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The Effects of Technology on Our Humanity

D. KEITH SHURTLEFF

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"I am tired and sick of War. Its Glory is all moonshine. It is only those who have never fired a shot nor heard the shrieks and groans of the wounded who cry aloud for blood, more vengeance, more desolation. War is Hell!"

— William T. Sherman¹

". . . and they shall beat their swords into plowshares, and their spears into pruninghooks: nation shall not lift up sword against nation, neither shall they learn war any more."

- Isaiah 2:4

The "importance of PT," a reference to our physical training regimen, was all that defined the e-mail message I had just received from my boss, the commanding officer of an infantry battalion to which I had been assigned as Chaplain. There was no other text, but a video clip was attached. Opening the attachment, I saw what appeared to be an aerial view of an enemy bunker; the video obviously was from the nose cone of a quickly descending "smart bomb" targeted on the bunker. Suddenly a door of the bunker opened and out ran a soldier, sprinting for all he was worth toward the edge of the screen. Just as he reached the far corner of the view, the screen went blank, indicating the bomb had hit the target. I watched the clip a few times, laughed at the commander's comment on PT, and forwarded the email to some colleagues. Only later did some troublesome little questions start to nag at me: Did the soldier make it to safety? Were others caught unaware in the bunker? What human tragedies or sorrows, if any, followed that blank screen?

This article will explore the increase of technology's influence in the military and the correlating effects that influence has on those who make war and those who fight in war. It will suggest the reason behind my finding humor in the video clip and my concurrent failure to consider from the start the human questions. That reason is subsumed in technology. In conclusion, the article will pro-

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pose responses to the harmful influences of technology and explore their potential for countering or ameliorating those negative influences.

Devices and Disengagement

The concept of how technology can lead to disengagement may be most clearly delineated by Albert Borgmann's device paradigm.³ While application of Borgmann's device paradigm to technology in a military setting is at first glance a strange prospect, it may be helpful in understanding how the most harmful aspect of technology, that of disengagement, comes about.

In Borgmann's paradigm, he uses the concept of the stove or hearth as compared to the furnace.⁴ The hearth, according to Borgmann, was more than just a source of heat; though it was that, it also had a culture of its own. It possessed the characteristics of a "thing." These characteristics were embedded because the fireplace required engagement.⁵ It informed and engaged the user as a furnace never could. The user of the fireplace was required to participate in its use. Chopping wood, keeping embers going, cleaning out old ashes—all were part of the experience. The hearth was also less efficient than a furnace, and so often families would gather there for evening activities. According to Borgmann, technology transforms "things" (the hearth) into "devices" (the furnace) by splitting means and ends.⁶ In that transformation the means are provided by machines. The ends are split from the means and adopt the status of a commodity. The goal of technology in this splitting of means and ends is to make the commodity more available. As a result of this pushing of the importance of availability, devices take on important characteristics; they are safe, easy, instantaneous, and ubiquitous.⁷

Safe and Easy Warfare

Applying warfare to Borgmann's device paradigm provides some interesting insights. Often we hear soldiers crudely refer to the Army's mission as "to kill people and break things." While the true mission is much more involved than that description suggests, the description itself is helpful in applying the device paradigm. Basically, the focus of military technology has been to make the mission of killing people and breaking things easier and safer—the idea being that if someone is out to kill you and break your stuff, technology might be able to place you in a position to avoid their efforts, while enhancing your own efforts against them. As shown in other critiques of technology, the aim is efficiency.

A good example of this is in the development of the Javelin anti-tank weapon. Prior to the Javelin, the infantry's main weapon to destroy enemy tanks

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was the TOW missile, so named because it was Tube-launched, Optically-tracked, and Wire-guided. The problem with the system was that the firer had to keep the target in sight and guide the missile all the way to the target. The obvious danger was that the soldier had to stay in position until the target was engaged, or the weapon would be ineffective. The soldier firing the TOW could be detected and killed while he was waiting for the missile to hit. Enter technology. The replacement weapon, the Javelin, is what the soldiers term a "fire and forget" weapon. The Javelin is a free-flying smart munition. It allows soldiers to point, shoot, and leave with assurance the target will be hit. This "machine" delivers on technology's promise. It is easy to use, and it increases the safety of the soldiers. Interestingly, it also disengages the soldier from the target.

