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14. ABSTRACT The Future Combat System-Medical Variant (FCS-MV) vehicle offers self defense, sensor, communication, and medical capabilities that will make it the safest and most advanced medical evacuation vehicle in history. Unfortunately, much of these capabilities will have to be eliminated or severely limited under current Army policy which requires Army medical vehicles to display the red cross. The Army should reexamine its policy on marking medical vehicles in light of the advanced protection capabilities of the FCS-MV and the realities of fourth generation warfare. When the protections provided by the Geneva Convention if the red cross is displayed are compared to the protections a fully capable FCS-MV would have if it does not display the red cross, the answer is clear, the FCS-MV should be unmarked.					
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RED CROSS UNDER FIRE:
The future of the Geneva Convention's Distinctive Emblem
on the Future Combat System – Medical Variant Vehicle

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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Abstract

The Future Combat System-Medical Variant (FCS-MV) vehicle offers self defense, sensor, communication, and medical capabilities that will make it the safest and most advanced medical evacuation vehicle in history. Unfortunately, much of these capabilities will have to be eliminated or severely limited under current Army policy which requires Army medical vehicles to display the red cross. The Army should reexamine its policy on marking medical vehicles in light of the advanced protection capabilities of the FCS-MV and the realities of fourth generation warfare. When the protections provided by the Geneva Convention if the red cross is displayed are compared to the protections a fully capable FCS-MV would have if it does not display the red cross, the answer is clear, the FCS-MV should be unmarked.

The medical evacuation vehicles that will be available to the U.S. Army as part of the Future Combat System (FCS) will not only boast state of the art medical treatment equipment, but also unprecedented defensive capabilities. The Future Combat System-Medical Variant (FCS-MV) vehicle offers self defense, sensor, communication, and medical capabilities that will make it the safest and most advanced medical evacuation vehicle in history. Unfortunately, many of these capabilities will have to be eliminated or severely limited under current Army policy. Army policy documented in FM 8-10-15 states that “Air and ground ambulances *will* be marked with the distinctive red cross emblem.”¹ This policy is based on the Geneva Conventions of 1949, which provide protection for medical vehicles so long as they refrain from committing acts harmful to the enemy.²

At first glance marking our medical vehicles seems like a good policy. The Geneva Convention provides protection for medical vehicles and all one must do to claim this protection is to display the red cross and ensure that the vehicles are not used to commit acts harmful to the enemy.³ The problem, however, is that under the provisions of the Geneva Convention much of the capabilities available to the FCS-MV could be consider harmful to the enemy. If these capabilities are placed on the FCS-MV and it displays the red cross, the United States could be considered in breach of international law and the vehicles could lose their protected status. Now is the time, while the FCS-MV is still under development, for the

¹ U.S. Army. Employment of the Field and General Hospitals. FM 8-10-15. Washington, DC: 1956, G-4

² For purposes of this paper, the term “Geneva Convention” refers specifically to the Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, 12 August 1949.

³ Medical vehicles are not technically required to display the red cross to be protected, however in reality an enemy cannot respect their protected status unless they are identifiable as medical vehicles. The only way to do this is to mark them with the red cross. The Geneva Convention approved the red cross, red crescent, and red lion as distinctive emblems to designate medical assets. However, since the United States uses the red cross emblem for the Convention’s distinctive emblem, for purposes of this paper the term “red cross” is synonymous with any of the Convention’s distinctive emblems.

U.S. Army to take a hard look at its policy on marking its medical vehicles with the red cross. When the protections provided by the Geneva Convention are compared to the protections a fully capable FCS-MV would have if it does not display the red cross, the answer is clear, the FCS-MV should be unmarked.

Protections of the Geneva Convention

To justify this position it must first be understood exactly what protections the Geneva Convention would provide if the FCS-MV displays the red cross. The drafters of the Geneva Convention envisioned displaying a distinctive emblem (the red cross, red crescent, or red lion) on medical vehicles as a means of protecting them from attack.⁴ The seeds of their ideas were planted in the eighteen hundreds when countries began to recognize several humanitarian issues related to how wars were conducted. At the forefront of their concern was the protection of the wounded on the field and the medical personnel who treated them. The massive armies of the time created an equally massive amount of casualties. It was recognized that medical evacuation vehicles and treatment facilities must be as close to the frontline as possible for the wounded to have the best chance to survive. However, with no way to differentiate between an ambulance and any other vehicle on the battlefield, even a merciful enemy often targeted the ambulance. The result was that most military ambulances and medical personnel stayed well clear of the battlefield until the fighting ended. The International Committee for Relief to the Wounded, the forerunner to the International Committee of the Red Cross, proposed in 1863 that the member nations adopt a single distinctive sign, a red cross on a white background, so that medical personnel could be

