Maxwell Air Force Base: Air University Press, 1993), p. 3.

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- <sup>17</sup> Robert A. Pape, *Bombing to Win: Air Power and Coercion in War* (Cornell University Press, 1996), p. 234.
- <sup>18</sup> *Ibid*, pp. 234-235.
- <sup>19</sup> *Ibid*. p. 2-3.
- <sup>20</sup> Pelletiere and Johnson, p. 2.
- <sup>21</sup> Pelletiere, pp. 97-100.
- <sup>22</sup> Kupersmith, p. 1.
- <sup>23</sup> *Ibid*, p.16.
- <sup>24</sup> *Ibid*, p.21.
- <sup>25</sup> *Ibid*, p.13.
- <sup>26</sup> *Ibid*, p. 28.
- <sup>27</sup> *Ibid*, p. 27.
- <sup>28</sup> Pelletiere, p. 147.
- <sup>29</sup> Anthony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War Volume II: The Iran Iraq War* (London: Mansell Publishing Limited) p. 593.
- <sup>30</sup> Hiro, pp. 81-83.
- <sup>31</sup> *Ibid*, p.77.
- <sup>32</sup> Nadia El Sayed El Shazly, *The Gulf Tanker War: Iran and Iraq's Maritime Swordplay* (New York: St. Martin's Press, 1998), p.99.
- <sup>33</sup> Cordesman and Wagner, p. 591.
- <sup>34</sup> *Ibid*, p. 592.
- <sup>35</sup> Berquist, pp 78-80.
- <sup>36</sup> *Ibid*, p.72.
- <sup>36</sup> James A. Bill, "Morale versus Technolgy: The Power of Iran in the Persian Gulf War" in Farhang Rajaei editor, *The Iran Iraq War: The Politics of Aggression* (Miami: University of Florida Press) p. 204.

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