Therein lies an example of the power found in applying the device paradigm to warfare. In warfare-based technology, disengagement is not just a by-product, but rather it is often the intent. This is true because disengagement, particularly in the form of distancing, makes war safer. Unlike in other areas of life, in warfare disengagement can be seen as a positive outcome of the application of technology. However, it is ambiguous in that disengagement also carries with it a great price, a grave danger, and one that we will return to later.

Instantaneous

The use of technology to make killing and destruction more instantaneous is not as easily shown, but it is present within the military doctrines of speed and maneuverability. Terms such as rapid deployment, power projection, and mobilization all connote an element of instantaneousness in warfare. The horrors of prolonged conflict, such as that experienced in Vietnam, caused many leaders to see speed as an essential element to victory. Going back to our crude description, the quicker that our Army can kill the enemy and destroy their equipment, the greater the chance for a swift victory. A swift victory not only has great value to politicians, it also has an element of safety for soldiers. An enemy quickly killed will not be able to inflict further harm on our soldiers.

An excellent example of instantaneousness in warfare is found in the German concept of blitzkrieg or lightning warfare. ¹⁰ Compared to the prolonged and bloody nature of trench warfare, blitzkrieg held out a promise of rapid

victory, thus potentially saving the lives of many soldiers. Interestingly, the concept of blitzkrieg was made possible only because technology provided rapid-moving platforms essential to executing the concept. It also should be noted that an element of disengagement may be found in the concept of blitzkrieg, particularly if engagement is equated to being bogged down. Thus the trench warfare of World War I, in one sense, required much greater engagement than the blitzkrieg of World War II.

Ubiquitous

Here a distinction has to be made from what normally follows under the device paradigm. It seems irrational to argue that ubiquitousness is an aim of technology in warfare, at least when contemplating conventional warfare. In fact

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the converse seems true, in that the aim of technology has been toward limiting or at least narrowly focusing the killing and destruction. This idea is seen in recent inventions like smart munitions, which facilitate "surgical strikes" and "pinpoint bombing." Mine technology has also produced self-destructive mines that can be set so as to be effective against an enemy, but which after a certain time will self-destruct, thus reducing the potential of continued harm.

This trend toward narrowing warfare and its effects on civilian populations is also supported in doctrines of jus in bello, ¹¹ international law, and the Geneva, Hague, and other conventions. So in the sense of the paradigm, ubiquitousness seems not to be an aim of technology and its machines, at least not when applied to conventional warfare. ¹² However, the disengagement that corresponds to the previously discussed characteristics of the devices of war can lead to a different sort of ubiquitousness. That is to say, as war becomes safer and easier, as soldiers are removed from the horrors of war and see the enemy not as humans but as blips on a screen, there is a very real danger of losing the deterrent that such horrors provide. So, in a certain sense, the disengagement of the other characteristics may lead to war becoming more ubiquitous. However, it is relevant to the question at hand to note that the forces at work, which seem to be guiding technology toward restricting the spread of war, at least at the conventional level, are forces capable of countering the disengaging characteristics of the devices of warfare.

Disengagement and Warmakers

Returning to the video clip on the importance of PT, it brings to mind scenes from the Gulf War. Recall the press briefings wherein we were able to watch bombs descending on, and presumably destroying, their targets. One day in particular, General Schwarzkopf was briefing. He said, "Now I'm going to show you a picture of the luckiest man in Iraq." A videotape began, shot from a smart bomb descending upon a bridge. As the bomb neared its target, the General pointed out a truck that was crossing the bridge. The truck drove into the bomb sight and beyond it. As the truck cleared the bridge, the General remarked, "And now, in his rear-view mirror . . ." and an explosion filled the screen. The press corps responded with laughs. As with my experience with the e-mail attachment, it was almost as if we were watching a computer game—the war seemed somehow unreal. No one seemed to consider the consequences of the destruction of that bridge. No one seemed to wonder if the "luckiest man in Iraq" was ever able to return to his home. This is not to suggest that the destruction of the bridge was unnecessary. We soldiers retain great faith in such military decisions of our superiors. But the surreal nature of the scene is bothersome. It just didn't seem like we were watching a war, not a serious matter, but something more frivolous, like a video game.