⁴ Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, 12 August 1949. 2nd ed. Geneva: International Committee of the Red Cross, 1950, Art. 38. (hereinafter referred to as GWS).

identified, and thus protected on the battlefield. This proposal was accepted by the Committee and it was determined that medical personnel and their vehicles bearing the emblem would be safeguarded.⁵

To appreciate why the Committee thought they could successfully regulate war, it is important to understand that the type of war being fought at the time was first generation warfare. First generation warfare is characterized by developed nations with massive armies fighting linear engagements with smoothbore muskets and cannons.⁶ Even though at war, these nations generally followed a set of unwritten rules that governed the conflict. With this background, it was reasonable for the Committee to believe that warring nations would accept, and for the most part abide by, a set of laws governing war. This line of thinking continued through the transition to second and third generation warfare.⁷ Although the progression in warfare exhibited changes in technology and techniques, both second and third generation warfare continued to feature developed nations fighting large scale wars that respected the basic humanitarian rules governing conflicts.⁸

Armed with this information, the drafters of the Geneva Conventions of 1949 believed that they could offer some level of protection to medical vehicles by outlawing attacks against them. Article 19 mandated that in no circumstances may a medical unit be

⁵ Bugnion, François. "The red cross and red crescent emblems." International Review of the Red Cross, 272 (1989): 408-419.

⁶ Lind, William, Keith Nightengale, John Schmitt, Joseph Sutton, and Gary Wilson. "The changing Face of War: Into the Fourth Generation." Marine Corps Gazette, October 1989: 22-26.

⁷ Ibid.

⁸ Second generation war is characterized by the massive firepower familiar to the First World War. Third generation war is characterized by maneuver with the German's World War II blitzkrieg being a good example. Ibid.

attacked.⁹ Article 21, however, provides an exception to this rule by stating that the protection could be discontinued if the medical units are used to commit acts harmful to the enemy.¹⁰ Article 35 makes it clear that these protections apply to medical vehicles, by stating that medical vehicles shall be protected in the same way as medical units.¹¹ Lastly, Article 39 states that “Under the direction of the competent military authority, the emblem shall be displayed on ...all equipment employed in the Medical Service.”¹² It is important to note that the Geneva Convention does not state that a nation is in breach if a medical unit commits acts harmful to the enemy, only that it loses its protected status. This means an unmarked medical vehicle committing acts harmful to the enemy is not violating the Geneva Convention, but it does forfeit its protected status. On the other hand, if a medical vehicle displaying the red cross commits acts harmful to the enemy, there is a violation of Article 23 of the Annex to the Hague Convention, which forbids the improper use of the distinctive emblem of the Geneva Convention.¹³

All of these provisions read together can be summed up as follows. Medical vehicles, regardless of whether they display the red cross or not, are entitled to protection from attack unless they are used to commit acts harmful to the enemy. However, while there is no obligation on commanders to display the red cross, an enemy can only refrain from attacking medical vehicles if he can identify them as such. Therefore any nation wishing to claim the

⁹ GWS, Art. 19.

¹⁰ GWS, Art. 21.

¹¹ GWS, Art. 35.

¹² GWS, Art. 39.

¹³ Annex to Hague Convention No. IV, 18 October 1907, embodying the Regulations Respecting the Laws and Customs of War on Land. Hague: 1907, Art. 23. Also see Protocols Additional to the Geneva Conventions of 12 August 1949 Geneva: International Committee of the Red Cross, 1977, Additional Protocol I, Art. 37 and 38.

protection of the Geneva Convention for its medical vehicles, should display the red cross thus openly declaring that the vehicles are medical vehicles entitled to protection. The cost then to a nation wishing to claim the Geneva Convention's protection is that their medical vehicles must display the red cross, they must be limited in use to exclusively medical duties, and they must not be used to commit acts harmful to the enemy.¹⁴ Given the nature of war at the time the Geneva Convention was drafted, and the level of technology vehicles of that time possessed, this seemed like a large gain in protection for very little cost.