Obviously there were other factors contributing to the levity of that situation, yet subsequent writers also have commented on this major point: The Gulf War was too much of a "clean war." The press was controlled to a degree that in some ways the public was not as informed as it could be, and thus was insulated from the

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horrors of war.¹⁴ That war seemed to be somehow safer, easier. We as a people became disengaged. That is not to say that the military did not have good reasons for controlling and restricting the press. Both the press and the military have legitimate concerns and goals in regulating and providing war coverage.¹⁵ What it does say is that US

policymakers, those who must sustain a war effort, recognized the dangers of inundating the public with graphic pictures of what the war was about.

Previous experience had taught US military leaders that sometimes slapping the public in the face with the horrors of war can have a debilitating effect upon carrying out the war effort. Many of the US military leaders during the Gulf War were Vietnam veterans. They still harbored images of fighting an unpopular war and the terrible cost it inflicted on our nation and its soldiers. They recognized that public support is tenuous and that withdrawal of that support can lead to defeat or humiliation.

Another good example of this was seen in Somalia. There the mission was at first popularly supported—few would demur at making food supplies safely available to a starving people—but that popularity disappeared when the mission changed. A subtle shift in political policy eventually led to the tragic events in Mogadishu of October 1993. The stark reality of seeing an American serviceman dragged through the streets by a mob of angry Somalis created a rapid shift in attitudes. Policies were questioned, the mission was held up to public light, and the result was a withdrawal of American forces.

The reality and fear that this type of "body-bag" politics instills in those who devise policy and execute warfare moves some to seek the disengagement that technology can provide. Clean wars are more sustainable. If disengaged from war's harsh realities, a society can more easily indulge in the fiction of a clean war. Thus technology helps ensure that the nation will more readily support a particular policy. However, disengagement also carries with it a danger. If politicians, the warmakers, feel that they can somehow isolate the people from the reality and terror of war, if through technology they can disengage us and still accomplish their underlying purposes for the war, then a powerful deterrent has been lost. One need not be a complete cynic to conceive of how such an approach might lead to war becoming ubiquitous. The benefit of keeping war in the realm

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of the horrifying can be found in the very deterrence such horror provides. Conversely, disengagement from those horrors may have the consequence of making war more acceptable, and therefore more prevalent.

Disengagement and the Warfighters

Of even greater interest to soldiers may be the effect that technology-promoted disengagement may have on those of us who are called upon to fight a war. It is interesting to note that even in combat, terms like engagement are commonplace. It is also important to note that those who have been in engagements with the enemy are changed forever by that engagement.

In his book, *On Killing*, Lieutenant Colonel Dave Grossman, an Army psychologist, outlines a history of studies examining how soldiers are motivated to kill, and the effects that killing has upon them.¹⁷ Grossman's main finding is that there is within human beings something that makes the idea of killing another human being anathema.¹⁸ That fact is illustrated by trigger-pull studies taken from various armed conflicts. In earlier wars the estimate is that only a small number of the soldiers actually fired at the enemy.¹⁹ Grossman tells of muskets recovered during the US Civil War which were filled with layers of "buck and ball," suggesting that soldiers may have wanted to pretend to shoot, and so kept loading but faked firing.²⁰ Soldiers in basic training units often admit to that same hesitancy as they came to grips with the reality of what they were being trained to do. That hesitancy is a powerful force within human nature, but it is not necessarily permanent. As Grossman points out, during the Vietnam War and subsequent conflicts, the trigger-pull ratios were much higher.²¹ The Army recognized the need to overcome that innate hesitancy, altered training, and focused on techniques to dehumanize the enemy and thus condition its soldiers. In essence, it is easier to shoot an "enemy" than to shoot another "human," and conditioning through training can, to some degree, overcome the natural hesitancy to kill.

Technology also plays a powerful role in overcoming the natural tendency to resist killing. In his book, Grossman illustrates that the greater the distance, physical and emotional, from the enemy, the easier it is to kill them. Soldiers at close range or engaged in hand-to-hand combat exhibit a much higher resistance to killing, but at long range—snipers,

artillery, bombers—the resistance to killing is much lower.²²

What makes Grossman's point so relevant to this article is that his concept of "distancing" ties closely into the concept of "disengagement" that results from technology. It is not difficult to see how elements of technology facilitate distancing, particularly in machines used at maximum range. Technology, then, affects the warfighter in a very important way—it helps to overcome natural resistance and makes killing easier. Obviously there is also a safety element to the distancing Grossman speaks of. If we compare a hand-to-hand struggle for life and death to the flipping of a switch, it is also easy to see how the distancing and related disengagement that technology brings can make warfare safer for our service members. As with other aspects of disengagement, we can't disregard the obvious

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benefits that technology provides. However, it is also essential to recognize the potential for increased harm that accompanies such distancing. Grossman contends that extreme distancing can lead military personnel to kill and destroy humans that they otherwise would never kill. Describing a firebombing incident from World War II, he wrote:

Seventy thousand people died at Hamburg the night the air caught fire. They were mostly women, children, and elderly, since those [men] of soldiering age were generally at the front. They died horrible deaths, burning and suffocating. If the bomber crew members had had to turn a flamethrower on each of these seventy thousand women or children, or worse yet to slit their throats, the awfulness and trauma inherent in the act would have been of such a magnitude that it simply would not have happened.²³

Again we see the ambiguity induced by disengagement. We see elements of safety and ease for our soldiers, yet we see potential for more widespread conflict and destruction of those who otherwise would have been spared. It is a problem not easily solved.

The Problem and Some Potential Solutions

This article is not a call for a return to earlier epochs of warfare, epochs of sword against scimitar, soldier against soldier. Those days are gone for good. Lasting world peace is not immediately likely, either, and although one day peace may prevail and technologies will no longer be used to improve our efficiency in killing people and breaking things, that time likely will not come absent an advent of global proportions.²⁴ So what we must deal with now is how to accept, even embrace, technologies that make war safer, and yet somehow counter the trend that such technologies have to disengage us, to make war more acceptable or potentially more ubiquitous. There are several politically and socially creative possibilities. The following proposals draw on the hope-filled contention of Andrew Feenberg that technology can be embraced without becoming controlling:²⁵

To the extent that technology is thus swept into the democratic movement of history we can hope to inhabit a very different future from the one projected by essentialist critique. In that future technology is not a fate one must choose for or against, but a challenge to political and social creativity.²⁶

Admittedly, the concept of using technology to control or mold technology seems circular and suspect. But a deeper look reveals that presupposed within such a concept is an element of control. Within it, humans are controlling or molding the paths of technology. For the purposes of this article the question is: How can we use technology to limit the disengagement discussed previously?

The Media

The first proposal deals with the medium that historically has had a questionable track record in terms of disengaging us—television. However, as il-

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lustrated in the case of Somalia, there is a tremendous power that comes from viewing scenes that are emotionally charged. The same sort of public engagement occurred when television coverage brought pictures of the Vietnam War

into American living rooms. Watching graphic news reports can, to some degree, restore the reality of war. It can serve to remind us of the horrors of war that other technologies have insulated us against. It can help to reengage us.

In the Gulf War, think of the pilots who flew sortie after sortie against the fleeing Iraqi army along what later came to be known as the "highway of death." At the height of the attacks some pilots sounded almost euphoric as they realized the potential for hitting targets on the bottlenecked road. Had it not been for the media records of the almost unfathomable destruction, this engagement might have forever remained for the pilots just another mission. But given the media images of the results of what one pilot called "shooting fish in a barrel," the reality of the death and carnage had a sobering effect on the warfighter, policymaker, and public alike. Suddenly video games became reality. That is not to say that the mission was not successful. Nor is it to say that the pilots should not have engaged the enemy targets. It is to say, however, that they should not have been allowed to do so without an understanding of exactly what it was they were doing. The fiction that technology so easily allowed them to set up had to be destroyed. In that case, the media was an effective tool. The incident is a powerful argument for allowing the press wide access when such access will not endanger the mission or the soldier.

Some might argue that such graphic pictures would have a damaging effect on the pilots. Others might contend that allowing soldiers to see the violence they execute from such great distances would chill their fighting spirit. I disagree. Though it may seem counterintuitive, allowing the inhumanity, the terribleness of war to remain attached to combat can have an extraordinarily positive effect. Two historical anomalies of war might illustrate this. These experiences were admittedly exceptions, but just as the hard cases reveal much to us in other critiques of technology, so do these anomalies inform us in an equally powerful way.