Even at the time it was being written, however, there was discussion about what was meant by the phrase "acts harmful to the enemy." In drafting the language, the Geneva Convention Conference believed it was unnecessary to define the phrase and in fact, they deliberately left it vague and intended it to be broad.¹⁵ In his Commentary to The Geneva Conventions of 12 August 1949, Jean Pictet states that "acts harmful to the enemy" is "...an expression whose meaning is self-evident and which must remain quite general."¹⁶ Pictet goes on to provide a few examples of acts that would be harmful to the enemy. Of these examples, using the protected location (in this case a medical vehicle) as a military observation point is significant to this discussion since the FCS-MV's ability to gather and transmit data will function similar to an observation point.¹⁷

¹⁴ Although not technically required to display the red cross to be entitled to protection, in reality the enemy would have no way to otherwise know the vehicle is a medical vehicle. Also while the Geneva Convention recognize temporary medical vehicles that may perform non-medical duties, at the actual time the protection is claimed, the vehicles must be used exclusively for medical duties.

¹⁵ Pictet, Jean, ed. Commentary to the Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field. Geneva: International Committee of the Red Cross, 1952. 200.

¹⁶ Ibid.

¹⁷ Ibid, 201.

This example is also significant for another reason. It exemplifies the thinking of the first three generations of warfare. War at the time the Geneva Convention was written was linear. An observation point in a linear conflict was located at the most forward point of the frontline and was used to collect information on the enemy across the frontline. An observation point that was protected by law from attack would be extremely valuable. That concept loses its value in fourth generation warfare where there is no frontline or rear area.¹⁸ Fourth generation warfare is characterized by non-linear, asymmetrical conflict over a dispersed, and often transnational, battlefield.¹⁹ It is most often waged by small, agile forces whose allegiance is to a culture, religion, or idea rather than a state. In fourth generation warfare everyone, everywhere gathers information.

Capabilities of the FCS-MV.

The next step in the analysis is to examine what capabilities will have to be removed if the red cross is displayed on the FCS-MV. The vehicles that make up the Future Combat System will have an impressive array of sensors and armaments that are linked together by advanced communication abilities. It is often described as a system of systems with each of the systems connected and dependent on the other so that when operating together, they produce a much greater result than one system operating independently. It is this synergy effect that makes the FCS so formidable.

It is not necessary for purpose of this paper to go into the details of each of the systems on the FCS-MV or how they integrate. It will suffice to discuss in general the capabilities these systems provide and discuss the impact of these capabilities under the

¹⁸ Lind, William, Keith Nightengale, John Schmitt, Joseph Sutton, and Gary Wilson. "The changing Face of War: Into the Fourth Generation." Marine Corps Gazette, October 1989: 22-26.

¹⁹ Ibid.

Geneva Convention and U.S. Army policy. In general terms, the FCS-MV capabilities include a short range electro optic-infrared sensor, multi-function radio frequency system, an aided target recognition processor, a combat identification system, and an active protection system.²⁰

The sensor package proposed for the FCS-MV has the capability to provide full 360 degree local and wide area surveillance. This includes overhead surveillance and it is capable of providing laser and missile warnings to detect incoming anti-tank guided missiles or rocket-propelled grenades. These sensors are integrated into the active protection system that can then intercept these threats before they can harm the vehicle. Other sensors provide day and night visual and thermal imaging that is integrated into an automated target acquisition system. These sensors are capable of providing high detail visual and thermal imaging thousands of meters away from the vehicle. Embedded in this capability are a laser range finder, target designator, automatic target tracker, range map generator, and the ability to detect obstacles at great range. An aided target recognition processor continuously collects information from all of these sensors and provides unprecedented situational awareness by recognizing and rapidly distinguishing between threat and friendly systems. The FCS-MV sensors also provide an advanced ability to identify friendly combatants on the battlefield, both vehicles and individuals. This will allow medical personnel to locate casualties on the battlefield that are not within their immediate sight. To ensure sensor data is quickly transmitted to other platforms, the FCS-MV sensors are highly integrated with the onboard communication equipment. As only one part of a complete combat system on the battlefield, the sensors located on all FCS vehicles, including the FCS-MV, will constantly

²⁰ Headquarters U.S. Army, OTJAG, International and Operational Law Division to PEO Ground Combat Systems, PM UA MSI, Attn: SFAE-GCS-UA-MS, 21 April 2004, Memo, Subject: "Future Combat System-Medical Vehicles (FCS-MV); Preliminary Legal Review".

exchange information with other platforms. This information will be continuously synchronized with information collected from all sources within the battlespace to develop a shared common operational picture.

While this network centric warfare approach is directly in line with Department of Defense policy, joint doctrine and fourth generation warfare, it is inconsistent with the limitations of the Geneva Convention.²¹ Under the Geneva Convention, the enhanced sensors on the FCS-MV place it in the same category as a roving observation post. Such abilities are clearly acts harmful to the enemy. If the FCS-MV displays the red cross while operating these sensors, it would be subject to lawful attack and the United States would be in violation of international law for knowingly abusing the protected status of the medical vehicles.²²

Also of concern is the FCS communications package that requires each vehicle to act as a retransmission station. The sensors of the FCS will acquire massive amounts of data. It will require a large amount of bandwidth to transmit this volume of data efficiently. To ensure the data reaches its intended destination, each FCS vehicle is designed to serve as a communications node, receiving all transmissions and then automatically retransmitting them. This provides a complete net of communications over the battlefield ensuring maximum flow of data. However, if the FCS-MV is included in this capability, it becomes a roving retransmission station. Retransmission of combat data is clearly an act harmful to the

²¹ Joint Chiefs of Staff. Doctrine for Joint Operations. Joint Pub 3-0. Washington, DC: 10 September 2001. III-9 to III-14. Also see, U.S. Department of Defense. Network Centric Warfare-Report to Congress. Washington, DC: 2001.

²² Annex to Hague Convention No. IV, 18 October 1907, embodying the Regulations Respecting the Laws and Customs of War on Land. Hague: 1907, Art. 23. Also see Protocols Additional to the Geneva Conventions of 12 August 1949 Geneva: International Committee of the Red Cross, 1977, Additional Protocol I, Art. 37 and 38. Also see U.S. Army.

enemy. The United States would be in violation of international law if the FCS-MV participates in this capability while displaying the red cross.²³

Another concern is that although not armed for offensive operations, the FCS-MV will be armed for defensive protection. The Active Protection System (APS) is integrated into the onboard sensors to provide a defense system that can detect, track, and defeat a variety of incoming threats to a ground combat vehicle.²⁴ Provided the APS fires only to defeat an attack against the FCS-MV there is no violation of the Geneva Convention. Regardless of whether the attack was deliberate or unintended, an attack specifically targeting a medical vehicle, that is displaying the red cross and not committing acts harmful to the enemy, would be in violation of the Geneva Convention and firing in self defense would be lawful. The issue arises from the collective defense aspect of the system. The APS is designed to fire in defense of other friendly vehicles. If the sensors onboard the FCS-MV detect an incoming threat to another FCS vehicle that is within range of the FCS-MV's APS, the APS on the FCS-MV will fire to protect that other vehicle. This would be a violation of the Geneva Convention as protected medical personnel are not allowed to fire in collective or unit self defense.²⁵

²³ Ibid.

²⁴ Headquarters U.S. Army, OTJAG, International and Operational Law Division to PEO Ground Combat Systems, PM UA MSI, Attn: SFAE-GCS-UA-MS, 21 April 2004, Memo, Subject: "Future Combat System-Medical Vehicles (FCS-MV); Preliminary Legal Review".

²⁵ The Geneva Convention also addresses when medical personnel can be armed and under what circumstance they can use those arms. Army policy, consistent with the Convention, states that medical personnel have the right to arm themselves with small arms (defined as service rifles and pistols) to be used in self defense and the defense of their patients when *they are attacked in violation of the Convention*. This means, they do not have the right of collective, or unit, self defense in situations of general attack. For example, if medical personnel or vehicles are part of a non-medical convoy and the convoy comes under attack, the medical personnel could not return fire as part of the unit's collective self defense. They could fire only if the individual medical personnel, their patients, or their marked medical vehicle were being specifically targeted, either intentionally or unintentionally. See GWS, Art. 21 and 22. Also see U.S. Army. Employment of the Field and General Hospitals. FM 8-10-15. Washington, DC: 1956, appendix G.

Possible solutions.