The first illustration arises from a bloody battle in the US Civil War. ²⁸ At the Battle of Fredericksburg there was a piece of terrain known as Marye's Heights. The Confederate forces were entrenched on the high ground behind a stone wall. Wave after wave of Union soldiers attempted to breach the wall, but all were cut down. Throughout the day the Union forces attacked, but were unable to even make it to the wall. Some 8,000 Union soldiers were shot on the slope in front of it, and many of the wounded remained where they fell. During the lull that followed, the cries of the wounded soldiers ripped the air. A young Confederate soldier, Sergeant Richard Kirkland, sought and received permission to climb over the wall and render assistance to the Union soldiers. He spent several hours fetching water for them and administering to those he could, his enemies. Cheers rose from the Union lines as they realized what was happening. For a brief time, humanity was restored to a horrible conflict.

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The battle and the war continued. Neither witnessing nor participating in that remarkable moment stopped the soldiers from their missions. Both the cheering troops and the merciful Sergeant Kirkland returned to battle, continued to fight. Kirkland himself was killed several months later at the Battle of Chickamauga. But that outcome does not mean that his act had no effect. Many soldiers who witnessed it, on both sides, must have viewed their enemies in a different light. To some degree they had been reengaged. A deeper desire for peace must have resulted, and even a century and a half later the incident remains inspirational.

Another anomaly from history—this one from World War I—has become known as the "Christmas Truce of 1914." ²⁹ Accounts vary, but the general story is that during the Christmas season of 1914, German troops began singing Christmas songs, and were eventually joined across no-man's land by the British troops. What resulted was a two- or three-day truce wherein soldiers from both armies exchanged gifts, addresses, stories, and food. Here again, a bit of humanity emerged amidst a bloody and brutal conflict. At the end of the truce the battle resumed, the soldiers returned to their killing. There is no record of mass defections or refusals of troops to fight. What must have resulted, though, was that soldiers again saw the enemy in a new light. That new light did not stop them from performing their mission, but it may have made them more humane in how they carried it out. The assertion here is not that engagement will stop *necessary* killing, but rather that it can and does stop *unnecessary* killing, atrocities, and cruelty. Engagement makes war horrible, which in turn should make it uncommon, a last resort.

Obviously we shouldn't overestimate the value of such historical anomalies, but they do seem to illustrate that it is possible to recognize the humanity of opposing forces, to see them as soldiers doing their duty in support of their

country, and yet still remain willing to engage in combat and to accomplish the mission.³⁰ Such incidents also speak to the issue of whether exposing soldiers to media accounts of their engagements would somehow render them ineffective. These instances illustrate that such an outcome would not necessarily follow.

One finds a certain reservation and soberness among those who have experienced actual combat. It can be seen as they run in formation. Young soldiers, with no real understanding of what war is about, may sing out a cadence call, "Somebody, anybody start a war, hey"—but seldom will you witness veter-

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ans of conflicts sing those words. In speaking with those veterans, many from the Vietnam era, one learns that their engagements with combat and all the horrors of war have tempered them, but have not dissuaded them from participating in the military and have not interfered with their preparing for war. They may pray for peace, but they remain willing to go where needed, to fight if necessary, and even to kill again if required.

The epitome of this may have been captured in a scene televised on CNN during the Gulf War. It depicted the capture of some Iraqi soldiers in a bunker. As the Iraqis crawled out, they were pleading and begging. One didn't need to understand the language to know their intent. They were afraid, pleading for mercy. Then a young US soldier with his weapon in one hand, trained on the Iraqis, held out his other hand in a calming gesture. With true compassion in his voice, he tried to calm their fears. There he was—one hand ready to kill if required, the other hand offering comfort, "Don't worry, we're not going to hurt you." To a large degree that is the kind of soldier that makes up our Army. We have soldiers who can accept the horrors of combat, who know exactly what they are doing and yet still are able to accomplish their missions. For such soldiers engagement is a necessity. It is critical that we avoid dehumanizing the enemy and permitting our soldiers the fiction that they are merely playing games against a nameless, faceless enemy.

Returning to the media, greater access and honest reporting will help to sensitize soldiers and leaders alike. A word of caution: graphic or sensationalist media might, over time, have the opposite effect. Dave Grossman argues the point that constant sensationalist coverage may have a negative effect by desensitizing society.³¹ Such coverage could also desensitize the soldier. And once desensitized, a soldier can not then be reengaged.

Exposure

Another possibility is to provide exposure through means other than news reports. Techniques could be developed to expose soldiers to their enemy in a safe environment. This idea is somewhat related to David Strong's going to the wilderness to remember, to be reinformed.³² For example, artillery crewmen could be asked to do a rotation at a POW camp or a refugee camp. Pilots who bomb cities could, after the cities are secure, be required to return to the city and work to rebuild some part of it. Such concepts may sound far-fetched, but imagine the personal impact that might have resulted had Air Force and Navy pilots been required to assist in the clean-up details along the highway of death. We have pilots and crews join in bomb damage assessments (BDAs) for these very reasons.

A World War II veteran of some stature was reflecting on his experience as a member of the army of occupation in Nagasaki, Japan.³³ He told of how he and some other soldiers had offered to rebuild churches that had been destroyed. Though they were ridiculed for their efforts by fellow GIs, they continued on. The day that he and those who helped him were to rotate out of the city, he saw from the train a large group of Japanese approaching and singing hymns. They

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had come to the train station to shake the Americans' hands, give them gifts, and see them off. The experience was electric, the effect on the soldiers and marines unforgettable.

Nonlethal Technology

While it seems hard to conceive of obtaining military victory by nonlethal means, the concept has been explored in other venues, and the applicability of the technology may surprise us in the venue of warfare as well. Experimentation

with such tools as disabling gas, sticky webbing, stun guns, flash grenades, and stun grenades has led to the deployment of some of these nonlethal devices in police departments. The intent, of course, is to accomplish the mission without having to resort to lethal force. Similar technologies are being applied within the military to subdue belligerents. As previously mentioned, we see related efforts in both self-destructive mine technology and in laser-guided and smart-bomb technologies, which can make war less lethal to civilians and noncombatants. In military terms, such devices "minimize collateral damage." This area cries out for additional innovations, for developing new technologies or perhaps reshaping older technologies in an attempt to find weapons that can facilitate the mission while decreasing delayed or collateral lethality.

Another nonlethal way in which technology might assist with the problem of disengagement in war will increase as technology itself becomes more prolific. As nations become more connected by technology and economics, the threat of withholding key elements for certain technologies might be a sufficient sanction to curb violence at a particular level. The use of technological sanctions may obviate the need for the use of lethal technologies that disengage us. This type of economic or technological warfare could make "real" war less likely and diminish the problem of increased killing resultant of ease or distancing.

Another trend in this arena is cyber-warfare.³⁴ Although this concept is not seen as a replacement for conventional war, it can be used to enhance the military's efficiency by debilitating the enemy. A future where cyber-wars replace killing is at least a conceptual possibility. One can also imagine a world where a sort of technological freeze might be placed on an enemy, much like governments today freeze financial assets in order to force compliance. The efficacy of such attempts may be for a future generation to determine. But our generation still needs to keep these possibilities in mind as we monitor the progress of technology. While some of these responses might solve the problem of disengagement in warfare, and even conceivably eliminate traditional warfare, the concerns related to disengagement in other technological arenas are important to keep in mind.

Leadership and Training

The tendency of technology to disengage the soldier also might be countered through effective leadership and training. Another incident with a cadence call provides an example. One morning at Ft. Campbell, Kentucky, sol-

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diers were running in a battalion formation. It was not long before the cadence call began. "I went to the school yard," the soldiers sang out, "where all the kiddies play. . . . Pulled out my machine gun and started in to spray. . . ." In a heartbeat, the battalion executive officer stopped, turned on the formation, and cut off the cadence. He yelled at the troops with a moral force that drove his message home: "We . . . do . . . not . . . shoot . . . children!" Such leadership helps soldiers to relate to their own humanity, which in turn makes it difficult to deny the humanity of targets at the other end of their weapon.