All of these capabilities make the FCS-MV the most capable, efficient, informed, and protected medical evacuation vehicle in the history of warfare. Unfortunately, they also place the FCS-MV squarely in violation of the Geneva Convention and international law if it claims the protections afforded medical vehicles. This dilemma has three possible solutions. The FCS-MV could display the red cross and limit or remove the capabilities that place it in violation. However, this solution will require crippling many of the advantages and technological advances of the FCS-MV. A second possible solution is to build into the FCS-MV the ability to turn on and off the capabilities and claim the Geneva Convention's protections only when the capabilities were turned off. This solution, however, may still not bring the vehicle fully into compliance. Last, the Army could choose not to display the red cross on the FCS-MV. This option forgoes the protections of the Geneva Convention in favor of the protections available to a fully capable FCS-MV. The FCS-MV would lose the protected status of a medical vehicle under the Geneva Convention, but it would have no limits placed on the capabilities it could possess.

Possible solution 1: The FCS-MV should display the red cross.

Some would argue that the FCS-MV should display the red cross because the Geneva Convention provides legitimate protection. While it is often reported when a marked medical vehicle is fired upon, it is impossible to know how many times an enemy refrained from firing in respect of the red cross. The red cross emblem is universally recognized as a designator for medical personnel and it is not unreasonable to assume that even the most savage combatants have some respect for the treatment of the sick and wounded. While some belligerents may violate the protected status of marked medical vehicles, it does not

mean that all will. Until it can be determined how often displaying the red cross actually protects medical vehicles from attack, it must be assumed that it offers some level of protection.

Also, displaying the red cross on the United States' medical vehicles complies with, and shows support for, the humanitarian spirit of the Geneva Convention. Make no mistake; the Geneva Convention is an optimistic document that is often violated. It was, however, drafted in an attempt to reach the humanitarian side of people while they participate in the inhumane act of war. For the Geneva Convention to be successful, all member of the international community must support it. Displaying the red cross on the FCS-MV demonstrates America's continued support for the spirit and ideas behind the Convention.

How much protection the Geneva Convention actually provides was never intended to be measurable. It has always been understood that compliance would be primarily based on the combatant's voluntary moral restraint based on his respect for international law and basic human decency. Although, in theory, firing on a marked medical vehicle could result in a war crimes prosecution; in reality, this is unlikely to happen. Instead violations are more likely to be met with international protest aimed at deterring future illegal attacks.

The problem with this solution is that it does not accept the realities of fourth generation warfare. The Geneva Convention, by its nature, has always relied on the rule of law and the commitment of the international community for its success. A key component of fourth generation war is that it is transnational. The non-traditional combatants of fourth generation warfare have no place in the international community and no respect for

international law.²⁶ It should come as no surprise that they also have no respect for the protections of the Geneva Convention.

An additional issue is that crippling the capabilities of the FCS-MV will be a step backwards in the advancement of U.S. tactics and equipment. Joint doctrine recognizes the advantages of network centric warfare, synergy, force protection, simultaneity and depth, all features of a fully capable FCS-MV.²⁷ In future wars where information dominance will be decisive, we should be moving to be more connected, not less. Disconnecting the FCS-MV from the FCS family is a step backwards. Removing or disabling the enhanced capabilities of the FCS-MV takes a vehicle ready for fourth generation warfare and limits it to third generation warfare capabilities.

Possible solution 2: Turn the capabilities off and on.

Another possible solution to bring the FCS-MV into compliance with the Geneva Convention is to design the enhanced capabilities so they can be turned off and on. The Geneva Convention has always recognized the idea that medical vehicles may at times perform non-medical tasks. In situations where they must do this, the red cross must be covered or removed and for that time the vehicles are not entitled to protection. This may be a solution for the FCS-MV. When the offending capabilities are turned off, the vehicle would be considered performing medical tasks, the red cross would be displayed, and the vehicle would be entitled to protection. When the offending capabilities are turned on, it

²⁶ Lind, William, Keith Nightengale, John Schmitt, Joseph Sutton, and Gary Wilson. "The changing Face of War: Into the Fourth Generation." Marine Corps Gazette, October 1989: 22-26.

²⁷ Joint Chiefs of Staff. Doctrine for Joint Operations. Joint Pub 3-0. Washington, DC: 10 September 2001. III-9 to III-14. Also see, U.S. Department of Defense. Network Centric Warfare-Report to Congress. Washington, DC: 2001.

would be considered performing non-medical tasks. At these times the red cross would have to be removed or covered, and the vehicle would not be entitled to protection.

While this may seem like a good solution, it has problems on both the intellectual and practical levels. The Geneva Convention envisioned permanent, full time medical vehicles as the standard. While the idea of temporary medical vehicles is discussed in the Geneva Convention, it is discussed as a means to temporarily protect a non-medical vehicle while it temporarily performs a medical duty. Consider the example of a cargo truck that carries ammunition to the battle and then casualties to the aid station. The normal duty of the truck is to carry combat cargo. It does not display the red cross and is not protected. Yet in a case where a large amount of casualties required using the truck to temporarily move casualties to the aid station, the truck could be marked with the red cross and temporarily entitled to protection.

Deliberately designing the FCS-MV to be a full time medical vehicle, yet allowing it to turn off and on its protected status could still violate international law. The fact that it possess the potential to instantly cause harm to the enemy by simply flipping a switch, may qualify as an act harmful to the enemy. It also creates a dilemma for the enemy. How is the enemy to know when the capabilities are being used or not? The determination of what is an act harmful to the enemy is most often made by the enemy himself. While the United States may not be in technical violation when the capabilities are turned off, how is the enemy to know this? Additionally, it is possible that the enemy may consider the mere fact that these vehicles carry dangerous capabilities that can be turned on at a moment's notice as a harmful act. A FCS-MV that maneuvers the majority of the time under the protection of the red cross

then suddenly covers its red cross and turns on its targeting systems would arguably be in violation of international law and subject to lawful attack.

On the practical level, once the FCS-MV crew is accustomed to operating with enhanced battlefield information and protection they will most likely be unwilling to turn it off. The most dangerous time for medical personnel is when they are searching for and treating casualties in battle, yet this is precisely when we would require them to turn off the capabilities that could keep them alive and help locate casualties. If given the option, will the FCS-MV crew be able to resist the temptation to leave the capabilities on when the rules say they should be turned off?

Additionally, many of the benefits of the FCS-MV enhanced capabilities are only realized if they are on full time. They are so deeply integrated into other systems that it will be extremely difficult, if not impossible, to turn one capability off without negatively effecting other aspects of the system. The cornerstone of the FCS is that it is a system of systems. Its strength is drawn from the integration of the systems on each individual vehicle as well as each individual vehicle's integration into the bigger system of vehicles. Once the FCS-MV is disconnected from that system, it loses this synergy effect and becomes just another independent vehicle on the battlefield.

Possible solution 3: Do not display the red cross on the FCS-MV.

By far, the best of the three possible solutions is to make a policy decision that the FCS-MV will forgo the protections of the Geneva Convention and not display the red cross. The realities of the modern battlefield and the evolution of warfare have left the protections offered by the Geneva Convention practically worthless. While the humanitarian ideas behind the Geneva Convention's approach to protecting medical assets are still admirable,

major changes in warfare have made reliance on these ideas operationally foolish when other alternatives are available.

First, modern warfare is fourth generation warfare. In the first three generations of warfare, nations generally fought each other with military parity. Fourth generation warfare recognizes that military parity no longer exist. The weak understand they cannot stand up to the strong and fight face to face on the battlefield. The result is that war has evolved into conflicts between developed nations and nontraditional combatants -- rebels, insurgents, and terrorists. These nontraditional combatants have no place in the international community and they do not feel bound by international law or the Geneva Convention.

There are many examples from conflicts as far back as Vietnam and as recent as Iraq, that highlight the growing disregard these nontraditional combatants have for the protections of the Geneva Convention's red cross. In Vietnam air ambulances, which displayed the red cross, suffered a loss rate to hostile fire that was 3.3 times that of all other forms of helicopter missions in the Vietnam War and 1.5 times higher than non-medical helicopters flying direct combat missions.²⁸ In Operation Iraqi Freedom (OIF), helicopter air ambulances displaying the red cross frequently come under fire and at least one has been shot down.²⁹ In another OIF incident, a U.S. Army soldier was killed when a rocket-propelled grenade struck the marked military ambulance he was riding in.³⁰ In Iraq, Palestine, and Chechnya, nontraditional combatants have violated international law by using marked ground

²⁸ Dorland, Peter and James Nanney. Dust Off: Army Aeromedical Evacuation in Vietnam. Washington: Center of Military History United States Army, 1982, 117.

²⁹ Banerjee, Neela. "The Struggle for Iraq; insurgents; 9 Soldiers Dead in Crash in Iraq." The New York Times, 9 Jan 2004, Late ed.: A1.