When speaking with soldiers who are concerned about the morality of killing, it's important to first reassure them that it is a "good thing" that they are even asking the question. Tell them that if the prospect of killing did not bother them, then one would really need to worry. Then discuss what it means to love your enemy, to respect human life, and to never lightly or flippantly approach the topic of death. It's important to talk about avoiding the fictions presented by words such as enemy, target, bogey, Victor, Ivan. Such conversations, and the interactions between soldiers discussing issues of humanity and inhumanity, can and do have the potential to counter the disengagement created by technology.

Conclusion

Those who lead soldiers are thankful for technology. They are grateful for inventions such as reactive armor, Kevlar helmets, flak vests, and, yes, the Javelin, because they love their soldiers. It would be ludicrous to suggest that the Javelin-carrying infantryman should return to the TOW system and expose himself to danger just so he would not lose the information gained from seeing the target destroyed. Yet it is equally obvious that the disengagement that accompanies technological advances in warfare has the potential to dehumanize war to the extent that it can become more palatable and possibly ubiquitous.

We should feel some sense of concern when we can watch high-tech bomb hits and see the items struck as only targets. Being made aware of the disengaging nature of technology, one understands now why we laughed about the "luckiest man in Iraq" and why I failed to consider the potential death of the PT runner. Disengaged by technology, we are lulled into a fiction of no harm to humans. Yet even when we are made aware of that disengagement, we can still remain committed to military service. Nothing in this article should be deemed as a call for pacifism in a world so troubled. We remain ready to go to war if our nation calls. But we should also fight the dulling influences exerted by technology. We should try to maintain our connection to humanity and help our soldiers to do the same. We should strive to love our enemy enough to see him as our brother.

War will never be anything more than a necessary evil, to be used rightly only as a last resort. Technology will continue to be pervasive in national defense and warfare. Research and development are already looking to a time when one soldier will have the killing power of an entire platoon. Future issues related to how technology can disengage a soldier from his or her fellow soldiers

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(and enemy) and the effect that will have on their will to fight have yet to present themselves. For now, it is clear that progressing technologies do not necessarily have to disengage us from the reality of war. With dedication, with thoughtful action, we can ensure that our society and our soldiers will always understand war for its true, horrible, reality; our profession requires that of us.

NOTES

- 1. Address before the graduating class, Michigan Military Academy, 19 June 1879.
- 2. Smart bombs are those with targeting technology imbedded, which assist them to find and destroy the target. In this case television transmission was also included. Video from such weapons was common at Gulf War press briefings.
- 3. Albert Borgmann, *Technology and the Character of Contemporary Life: A Philosophical Inquiry* (Chicago: Univ. of Chicago Press, 1984), pp. 40-48.
- 4. Ibid., p. 42.
- 5. Ibid.
- 6. Ibid., p. 43.
- 7. Ibid., p. 41.
- 8. While this description comes from soldiers who use the system, the concept of "forget" ties in keenly with my thesis.
- 9. US Army, Field Manual 100-5, *Operations* (Washington: Department of the Army, 19 January 1998).
- 10. Multi Media Encyclopedia, version 1, Multimedia PC, The Software Toolworks Inc., 1992.
- 11. This is the ethical concept of justice in carrying out warfare. The idea is that there are rules to warfare that limit the scope and nature of destruction and the treatment of enemy prisoners and noncombatants. See Paul Christopher, *The Ethics of War and Peace: An Introduction to Legal and Moral Issues* (Englewood Cliffs, N. J.: Prentice Hall, 1999).
- 12. The concept of nuclear warfare presents different issues on this point. While it could be argued that ubiquitousness is an aim in such warfare under the concept of mutually assured destruction, that is a topic for another article.
- 13. Nicholas Fotion, "The Gulf War Cleanly Fought," Bulletin of the Atomic Scientists, 47 (September 1991).

- 14. Hedrick Smith, The Media and The Gulf War (Washington: Seven Locks Press, 1992), p. 377.
- 15. For example, when press coverage might jeopardize the lives of US service members by revealing strategic information. See D. K. Shurtleff, "Military Censorship of the Press," unpublished paper, University of Montana, November 2001.
- 16. "Ambush In Mogadishu," Frontline, PBS, internet, http/www.pbs.org.
- 17. Dave Grossman, On Killing (New York: Little, Brown, 1996).
- 18. Ibid., p. 4.
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