³⁰ Waldman, Amy. "G.I. Dies as Ambulance is Hit by Rocket-Propelled Grenade." The New York Times, 20 June 2003, A1

ambulances to transport fighters to and from ambush sites³¹ In Iraq, suicide bombers used a marked ground ambulance to bomb the International Red Cross Headquarters in Baghdad.³² In Nepal, three marked ambulances returning from a mission were seized by rebel forces.³³ In another incident in Nepal, a marked ambulance was seized and set on fire.³⁴

While these are just a few examples of violations, they make it clear that today's nontraditional combatants no longer follow the same rules of war. With the mere existence of many of these groups being in itself illegal, few of these nontraditional combatants are worried about the consequences of violating the Geneva Convention. They use the protections of the Geneva Convention as a sword when given the opportunity and a shield when convenient. As long as the United States fights this type of combatant the actual protection gained by displaying the red cross will be very little.

A second major change in warfare that has eroded the Geneva Convention's protection of medical vehicles is that modern weapons now used by most developed nations target beyond line of sight. When the Geneva Convention was originally drafted, displaying the red cross emblem on medical vehicles was sufficient to identify their protected status. At that time, almost all weapons that could deliberately target an individual vehicle used optical

³¹ "Use of Ambulances and Medical Vehicles by Palestinian Terrorist Organizations." 14 Feb. 2002. Israel Ministry of Foreign Affairs. <<http://mfa.gov.il/mfa/go.asp?MFAH01690>> [13 Jan 2005]. Also see, "Russian Federation: Red Cross workers killed in Chechnya." 30 Oct. 1999. International Committee of the Red Cross. <<http://www.icrc.org/Web/Eng/siteeng0.nsf/iwpList74/0032A1FEFD454BCAC1256B66005D852E>> [13 Jan 2005].

³² "Coordinated Iraq bombings kill 35 -Red Cross headquarters, Baghdad police stations targeted, about 200 hurt ." The Baltimore Sun. 28 Oct 2003. <<http://www.baltimoresun.com/news/nationworld/iraq/bal-te.iraq28oct28,1,3407060.story?coll=bal-iraq-headlines&ctrack=1&cset=true>> [13 Jan 2005].

³³ Although the vehicles belonged to the Nepal Red Cross, their seizure was in violation of international law and demonstrates a clear disregard for the protection of medical assets. Aryal, Kharm and Patrick Fuller. "Coping Amidst the Conflict in Nepal." International Federation of the Red Cross and Red Crescent Societies. 13 May. 2002. <<http://www.ifrc.org/docs/news/02/051302/>> [06 Feb. 2005].

³⁴ Ibid.

sights requiring the gunner to actually see the vehicle he was targeting. This meant that most of the time the chances were good that the red cross emblem would be seen before the target was engaged.

This is no longer true for modern weapons.³⁵ Improvements in weaponry since the Geneva Convention was drafted now allow combatants to engage enemies at distances far beyond line of sight. Distance, darkness, smoke, fog, or dust, no longer obscured modern targeting mechanisms. Thermal imaging and radar acquisition are just two examples of modern targeting methods that do not require the person firing the weapon to visually see the target. Most of the developed nations with a professional military now use these types of weapons. This creates a problem for those nations trying to comply with the Geneva Convention. Thermal imaging and radar signatures cannot distinguish between marked medical vehicles and other military vehicles on the battlefield. Even though these countries want to respect the protections of marked medical vehicles, they are often unable to using modern weapons.

Taking these two changes in warfare together presents a depressing reality for the Geneva Convention's protection of medical vehicles. Those combatants who want to comply with the Convention often can't because the capabilities of modern weapons allow for targets to be engaged beyond line of sight. At the same time, the nontraditional combatants, who can comply, because they generally use line of sight weapons, often choose not to do so. Regardless of which of the two enemies you face, the result is the same. Whether targeted

³⁵ This has been recognized by the international community and attempts have been made to address the issue by using lights and radio signals as additional means of identification. However, these measures have yet to become operationally acceptable since they also disclose the location of the military force as a whole. Loye, Dominique. "Making the distinctive emblem visible to thermal imaging cameras." International Review of the Red Cross, 317 (1997): 198-202. Also see, Protocols Additional to the Geneva Conventions of 12 August 1949 Geneva: International Committee of the Red Cross, 1977, Additional Protocol I, Art. 18 and Annex I, Arts. 6 and 8.

intentionally or unintentionally, on the modern battlefield the medical vehicle actually receives very little protection by displaying the red cross.

Even though the Geneva Convention's protection of medical vehicles has greatly eroded, if there were no costs associated with displaying the red cross, it would still be worth displaying because some protection is better than none. Unfortunately, putting the red cross on the FCS-MV comes with a very high price tag. To do so requires not only removing capabilities that enable the FCS-MV to be a fully contributing member of the FCS, it also means depriving it of capabilities that provide it far greater protection than the Geneva Convention could ever provide. By forgoing the Geneva Convention's protections and not displaying the red cross, the medical personnel in the FCS-MV will have unprecedented battlefield information. They will have a complete picture of the battlefield, including their location, the location of other friendly vehicles as well as the location of enemy vehicles. Since this information will be constantly synchronized with information from the sensors of other vehicles, the FCS-MV will have a much more complete picture than it would if its sensors were acting alone.

This enhanced situational awareness will provide better force protection to the FCS-MV by allowing it to avoid the enemy when possible and defeat them when necessary. It will also facilitate the collection of the wounded by locating casualties that would have previously gone undetected. Additionally, by having the FCS-MV fully functional in the FCS family, it will increase its visibility to friendly forces on the battlefield greatly reducing the chance of fratricide. Finally, allowing the FCS-MV the ability to track and designate targets will greatly enhance its ability to defend itself and assist in the collective defense of others.

Conclusion.

A fully capable FCS-MV is a vehicle ready for fourth generation warfare. It will leverage the advantages of network centric warfare providing the operational commander another fully operational node, while still providing the most advanced medical facilities of any military vehicle in history. It will possess full situational awareness regardless of its location in the battlespace. It will be able to not only detect, but also defend itself against, symmetrical and asymmetrical threats. Additionally, it will participate in the collective defense of other friendly forces, while at the same time providing tangible force protection to its occupants.

With the enhanced capabilities available to the FCS-MV, the Army has reached a decision point. Move forward with the real protection that FCS-MV can offer or remain with the theoretical protection offered by the Geneva Convention -- theoretical in the sense that those willing to comply are often unable and those able to comply are often unwilling. However good intentioned the Geneva Convention is, the fact remains that medical vehicles on today's battlefield essentially have no protection. This fact is punctuated by a statement of one U.S. Army medic serving on an air ambulance in Iraq, "We get shot at a lot, but we get missed a lot, too."³⁶ Relying on the poor marksmanship of the enemy should not be the protection our soldiers have to rely on when we have the capabilities that can provide them real protection. Voluntary moral restraint based in third generation warfare notions of fair play is fine when that is all we have, but it should not be the standard when we have the ability to do better.

³⁶ The Associated Press. "Heli-medics in Iraq see rewards, hazards." MSNBC International News, 22 Oct. 2004. 12 Jan. 2005 <<http://www.msnbc.msn.com/id/6307700/>>.

The FCS-MV for the first time offers the medical community the opportunity to do better. They can finally be informed players on the battlefield capable of defending themselves and others around them. The protections of the Geneva Convention were written because medical vehicles of the past were helpless targets on the battlefield. This is no longer the case. The enhanced capabilities of the FCS-MV give it the ability to detect enemy threats, to communicate information about those threats, and the self defense armament to defeat those threats. While by no means an offensive weapon, the FCS-MV is far from being a helpless target on the battlefield.

The true spirit of the Geneva Convention is to protect the medical personnel so they could better do their job. At the time it was written, displaying the red cross was the best way to do that. If the Geneva Convention was being drafted today and the capabilities of the FCS-MV were available, it is difficult to believe that displaying the red cross would still be the only method of protection chosen. Providing the full capabilities to the FCS-MV is consistent with the spirit of the Geneva Convention. It provides maximum protection to the medical personnel and also facilitates rapidly locating and treating wounded on the battlefield.

The only conscionable answer to this dilemma is to provide the FCS-MV with the full enhanced capabilities and forgo the protections of the Geneva Convention. As long as this intent is made clear and FCS-MV does not display the red cross, it can have the full capabilities of the FCS and still comply with international law and conventions. By doing this, the FCS-MV will be a fully capable member of the FCS family -- a fighting vehicle with advanced medical treatment capabilities, not a medical vehicle relying on the virtually nonexistent protections of the Geneva Convention's red cross.

The Army is at a decision point. Provide our medics with the capabilities for real protection or ask them to drive out on the fourth generation battlefield on faith in the enemy's respect for international law and humanitarian beliefs. Ask them to forgo the real protections the enhanced capabilities of the FCS-MV can provide them and instead to go forward on faith in the inherent decency of today's non-traditional combatants -- rebels, insurgents, and terrorists.

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